

2023

AZOL GAS



Nitrogen GAS SPRINGS

HOT FORMING solutions, nitrogen GAS SPRINGS for metal stamping and powered MULTI-TECHNOLOGY to industrial applications.

Gas Springs



Hot Forming



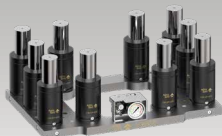
Controlled Systems



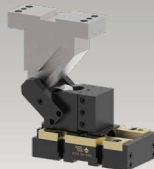
Lifters



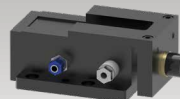
Manifold Systems



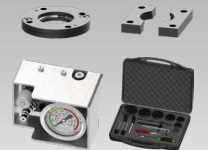
Cam Units



Scrap Removers



Accessories





ABOUT US

AZOLGAS SINCE 1982: THE PIONEER EUROPEAN GAS SPRINGS FOR METAL STAMPING.

Azolgas is engineering force generation solutions for a more efficient metal forming and industrial applications.

PRODUCTS

HOT FORMING solutions, nitrogen GAS SPRINGS for metal stamping and powered MULTI-TECHNOLOGY to industrial applications

GAS SPRINGS



HOT FORMING



CONTROLLED SYSTEMS



ACCESSORIES



MANIFOLD SYSTEMS



LIFTERS



CAM UNITS



CUSTOMIZED



INDUSTRIES SERVED

AUTOMOTIVE

No matter how are the growing productivity challenges you are facing, **AZOLGAS** provides you with the right choice.

New generation of **Gas Springs** and **Manifold Die Cushions**.

HOME APPLIANCES

On your request of **high density-precision tools**, performing long lifetime on high speed-frequency repeatable applications

AZOLGAS design and manufacture customized compact **High Frequency Gas Springs** and **Manifold plates** ready to be installed.

FACTORY AUTOMATION

A more flexible and efficient manufacturing plant increasing productivity under Industry 4.0

AZOLGAS next generation of **Smart Gas Springs**, a disruptive intelligence-monitoring technology.

EV ELECTRIC VEHICLE

Contributing to a safer and **sustainable mobility**, lightweighting and battery metal components.

AZOLGAS engineered solutions for hot forming: **Protections, Controlled Gas Springs, Hydraulic cylinders**.

MOULD INJECTION

Large series **Mould applications** (tool opening-lifting, latch lock, ejection) requiring to replace coil springs

AZOLGAS High Temperature (120°C) **Gas Springs** for a mould cost-effective production and extended life.

MINING - OIL & GAS

Heavy duty challenge on harsh working environments.

AZOLGAS custom-tailored **shock absorbers, counterbalance and damping solutions**.

SERVICE IN MOTION

- SAFETY on use is a priority for you?
- Technical ADVICE and custom made is appreciated?
- REPAIR and maintenance is a must on your side?
- TRAINING is highly valued from you?

TRY AZOLGAS GLOBAL AUTHORISED SERVICE CENTERS














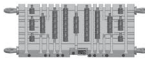
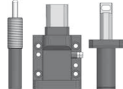
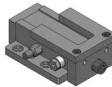



AZOLGAS WORLDWIDE





AZOLGAS WORLDWIDE









GAS SPRINGS		MINI	AFB / AFH / AFJ / AFK AFC / AFNA / AF / AFT	1
		THREADED	AS / ASP	18
		ISO	AG	26
		HEAVY DUTY	CD / CM / GN	46
		LOW PROFILE	FD / CK / CT	104
		COMPACT HEIGHT	KZ / KT / CW / CWC	154
		HEAVY LOAD	CP / CP-KC / CPH	222
		POWER SHORT STROKE	CS / CS-KC / CS-KV	256
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HOSED SYSTEMS ACCESSORIES				482
MOUNTS				562





SELECTION GUIDE















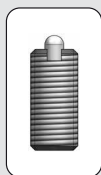





























GAS SPRINGS SERIES	MODEL	F ₀	Ø	S	L1	Pmax		STANDARD	Page
		daN	mm	mm	mm	bar			
MINI 	AFB V2	50	Ø12	7 - 80	56 - 205	180	X		2
	AFH V1	90	Ø15	7 - 80	56 - 205	180	X		4
	AFJ V1	90	Ø19	7 - 125	56 - 295	180	X		6
	AFK V1	100	Ø20	10 - 80	74 - 214	160	X		8
	AFC	200	Ø25	7 - 125	56 - 295	180	X		10
	AFNA	200	Ø25	10 - 50	65 - 145	180	X		12
	AF V1	200	Ø25	12 - 100	78 - 254	180	X		14
	AFT V1	360	Ø32	7 - 125	56 - 295	180	X		16
THREADED 	AS 200	200	M28x1.5	10 - 125	62 - 292	180	X		20
	AS 300	300	M38x1.5	12.7 - 125	75.4 - 300	150	X		21
	ASP 250	250	M36x1	15 - 100	84 - 254	150	X		22
	ASP 300	300	M38x1.5	13 - 100	76 - 250	150	X		23
	ASP 500 V1	500	M45x1	15 - 100	84 - 254	150	X		24
ISO 	AG 150	150	Ø32	10 - 125	70 - 300	180			28
	AG 250	250	Ø38	10 - 125	70 - 300	150			30
	AG 500	500	Ø45	10 - 160	105 - 405	150			32
	AG 750	750	Ø50	13 - 300	121 - 695	150			34
	AG 1500	1500	Ø75	13 - 300	136 - 710	150			36
	AG 3000	3000	Ø95	25 - 300	170 - 720	150			38
	AG 5000	5000	Ø120	25 - 300	190 - 740	150			40
	AG 7500	7500	Ø150	25 - 300	205 - 755	150			42
	AG 10000	10000	Ø195	25 - 300	210 - 760	150			44
	HEAVY DUTY 	CD 300 V1	300	Ø32	10 - 125	70 - 300	150		
CD 500 V1		500	Ø38	10 - 125	70 - 300	150			50
CD 700		700	Ø45	10 - 160	105 - 405	150			52
CD 1000 V1		1000	Ø50	13 - 300	121 - 695	150			54
CD 1500 V2		1500	Ø63	13 - 300	121 - 695	150			56
CD 2400		2400	Ø75	25 - 300	160 - 710	150			58
CD 4200		4200	Ø95	25 - 300	170 - 720	150			60
CD 6600		6600	Ø120	25 - 300	190 - 740	150			62
CD 9600		9600	Ø150	25 - 300	205 - 755	150			64
CD 18500		18500	Ø195	25 - 300	210 - 760	150			66
CM 200		200	Ø25	10 - 80	80 - 220	180	X		70
CM 300		300	Ø32	10 - 125	80 - 310	150			72
CM 350 V1		350	Ø32	10 - 125	70 - 300	180			74
CM 500 V2		500	Ø38	10 - 125	75 - 310	150			76
CM 600 V1		600	Ø45	12 - 100	84 - 260	150			78
CM 1000 V1		1000	Ø50	13 - 200	111 - 495	160			80
CM 1500 V2		1500	Ø63	13 - 200	111 - 495	150			82
CM 2500 V1		2500	Ø75	25 - 200	145 - 510	160			84
CM 4000 V1		4000	Ø95	25 - 200	155 - 530	150			86
CM 6500 V1		6500	Ø120	25 - 200	165 - 540	150			88
CM 10000		10000	Ø150	25 - 200	186 - 536	160			90
GN 750		750	Ø50	13 - 200	96 - 470	150			94
GN 1500		1500	Ø75	25 - 250	135 - 585	150			96
GN 3000		3000	Ø95	25 - 250	145 - 595	150			98
GN 5000		5000	Ø120	25 - 250	152.5 - 602.5	150			100
GN 7500	7500	Ø150	25 - 250	155 - 605	150			102	
LOW PROFILE 	FD 300	300	Ø38	10 - 125	70 - 300	150			106
	FD 500	500	Ø45	10 - 125	70 - 300	150			108
	FD 750 V1	750	Ø50	10 - 125	70 - 300	150			110
	FD 1500 V2	1500	Ø75	25 - 125	110 - 310	150			112
	FD 3000	3000	Ø95	25 - 125	120 - 320	150			114
	FD 5000 V1	5000	Ø120	25 - 125	140 - 340	150			116
	CK 200 V1	200	Ø25	7 - 100	46 - 232	180	X		120
	CK 300 V1	300	Ø32	7 - 125	53 - 289	150	X		122
	CK 500	500	Ø38	10 - 125	57 - 287	150			124
	CK 750 V2	750	Ø45	10 - 125	70 - 300	150			126
	CK 1000 V3	1000	Ø50	10 - 125	70 - 300	160			128
	CK 1500 V3	1500	Ø63	13 - 125	86 - 310	150			130
	CK 2500 V1	2500	Ø75	13 - 125	86 - 310	160			132
	CK 4000 V1	4000	Ø95	25 - 100	120 - 270	150			134

GAS SPRINGS SERIES	MODEL	F ₀	Ø	S	L1	Pmax		STANDARD	Page
		daN	mm	(mm)	(mm)	(bar)			
LOW PROFILE 	CT 200 V2	200	Ø25	7 - 100	46 - 232	180	X	⊗	138
	CT 300 V2	300	Ø32	7 - 125	51 - 287	150	X	⊗	140
	CT 500	500	Ø38	10 - 125	52 - 282	150		⊗	142
	CT 700	700	Ø45	10 - 125	58 - 288	150		⊗	144
	CT 1000 V1	1000	Ø50	10 - 125	58 - 288	160		⊗	146
	CT 1500 V1	1500	Ø63	13 - 125	78 - 302	150		⊗	148
	CT 3000 V1	3000	Ø75	12 - 125	78 - 304	150		⊗	150
	CT 5000	5000	Ø105	12 - 125	84 - 310	150		⊗	152
COMPACT HEIGHT 	KZ 350	350	Ø32	10 - 125	60 - 290	180		⊗	156
	KZ 500	500	Ø38	10 - 125	60 - 290	150		⊗	158
	KZ 750 V1	750	Ø45	10 - 125	67 - 297	150		⊗	160
	KZ 1000 V1	1000	Ø50	10 - 125	72 - 302	150		⊗	162
	KZ 1500 V1	1500	Ø63	13 - 125	78 - 302	150		⊗	164
	KZ 2400	2400	Ø75	13 - 125	85 - 309	150		⊗	166
	KZ 4200	4200	Ø95	16 - 125	94 - 312	150		⊗	168
	KZ 6600	6600	Ø120	16 - 125	104 - 322	150		⊗	170
	KT 1000	1000	Ø50	10 - 125	72 - 302	150		⊗	174
	KT 1500	1500	Ø63	13 - 125	78 - 302	150		⊗	176
	KT 2400	2400	Ø75	13 - 125	85 - 309	150		⊗	178
	KT 4200	4200	Ø95	16 - 125	94 - 312	150		⊗	180
	KT 6600	6600	Ø120	16 - 125	104 - 322	150		⊗	182
	KT 9500	9500	Ø150	19 - 125	116 - 328	150		⊗	184
	CW 170 V2	170	Ø19	7 - 125	44 - 285	180	X	⊗	188
	CW 320 V2	320	Ø25	7 - 125	44 - 285	180	X	⊗	190
	CW 350 V1	350	Ø32	10 - 125	50 - 280	180		⊗	192
	CW 500 V1	500	Ø38	10 - 125	50 - 280	150		⊗	194
	CW 750 V1	750	Ø45	10 - 125	52 - 282	150		⊗	196
	CW 1000 V2	1000	Ø50	10 - 125	58 - 288	150		⊗	200
	CW 1500 V1	1500	Ø63	13 - 125	70 - 294	150		⊗	204
	CW 2400 V1	2400	Ø75	13 - 125	71 - 295	150		⊗	208
CW 4200 V1	4200	Ø95	16 - 125	90 - 308	150		⊗	212	
CW 6600	6600	Ø120	16 - 125	100 - 318	150		⊗	214	
CW 9500	9500	Ø150	19 - 125	116 - 328	150		⊗	216	
CW 11800	11800	Ø150	19 - 125	116 - 328	150		⊗	218	
CW 20000	20000	Ø195	19 - 125	148 - 360	150		⊗	220	
HEAVY LOAD 	CP 150 V1	150	Ø19	10 - 80	75 - 220	160	X	⊗	224
	CP 300 V1	300	Ø25	10 - 80	75 - 220	170	X	⊗	226
	CP 500 V1	500	Ø32	10 - 80	75 - 225	200	X	⊗	228
	CP 1000 V1	1000	Ø38	10 - 80	75 - 240	205	X	⊗	230
	CP 2000 V2	2000	Ø50	10 - 80	80 - 245	210	X	⊗	234
	CP 3000 V1	3000	Ø63	10 - 80	95 - 255	190	X	⊗	238
	CP 5000 V1	5000	Ø75	10 - 80	100 - 275	200	X	⊗	240
	CP 8000 V1	8000	Ø95	10 - 80	110 - 290	180	X	⊗	242
	CPH 850 V1	850	Ø38	10 - 80	70 - 225	175	X	⊗	246
	CPH 1250 V1	1250	Ø45	12 - 80	79 - 230	175	X	⊗	248
	CPH 1700 V2	1700	Ø50	10 - 80	80 - 235	175	X	⊗	250
CPH 2800 V2	2800	Ø63	10 - 80	90 - 250	175	X	⊗	252	
CPH 4300 V1	4300	Ø75	10 - 80	90 - 250	175	X	⊗	254	
POWER SHORT STROKE 	CS 420 V1	420	Ø25	6 - 50	56 - 195	165	X	⊗	258
	CS 770 V2	770	Ø32	6 - 50	63 - 195	150	X	⊗	260
	CS 1000 V1	1000	Ø38	6 - 50	61 - 230	150	X	⊗	262
	CS 1800 V2	1800	Ø50	6 - 65	66 - 271	150	X	⊗	266
	CS 3000 V3	3000	Ø63	10 - 65	85 - 256	150	X	⊗	270
	CS 4700 V1	4700	Ø75	10 - 65	80 - 273	150	X	⊗	274
	CS 7500 V1	7500	Ø95	10 - 65	90 - 279	150	X	⊗	278
	CS 11800 V1	11800	Ø120	10 - 65	100 - 320	150	X	⊗	282
CS 18300 V1	18300	Ø150	10 - 65	110 - 323	150	X	⊗	286	
HIGH FREQUENCY 	HF 300	300	Ø25	5 - 125	40 - 280	170	X	⊗	292
	HF 500	500	Ø32	5 - 125	40 - 280	160	X	⊗	293
	HF 750	750	Ø38	5 - 125	40 - 280	160	X	⊗	294
	HF 1500	1500	Ø50	5 - 125	45 - 285	212	X	⊗	295
	HF 3000	3000	Ø75	5 - 125	50 - 295	190	X	⊗	296
	HF 5000	5000	Ø95	5 - 125	60 - 300	180	X	⊗	297

SELECTION GUIDE

GAS SPRINGS SERIES	MODEL	F ₀	Thread	S	L1	Pmax	Sealing Area	Page
		daN lb		mm inch		mm inch		
	ZP 750	750	1 - 5/16 - 12"	6.3 - 101.6	29.5 - 220.0	150	4.91	356
		1686						
	ZP 1500	1500	1 - 7/8 - 12"	12.7 - 127	48.5 - 277.1	150	9.62	357
		3372						
	ZP 3000	3500	2 - 1/2 - 12"	12.7 - 152.4	48.5 - 327.9	150	22.9	358
		7868						
	ZP 5000	5000	M82x2	12.7 - 177.8	48.5 - 378.7	150	33.18	359
		11240						
	ZP 8000	8000	M100x2	12.7 - 203.2	48.5 - 429.5	150	50.27	360
		17985						
	ZR 750	750	1 - 5/16 - 12"	6.3 - 101.6	48.5 - 143.8	150	4.91	364
		1686						
	ZR 1500	1500	1 - 7/8 - 12"	12.7 - 127	67.6 - 169.2	150	9.62	365
		3372						
	ZR 3000	3000	2 - 1/2 - 12"	25.4 - 152.4	67.6 - 194.6	150	22.9	366
		6744						
	ZR 5000	5000	M82x2	25.4 - 177.8	67.6 - 220	150	33.18	367
		11240						
	ZR 8000	8000	M100x2	25.4 - 203.2	67.6 - 245.4	150	50.27	368
		17985						
ZH 5200	5200	M82x2	100 - 200	135 - 335	150	38.48	372	
	11690							3.94 - 7.87
ZH 7700	7700	M100x2	100 - 250	135 - 435	150	50.27	373	
	17310							3.94 - 9.84
ZH 10700	10700	M120x2	100 - 250	135 - 435	150	78.54	374	
	24055							3.94 - 9.84
ZB 750	750	M36x2	25 - 100	70.5 - 220.5	150	4.91	378	
	1686							0.98 - 3.94
ZC 1500	1500	M48x2	25 - 100	73.5 - 223.5	150	9.62	379	
	3372							0.98 - 3.94
ZF 3500	3500	M64x2	25 - 100	73.5 - 223.5	150	22.90	380	
	7868							0.98 - 3.94
ZT 3000	3000	M64x2	20	80	150	19.63	384	
	6744							0.79
ZT 5800	5800	M82x2	100 - 200	175 - 275	150	38.48	385	
	13039							3.94 - 7.87

GAS SPRINGS SERIES	MODEL	F ₀		Thread	S	L1	Pmax	Page
		daN			mm	mm	bar	
GAS STRIPPERS 	EFG 16	6 - 50		M16x1.5	10 - 100	80 - 260	180	390
	EFGC 16	6 - 50		M16x1.5	10 - 125	65 - 295	180	391
	EFGD 16	6 - 50		M16x2	10 - 125	65 - 295	180	392
	EFGI 16	6 - 50		M16x1.5	7 - 80	56 - 205	180	393
	EFGQ 16	6 - 50		M16x2	7 - 80	56 - 205	180	394
	EFT 16	6 - 50		M16x1.5	10 - 125	65 - 295	180	395
	EFG 24	23 - 200		M24x1.5	10 - 100	80 - 260	180	396
	EFGC 24	23 - 200		M24x1.5	10 - 125	65 - 295	180	397
	EFGD 24	10 - 90		M24x1.5	7 - 125	56 - 295	180	398

SPRING PLUNGERS SERIES	MODEL	F ₀		Thread	S	L1	ROD MATERIAL	Page
		N			mm	mm		
SPRING PLUNGERS 	MBR	20 - 55		M16	20 - 50	100 - 250	S45C (STEEL)	400
	MBN	16 - 80		M16 - M22	11 - 41	91 - 267	S45C (STEEL)	401
	MBP	42		Ø10	10	40	S45C (STEEL)	401
	MBSD	5 - 20		M5 - M16	1.5 - 4.5	13.5 - 26.5	S45C (STEEL)	402
	MBSL	2 - 10		M5 - M16	1.5 - 4.5	13.5 - 26.5	S45C (STEEL)	402
	MBT	2 - 70		M3 - M24	1 - 10	13 - 62	S45C (STEEL)	403
	MBTH	11 - 75		M5 - M24	2.3 - 10	20.3 - 62	S45C (STEEL)	403
	MBFP	2 - 35		M16x1.5	20 - 50	100 - 200	S45C (STEEL)	404
	MBYF	16 - 35		M16x1.5	20 - 50	100 - 250	S45C (STEEL)	405
	MBZF	3.5 - 11		M16x1.5	20 - 50	100 - 200	S45C (STEEL)	405
	MBHC	4 - 18		M16	10 - 80	70 - 280	S45C (STEEL)	406
	MBHF	10 - 80		M16x1.5	10 - 80	70 - 280	S45C (STEEL)	406
	MBHG	10 - 80		M16	10 - 80	70 - 280	S45C (STEEL)	407
	MBHS	10 - 80		M16x1.5	10 - 80	70 - 280	S45C (STEEL)	407
	MBJS	0.05 - 1.9		M3 - M16	1.5 - 20	11.5 - 105	S45C (STEEL)	408
	MBJX	2 - 37		M3 - M24	1.5 - 30	16.5 - 155	S45C (STEEL)	408
	MBJL	0.3 - 28		M3 - M30	1.5 - 80	11.5 - 265	S45C (STEEL)	409
	MBJH	0.8 - 53		M3 - M30	1.5 - 80	11.5 - 265	S45C (STEEL)	410
	MPSJ	0.05 - 1.9		M3 - M16	1.5 - 20	11.5 - 105	POM (POLYOXYMETHYLENE)	411
	MPLJ	0.3 - 20		M3 - M24	1.5 - 30	11.5 - 155	POM (POLYOXYMETHYLENE)	411
	MPHJ	0.8 - 47		M3 - M24	1.5 - 30	11.5 - 155	POM (POLYOXYMETHYLENE)	412
	MPXJ	2 - 37		M3 - M16	1.5 - 20	16.5 - 110	POM (POLYOXYMETHYLENE)	412
	MBSN	0.72 - 1.9		M5 - M16	3 - 20	23 - 105	S45C (STEEL)	413
	MBLN	2 - 6		M5 - M16	3 - 20	23 - 105	S45C (STEEL)	413
	MBHN	3 - 19		M5 - M16	3 - 20	23 - 105	S45C (STEEL)	414
	MBXN	9 - 37		M5 - M16	3 - 20	30 - 110	S45C (STEEL)	414
MPNS	0.72 - 1.9		M5 - M16	3 - 20	23 - 105	POM (POLYOXYMETHYLENE)	415	
MPNL	2 - 6		M5 - M16	3 - 20	23 - 105	POM (POLYOXYMETHYLENE)	415	
MPNH	3 - 19		M5 - M16	3 - 20	23 - 105	POM (POLYOXYMETHYLENE)	416	

SELECTION CHART

\varnothing	F ₀	50	90 - 100	150 - 200	250	300 - 350	420	500 - 600	700 - 850	1000 - 1250	1500
12		AFB									
15			AFH								
19			AFJ	CP 150 CW 170							
20			AFK								
25				AFC AFNA AF CM 200 CK 200 CT 200		CP 300 CW 320 HF 300	CS 420				
M28x1.5				AS 200							
32				AG 150		CD 300 CM 300 CK 300 CT 300 AFT CM 350 KZ 350 CW 350		CP 500 HF 500	CS 770		
M36x1					ASP 250						
38					AG 250	FD 300		CD 500 CM 500 KZ 500 CW 500 CT 500 CK 500	HF 750 CPH 850	CP 1000 CS 1000	
M38x1.5						AS 300 ASP 300					
45								AG 500 FD 500 CM 600	CD 700 CK 750 CT 700 KZ 750 CW 750 CWC 750	CPH 1250	
M45x1								ASP 500			
50									AG 750 GN 750 FD 750	CD 1000 CM 1000 CK 1000 CT 1000 KZ 1000 KT 1000 CW 1000 CWC 1000	HF 1500
63											CD 1500 CM 1500 CK 1500 CT 1500 KZ 1500 KT 1500 CW 1500 CWC 1500
75											AG 1500 GN 1500 FD 1500
95											
105											
120											
150											
195											

F_0 \varnothing	1700 - 2000	2400 - 2500	2800 - 3000	4000 - 4300	4700 - 5000	6500 - 6600	7500 - 8000	9500 - 10000	11800	18300 - 20000
12										
15										
19										
20										
25										
M28x1.5										
32										
M36x1										
38										
M38x1.5										
45										
M45x1										
50	CPH 1700 CS 1800 CP 2000									
63			CPH 2800 CP 3000 CS 3000							
75		CD 2400 KZ 2400 KT 2400 CW 2400 CWC 2400 CM 2500 CK 2500	CT 3000 HF 3000	CPH 4300	CS 4700 CP 5000					
95			AG 3000 GN 3000 FD 3000	CM 4000 CK 4000 CD 4200 KZ 4200 KT 4200 CW 4200	HF 5000		CS 7500 CP 8000			
105					CT 5000					
120					AG 5000 GN 5000 FD 5000	CM 6500 CD 6600 KZ 6600 KT 6600 CW 6600			CS 11800	
150							AG 7500 GN 7500	KT 9500 CW 9500 CD 9600 CM 10000	CW 11800	CS 18300
195								AG 10000		CD 18500 CW 20000





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4-COLOR CODE _____ **Page XXVIII**

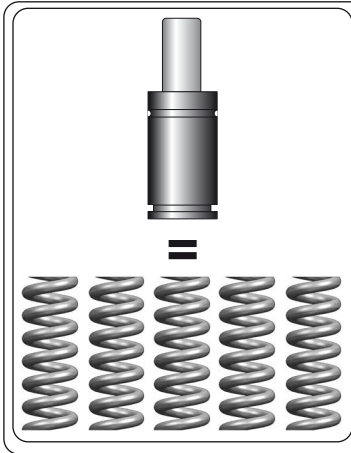
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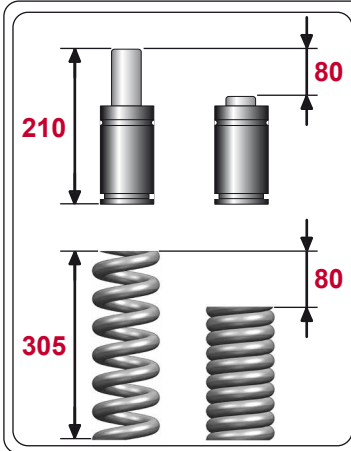
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8-MARKING GAS SPRING _____ **Page XXXVI**

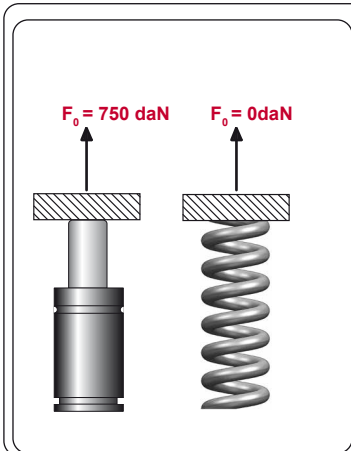
BENEFITS



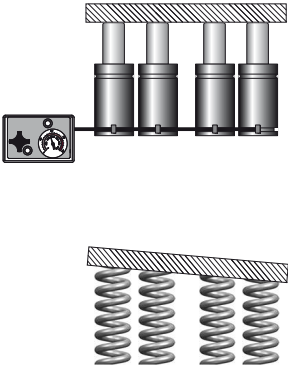
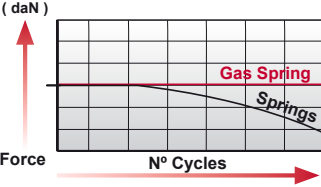
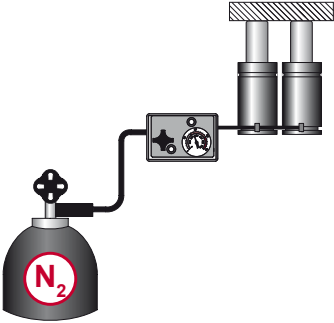
ENG	Reduction of surface area used, height, and volume occupied.
DEU	Beansprucht weniger Nutzfläche, Höhe und Raum.
FRA	Réduction de la surface occupée, de l'espace en hauteur, et du volume total occupée.
ITA	Riduzione della superficie occupata, dello spazio in altezza, del volume occupato.
ESP	Reducción de la superficie usada, de la altura, y del volumen ocupado.
POR	Redução da superfície ocupada, do espaço em altura, del volumen ocupado.



ENG	Considerable height reduction for the same working deflection and force. Compact tool construction.
DEU	Beträchtlich niedrigere Höhe bei gleichem Hub und gleicher Kraft. Kompaktere Werkzeugentwicklung.
FRA	Réduction importante des encombrements en hauteur avec une course et une force équivalente. Construction plus compacte de l'outillage.
ITA	Notevole riduzione degli ingombri in altezza a parità di forza e corsa. Costruzione dello stampo più compatta.
ESP	Reducción notable de la altura para fuerzas y carreras equivalentes. Construcción más compacta del troquel.
POR	Redução notável em altura com igual força e curso. Construção mais compacta da Ferramenta.



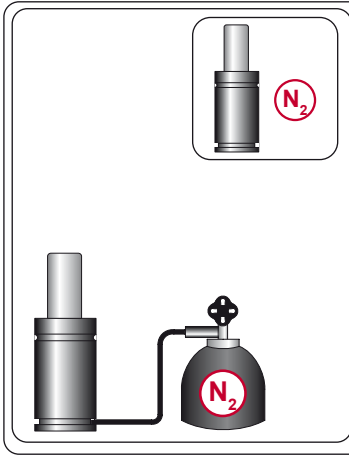
ENG	Considerable reduction of retaining devices to preload. No preload required.
DEU	Kein Bedarf an Vorrichtungen für Vorspannung, Führung und Aufnahme. Das Vorspannen fällt komplett weg.
FRA	Réduction importante du nombre de dispositifs de précharge et guidage. Elimination de la précharge.
ITA	Eliminazione dei dispositivi di precarico e guidaggio. Eliminazione precarico.
ESP	Eliminación de los dispositivos de precarga y guiado. Eliminación de la precarga.
POR	Eliminação de dispositivos de pré-carga e guidamento. Eliminação da pré-carga.

	<p>ENG Always the same force on each contact point. Forces may be positioned exactly where required. System may be continually pressure monitored.</p> <p>DEU Immer ausgeglichene und gleichförmige Kraft an allen Kontaktpunkten. Die angewandte Kraft ist für die exakte Stelle des Gesenks einstellbar. Ständig sichtbare Anzeige des Betriebsdrucks.</p> <p>FRA Force toujours équilibrée et égale en tous points de contact. Force que l'on peut positionner exactement là où elle est exigée dans l'outil. Visualisation continue de la pression dans le système.</p> <p>ITA Forza sempre bilanciata in tutti i punti di contatto. Forza posizionabile esattamente dove richiesto nello stampo. Visualizzazione continua della pressione.</p> <p>ESP Fuerza siempre equilibrada en cada punto de contacto. Fuerza posicionable en el troquel donde se require exactamente. Visualización continua de la presión.</p> <p>POR Força sempre equilibrada em todos os pontos de contacto. Força posicionável exactamente onde é necessária na Ferramenta. Visualização continua da pressão.</p>
	<p>ENG Controlled production conditions on piece-parts during forming and drawing operations. Less rejection of piece-parts.</p> <p>DEU Bessere Kontrollmöglichkeit während des Form- bzw. Ziehprozesses des Werkstücks. Höhere Qualität der Pressteile. Weniger Ausschuss.</p> <p>FRA Un meilleur contrôle de la pièce pendant les phases de découpage et d'emboutissage. Une quantité moindre de rebuts en production.</p> <p>ITA Migliore controllo del materiale durante le fasi di formatura e imbutitura. Migliore qualità dei pezzi stampati. Minori scarti di produzione.</p> <p>ESP Mayor control de las condiciones de producción durante las operaciones de conformado y embutición. Mejor calidad de las piezas. Menores rechazos en piezas.</p> <p>POR Melhor controlo dos materiais durante a fase de formação e de cunhagem. Melhor qualidade das peças estampadas. Menores desperdícios na produção.</p>
	<p>ENG Gas springs applied to provide the real forces required. Assurance of defined forces. The same cylinder may be re-used for different applications.</p> <p>DEU Gasdruckfedern können der genau erforderlichen Kraft angepasst werden. Derselbe Zylinder kann für mehrere verschiedene Arbeitsgänge eingesetzt werden.</p> <p>FRA Adaptation des ressorts à gaz aux forces réellement requises. Certitude des forces définies. Utilisation d'un même ressort à gaz dans des travaux différents.</p> <p>ITA Adeguamento dei cilindri alle forze realmente richieste. Utilizzo di uno stesso cilindro in lavori diversi.</p> <p>ESP Adecuación de los cilindros a las fuerzas realmente necesarias. Utilización de un mismo cilindro en trabajos distintos.</p> <p>POR Adaptação dos cilindros a las forças realmente necessárias. Utilização do mesmo cilindro em diferentes trabalhos.</p>

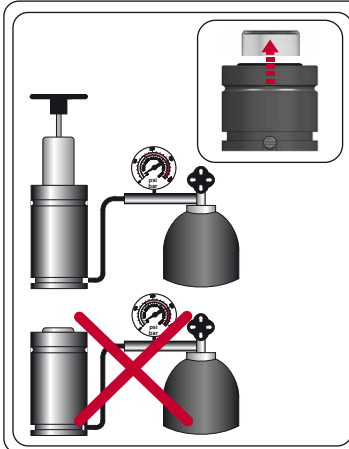
OPERATING INSTRUCTIONS



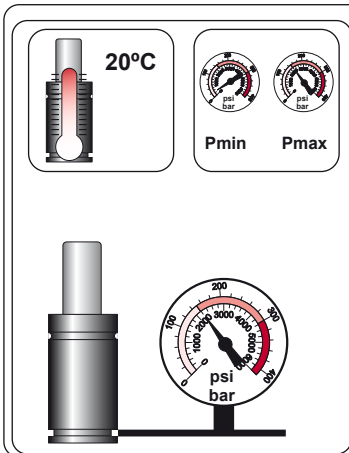
**AZOL
GAS**



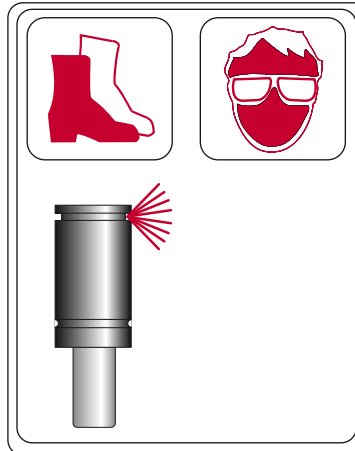
ENG	Charge only with NITROGEN (N ₂). The use of other types of gas can result in high safety risks, failure of gas springs and personal injury
DEU	Gasdruckfedern dürfen nur mit Stickstoff befüllt werden. Der Gebrauch eines anderen Füllmediums als Stickstoff birgt Sicherheitsrisiken, Fehlfunktionen der Gasdruckfedern und Gefahr für Personenschaden
FRA	Charge seulement avec du GAZ AZOTE (N ₂). L'utilisation d'un autre type de gaz peut entraîner de sérieux risques pour la sécurité, des défaillances des ressorts à gaz et des dommages aux personnes.
ITA	Caricare soltanto con GAS AZOTO (N ₂). L'uso di un altro tipo di gas può causare seri rischi di sicurezza, guasti dei cilindri di gas e danni alle persone.
ESP	Cargar únicamente con GAS NITROGENO (N ₂). El uso de otro tipo de gas puede ocasionar graves riesgos para la seguridad, fallos en los cilindros de gas y daños para las personas.
POR	Carregar somente com GÁS de NITROGÊNIO (N ₂). O uso de outro tipo de gás pode causar sérios riscos de segurança, falhas do cilindro de gás e danos às pessoas.



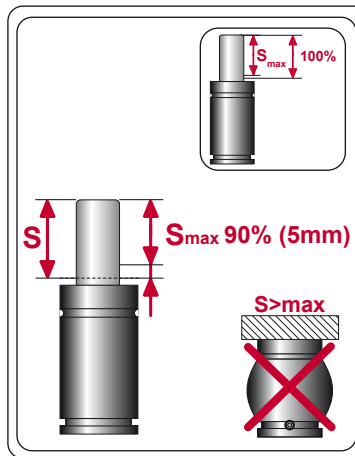
ENG	Never fill a gas spring when the piston rod is not fully extended.
DEU	Befüllung der Gasdruckfeder nur bei voll ausgefahrener Kolbenstange.
FRA	Ne remplissez jamais un ressort où la tige n'est pas entièrement sortie.
ITA	Caricare il cilindro ad azoto solo quando lo stelo e' completamente estratto.
ESP	No cargar un cilindro de gas si el vástago no está completamente extendido.
POR	Não carregue o cilindro se a haste não estiver totalmente fora do cilindro.



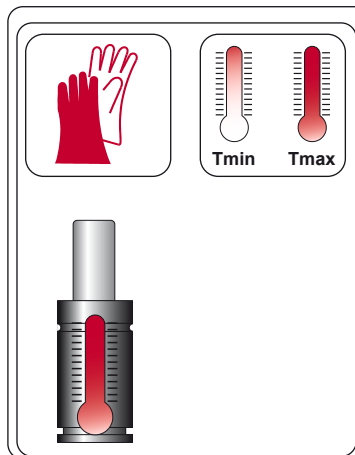
ENG	Charge the gas spring between the minimum and the maximum allowable pressure, at a 20°C temperature.
DEU	Gasdruckfedern dürfen nur zwischen dem minimal und maximal zulässigen Fülldruck befüllt werden, immer unter Berücksichtigung einer Umgebungstemperatur von 20°C.
FRA	Chargez le ressort à gaz du minimum jusqu'à la pression maximale autorisée, à une température de 20°C.
ITA	Caricare il cilindro ad azoto entro la pressione minima e massima autorizzata, ad una temperatura di 20°C.
ESP	Cargar el cilindro de gas entre la máxima y mínima presión permitida, siempre teniendo en cuenta una temperatura de 20°C.
POR	Sempre carregue o cilindro dentro do pressao mínimo e máximo autorizado, a uma temperatura de 20°C.



ENG	When discharging a gas spring point the gas flow away from operator or anybody else. Use the appropriate tools and equipment when handling gas springs.
DEU	Beim Entladen Ventil nicht auf Personen richten. Angemessene Werkzeuge und Ausrüstungen sind bei der Wartung der Gasdruckfedern zu benutzen.
FRA	Pendant la décharge, dirigez l'écoulement de gaz à l'écart de l'opérateur ou d'autre personne. Utilisez les outils et l'équipement appropriés pour manipuler les ressorts à gaz.
ITA	Durante lo scarico, orientare il flusso del gas in direzione opposta all'operatore ad altra persona. Utilizzare gli strumenti e le attrezzature appropriate durante la manipolazione delle molle a gas.
ESP	Durante la descarga, orientar el flujo de gas fuera del alcance del operador o de cualquier persona. Utilice las herramientas y equipos apropiados cuando manipule los cilindros de gas.
POR	Durante a descarga do cilindro aponte o fluxo de gás fora do alcance do operador ou qualquer outra pessoa. Use as ferramentas e equipamentos apropriados ao manipular molas de gás.



ENG	Maximum recommended stroke 90%. Minimum stroke reserve: up to stroke 50mm (10%), over stroke 50 mm (5 mm). Overstroke >100% would cause damages to the cylinder and serious risks.
DEU	Maximal empfohlener Arbeitshub = 90%. Mindesthubreserve: bis Hub 50 mm (10%), und bei Hüben grösser als 50 mm (5 mm). Überhub >100% schadet der Gasdruckfeder und birgt große Risiken für Gesundheit und Leben von Personen.
FRA	Course recommandée maximale 90%. Réserve de course minimale: jusqu'à course 50 mm (10%), sur course 50 mm (5 mm). Une course >100% causerait des dommages au cylindre et de graves risques.
ITA	Corsa massima consigliata 90%. Riserva obbligatoria di corsa: fino a corsa 50mm (10%), più di corsa di 50 mm (5 mm). Un utilizzo >100% della corsa causa danni al cilindro e gravi rischi per la sicurezza.
ESP	Carrera máxima recomendada 90%. Reserva de carrera mínima: hasta carrera 50 mm (10%), y superior a carrera 50 mm (5 mm). Excesos de carrera > 100% causarían daños al cilindro y graves riesgos.
POR	Curso de trabalho máximo recomendado de 90%. Reserva mínima de curso: até curso 50mm (10%), sobre curso 50 mm (5 mm). Curso >100% causará danos ao cilindro e riscos graves.



ENG	Respect the limits of the operating temperature. When operating, gas springs become heated. Always wear safety gloves to handle gas springs.
DEU	Die Grenzen der Arbeitstemperatur sind zu berücksichtigen. Während der Arbeitszyklen erhitzen sich die Gasdruckfedern. Sicherheitshandschuhe sind bei der Wartung der Gasdruckfedern immer zu tragen.
FRA	Respecter les limites de température de fonctionnement. Les ressorts à gaz sont chauffés pendant le fonctionnement. Toujours utiliser des gants de sécurité pour la manipulation des ressorts.
ITA	Rispettare i limiti di temperatura di funzionamento. Le molle a gas sono riscaldate durante il funzionamento. Utilizzare sempre guanti di sicurezza per la manipolazione delle molle.
ESP	Respetar los límites de temperatura de funcionamiento. Los cilindros de gas se calientan durante su funcionamiento. Utilice siempre guantes de seguridad para manipular los cilindros.
POR	Respeitar os limites de temperatura de funcionamento. Os cilindros de gás são aquecidas durante a operação. Utilize sempre luvas de segurança para manuseio de cilindros de gás.

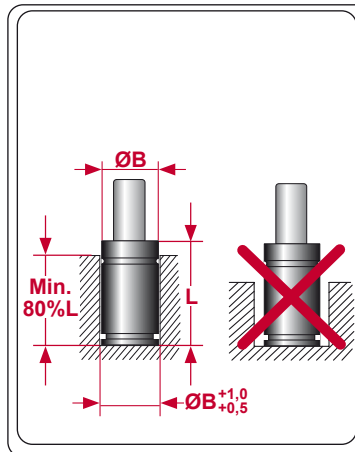
OPERATING INSTRUCTIONS



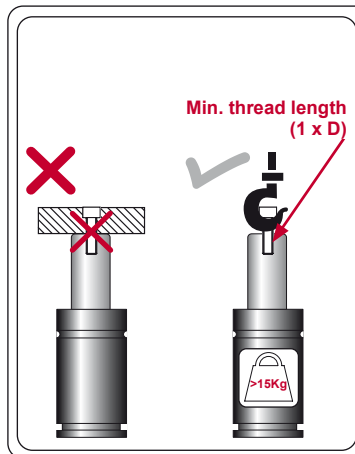
	<p>ENG Do not exceed the maximum allowed stroke speed. Maximum allowed cycles per minute should never be exceeded.</p> <p>DEU Die maximal zulässige Kolbengeschwindigkeit ist nicht zu überschreiten. Die maximale Hubfrequenz sollte nicht überschritten werden.</p> <p>FRA Ne dépassez pas la vitesse maximale de course autorisée. Les cycles par minute maximale autorisées ne doit jamais être dépassée.</p> <p>ITA Non superare la velocità massima di corsa autorizzata. I cicli massime autorizzate al minuto non deve mai essere superata.</p> <p>ESP No superar la velocidad máxima de carrera. El número de ciclos por minuto permitidos no debe superarse.</p> <p>POR Não exceda a velocidade máxima do curso autorizada. Os ciclos máximos autorizados por minuto não deve ser excedido.</p>
	<p>ENG Avoid freely release of the piston rod, this would cause damages to the gas spring. Do not check the force of gas springs by using whatever impact on piston rod.</p> <p>DEU Ein freier Rückhub muss vermieden werden, um Beschädigungen an der Gasdruckfeder zu vermeiden. Kraft der Gasdruckfedern nicht mit Gegenständen prüfen, die Schaden an der Kolbenstange verursachen könnten.</p> <p>FRA Évitez le dégageement libre de la tige de piston, ceci endommagerait le ressort à gaz. Ne pas vérifier la force des ressorts à gaz en utilisant tout impact sur la tige.</p> <p>ITA Evitare il ritorno libero dello stelo, per non danneggiare il cilindro ad azoto. Non controllare la forza delle molle a gas utilizzando qualsiasi impatto sulla stelo.</p> <p>ESP Evitar el retorno libre del vástago, esto dañaría al cilindro de gas. No verificar la fuerza de los cilindros de gas usando cualquier impacto sobre el vástago.</p> <p>POR Evite que a haste trabalhe livremente, isto causará danos ao cilindro. Não verifique a força das molas de gás usando qualquer impacto sobre a haste.</p>
	<p>ENG Gas springs must always work completely perpendicular to the contact surface. Side loads increase wearing and reduce life expectancy.</p> <p>DEU Die Gasdruckfedern sollten stets senkrecht zur Kontaktfläche arbeiten. Seitliche Kräfte erhöhen die Abnutzung der Komponenten und verringern die Standzeiten wesentlich.</p> <p>FRA Les ressorts doivent toujours fonctionner complètement perpendiculaire à la surface de contact. Les charges latérales augmentent l'usure et réduisent la durée de vie.</p> <p>ITA Le molle a gas devono funzionare sempre completamente il perpendicolare alla superficie di contatto. I carichi laterali aumentano l'usura e ne riducono la durata.</p> <p>ESP Los cilindros de gas deben siempre trabajar de manera perpendicular a la superficie de contacto. Las cargas laterales aumentan el desgaste y reducen la vida útil.</p> <p>POR Os cilindros devem sempre trabalhar de forma perpendicular à superfície de contato. As forças laterais aumentam o desgaste e reduzem a vida útil do cilindro.</p>



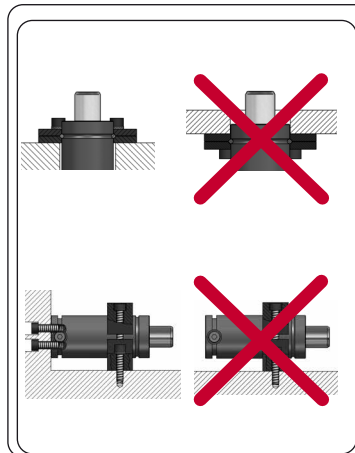
OPERATING INSTRUCTIONS



ENG	When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1mm larger than the gas spring body diameter. And the bore pocket depth must be minimum 80% of L.
DEU	Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen.
FRA	Quand les ressorts sont installés dans une poche, le diamètre de poche ne devrait pas dépasser 1 mm de plus que le diamètre de corps du ressort. Et la profondeur de la poche doit être au minimum de 80% de L.
ITA	Quando le molle a gas sono installate in una sede alesata, il diametro alesato della stessa non deve essere superiore di 1mm, rispetto al diametro del corpo della molla a gas. E la profondità della sede alesata deve essere di almeno 80% di L.
ESP	Cuando los cilindros de gas se instalan en una caja, el diámetro de la caja no debería exceder 1mm de la dimension del cuerpo del cilindro de gas. Y la profundidad de la caja debe ser como mínimo el 80% de L.
POR	Quando o cilindro for instalado dentro de um alojamento, o diâmetro do mesmo não pode exceder 1mm do diâmetro do corpo do cilindro. E a profundidade do alojamento deve ser no mínimo 80% de L.



ENG	Do not use the rod threaded hole for fixing the gas spring into the tool. This hole is only to be used for maintenance operations or transport. (Gas springs heavier than 15 kgs are marked according to VDI).
DEU	Das Gewinde in der Kolbenstange hat lediglich eine Wartungs- und/oder Transportfunktion. Es darf nie zur Befestigung der Gasdruckfeder benutzt werden. (Gasdruckfedern mit einem Gewicht >15 kg sind VDI-konform gekennzeichnet)
FRA	N'employez pas le trou fileté de la tige pour la fixation du ressort dans l'outil, seulement pour des opérations d'entretien ou transport. (Ressorts à gaz de plus de 15 kg sont marqués selon VDI).
ITA	Non utilizzare il foro filettato dello stelo per fissare il cilindro allo stampo, solamente per gli interventi di manutenzione o trasporto. (Molle a gas più pesante di 15 kg sono marcati in conformità VDI).
ESP	No usar el agujero roscado del vástago para la fijación del cilindro al útil, sólo para operaciones de mantenimiento o transporte. (Cilindros con peso superior a 15 kg se marcan de confirmidad a VDI).
POR	Não use o furo rosqueado da haste para fixar o cilindro, só deve ser utilizado em serviços de manutenção ou transporte. (molas a gás com peso > 15 kg são marcadas de acordo com a VDI).






ENG	Fix the gas spring into the tool through the appropriate mount. The base should be supported at all the times. A flat surface against the base is always required.
DEU	Die Befestigung der Gasdruckfeder ist mittels angemessener Befestigungsflansche vorzunehmen. Die Gasdruckfeder sollte stets bodengestützt sein. Eine ebene Stützfläche ist immer erforderlich.
FRA	Fixez le ressort à gaz dans l'outil par la bride appropriée. La base doit être soutenue à tout moment. Une surface plane contre la base est toujours nécessaire.
ITA	Fissare i cilindri ad azoto solamente con gli specifici elementi di fissaggio. E 'sempre consigliato di sostenere la base del cilindro del gas contro una superficie piana.
ESP	Fijar el cilindro de gas al útil mediante las bridas adecuadas. Se recomienda siempre apoyar la base del cilindro de gas contra una superficie plana.
POR	Fixe o cilindro na ferramenta com a flange adequada. É sempre recomendável para apoiar a base do cilindro de gás contra uma superfície plana.

OPERATING INSTRUCTIONS
**AZOL
GAS**

	<p>ENG Protect the gas springs from solid or liquid contaminants. Provide adequate drainage in gas springs pockets.</p> <p>DEU Schützen Sie die Gasdruckfedern vor Kontakt mit festen oder flüssigen Verschmutzungen. Bei Einbau in Vertiefungen müssen Drainage-Kanäle eingebracht werden.</p> <p>FRA Protégez les ressorts à gaz contre les contaminants solides ou liquides. Un drainage dans les poches des ressorts est recommandé.</p> <p>ITA Proteggere i cilindri ad azoto da ogni contaminazione solida o liquida. E' suggerito uno scarico sufficiente nel caso di sede alesata.</p> <p>ESP Proteger los cilindros de gas de contaminantes sólidos o líquidos. Proporcionar drenaje adecuado a las cajas donde se instalan los cilindros.</p> <p>POR Proteja os cilindros de contaminadores sólidos ou líquidos. Recomenda-se a drenagem dos alojamentos.</p>
	<p>ENG Avoid whatever impact and do not make any mechanical work on the gas spring body or piston rod. Gas springs with scratches on the piston rod surface should be replaced.</p> <p>DEU Die Gasdruckfedern immer - insbesondere Gehäuse und Kolbenstangen - vor mechanischen Schlägen oder Beschädigungen schützen. Gasdruckfedern mit Beschädigungen auf der Kolbenstangenoberfläche müssen ersetzt werden.</p> <p>FRA Evitez quelqu'impact que ce soit et ne faites aucun travail mécanique sur la tige ou le corps du ressort à gaz. Des ressorts à gaz avec des éraflures sur la surface de la tige devraient être remplacés.</p> <p>ITA Evitare ogni lavoro meccanico ed ogni danneggiamento al corpo e allo stello della molla a gas. Le molle a gas con graffi sulla superficie dello stelo devono essere sostituite.</p> <p>ESP Evitar cualquier impacto o trabajo mecánico en el cuerpo o vástago del cilindro. Los cilindros de gas con marcas en la superficie del vástago deberían reemplazarse.</p> <p>POR Evite qualquer impacto ou trabalho mecânico tanto na haste como no corpo do cilindro. O cilindro que apresentarem riscos na haste a mesma deverá ser substituída.</p>
	<p>ENG Most of Azolgas gas springs could be used into linked systems. Linked systems allow users to easily monitor, control and adjust pressure.</p> <p>DEU Die meisten Azolgas-Gasdruckfedern können durch Verschlauchung in einem Verbundsystem genutzt werden. Dieses erleichtert das Steuern, Ablesen und Anpassen des Druckes.</p> <p>FRA La plupart des ressorts à gaz Azolgas peuvent être utilisés dans les systèmes reliés. Cela permet facilement aux utilisateurs de surveiller, contrôler et ajuster la pression.</p> <p>ITA La maggior parte delle molle a gas della Azolgas possono essere utilizzate in sistemi collegati, che permettono agli utenti di verificare, controllare ed intervenire sulla pressione.</p> <p>ESP La mayoría de los cilindros de gas Azolgas pueden ser usados en sistemas conexonados, permitiendo al usuario la fácil monitorización, control y ajuste de presión.</p> <p>POR A maioria dos cilindros Azolgas pode ser utilizado em sistemas interligados, permitindo ao usuário fácil monitoramento e controla da pressão.</p>



OPERATING INSTRUCTIONS

  	<p>ENG Gas springs maintenance must be carried out only by skilled personnel, with the appropriate training, and always following the operating and service instructions from Azolgas.</p> <p>DEU Die Wartung an den Gasdruckfedern darf ausschließlich von geschulten Mitarbeitern durchgeführt werden. Die fachlichen Hinweise, Vorgaben und Anweisungen von Azolgas müssen unbedingt und jederzeit befolgt werden.</p> <p>FRA L'entretien des ressorts à gaz doit être effectué uniquement par du personnel habilité, ayant les formations requises, et cela en respectant toujours les instructions de service d'Azolgas.</p> <p>ITA La manutenzione delle molle a gas deve essere effettuata solo da personale esperto, con preparazione specifica e sempre seguendo le istruzioni di servizio di Azolgas.</p> <p>ESP El mantenimiento de los resortes de gas debe ser efectuado por personal cualificado, con la debida formación, y siguiendo las instrucciones de utilización y mantenimiento de Azolgas.</p> <p>POR A manutenção dos cilindros deve ser realizada somente por pessoas qualificadas, com treinamento apropriado, e seguindo as instruções de funcionamento e manutenção da Azolgas.</p>
 	<p>ENG Recycle gas springs and components according to the environmental regulation of the country where the gas springs are used.</p> <p>DEU RecycleIn Sie Gasdruckfedern und Komponenten gemäß den Umweltvorschriften des Landes, in dem die Gasdruckfedern verwendet werden.</p> <p>FRA Recyclez les ressorts à gaz et leurs composants conformément à la réglementation environnementale du pays d'utilisation des ressorts à gaz.</p> <p>ITA Riciclare le molle a gas e i componenti in base alla normativa ambientale del paese in cui vengono utilizzate le molle a gas.</p> <p>ESP Recicle los cilindros de gas y sus componentes de acuerdo con la regulación medioambiental del país donde sean utilizados.</p> <p>POR Reciclar molas a gás e componentes de acordo com a regulamentação ambiental do país onde as molas a gás são utilizadas.</p>
	<p>ENG Designed and manufactured according PED 2014/68/EU. The user of gas springs is responsible for installation and future inspections to be made to the springs in accordance with the regulations of the country where they will be used. Azolgas recommend to replace gas springs after 2 million strokes/10 years.</p> <p>DEU Die Gasdruckfedern von Azolgas sind entwickelt und hergestellt nach der Druckgeräte-Richtlinie PED 2014/68/EU. Der Benutzer hat dafür zu sorgen, dass die nationalen Richtlinien bezüglich Inbetriebnahme, Wartung und wiederholten Prüfungen unbedingt eingehalten werden. Azolgas empfiehlt, die Gasdruckfedern nach 2 Millionen Hübten spätestens aber nach 10 Jahren zu ersetzen.</p> <p>FRA Conçu et fabriqué selon PED 2014/68/EU. L'utilisateur des ressorts à gaz est responsable de l'installation et de futures inspections qui doivent être faits pour les ressorts à gaz conformément à la réglementation du pays où ils seront utilisés. Azolgas recommandent de remplacer des ressorts après 2 millions de cycles/10 années.</p> <p>ITA Progettato e prodotto secondo PED 2014/68/EU. L'utente delle molle a gas è responsabile per l'installazione e le future ispezioni da effettuare per le molle a gas, secondo le norme del paese in cui verranno utilizzati. Azolgas suggerisce di sostituire le molle a gas dopo 2 milioni di colpi/10 anni.</p> <p>ESP Diseñado y fabricado según PED 2014/68/EU. El usuario del equipo a presión deberá responsabilizarse de la instalación y de las futuras inspecciones a efectuar a dicho equipo de acuerdo con la normativa específica del país en el que vaya a utilizarse. Azolgas recomienda reemplazar los cilindros de gas después de 2 millones de ciclos/10 años.</p> <p>POR Projetado e fabricado de acordo com a PED 2014/68/EU. O usuário dos cilindros a gás é responsável pela instalação e inspeções futuras a serem feitas para os cilindros, de acordo com as normas do país onde eles serão utilizados. Azolgas recomenda a troca dos cilindros após 2 milhões de ciclos/10 anos.</p>

HOW TO USE THE CATALOGUE



200
www.azolgas.com Service in Motion
azolgas@azolgas.com Tel. +34 945290010

CW 1000 V2

Compact Height

BMW B2 4005	FORD W-DX35-6204	PSA E24.54.815 G
MB B3 3180 220 000 004	GM 90 25 08	
VW 39D 987		

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ORDER	S		L1 ±0.25		L		F0 Initial Force		F1 (ROTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm³	in³	Kg.	lb
CW 1000 010 V2	10	0.39	58	2.28	48	1.89	920	2068	1404	3135	18	1.1	0.53	1.17
CW 1000 013 V2	13	0.51	64	2.52	51	2.01			1432	3215	22	1.4	0.56	1.29
CW 1000 016 V2	16	0.63	70	2.76	54	2.13			1451	3261	27	1.6	0.58	1.28
CW 1000 019 V2	19	0.75	76	2.99	57	2.24			1465	3293	31	1.9	0.61	1.34
CW 1000 025 V2	25	0.98	88	3.46	63	2.48			1483	3335	41	2.5	0.66	1.46
CW 1000 032 V2	32	1.26	102	4.02	70	2.76			1497	3366	51	3.1	0.72	1.60
CW 1000 038 V2	38	1.50	114	4.49	76	2.99			1505	3384	60	3.7	0.77	1.70
CW 1000 050 V2	50	1.97	138	5.43	88	3.46			1516	3408	78	4.8	0.87	1.92
CW 1000 063 V2	63	2.48	164	6.46	101	3.98			1523	3424	98	6.0	0.98	2.16
CW 1000 075 V2	75	2.95	188	7.40	113	4.45			1528	3435	116	7.1	1.08	2.38
CW 1000 080 V2	80	3.15	198	7.80	118	4.65	1529	3438	124	7.5	1.12	2.47		
CW 1000 100 V2	100	3.94	238	9.37	138	5.43	1534	3448	154	9.4	1.29	2.84		
CW 1000 125 V2	125	4.92	288	11.34	163	6.42	1538	3456	192	11.7	1.50	3.31		

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TECHNICAL DATA

Fluid	N ₂	Pmin	Pmax	20 bar	150 bar	Charging Adapter	06 CG 2AQ
		20°C / 68°F	290 psi	2175 psi			
		Tmin	Tmax	0 °C	80 °C	Connection	CW-H 1000 XXX V2
		32 °F	176 °F			Cartridge Kit	2840K169B

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<p>1 MODEL MODELL MODÈLE MODELLO MODELO MODELO</p>	<p>12 FINAL FORCE LETZTE KRAFT FORCE FINALE FORZA FINALE FUERZA FINAL FORÇA FINAL</p>
<p>2 VERSION VERSION VERSION VERSIONE VERSÃO</p>	<p>13 INITIAL FORCE ANFÄNGLICHE KRAFT FORCE INITIALE FORZA INIZIALE FUERZA INICIAL FORÇA INICIAL</p>
<p>3 STANDARDS AUTOMOBILES NORMEN AUTOMOBILE NORMES AUTOMOBILES NORME AUTOMOBILISTICHE ESTÁNDARES AUTOMÓVILES AUTOMÓVEIS PADRÃO</p>	<p>14 PRESSURE MEDIUM DRUCK-MEDIUM GAZ DE CHARGEMENT GAS DI CARICAMENTO GAS DE CARGA GÁS DE CARGA</p>
<p>4 INITIAL FORCE PER CHARGE PRESSURE ANFANGSKRAFT ABHÄNGIG VOM DRUCK FORCE INITIALE PAR PRESSION DE CHARGE FORZA INIZIALE PER PRESSIONE DELLA CARICA FUERZA INICIAL SEGÚN LA PRESIÓN DE CARGA FORÇA INICIAL CONFORME A PRESSÃO DE CARGA</p>	<p>15 MAX. RECOMMENDED USE OF THE STROKE MAX. EMPFOHLENER ARBEITSHUB MAX. UTILISATION DE LA COURSE RECOMMANDÉ USO SUGGERITO MASSIMO DELLA CORSA MAX. UTILIZACION DE LA CARRERA RECOMENDADA UTILIZAÇÃO MÁXIMA DE CURSO RECOMENDADO</p>
<p>5 PRESSURE RISE PER STROKE USED HUBABHÄNGIGES DRUCKAUFBAUDIAGRAMM AUGMENTATION DE PRESSION PAR COURSE UTILISÉE AUMENTO DI PRESSIONE IN FUNZIONE DELLA CORSA AUMENTO DE PRESIÓN EN FUNCIÓN DE LA CARRERA AUMENTO DA PRESSÃO EM FUNÇÃO DO CURSO</p>	<p>16 MAX. SPEED (METERS/SECOND) MAX. KOLBENGESCHWINDIGKEIT (m/s) MAX. VITESSE (MÈTRES/SECONDE) VELOCITÀ MASSIMA (METRI/SECONDO) VELOCIDAD MÁXIMA (METROS/SEGUNDO) VELOCIDADE MÁXIMA (METROS/SEGUNDO)</p>
<p>6 MAX. RECOMMENDED STROKES/MINUTE MAX.ZULÄSSIGE HÜBE/MINUTE MAX. CYCLES/MINUTE RECOMMANDÉ CADENZA MAX. CORSA/MINUTO CONSIGLIATA CADENCIA MAX. RECOMENDADA CARRERAS/MINUTO CADÊNCIA MÁX. RECOMENDADA CICLOS/MINUTO</p>	<p>17 FORCE VARIATION BY TEMPERATURE KRAFTVARIATION NACH TEMPERATUR VARIATION DE FORCE PAR LA TEMPÉRATURE VARIAZIONE DELLA FORZA PER TEMPERATURA VARIACION DE FUERZA POR TEMPERATURA VARIÇÃO DE FORÇA POR TEMPERATURA</p>
<p>7 VDI SAFETY VDI-SICHERHEIT SÉCURITÉ VDI SICUREZZA VDI SEGURIDAD VDI VDI SEGURANÇA</p>	<p>18 MIN-MAX. WORKING TEMPERATURE MIN.-MAX. ARBEITSTEMPERATUR MIN-MAX. TEMPÉRATURE DU TRAVAIL MIN-MAX. TEMPERATURA DI FUNZIONAMENTO MIN-MAX. TEMPERATURA DE TRABAJO MIN-MAX. TEMPERATURA DE TRABALHO</p>
<p>8 PED 2014/68/EU - EU DIRECTIVE PED 2014/68/EU - EU RICHTLINIE PED 2014/68/EU - DIRECTIVE EU PED 2014/68/EU - DIRETTIVA EU PED 2014/68/EU - DIRECTIVA EU PED 2014/68/EU - DIRECTIVA EU</p>	<p>19 MIN-MAX. CHARGING PRESSURE MIN-MAX. FÜLLDRUCK MIN-MAX. PRESSION DE CHARGEMENT MIN-MAX. PRESSIONE DI CARICAMENTO MIN-MAX. PRESIÓN DE CARGA MIN-MAX. PRESSÃO DE CARGA</p>
<p>9 ORDER BESTELLUNG COMMANDE ORDINE PEDIDO PEDIDO</p>	<p>20 ORDER REPAIR KIT BESTELLUNG DICHTSATZ COMMANDE KIT DE RÉPARATION ORDINE KIT DI MANUTENZIONE PEDIDO KIT DE REPARACIÓN PEDIDO DE KIT DE MANUTENÇÃO</p>
<p>10 FILLING PRESSURE FÜLLDRUCK PRESSION DE REMPLISSAGE PRESSIONE DI CARICAMENTO PRESIÓN DE CARGA PRESSÃO DE CARGA</p>	<p>21 CONNECTION VERBINDUNG LIEN CONNESSIONE CONEXIÓN CONEXÃO</p>
<p>11 INITIAL GAS VOLUME ANFÄNGLICHES GASVOLUMEN VOLUME INITIAL DE GAZ VOLUME INIZIALE DEL GAS VOLUMEN INICIAL DE GAS VOLUME INICIAL DE GÁS</p>	<p>22 ORDER CHARGING ADAPTER BESTELLUNG BEFÜLLADAPTER COMMANDE RACCORD DE CHARGE ORDINE ADATTATORE DI CARICO PEDIDO ADAPTADOR DE CARGA PEDIDO DE ADAPTADOR DE CARGA</p>




23 SERIES CHART
ÜBERSICHTSTABELLE
TABLEAU DE SÉRIES
TABELLA DI SERIE
COMPARATIVA DE SERIES
COMPARATIVO DAS SÉRIES




24 MOUNTS
FLANSCHEN
BRIDES
FLANGE
BRIDAS
FIXAÇÃO



25 PROTECTION OPTIONS
SCHUTZMÖGLICHKEITEN
OPTIONS DE PROTECTION
OPZIONI DI PROTEZIONE
OPCIONES DE PROTECCIÓN
OPÇÕES DE PROTEÇÃO




COLOR CODE: MINI GAS SPRINGS









AFB V2	COLOR				
		bar	psi		
AFB 13 050 V2	Green	45	650	13	20
AFB 25 050 V2	Blue	90	1305	25	40
AFB 38 050 V2	Red	135	1960	38	60
AFB 50 050 V2	Yellow	180	2610	50	80
AFB XX 050 V2	Black	20-180	290-2610	6 - 50	9 - 80


AFH V1	COLOR				
		bar	psi		
AFH 18 050 V1	Green	35	510	18	35
AFH 35 050 V1	Blue	70	1015	35	70
AFH 50 050 V1	Red	100	1450	50	100
AFH 70 050 V1	Yellow	140	2030	70	140
AFH XX 050 V1	Black	20-180	290-2610	10 - 90	20 - 180




AFJ V1	COLOR				
		bar	psi		
AFJ 30 050 V1	Green	60	870	30	40
AFJ 50 050 V1	Blue	100	1450	50	70
AFJ 70 050 V1	Red	140	2030	70	95
AFJ 90 050 V1	Yellow	180	2610	90	120
AFJ XX 050 V1	Black	20-180	290-2610	10 - 90	13 - 120

AFK V1	COLOR				
		bar	psi		
AFK 25 050 V1	Green	40	580	25	35
AFK 50 050 V1	Blue	80	1160	50	70
AFK 75 050 V1	Red	120	1740	75	105
AFK 100 050 V1	Yellow	160	2320	100	140
AFK XXX 050 V1	Black	20-160	290-2320	13 - 100	18 - 140

AFD V1	COLOR				
		bar	psi		
AFD 50 050 V1	Green	45	650	50	70
AFD 100 050 V1	Blue	90	1305	100	140
AFD 150 050 V1	Red	135	1960	150	210
AFD 200 050 V1	Yellow	180	2610	200	280
AFD XXX 050 V1	Black	20-180	290-2610	23 - 200	32 - 280

AFC	COLOR				
		bar	psi		
AFC 50 050	Green	45	650	50	75
AFC 100 050	Blue	90	1305	100	155
AFC 150 050	Red	135	1960	150	230
AFC 200 050	Yellow	180	2610	200	305
AFC XXX 050	Black	20-180	290-2610	23 - 200	35 - 305

AFNA	COLOR				
		bar	psi		
AFNA 50 050	Green	45	650	50	75
AFNA 100 050	Blue	90	1305	100	155
AFNA 150 050	Red	135	1960	150	230
AFNA 200 050	Yellow	180	2610	200	305
AFNA XXX 050	Black	20-180	290-2610	23 - 200	35 - 305

AFV1	COLOR				
		bar	psi		
AF 50 050 V1	Green	45	650	50	70
AF 100 050 V1	Blue	90	1305	100	135
AF 150 050 V1	Red	135	1960	150	205
AF 200 050 V1	Yellow	180	2610	200	270
AF XXX 050 V1	Black	20-180	290-2610	23 - 200	30 - 270

AFT V1	COLOR				
		bar	psi		
AFT 80 050 V1	Green	40	580	80	135
AFT 160 050 V1	Blue	80	1160	160	265
AFT 240 050 V1	Red	120	1740	240	400
AFT 310 050 V1	Yellow	155	2450	310	515
AFT XXX 050 V1	Black	20-180	290-2610	40 - 360	65 - 600

- Adaptable version that can be charged between Pmin and Pmax.
- Anpassbare Version, die mit verschiedenen Drücken zwischen Pmin und Pmax befüllt werden kann.
- Version adaptable pouvant être chargée entre Pmin et Pmax.
- Versione adattabile che può essere caricata tra Pmin e Pmax.
- Versión adaptable que puede ser cargada entre Pmin y Pmax.
- Versão personalizável que pode ser carregada entre Pmin e Pmax.



COLOR CODE: MINI GAS SPRINGS

ORDER EXAMPLE

2 www.azolgas.com Service in Motion azolgas@azolgas.com Tel. +34 945290010

AFB V2
Mini

VDI SAFETY

ORDER	S	L	L1	L	Kg	lb
	mm	inch	mm	inch		
AFB 007 V2	7	0.28	56	2.20	49	7.59
AFB 010 V2	10	0.39	62	2.44	52	2.05
AFB 012 V2	12	0.50	67	2.65	54.7	2.15
AFB 015 V2	15	0.59	72	2.83	57	2.24
AFB 019 V2	19	0.75	80	3.15	61	2.40
AFB 025 V2	25	0.98	92	3.62	67	2.64
AFB 038 V2	38	1.50	116	4.57	80	3.15
AFB 050 V2	50	1.97	142	5.59	92	3.62
AFB 060 V2	60	2.36	172	6.77	103	4.27
AFB 075 V2	75	2.95	195	7.68	120	4.72
AFB 090 V2	90	3.54	205	8.07	125	4.92

ORDER	COLOR	P
		bar
AFB 13 050 V2	Green	45
AFB 25 050 V2	Blue	90
AFB 38 050 V2	Red	135
AFB 50 050 V2	Yellow	180
AFB XX 050 V2	Black	20-180

TECHNICAL DATA

Fluid	N ₂	Pmin	20 bar	180 bar	200 bar	2910 psi
Smax	< 90%	Tmin	0 °C	80 °C	32 °F	176 °F
Vmax	1.6 m/s	Force variation by temperature	±0.3% / °C			

Charging Adapter: 06 CG 2-0 (X)
Connection: (X)
Cartridge Kit: (X)

AFB V2	COLOR	psi		F ₀	F ₁
		bar	psi	daN	daN
AFB 13 050 V2	Green	45	650	13	20
AFB 25 050 V2	Blue	90	1305	25	40
AFB 38 050 V2	Red	135	1960	38	60
AFB 50 050 V2	Yellow	180	2610	50	80
AFB XX 050 V2	Black	20-180	290-2610	6 - 50	9 - 80

ENG ORDER
DEU BESTELLUNG
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

AFB 50 050 V2 (YELLOW)

AFB XX 050 V2 (BLACK)

BLACK: Force to be specified by the customer. Delivered pre-charged at 20 bar.

BODY MARK

EPD 7.5.31
AZOL GAS
Service in Motion
www.azolgas.com

WARNING! — HIGH PRESSURE Exhaust gas before servicing.
ACHTUNG! — HOHER DRUCK Nicht öffnen wenn unter Druck.
ATTENTION! — HAUTE PRESSION Décharger avant toute manipulation.
ATTENZIONE! — ALTA PRESSION Scaricare prima di ogni manipolazione.
ATENCIÓN! — ALTA PRESIÓN Descargue antes de cualquier manipulación.

NC.051.00.00000.050.2
AFB 050 V2
215025247 NOT REPAIR
97/23CE art.3.3 Made in Spain (EU)
PMAX 180 bar/2610 psi N₂ at 20°C
TS 0 / 80 °C PS 0 / 373 bar
www.azolgas.com

AFB V2	COLOR	psi		F ₀	F ₁
		bar	psi	daN	daN
AFB 13 050 V2	Green	45	650	13	20
AFB 25 050 V2	Blue	90	1305	25	40
AFB 38 050 V2	Red	135	1960	38	60
AFB 50 050 V2	Yellow	180	2610	50	80
AFB XX 050 V2	Black	20-180	290-2610	6 - 50	9 - 80

ENG ORDER
DEU BESTELLUNG
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

AFB 38 050 V2

MINI gas springs series the force is defined by colored label.

MINI gas springs series only the model and stroke are engraved on the body (not the force).

SELF-CONTAINED AND HOSED



NOT TO BE HOSED

TO BE HOSED

AFJ V1

Technical Data: Connection: **X**

AG 750

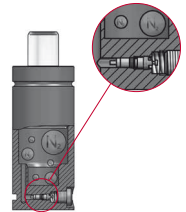
Technical Data: Connection: **AG-H 750 XXX**

Most of gas springs can be used as hoses, but some of them cannot be hoses.

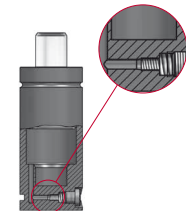
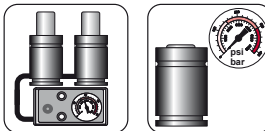
On each catalogue sheet (lower right side) can be checked if gas springs are able to be used as hoses (e.g. AG-H 750) or not (e.g. X).

TO BE HOSED

FOR SELF-CONTAINED USE AG 750 050



FOR HOSED USE AG-H 750 050



AG 750

Technical Data: Connection: **AG-H 750 XXX**



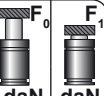


Order Table highlights: **AG 750 013**, **AG 750 025**, **AG 750 038**, **AG 750 050**, **AG 750 060**

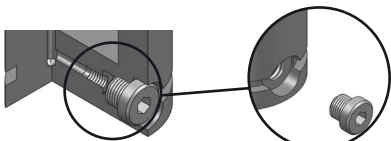
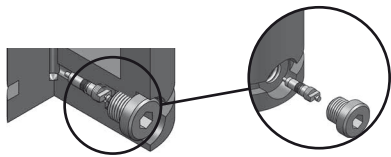
Order Table highlights: **18 CG 1-Q**, **AG-H 750 XXX**, **2540T340A**


The gas springs able to be hoses may be ordered as self-contained use (if nothing is specified) or as hoses use (just by adding -H to the gas spring standard model).


- for a self-contained use (when nothing is specified) are supplied charged to the initial pressure.
- for a hoses use (when -H is added to standard model) are supplied discharged and without the filling valve.

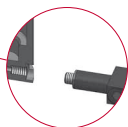
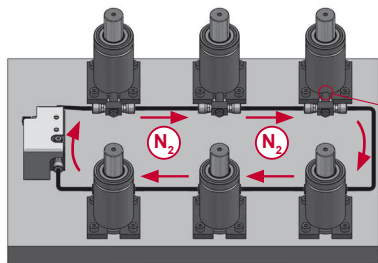
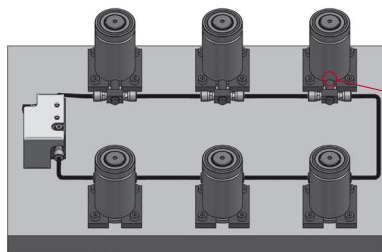
SELF-CONTAINED OR HOSED GAS SPRINGS

CODE					
		bar	psi	daN	daN
AG 750 050		150	2175	740	1100
AG-H 750 050		0	0	---	---



	ENG	Self-contained gas spring	Gas spring delivered charged (with filling valve)
	DEU	Autonome Gasdruckfeder	Befüllte Gasdruckfeder (mit Ventil)
	FRA	Ressort à gaz autonome	Ressort à gaz fourni chargé (avec valve de charge)
	ITA	Cilindro ad azoto autonomo	Cilindro fornito carico (con valvola di carico)
	ESP	Cilindro de gas autónomo	Cilindro de gas suministrado cargado (con válvula de carga)
	POR	Cilindro de gas autónomo	Cilindro de gás fornecido carregado (com válvula de carga)

	ENG	Ready to be hosed	Gas spring delivered unfilled (without filling valve)
	DEU	Fertig zum Verschlauchen	Drucklose Gasdruckfeder (ohne Ventil)
	FRA	Prêt à être relié	Ressort à gaz fourni non chargé (sans valve de charge)
	ITA	Pronto per essere collegato	Cilindro fornito scarico (senza valvola di carico)
	ESP	Preparado para conexión	Cilindro de gas suministrado descargado (sin válvula de carga)
	POR	Pronto a ser interligado	Cilindro de gás fornecido descarregado (sem válvula de carga)



When the pressure pushes the filling valve it opens and let the flow of gas, but when there is no pressure pushing the filling valve, it keep closed and do not allow the exit of gas.

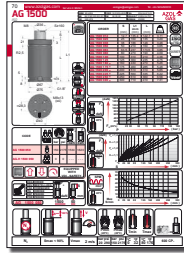
Warning: if the filling valve is installed into the gas springs, the gas springs are not linked each other into a circuit and cannot be charged through the control panel, it is necessary to remove the filling valve from the gas springs in order to keep N2 pressure through the circuit.

SAFETY-VDI



GAS SPRINGS EQUIPPED WITH VDI-SAFETY

MODEL	SAFETY-VDI		
	VDI 3003		
AFJ V1			
AFC			
AG 150			
AG 250			
AG 500			
AG 750			
AG 1500			
AG 3000			
AG 5000			
AG 7500			
AG 10000			
CD 300 V1			
CD 500 V1			
CD 700			
CD 1000 V1			
CD 1500 V2			
CD 2400			
CD 4200			
CD 6600			
CD 9600			
CD 18500			
CW 170 V1			
CW 320 V1			
CW 350 V1			
CW 500 V1			
CW 750 V1			
CW 1000 V2			
CW 1500 V1			
CW 2400 V1			
CW 4200 V1			
CW 6600			
CW 9500			
CW 11800			
CW 20000			



Over-Speed safety

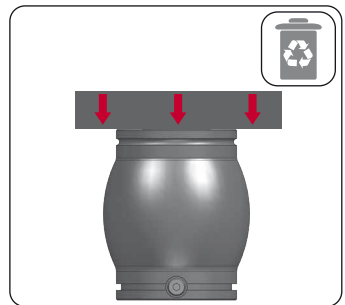
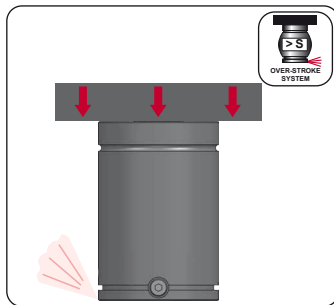
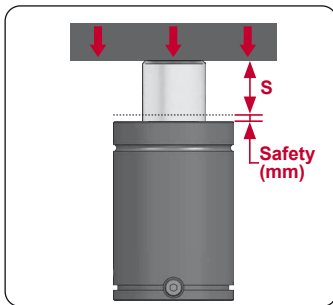
Over-Stroke safety

Over-Pressure safety

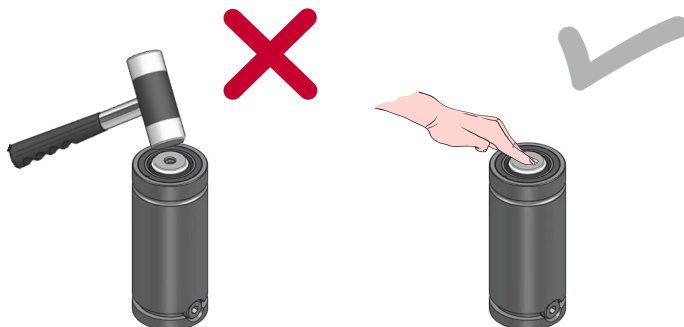
VDI 3003



WARNING! EQUIPPED WITH VDI-SAFETY
CAUTION: EXCEEDING NOMINAL STROKE WILL DISCHARGE GAS SPRING

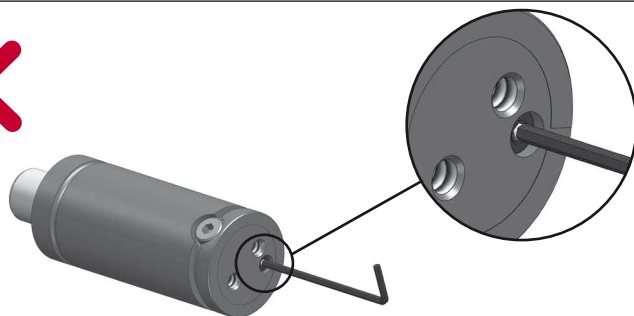


In the event of exceeding the maximum allowable stroke, over-stroke safety system prevents projection of parts under pressure and discharge the pressure completely in a controlled way. Over-stroke safety system enables the use of 100% of total nominal stroke (S). Check if exceeded the maximum allowed stroke. Once activated, the over-stroke safety system prevents the reuse or refill of gas spring. Remove the gas spring and recycle components according to the environmental regulation of the country where the gas springs are used.

**WARNING IN REPAIR OPERATIONS:**

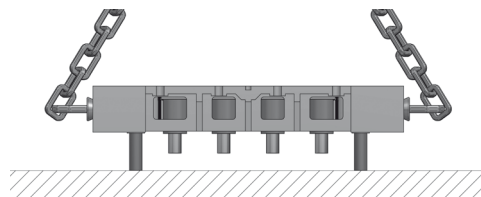
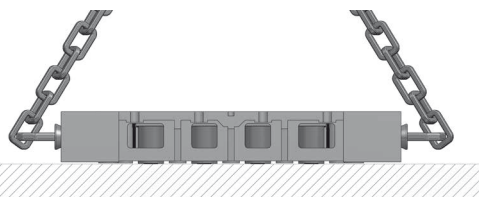
Once the gas spring is fully discharged, push down the piston rod by hand, never using a tool.

In some gas springs series, should the piston rod is pushed down over the nominal stroke (S) the over-stroke safety device would be activated.

**WARNING IN GAS SPRING MANIPULATION:**

Over-stroke safety is protected to prevent its manipulation.

Do not manipulate over-stroke safety, manipulating over-stroke safety can result in high safety risk, failure of gas spring and personal injury.

**WARNING IN TOOL MAINTENANCE:**

When handling the tool do not support the weight of the tool over the gas springs, if so the gas spring over-stroke safety will be activated.

REPAIR KIT



HOW TO ORDER

1 SERIES

2 KIT PART NUMBER

3 CARTRIDGE KIT PART NUMBER

4 SERIES

Verify the gas spring series part number (1) and its corresponding kit part number (2) engraved on gas spring body. When replacing gas spring cartridge kit, check the series of cartridge kit (3) corresponds to the series of gas spring to be repaired, and the cartridge kit part number (4) corresponds to the kit part number engraved on gas spring body.

CARTRIDGE KIT

KIT XXXXXXXXXX

Part	Description	Quantity
1	Cartridge	1
2	Filling valve	1
3	Oil bottle	1
4	Grease can	1
5	Operating instructions	1

Ø BODY	SERIES WITH COMMON CARTRIDGE KIT						OIL VOLUME (ml)			
							STROKE			
							<31	32-125	>126	
25	AFC AFNA						1	3	3	
32		AG 150	CD 300 CM 350				1	3	3	
38		AG 250 FD 300	CD 500 CM 500				2	4	4	
45		AG 500	CD 700 CM 600	FD 500			2	4	5	
50		AG 750 GN 750	CD 1000 CM 1000	FD 750			2	5	6	
63			CD 1500 CM 1500				4	6	8	
75		AG 1500 GN 1500	CD 2400 CM 2400	FD 1500	CT 3000		5	9	11	
95		AG 3000 GN 3000	CD 4200 CM 4000	FD 3000			8	13	16	
105					CT 5000		10	16	20	
120		AG 5000	CD 6600 CM 6500	FD 5000 GN 5000			12	19	25	
150		AG 7500	CD 9600 CM 10000	GN 7500			CW 11800	19	29	37
195		AG 10000	CD 18500					31	45	50



MARKING GAS SPRING



1

VDI-SAFETY

NC.060.10.10000.300
AG 10000 300
215025247
95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

VDI-SAFETY

- Vmax (over-speed safety device)
- Smax (over-stroke safety device)
- Pmax (over-pressure safety device)
- Warning weight > 15 kg.

2

VDI-SAFETY

NC.060.10.10000.300
AG 10000 300
215025247
95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

NITROCYL part number.
 AZOLGAS part number.

3

VDI-SAFETY

NC.060.10.10000.300
AG 10000 300
215025247
95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

Data Matrix (serial number).

4

VDI-SAFETY

NC.060.10.10000.300
AG 10000 300
215025247
95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

Repair KIT.
 The Repair KIT code engraved on the body identifies each gas spring with its corresponding Repair KIT.

5

VDI-SAFETY

NC.060.10.10000.300
AG 10000 300
215025247
95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

Marking PED 2014/68/EU:
 -Article 4.3
 -Category I
 -Category II
 -Category III-IV

6




NC.060.10.10000.300
AG 10000 300
215025247
 95G0Y950A-□□□
 €0053 **TEST - 344 bar**
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

Marking of Test Pressure and gas volume (only for gas springs under Category III-IV).

7




NC.060.10.10000.300
AG 10000 300
215025247
 95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

Country of origin.

8




NC.060.10.10000.300
AG 10000 300
215025247
 95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

PMAX: maximum charging pressure on gas spring at 20°C.

9




NC.060.10.10000.300
AG 10000 300
215025247
 95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
TS 0 / 80°C PS 0 / 241 bar
 www.azolgas.com

Operating temperature 0-80°C.

10




NC.060.10.10000.300
AG 10000 300
215025247
 95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C **PS 0 / 241 bar**
 www.azolgas.com

Design pressure.

11




NC.060.10.10000.300
AG 10000 300
215025247
 95G0Y950A-□□□
 €0053 TEST - 344 bar
 CAT III Vol. 7.58L
 Made in Spain (EU)
 PMAX 150 bar/2175 psi N2 at 20°C
 TS 0 / 80°C PS 0 / 241 bar
www.azolgas.com

Marking from manufacturer.



GAS SPRINGS

AZOL 
GAS



MINI SERIES AF

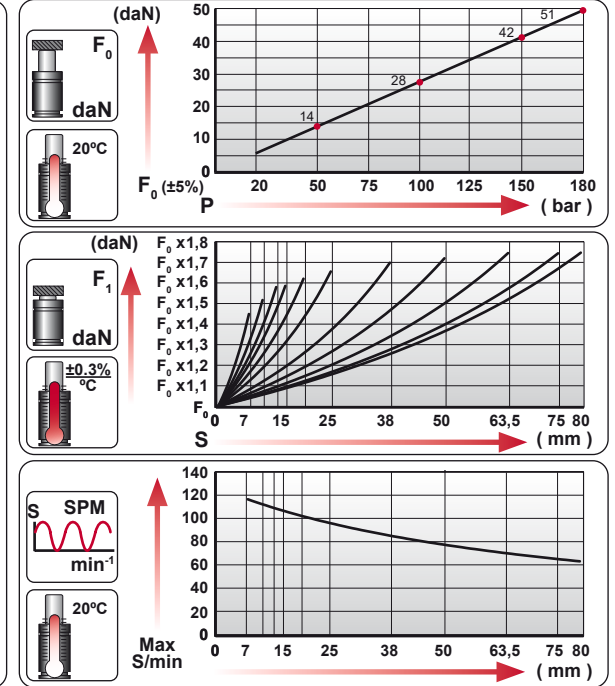
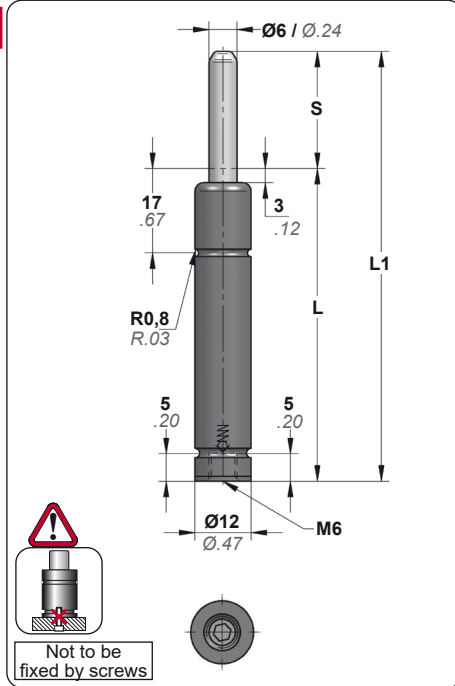
- Smallest size gas springs
- Lowest contact force (50-360 daN)
- Ideal replacement for coil springs
- Used as part ejectors, pushers or strippers

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
AFB V2	50 112	Ø12 Ø0.47	7 - 80 0.28 - 3.15	56 - 205 2.20 - 8.07	180 2610	M6	X	X
AFH V1	90 202	Ø15 Ø0.59	7 - 80 0.28 - 3.15	56 - 205 2.20 - 8.07	180 2610	M6	X	X
AFJ V1	90 202	Ø19 Ø0.75	7 - 125 0.28 - 4.92	56 - 295 2.20 - 11.61	180 2610	M6	X	X
AFK V1	100 225	Ø20 Ø0.79	10 - 80 0.39 - 3.15	74 - 214 2.91 - 8.43	160 2320	M6	X	X
AFC	200 450	Ø25 Ø0.98	7 - 125 0.28 - 4.92	56 - 295 2.20 - 11.61	180 2610	M6	X	✓
AFNA	200 450	Ø25 Ø0.98	10 - 50 0.39 - 1.97	65 - 145 2.56 - 5.71	180 2610	M6	X	✓
AF V1	200 450	Ø25 Ø0.98	12 - 100 0.47 - 3.94	78 - 254 3.07 - 10	180 2610	M6	X	X
AFT V1	360 809	Ø32 Ø1.26	7 - 125 0.28 - 4.92	56 - 295 2.20 - 11.61	180 2610	M6	X	X

	50	50	50	50	50	50	50	50
	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32
	L1=142	L1=130 L1=140	L1=137 L1=139	L1=150 L1=150	L1=150	L1=155	L1=195	
MODEL	AFT	CW 350 KZ 350	X	CT 300 CK 300	CM 350 CD 300	AG 150	CP 500	CS 770
SERIES	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE

AFB V2

Mini



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
AFB --- 007 V2	7	0.28	56	2.20	49	1.93	0.03	0.07
AFB --- 010 V2	10	0.39	62	2.44	52	2.05	0.03	0.07
AFB --- 012 V2	12.7	0.50	67.4	2.65	54.7	2.15	0.04	0.09
AFB --- 015 V2	15	0.59	72	2.83	57	2.24	0.04	0.09
AFB --- 019 V2	19	0.75	80	3.15	61	2.40	0.04	0.09
AFB --- 025 V2	25	0.98	92	3.62	67	2.64	0.04	0.09
AFB --- 038 V2	38	1.50	118	4.65	80	3.15	0.05	0.11
AFB --- 050 V2	50	1.97	142	5.59	92	3.62	0.06	0.13
AFB --- 063 V2	63.5	2.50	172	6.77	108.5	4.27	0.07	0.15
AFB --- 075 V2	75	2.95	195	7.68	120	4.72	0.07	0.15
AFB --- 080 V2	80	3.15	205	8.07	125	4.92	0.08	0.18

ORDER	COLOR	P	
		bar	psi
AFB 13 050 V2	Green	45	650
AFB 25 050 V2	Blue	90	1305
AFB 38 050 V2	Red	135	1960
AFB 50 050 V2	Yellow	180	2610
AFB XX 050 V2	Black	20-180	290-2610




ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	AFB 13 050 V2	13	29	20
AFB 25 050 V2	25	56	45	101
AFB 38 050 V2	38	85	65	146
AFB 50 050 V2	50	112	85	191
AFB XX 050 V2	6-50	13-112	10-85	22-191

TECHNICAL DATA


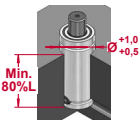






Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi	Charging Adapter	06 CG 2-Q
Sm _{max}	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X



AFB V2
Mini

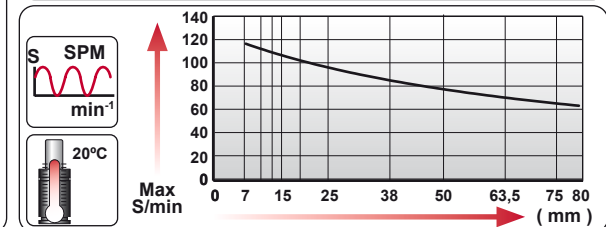
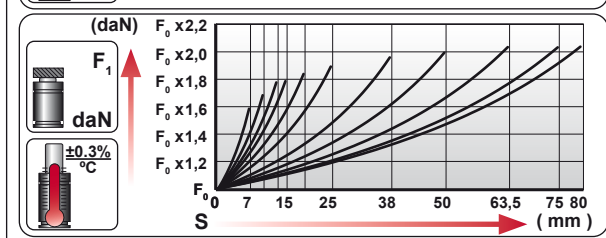
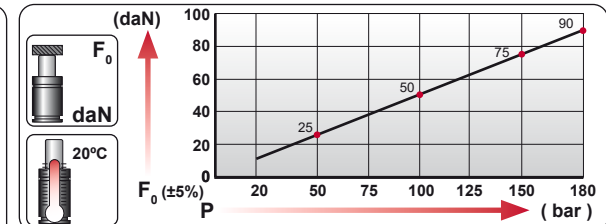
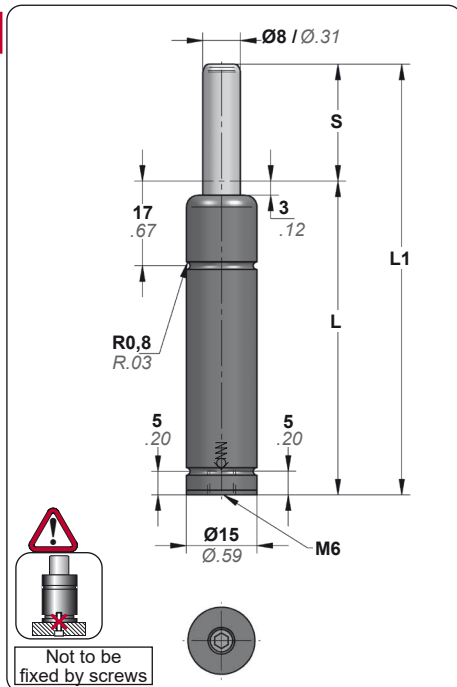
 S mm								
 Ø mm								
 L1 mm								
MODEL								

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-012  580 A59-012  585			

AFH V1

Mini



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
AFH ___ 007 V1	7	0.28	56	2.20	49	1.93	0.05	0.11
AFH ___ 010 V1	10	0.39	62	2.44	52	2.05	0.06	0.13
AFH ___ 012 V1	12.7	0.50	67.4	2.65	54.7	2.15	0.06	0.13
AFH ___ 015 V1	15	0.59	72	2.83	57	2.24	0.06	0.13
AFH ___ 019 V1	19	0.75	80	3.15	61	2.40	0.06	0.13
AFH ___ 025 V1	25	0.98	92	3.62	67	2.64	0.07	0.15
AFH ___ 038 V1	38	1.50	118	4.65	80	3.15	0.08	0.18
AFH ___ 050 V1	50	1.97	142	5.59	92	3.62	0.10	0.22
AFH ___ 063 V1	63.5	2.50	172	6.77	108.5	4.27	0.11	0.24
AFH ___ 075 V1	75	2.95	195	7.68	120	4.72	0.12	0.26
AFH ___ 080 V1	80	3.15	205	8.07	125	4.92	0.13	0.29

ORDER	COLOR	P	
		bar	psi
AFH 18 050 V1	Green	35	510
AFH 35 050 V1	Blue	70	1015
AFH 50 050 V1	Red	100	1450
AFH 70 050 V1	Yellow	140	2030
AFH XX 050 V1	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	AFH 18 050 V1	18	40	35
AFH 35 050 V1	35	79	70	157
AFH 50 050 V1	50	112	100	225
AFH 70 050 V1	70	157	140	315
AFH XX 050 V1	10-90	22-202	20-180	45-405

TECHNICAL DATA				
Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 290 psi	180 bar 2610 psi
Sm _{max}	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	
Charging Adapter				06 CG 2-Q
Connection				X
Cartridge Kit				X



AFH V1
Mini

MODEL								

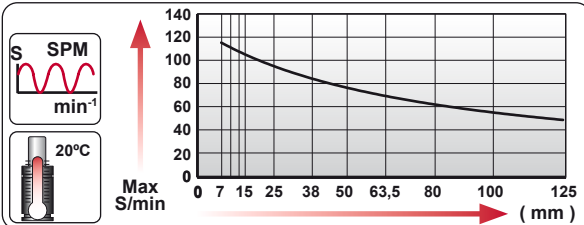
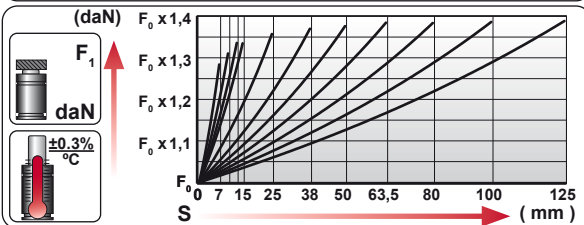
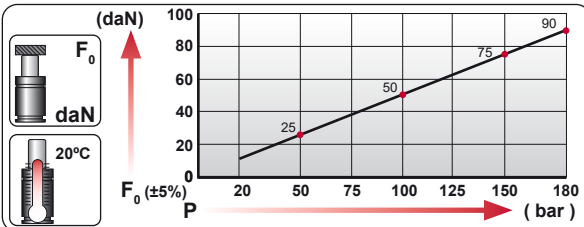
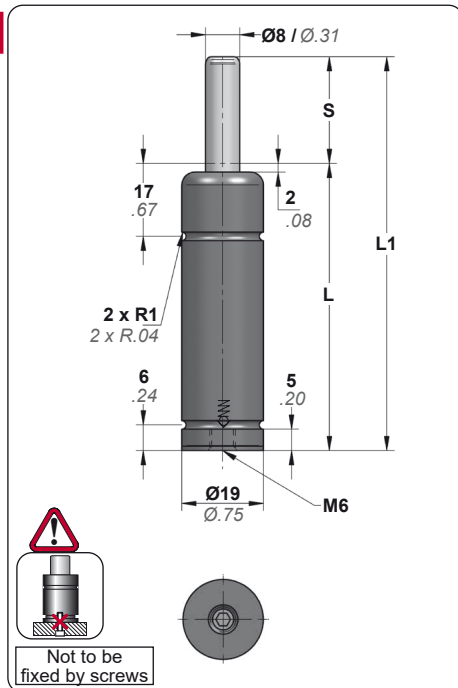
MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-015 580 A49-015 584			

AFJ V1

Mini

BMW B2 4006	FORD W-DX35-8036
MB B8 3180 220 000 002	
VW 39D 878	

**AZOL
GAS**

**VDI
SAFETY**

STANDARS


ORDER	S		L1 ±0.25		L		Kg.		lb
	mm	inch	mm	inch	mm	inch	mm	lb	
AFJ ___ 007 V1	7	0.28	56	2.20	49	1.93	0.08	0.18	
AFJ ___ 010 V1	10	0.39	62	2.44	52	2.05	0.08	0.18	
AFJ ___ 012 V1	12.7	0.50	67.4	2.65	54.7	2.15	0.08	0.18	
AFJ ___ 015 V1	15	0.59	72	2.83	57	2.24	0.09	0.20	
AFJ ___ 025 V1	25	0.98	92	3.62	67	2.64	0.10	0.22	
AFJ ___ 038 V1	38	1.50	118	4.65	80	3.15	0.12	0.26	
AFJ ___ 050 V1	50	1.97	142	5.59	92	3.62	0.13	0.29	
AFJ ___ 063 V1	63.5	2.50	172	6.77	108.5	4.27	0.15	0.33	
AFJ ___ 080 V1	80	3.15	205	8.07	125	4.92	0.17	0.37	
AFJ ___ 100 V1	100	3.94	245	9.65	145	5.71	0.19	0.42	
AFJ ___ 125 V1	125	4.92	295	11.61	170	6.69	0.22	0.49	

ORDER	COLOR	P	
		bar	psi
AFJ 30 050 V1	Green	60	870
AFJ 50 050 V1	Blue	100	1450
AFJ 70 050 V1	Red	140	2030
AFJ 90 050 V1	Yellow	180	2610
AFJ XX 050 V1	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	AFJ 30 050 V1	30	67	40
AFJ 50 050 V1	50	112	70	157
AFJ 70 050 V1	70	157	100	225
AFJ 90 050 V1	90	202	125	281
AFJ XX 050 V1	10-90	22-202	14-125	31-281

TECHNICAL DATA

	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi		Charging Adapter	06 CG 2-Q
	Smax	< 90%		Tmin Tmax	0 °C 80 °C 32 °F 176 °F		Connection	X
	Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		Cartridge Kit	X

	50	50					50
	Ø19	Ø19					Ø19
	L1=142	L1=130					L1=160
MODEL	AFJ	CW 170					CP 150

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-019 580 A44-019 584 A59-019 585		A19-019 586	

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PG Protective Guard

HOW TO ORDER

AFJ ___ 050 8 19

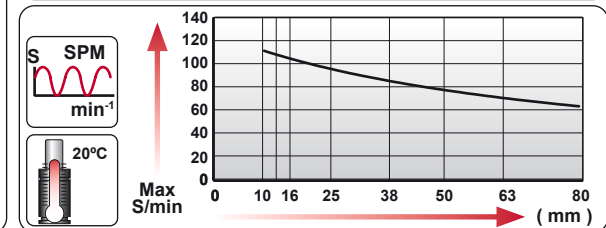
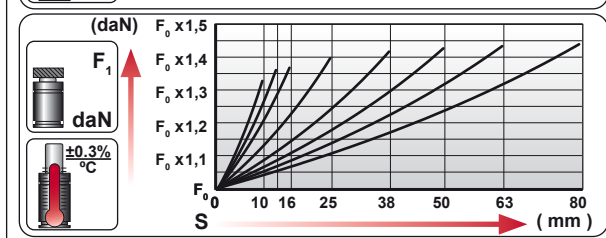
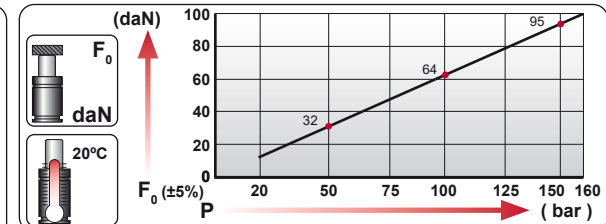
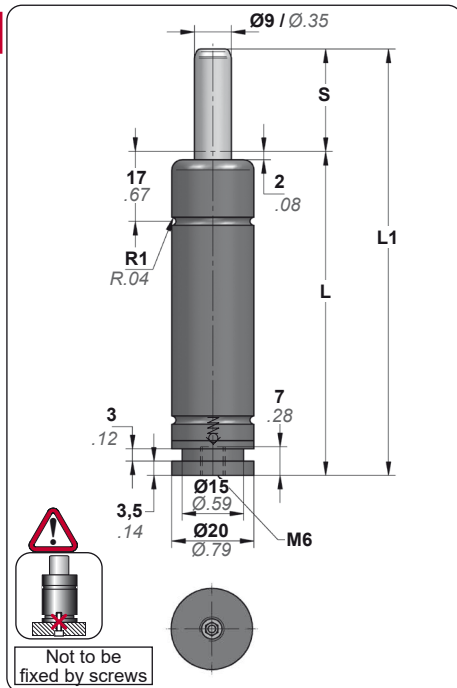
AFJ ___ 050 + PG 008 019

Protective Guard

PG involves a variation of the dimensions of the gas spring. The nominal stroke (S) decreases to the size of the useful stroke (Su).

AFK V1

Mini



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L			
	mm	inch	mm	inch	mm	inch	Kg.	lb
AFK ___ 010 V1	10	0.39	74	2.91	64	2.52	0.12	0.26
AFK ___ 012 V1	12.7	0.50	79.4	3.13	66.7	2.63	0.12	0.26
AFK ___ 016 V1	16	0.63	86	3.39	70	2.76	0.13	0.29
AFK ___ 025 V1	25	0.98	104	4.09	79	3.11	0.14	0.31
AFK ___ 038 V1	38	1.50	130	5.12	92	3.62	0.16	0.35
AFK ___ 050 V1	50	1.97	154	6.06	104	4.09	0.18	0.40
AFK ___ 063 V1	63	2.48	180	7.09	117	4.61	0.19	0.42
AFK ___ 080 V1	80	3.15	214	8.43	134	5.28	0.22	0.49

ORDER	COLOR	P	
		bar	psi
AFK 25 050 V1	Green	40	580
AFK 50 050 V1	Blue	80	1160
AFK 75 050 V1	Red	120	1740
AFK 100 050 V1	Yellow	160	2320
AFK XXX 050 V1	Black	20-160	290-2320

ORDER	F0 Initial Force ±5% 20°C 68°F		F1 (ISOTHERMAL) End Force	
	daN	lb	daN	lb
AFK 25 050 V1	25	56	35	79
AFK 50 050 V1	50	112	70	157
AFK 75 050 V1	75	169	105	236
AFK 100 050 V1	100	225	140	315
AFK XXX 050 V1	13-100	29-225	18-140	40-315

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 290 psi / 160 bar 2320 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F / 80 °C 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X



AFK V1
Mini

MODEL								

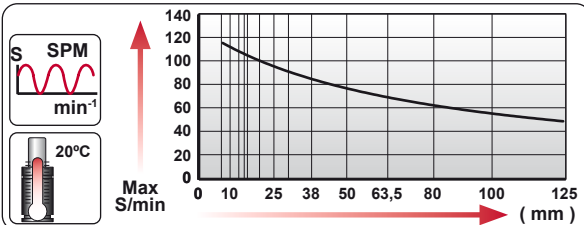
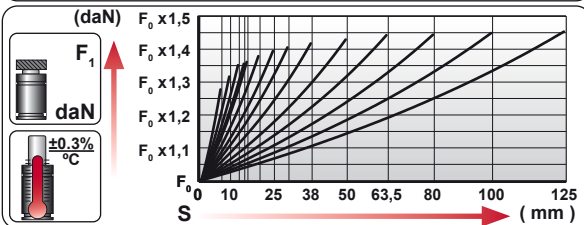
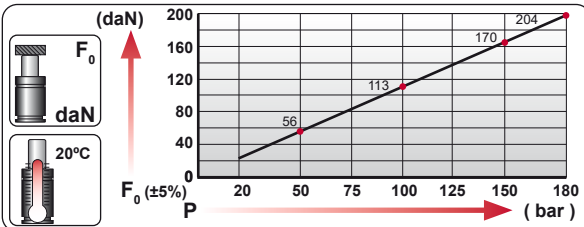
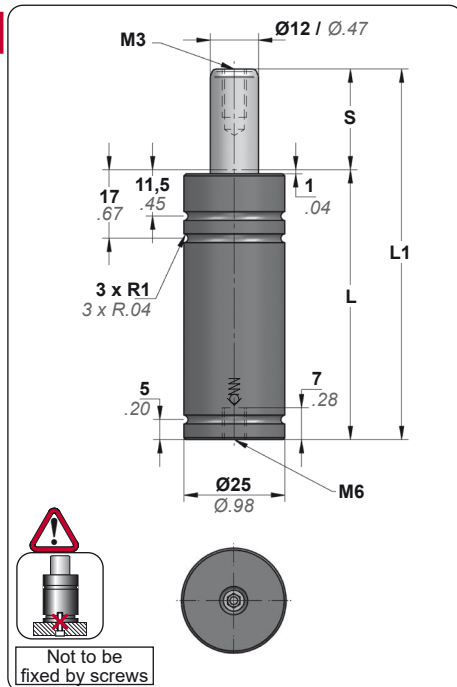
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

AFC

Mini

BMW B2 4006	PSA E24.54.815.G
MB B8 3180 220 000 002	
VW 39D 878	

AZOL GAS**VDI SAFETY****STANDARS**

ORDER	S		L1 ±0.25		L		Kg.	
	mm	inch	mm	inch	mm	inch		
AFC ___ 007	7	0.28	56	2.20	49	1.93	0.15	0.33
AFC ___ 010	10	0.39	62	2.44	52	2.05	0.16	0.35
AFC ___ 012	12.7	0.50	67.4	2.65	54.7	2.15	0.16	0.35
AFC ___ 015	15	0.59	72	2.83	57	2.24	0.17	0.37
AFC ___ 016	16	0.63	74	2.91	58	2.28	0.17	0.37
AFC ___ 020	20	0.79	82	3.23	62	2.44	0.18	0.40
AFC ___ 025	25	0.98	92	3.62	67	2.64	0.19	0.42
AFC ___ 030	30	1.18	102	4.02	72	2.83	0.20	0.44
AFC ___ 038	38	1.50	118	4.65	80	3.15	0.21	0.46
AFC ___ 050	50	1.97	142	5.59	92	3.62	0.24	0.53
AFC ___ 063	63.5	2.50	172	6.77	108.5	4.27	0.27	0.60
AFC ___ 080	80	3.15	205	8.07	125	4.92	0.30	0.66
AFC ___ 100	100	3.94	245	9.65	145	5.71	0.34	0.75
AFC ___ 125	125	4.92	295	11.61	170	6.69	0.39	0.86

ORDER	COLOR	P	
		bar	psi
AFC 50 050	Green	45	650
AFC 100 050	Blue	90	1305
AFC 150 050	Red	135	1960
AFC 200 050	Yellow	180	2610
AFC XXX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
AFC 50 050	50	112	70	157
AFC 100 050	100	225	145	326
AFC 150 050	150	337	215	483
AFC 200 050	200	450	285	641
AFC XXX 050	23-200	52-450	35-285	79-641

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar / 290 psi	180 bar / 2610 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	00195108B

	50	50		50	50		50	50
	$\varnothing 25$	$\varnothing 25$		$\varnothing 25$	$\varnothing 25$		$\varnothing 25$	$\varnothing 25$
		L1=130		L1=132	L1=160		L1=160	L1=195
	L1=142 L1=145 L1=154			L1=133				
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

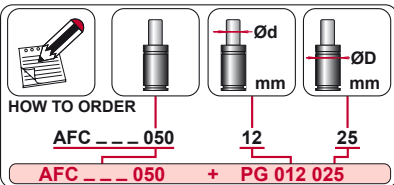
MOUNTING OPTIONS

	Drop-in Min. 80%L $\varnothing^{+1.0}$ $\varnothing_{+0.5}$	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-025 580 A44-025 584 A49-025 584			D02-025 600

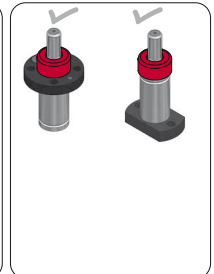
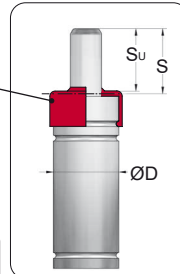
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PG Protective Guard



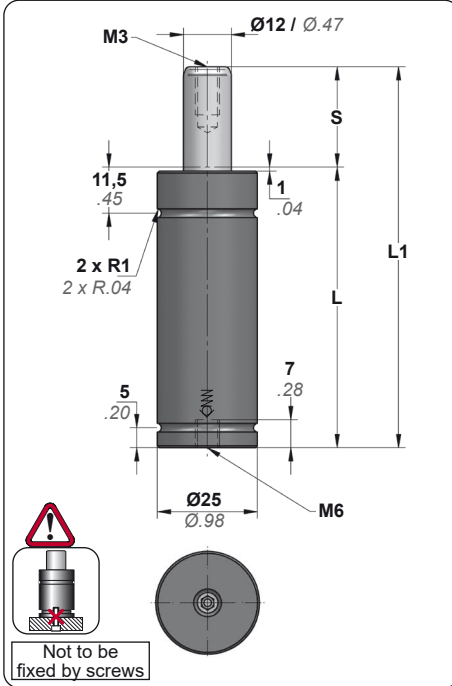
Protective Guard

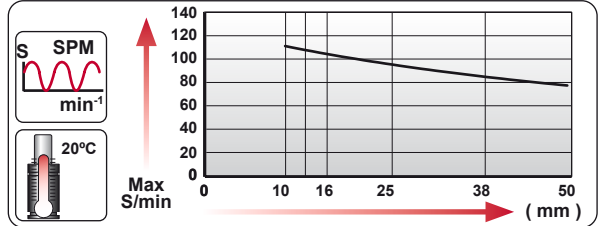
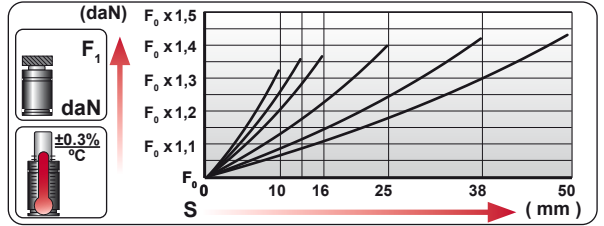
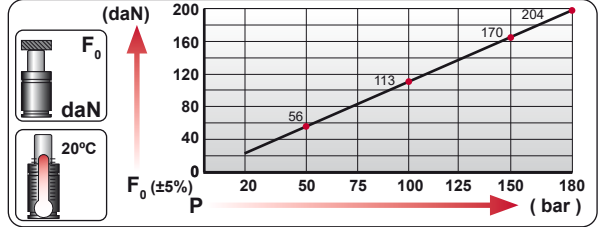


PG involves a variation of the dimensions of the gas spring. The nominal stroke (S) decreases to the size of the useful stroke (S_u).

AFNA

Mini





VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L			
	mm	inch	mm	inch	mm	inch	Kg.	lb
AFNA ... 010	10	0.39	65	2.56	55	2.17	0.17	0.37
AFNA ... 012	12.7	0.50	70.4	2.77	57.7	2.27	0.17	0.37
AFNA ... 016	16	0.63	77	3.03	61	2.40	0.18	0.40
AFNA ... 025	25	0.98	95	3.74	70	2.76	0.20	0.44
AFNA ... 038	38	1.50	121	4.76	83	3.27	0.22	0.49
AFNA ... 050	50	1.97	145	5.71	95	3.74	0.25	0.55

ORDER	COLOR	P	
		bar	psi
AFNA 50 050	Green	45	650
AFNA 100 050	Blue	90	1305
AFNA 150 050	Red	135	1960
AFNA 200 050	Yellow	180	2610
AFNA XXX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
AFNA 50 050	50	112	70	157
AFNA 100 050	100	225	145	326
AFNA 150 050	150	337	215	483
AFNA 200 050	200	450	285	641
AFNA XXX 050	23-200	52-450	33-285	74-641

TECHNICAL DATA				
Fluid	N ₂	Pmin Pmax	20 bar 180 bar	290 psi 2610 psi
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	
Charging Adapter			06 CG 2-Q	
Connection			X	
Cartridge Kit			12Y0B170A	

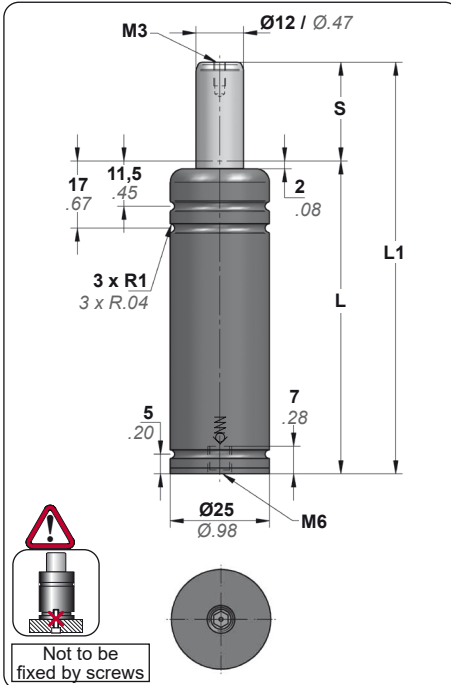
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	L1=142 L1=145 L1=154	L1=130		L1=132 L1=133	L1=160		L1=160	L1=195
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

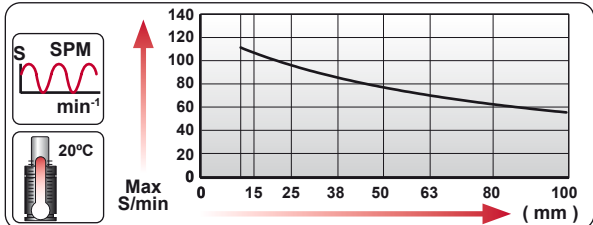
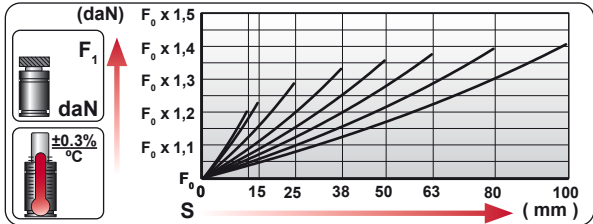
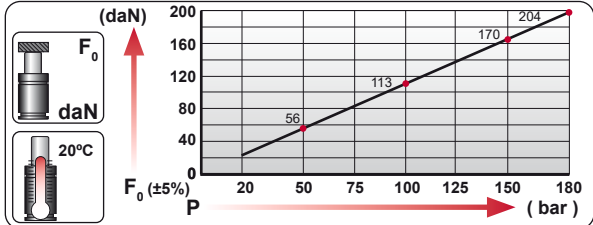
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-025 A44-025 A49-025			D02-025

AF V1

Mini

AZOL
GAS

VDI
SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		Kg.	
	mm	inch	mm	inch	mm	inch		
AF ___ 012 V1	12	0.47	78	3.07	66	2.60	0.17	0.37
AF ___ 015 V1	15	0.59	84	3.31	69	2.72	0.18	0.40
AF ___ 025 V1	25	0.98	104	4.09	79	3.11	0.20	0.44
AF ___ 038 V1	38	1.50	130	5.12	92	3.62	0.22	0.49
AF ___ 050 V1	50	1.97	154	6.06	104	4.09	0.25	0.55
AF ___ 063 V1	63	2.48	180	7.09	117	4.61	0.27	0.60
AF ___ 080 V1	80	3.15	214	8.43	134	5.28	0.30	0.66
AF ___ 100 V1	100	3.94	254	10.00	154	6.06	0.34	0.75

ORDER	COLOR	P	
		bar	psi
AF 50 050 V1	Green	45	650
AF 100 050 V1	Blue	90	1305
AF 150 050 V1	Red	135	1960
AF 200 050 V1	Yellow	180	2610
AF XXX 050 V1	Black	20-180	290-2610

ORDER	F_0 Initial Force ±5% 20°C 68°F		F_1 (ISOTHERMAL) End Force	
	daN	lb	daN	lb
AF 50 050 V1	50	112	70	157
AF 100 050 V1	100	225	135	303
AF 150 050 V1	150	337	205	461
AF 200 050 V1	200	450	270	607
AF XXX 050 V1	23-200	52-450	30-270	67-607

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 290 psi	180 bar 2610 psi	Charging Adapter	06 CG 2-Q
Sm _{max}	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	X

	50	50		50	50		50	50
	Ø25	Ø25		Ø25	Ø25		Ø25	Ø25
	L1=142 L1=145 L1=154	L1=130		L1=132 L1=133	L1=160		L1=160	L1=195
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

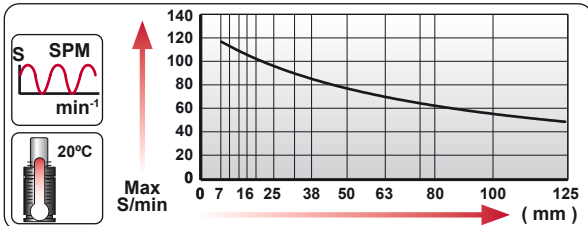
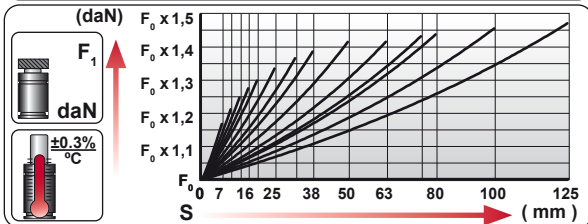
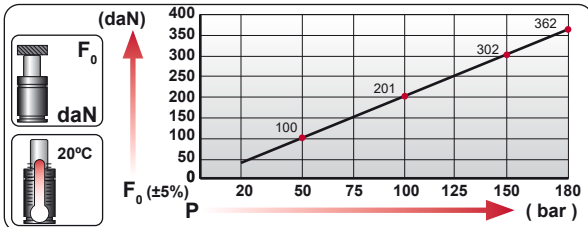
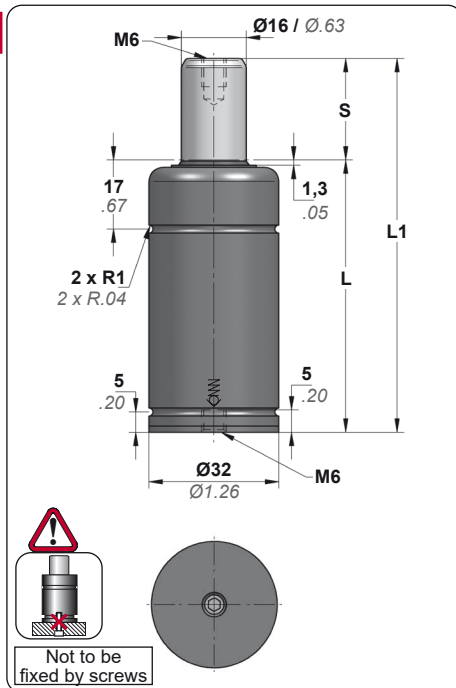
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-025 580			

AFT V1

Mini

	FORD W-DX35-8040	



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
AFT ___ 007 V1	7	0.28	56	2.20	49	1.93	0.22	0.49
AFT ___ 010 V1	10	0.39	62	2.44	52	2.05	0.23	0.51
AFT ___ 013 V1	13	0.51	68	2.68	55	2.17	0.24	0.53
AFT ___ 016 V1	16	0.63	74	2.91	58	2.28	0.25	0.55
AFT ___ 019 V1	19	0.75	80	3.15	61	2.40	0.26	0.57
AFT ___ 025 V1	25	0.98	92	3.62	67	2.64	0.28	0.62
AFT ___ 032 V1	32	1.26	106	4.17	74	2.91	0.30	0.66
AFT ___ 038 V1	38	1.50	118	4.65	80	3.15	0.32	0.71
AFT ___ 050 V1	50	1.97	142	5.59	92	3.62	0.36	0.79
AFT ___ 063 V1	63	2.48	171	6.73	108	4.25	0.42	0.93
AFT ___ 075 V1	75	2.95	195	7.68	120	4.72	0.46	1.01
AFT ___ 080 V1	80	3.15	205	8.07	125	4.92	0.47	1.04
AFT ___ 100 V1	100	3.94	245	9.65	145	5.71	0.54	1.19
AFT ___ 125 V1	125	4.92	295	11.61	170	6.69	0.63	1.39

ORDER	COLOR	P	
		bar	psi
AFT 80 050 V1	Green	40	580
AFT 160 050 V1	Blue	80	1160
AFT 240 050 V1	Red	120	1740
AFT 310 050 V1	Yellow	155	2450
AFT XXX 050 V1	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	AFT 80 050 V1	80	180	115
AFT 160 050 V1	160	360	225	506
AFT 240 050 V1	240	540	340	764
AFT 310 050 V1	310	697	440	989
AFT XXX 050 V1	40-360	90-809	65-600	146-1349

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi	Charging Adapter	06 CG 2-Q
Sm _{max}	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X

	50	50		50	50	50	50	50
	$\varnothing 32$	$\varnothing 32$		$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$
	L1=142	L1=130 L1=140		L1=137 L1=139	L1=150 L1=150	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300	AG 150	CP 500	CS 770

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-032 A34-032 A44-032	580 582 584		

GAS SPRINGS



AZOL 
GAS



THREADED SERIES AS

- Body threaded gas springs
- Low contact force (200-500 daN)
- Metric threads
- Easy direct mount and adjustable



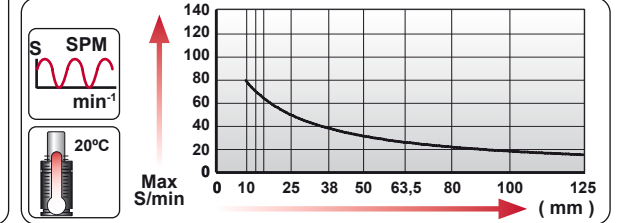
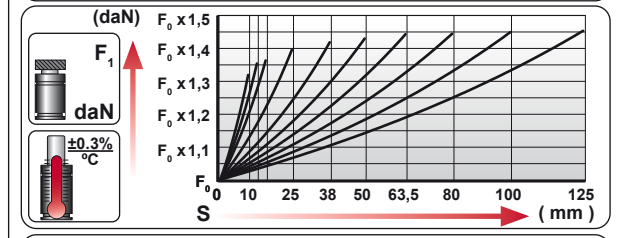
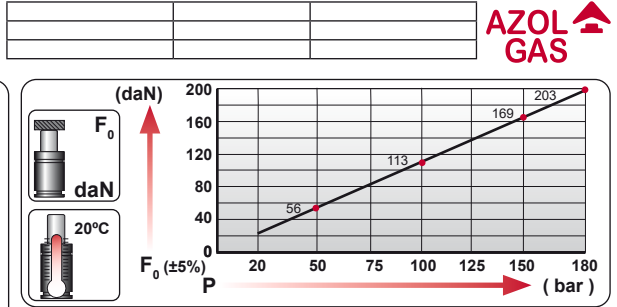
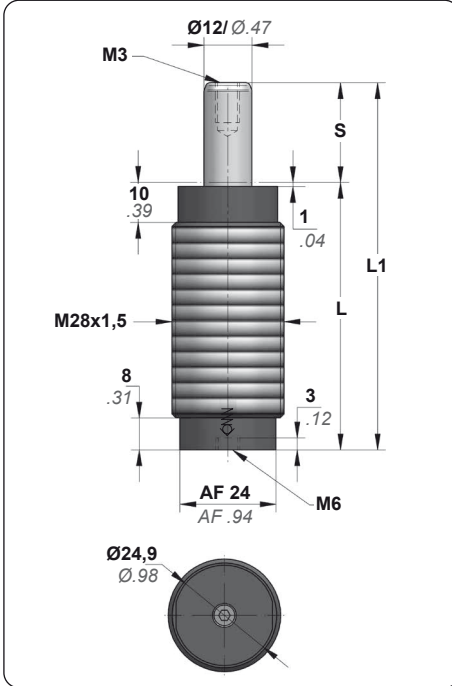
AS THREADED

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
AS 200	200 450	M28x1.5 M28x1.5	10 - 125 0.39 - 4.92	62 - 292 2.44 - 11.50	180 2610	M6	X	<input checked="" type="checkbox"/>
AS 300	300 674	M38x1.5 M38x1.5	12.7 - 125 0.50 - 4.92	75.4 - 300 2.97 - 11.81	150 2175	M6	X	<input checked="" type="checkbox"/>
ASP 250	250 562	M36x1 M36x1	15 - 100 0.59 - 3.94	84 - 254 3.31 - 10.00	150 2175	M6	X	<input checked="" type="checkbox"/>
ASP 300	300 674	M38x1.5 M38x1.5	13 - 100 0.51 - 3.94	76 - 250 2.99 - 9.84	150 2175	M6	X	<input checked="" type="checkbox"/>
ASP 500 V1	500 1124	M45x1 M45x1	15 - 100 0.59 - 3.94	84 - 254 3.31 - 10.00	150 2175	M6	X	<input checked="" type="checkbox"/>

MODEL	X	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000
SERIES	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE

AS 200

Threaded



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
AS ... 010	10	0.39	62	2.44	52	2.05	0.19	0.42
AS ... 012	12.7	0.50	67.4	2.65	54.7	2.15	0.20	0.44
AS ... 016	16	0.63	74	2.91	58	2.28	0.21	0.46
AS ... 025	25	0.98	92	3.62	67	2.64	0.24	0.53
AS ... 038	38	1.50	118	4.65	80	3.15	0.27	0.60
AS ... 050	50	1.97	142	5.59	92	3.62	0.31	0.68
AS ... 063	63.5	2.50	169	6.65	105.5	4.15	0.35	0.77
AS ... 080	80	3.15	202	7.95	122	4.80	0.39	0.86
AS ... 100	100	3.94	242	9.53	142	5.59	0.45	0.99
AS ... 125	125	4.92	292	11.50	167	6.57	0.52	1.15

ORDER	COLOR	P	
		bar	psi
AS 50 050	Green	45	650
AS 100 050	Blue	90	1305
AS 150 050	Red	135	1960
AS 200 050	Yellow	180	2610

MOUNTING OPTIONS

Top Mount **E58-028** 604

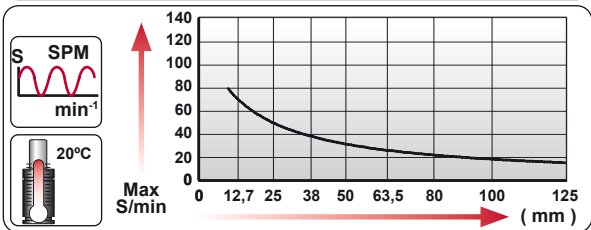
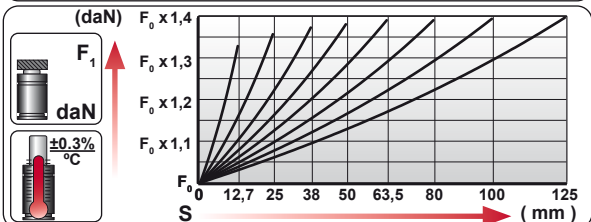
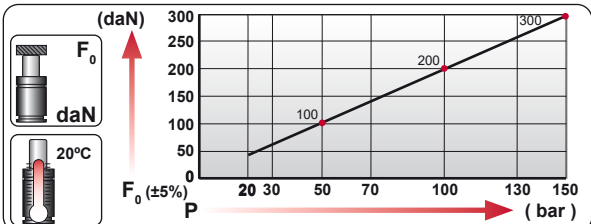
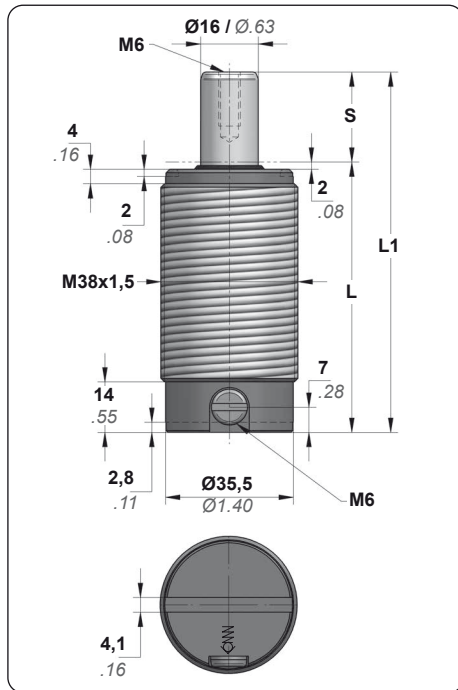
ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
AS 50 050	50	112	70	157
AS 100 050	100	225	145	326
AS 150 050	150	337	215	483
AS 200 050	200	450	285	641

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 180 bar	Charging Adapter	06 CG 2-Q
Smax	< 90%	20°C / 68°F	290 psi 2610 psi	Connection	X
Vmax	1,6 m/s	Tmin Tmax	0 °C 80 °C	Cartridge Kit	12Y0B170A
		Force variation by temperature	32 °F 176 °F		
			±0,3% / °C		



AS 300
Threaded



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
AS 300 012	12.7	0.50	75.4	2.97	62.7	2.47	300	674	395	888	11	0.6	0.42	0.93
AS 300 025	25	0.98	100	3.94	75	2.95	±5% 150 bar 2175 psi at 20°C 68°F		407	915	19	1.2	0.48	1.06
AS 300 038	38	1.50	126	4.96	88	3.46			412	925	28	1.7	0.54	1.19
AS 300 050	50	1.97	150	5.91	100	3.94			414	931	36	2.2	0.60	1.32
AS 300 063	63.5	2.50	177	6.97	113.5	4.47			416	935	46	2.8	0.67	1.48
AS 300 080	80	3.15	210	8.27	130	5.12			417	937	57	3.5	0.75	1.65
AS 300 100	100	3.94	250	9.84	150	5.91			418	940	71	4.3	0.85	1.87
AS 300 125	125	4.92	300	11.81	175	6.89			419	942	89	5.4	0.98	2.16

MOUNTING OPTIONS

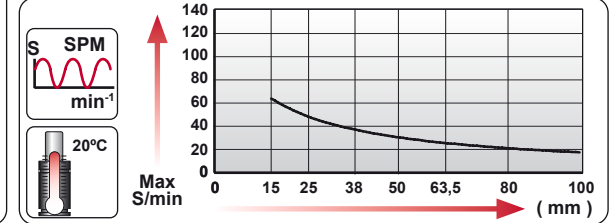
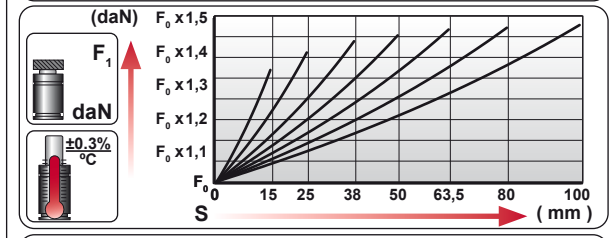
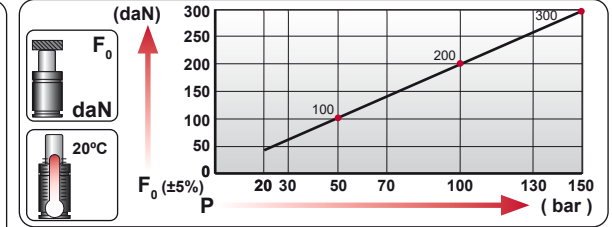
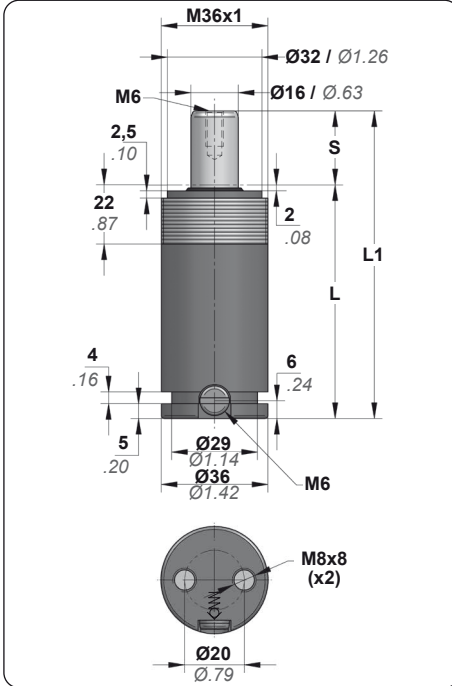
Top Mount **E58-038** 604
E68-038 604

HOW TO ORDER

TECHNICAL DATA		Fluid		Pmin Pmax		20 bar 150 bar		Charging Adapter		06 CG 2-Q	
	N ₂		20°C / 68°F	290 psi	2175 psi						
	Smax < 90%		Tmin Tmax	80 °C	80 °C						X
	Vmax 1,6 m/s		Force variation by temperature	32 °F	176 °F						1628C205B
				±0,3% / °C							

ASP 250

Threaded



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
ASP 250 015	15	0.59	84	3.31	69	2.72	±5% 125 bar 1810 psi at 20°C 68°F	562	318	714	14	0.9	0.39	0.86
ASP 250 025	25	0.98	104	4.09	79	3.11			328	738	21	1.3	0.43	0.95
ASP 250 038	38	1.50	130	5.12	92	3.62			335	753	30	1.8	0.49	1.08
ASP 250 050	50	1.97	154	6.06	104	4.09			338	761	38	2.3	0.53	1.17
ASP 250 063.5	63.5	2.50	181	7.13	117.5	4.63			341	767	48	2.9	0.59	1.30
ASP 250 080	80	3.15	214	8.43	134	5.28			343	771	59	3.6	0.66	1.46
ASP 250 100	100	3.94	254	10.00	154	6.06	345	775	73	4.5	0.74	1.63		

MOUNTING OPTIONS

Top Mount **E03-036** 604

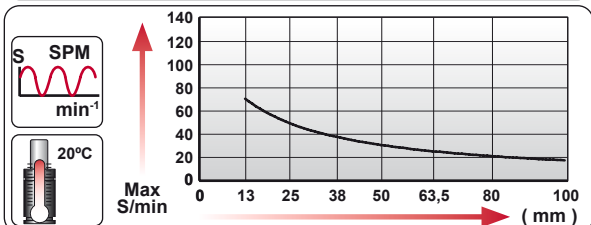
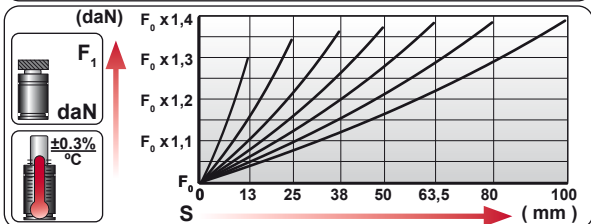
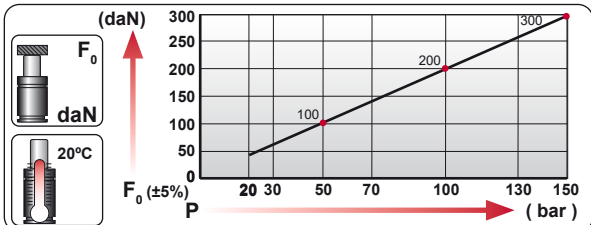
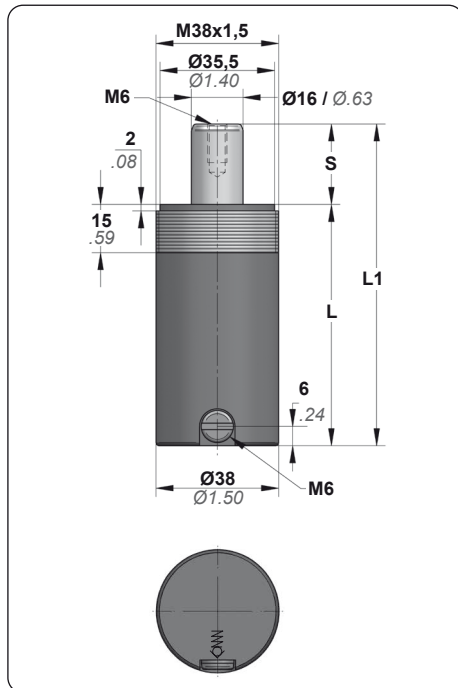
HOW TO ORDER

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	80°C / 176°F	Charging Adapter	06 CG 2-Q					
Smax	< 90%	Tmin Tmax	0°C / 32°F	80°C / 176°F	Connection	X							
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	1628C205B							



ASP 300

Threaded



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
ASP 300 013	13	0.51	76	2.99	63	2.48	300	674	390	877	11	0.7	0.45	0.99
ASP 300 025	25	0.98	100	3.94	75	2.95	±5% 150 bar 2175 psi at 20°C 68°F		403	906	20	1.2	0.51	1.12
ASP 300 038	38	1.50	126	4.96	88	3.46			409	919	29	1.8	0.58	1.28
ASP 300 050	50	1.97	150	5.91	100	3.94			412	926	37	2.3	0.64	1.41
ASP 300 063	63.5	2.50	177	6.97	113.5	4.47			414	930	46	2.8	0.70	1.54
ASP 300 080	80	3.15	210	8.27	130	5.12			416	934	58	3.5	0.79	1.74
ASP 300 100	100	3.94	250	9.84	150	5.91			417	937	72	4.4	0.89	1.96

MOUNTING OPTIONS

Top Mount **E08-038** 604

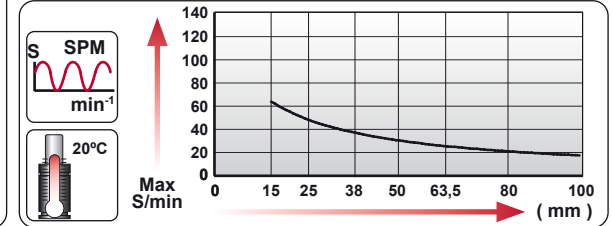
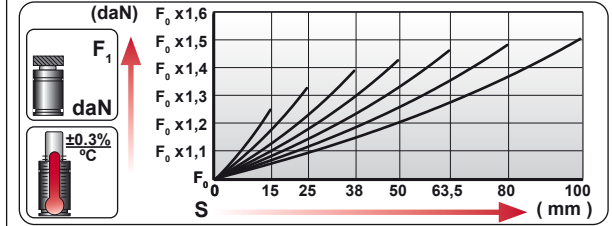
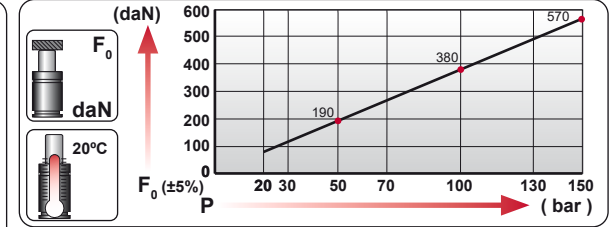
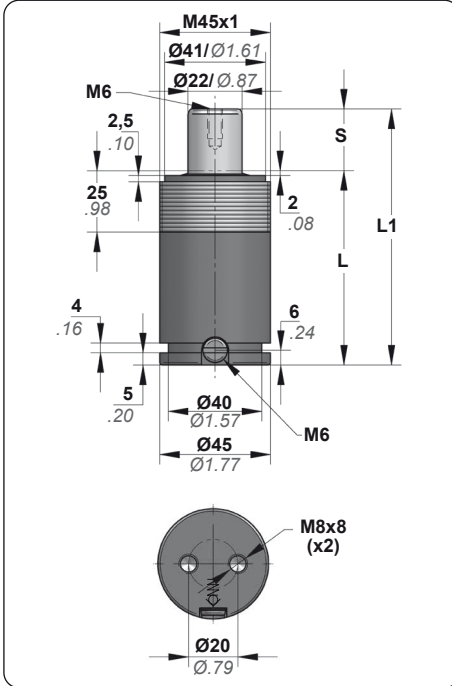
HOW TO ORDER

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	20°C / 32°F	80°C / 176°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	X			
Vmax	1,6 m/s	Cartridge Kit	1628C225B						

ASP 500 V1

Threaded



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ASP 500 015 V1	15	0.59	84	3.31	69	2.72	495 ±5% 130 bar 1885 psi at 20°C 68°F	1113	647	1455	24	1.5	0.56	1.23
ASP 500 025 V1	25	0.98	104	4.09	79	3.11			667	1499	37	2.3	0.62	1.37
ASP 500 038 V1	38	1.50	130	5.12	92	3.62			679	1526	53	3.3	0.70	1.54
ASP 500 050 V1	50	1.97	154	6.06	104	4.09			685	1539	69	4.2	0.77	1.70
ASP 500 063 V1	63.5	2.50	181	7.13	117.5	4.63			689	1549	86	5.2	0.86	1.90
ASP 500 080 V1	80	3.15	214	8.43	134	5.28			693	1557	107	6.5	0.96	2.12
ASP 500 100 V1	100	3.94	254	10.00	154	6.06			695	1563	132	8.1	1.09	2.40

MOUNTING OPTIONS



Top Mount

E03-045

604



HOW TO ORDER

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	X			
Vmax	1,6 m/s	Cartridge Kit	2238E250B						



GAS SPRINGS



ISO AG

- ISO Standard gas springs
- High contact force (150-10000 daN)
- Meet major automotive standards
- Used as die separation and deep bending

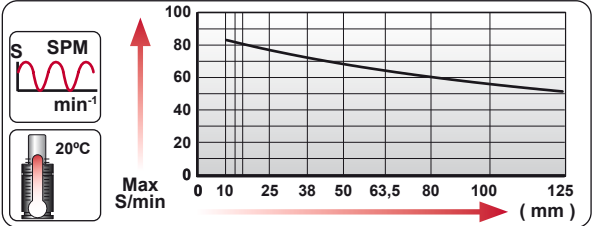
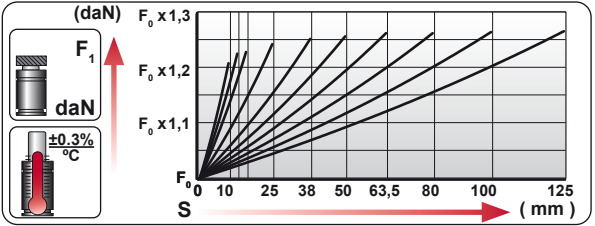
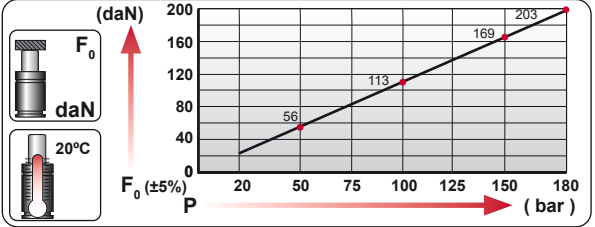
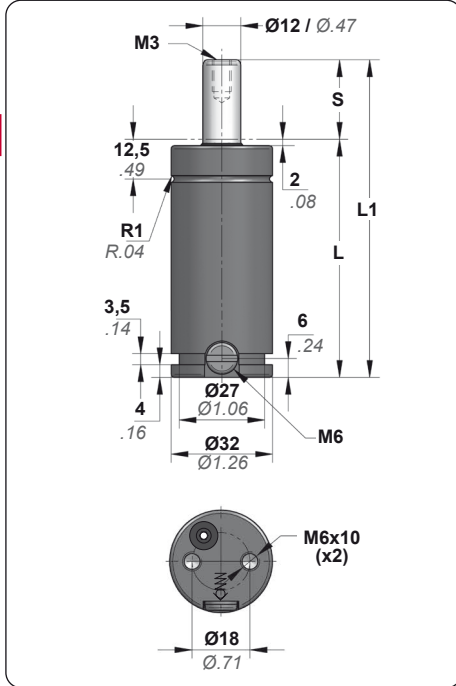
MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
AG 150	150 337	Ø32 Ø1.26	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	180 2610	M6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 250	250 562	Ø38 Ø1.50	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	150 2175	M6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 500	500 1124	Ø45 Ø1.77	10 - 160 0.39 - 6.30	105 - 405 4.13 - 15.94	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 750	750 1686	Ø50 Ø1.97	13 - 300 0.51 - 11.81	121 - 695 4.76 - 27.36	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 1500	1500 3372	Ø75 Ø2.95	13 - 300 0.51 - 11.81	136 - 710 5.35 - 27.95	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 3000	3000 6744	Ø95 Ø3.74	25 - 300 0.98 - 11.81	170 - 720 6.69 - 28.35	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 5000	5000 11240	Ø120 Ø4.72	25 - 300 0.98 - 11.81	190 - 740 7.48 - 29.13	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 7500	7500 16861	Ø150 Ø5.91	25 - 300 0.98 - 11.81	205 - 755 8.07 - 29.72	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AG 10000	10000 22481	Ø195 Ø7.68	25 - 300 0.98 - 11.81	210 - 760 8.27 - 29.92	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800
SERIES	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE

AG 150

150

BMW B2 4006		PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		



VDI SAFETY

- >S
- >Vmax
- >Pmax

STANDARDS

- PED
- VDI 3003
- ISO 11901
- ONOMO EM.24.54








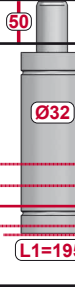


ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
AG --- 010	10	0.39	70	2.76	60	2.36	0.27	0.60
AG --- 012	12.7	0.50	75.4	2.97	62.7	2.47	0.28	0.62
AG --- 016	16	0.63	82	3.23	66	2.60	0.29	0.64
AG --- 025	25	0.98	100	3.94	75	2.95	0.32	0.71
AG --- 038	38	1.50	126	4.96	88	3.46	0.36	0.79
AG --- 050	50	1.97	150	5.91	100	3.94	0.39	0.86
AG --- 063	63.5	2.50	177	6.97	113.5	4.47	0.44	0.97
AG --- 080	80	3.15	210	8.27	130	5.12	0.49	1.08
AG --- 100	100	3.94	250	9.84	150	5.91	0.55	1.21
AG --- 125	125	4.92	300	11.81	175	6.89	0.62	1.37

ORDER	COLOR	P	
		bar	psi
AG 50 050	Green	45	650
AG 100 050	Blue	90	1305
AG 150 050	Red	135	1960
AG 200 050	Yellow	180	2610
AG XXX 050	Black	20-180	290-2610


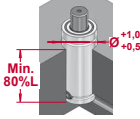



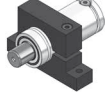




ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
AG 50 050	50	112	65	146
AG 100 050	100	225	125	281
AG 150 050	150	337	190	427
AG 200 050	200	450	250	562
AG XXX 050	23-200	52-450	30-250	67-562

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 180 bar	20°C / 68°F	290 psi 2610 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	AG-H 150 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C			Cartridge Kit	1225F220B

								
	$\varnothing 32$	$\varnothing 32$		$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$
	L1=142	L1=130 L1=140		L1=137 L1=139	L1=150 L1=150	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300	AG 150	CP 500	CS 770

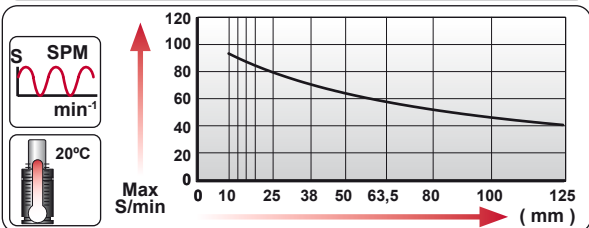
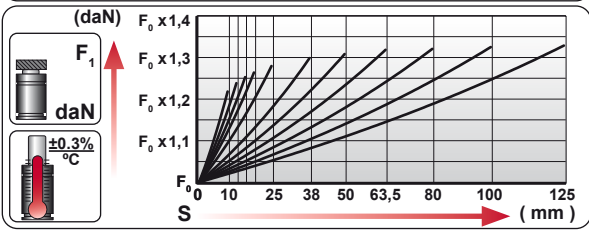
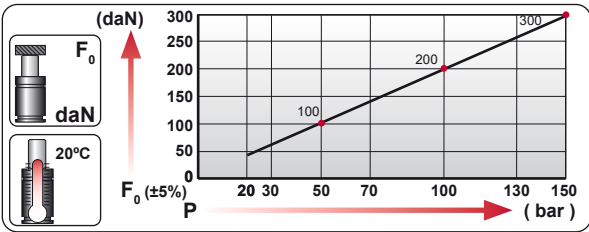
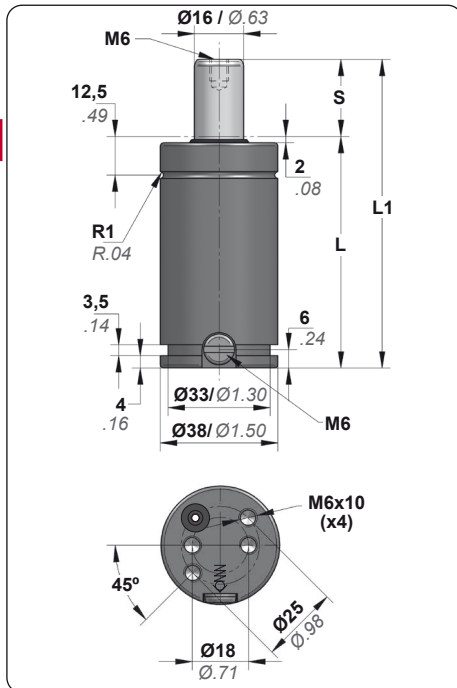
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-032  580 A34-032  582		C20-032  598	D02-032  600

AG 250

150

BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0




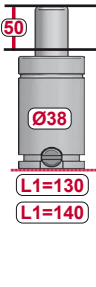




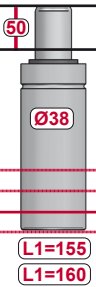
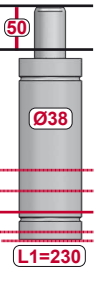


VDI SAFETY


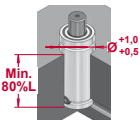








STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
AG 250 010	10	0.39	70	2.76	60	2.36	250 ±5% 125 bar 1810 psi at 20°C 68°F	562	305	685	11	0.7	0.39	0.86
AG 250 013	13	0.51	76	2.99	63	2.48			310	696	14	0.8	0.40	0.88
AG 250 016	16	0.63	82	3.23	66	2.60			313	704	16	1.0	0.41	0.90
AG 250 019	19	0.75	88	3.46	69	2.72			316	710	18	1.1	0.43	0.95
AG 250 025	25	0.98	100	3.94	75	2.95			320	719	23	1.4	0.45	0.99
AG 250 038	38	1.50	126	4.96	88	3.46			325	730	33	2.0	0.51	1.12
AG 250 050	50	1.97	150	5.91	100	3.94			327	735	43	2.6	0.56	1.23
AG 250 063	63.5	2.50	177	6.97	113.5	4.47			329	739	53	3.2	0.62	1.37
AG 250 080	80	3.15	210	8.27	130	5.12			330	742	66	4.0	0.69	1.52
AG 250 100	100	3.94	250	9.84	150	5.91			331	745	82	5.0	0.77	1.70
AG 250 125	125	4.92	300	11.81	175	6.89			332	747	102	6.2	0.88	1.94

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar	150 bar		20°C / 68°F	290 psi	2175 psi		Charging Adapter	06 CG 2-Q		
	Sm _{ax}	< 90%		Tmin Tmax	0 °C	80 °C		32 °F	176 °F		Connection	AG-H 250 XXX			
	V _{max}	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	1630B205B						

  								
	MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

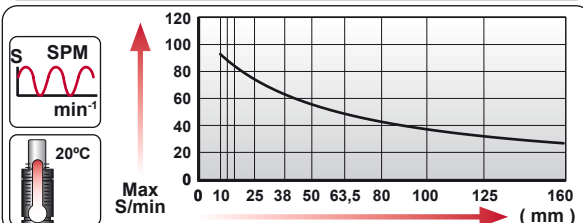
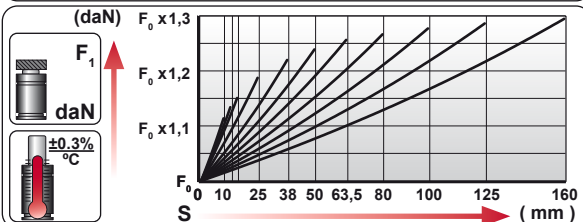
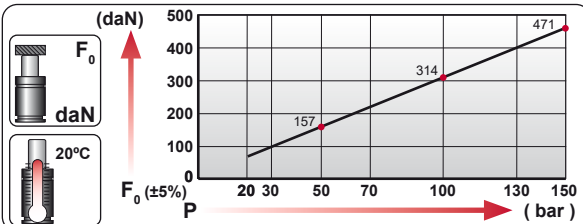
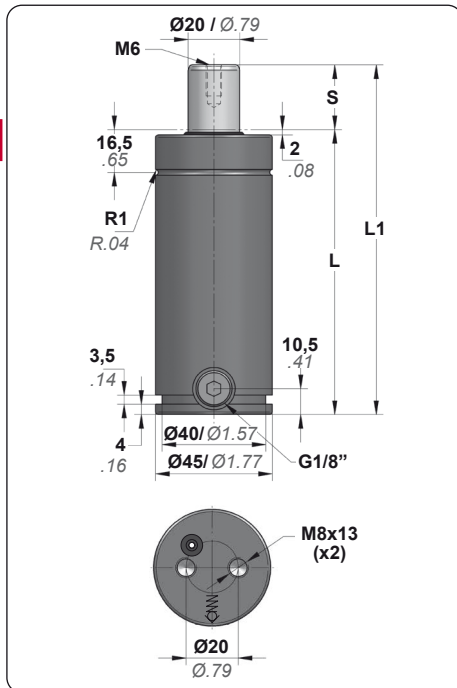
MOUNTING OPTIONS

					
	<p>HOW TO ORDER</p>		<p>A14-038  580</p> <p>A34-038  582</p>		<p>C05-038  596</p> <p>C20-038  598</p>

AG 500

150

BMW B2 4006		PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0











VDI SAFETY

STANDARS


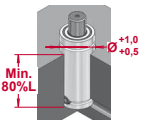












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
AG 500 010	10	0.39	105	4.13	95	3.74	470	1057	516	1161	35	2.1	0.83	1.83
AG 500 013	13	0.51	111	4.37	98	3.86			525	1181	39	2.4	0.85	1.87
AG 500 016	16	0.63	117	4.61	101	3.98	±5% 150 bar 2175 psi at 20°C 68°F		533	1198	43	2.6	0.86	1.90
AG 500 025	25	0.98	135	5.31	110	4.33			550	1236	54	3.3	0.91	2.01
AG 500 038	38	1.50	161	6.34	123	4.84			566	1272	71	4.3	0.97	2.14
AG 500 050	50	1.97	185	7.28	135	5.31			575	1294	86	5.2	1.03	2.27
AG 500 063	63.5	2.50	212	8.35	148.5	5.85			583	1311	103	6.3	1.10	2.43
AG 500 080	80	3.15	245	9.65	165	6.50			590	1326	124	7.6	1.18	2.60
AG 500 100	100	3.94	285	11.22	185	7.28			595	1339	149	9.1	1.28	2.82
AG 500 125	125	4.92	335	13.19	210	8.27			600	1350	181	11.0	1.41	3.11
AG 500 160	160	6.30	405	15.94	245	9.65			605	1360	225	13.7	1.58	3.48

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi / 150 bar 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	AG-H 500 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2038E380B

							
mm	mm	mm	Ø45 L1=132 L1=142 L1=147	Ø45 L1=138 L1=150 L1=150	Ø45 L1=160 L1=185	Ø45 L1=185	Ø45 L1=160
MODEL			CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250

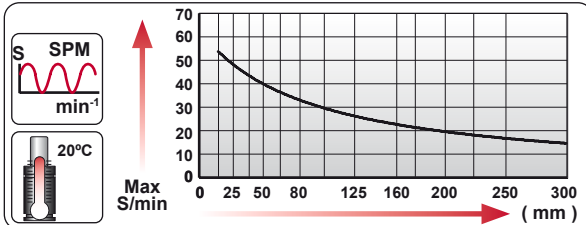
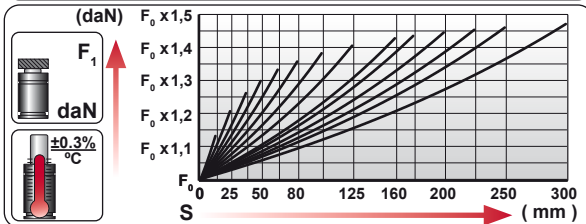
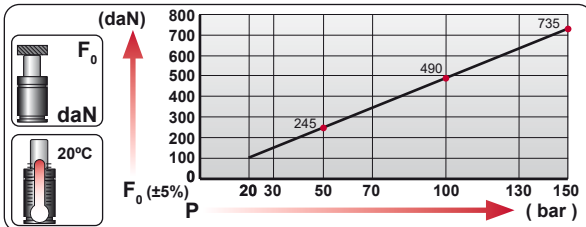
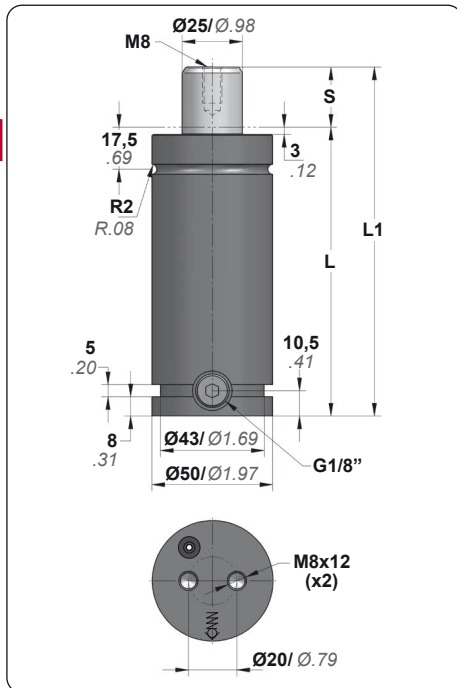
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-045  581 A34-045  582	B21-045  590 B76-045  594	C05-045  596 C20-045  598	D02-045  600 D67-045  602

AG 750

150

BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0



VDI SAFETY











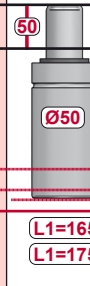
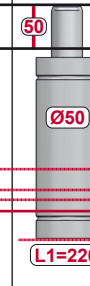
- Safety level
- Maximum velocity
- Maximum pressure
- Flex Rod


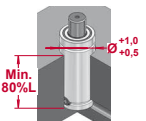












STANDARDS

- PED
- VDI 3003
- ISO 11901
- NAAMS
- ONOMO EM.24.54

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
AG 750 013	13	0.51	121	4.76	108	4.25	740	1664	839	1885	54	3.3	1.12	2.47
AG 750 025	25	0.98	145	5.71	120	4.72			894	2010	71	4.3	1.22	2.69
AG 750 038	38	1.50	171	6.73	133	5.24			935	2101	90	5.5	1.32	2.91
AG 750 050	50	1.97	195	7.68	145	5.71			962	2162	106	6.5	1.42	3.13
AG 750 063	63.5	2.50	222	8.74	158.5	6.24			985	2213	126	7.7	1.53	3.37
AG 750 080	80	3.15	255	10.04	175	6.89			1005	2260	149	9.1	1.67	3.68
AG 750 100	100	3.94	295	11.61	195	7.68			1024	2302	177	10.8	1.83	4.03
AG 750 125	125	4.92	345	13.58	220	8.66			1041	2340	212	13.0	2.03	4.48
AG 750 160	160	6.30	415	16.34	255	10.04			1057	2377	262	16.0	2.32	5.11
AG 750 175	175	6.89	445	17.52	270	10.63			1063	2389	283	17.3	2.44	5.38
AG 750 200	200	7.87	495	19.49	295	11.61			1070	2406	318	19.4	2.65	5.84
AG 750 225	225	8.86	545	21.46	320	12.60			1077	2420	353	21.6	2.85	6.28
AG 750 250	250	9.84	595	23.43	345	13.58			1082	2431	389	23.7	3.06	6.75
AG 750 300	300	11.81	695	27.36	395	15.55			1089	2449	459	28.0	3.47	7.65

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	18 CG 1-Q				
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	AG-H 750 XXX	Cartridge Kit	2540T340A					

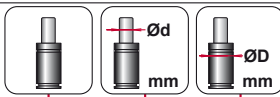
								
								
			Ø50 L1=138 L1=148 L1=152	Ø50 L1=138 L1=150 L1=150	Ø50 L1=170 L1=185 L1=195	Ø50 L1=195	Ø50 L1=165 L1=175	Ø50 L1=220
MODEL			CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-050  A34-050 	B21-050  B76-050 	C05-050  C20-050 	D02-050  D67-050 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



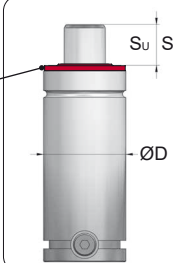
HOW TO ORDER

AG 750 050 25 50

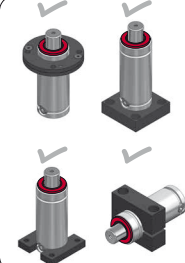
AG 750 050 + PW 025 050



HOT STAMPING



Protective Wiper

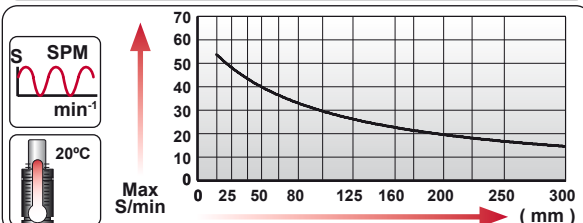
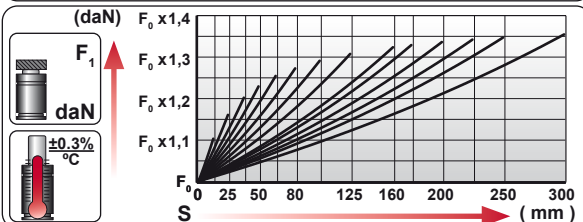
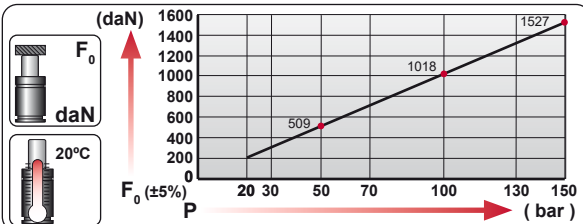
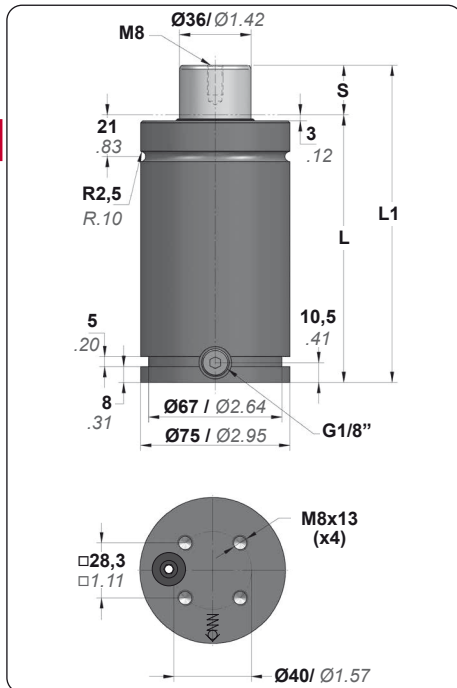


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

AG 1500

150

BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0






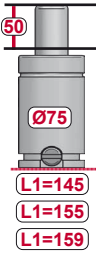


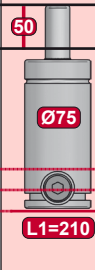
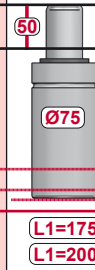
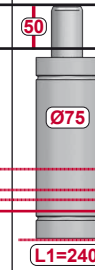
VDI SAFETY icons: >S, >Vmax, >Pmax, Flex Rod.


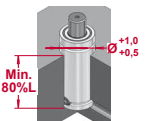












STANDARDS: PED, VDI 3003, ISO 11901, NAAMS, ONOMO EM.24.54.

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
AG 1500 013	13	0.51	136	5.35	123	4.84	1530	3440	1690	3800	140	8.5	2.82	6.22
AG 1500 025	25	0.98	160	6.30	135	5.31			1778	3997	183	11.1	2.99	6.59
AG 1500 038	38	1.50	186	7.32	148	5.83			1841	4139	229	14.0	3.18	7.01
AG 1500 050	50	1.97	210	8.27	160	6.30			1883	4232	272	16.6	3.36	7.41
AG 1500 063	63.5	2.50	237	9.33	173.5	6.83			1917	4310	320	19.5	3.56	7.85
AG 1500 080	80	3.15	270	10.63	190	7.48			1949	4381	379	23.1	3.80	8.38
AG 1500 100	100	3.94	310	12.20	210	8.27			1977	4444	450	27.5	4.09	9.02
AG 1500 125	125	4.92	360	14.17	235	9.25			2002	4501	539	32.9	4.46	9.83
AG 1500 160	160	6.30	430	16.93	270	10.63			2027	4556	664	40.5	4.97	10.96
AG 1500 175	175	6.89	460	18.11	285	11.22			2035	4575	718	43.8	5.19	11.44
AG 1500 200	200	7.87	510	20.08	310	12.20			2046	4600	807	49.3	5.56	12.26
AG 1500 225	225	8.86	560	22.05	335	13.19			2055	4620	896	54.7	5.92	13.05
AG 1500 250	250	9.84	610	24.02	360	14.17			2062	4637	986	60.1	6.29	13.87
AG 1500 300	300	11.81	710	27.95	410	16.14			2074	4663	1164	71.0	7.02	15.48

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	290 psi 2175 psi	0 °C 80 °C	Connection	AG-H 1500 XXX
Vmax	2 m/s	Force variation by temperature	32 °F 176 °F	±0,3% / °C	Cartridge Kit	3663R440A

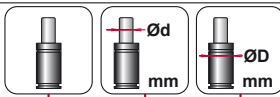
								
MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700		

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-075  A34-075 	B21-075  B76-075 	C05-075  C20-075 	D02-075  D67-075 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



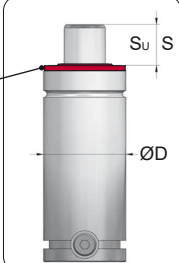
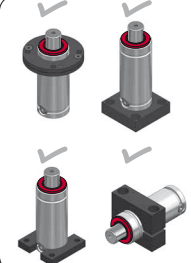
HOW TO ORDER

AG 1500 050 36 75

AG 1500 050 + PW 036 075



Protective Wiper

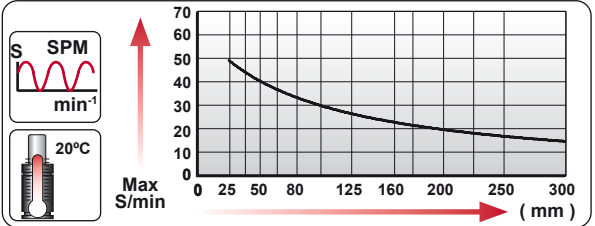
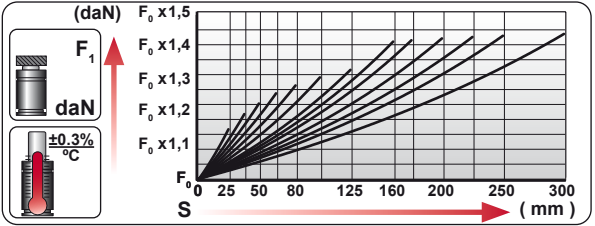
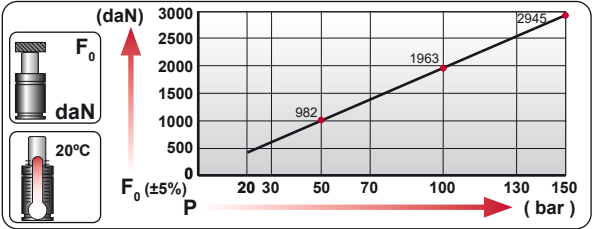
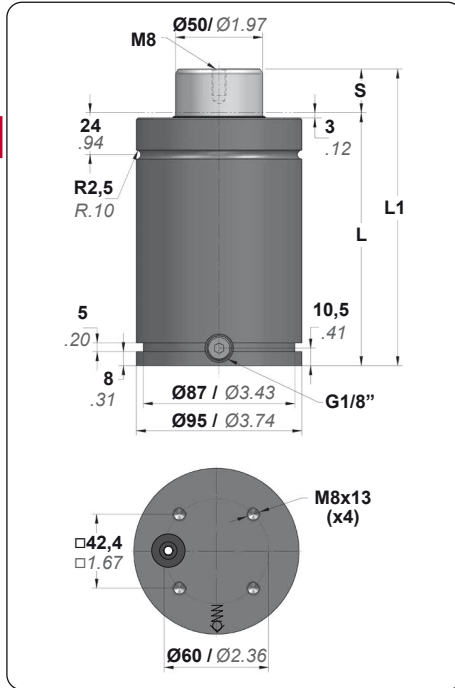



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

AG 3000

150

BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod








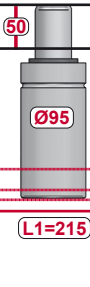
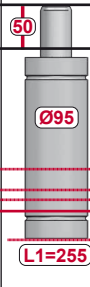
STANDARS

- PEP
- VDI 3003
- ISO 11901
- NAAMS
- ONOMO EM.24.54


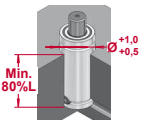













ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
AG 3000 025	25	0.98	170	6.69	145	5.71	2945	6621	3442	7739	340	20.7	5.14	11.33
AG 3000 038	38	1.50	196	7.72	158	6.22			3592	8075	414	25.3	5.48	12.08
AG 3000 050	50	1.97	220	8.66	170	6.69			3696	8309	483	29.5	5.80	12.79
AG 3000 063	63.5	2.50	247	9.72	183.5	7.22			3788	8515	560	34.2	6.15	13.56
AG 3000 080	80	3.15	280	11.02	200	7.87			3874	8709	655	40.0	6.58	14.51
AG 3000 100	100	3.94	320	12.60	220	8.66			3953	8888	770	47.0	7.10	15.65
AG 3000 125	125	4.92	370	14.57	245	9.65			4028	9054	913	55.7	7.75	17.09
AG 3000 160	160	6.30	440	17.32	280	11.02			4332	9738	981	59.9	8.66	19.09
AG 3000 175	175	6.89	470	18.50	295	11.61			4343	9764	1067	65.1	9.05	19.95
AG 3000 200	200	7.87	520	20.47	320	12.60			4359	9799	1211	73.9	9.70	21.38
AG 3000 225	225	8.86	570	22.44	345	13.58			4371	9827	1354	82.6	10.35	22.82
AG 3000 250	250	9.84	620	24.41	370	14.57			4381	9850	1497	91.4	11.00	24.25
AG 3000 300	300	11.81	720	28.35	420	16.54	4397	9884	1784	108.9	12.31	27.14		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	AG-H 3000 XXX
Vmax	2 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	S ≤ 125mm 5080U460A S ≥ 160mm 5080U710A

								
mm	mm	mm	50 Ø95 L1=158 L1=162 L1=162	50 Ø95 L1=170 L1=170	50 Ø95 L1=195 L1=205 L1=220	50 Ø95 L1=220	50 Ø95 L1=215	50 Ø95 L1=255
MODEL			CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500

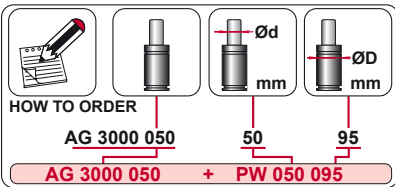
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  581 A34-095  582	B16-095  591 B21-095  590 B76-095  594	C05-095  597 C20-095  598	D02-095  601 D67-095  603

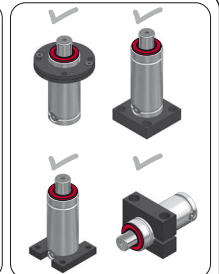
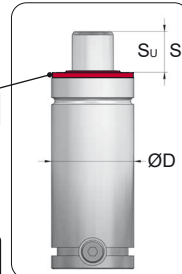
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



Protective Wiper

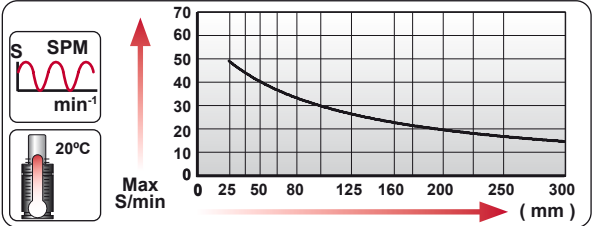
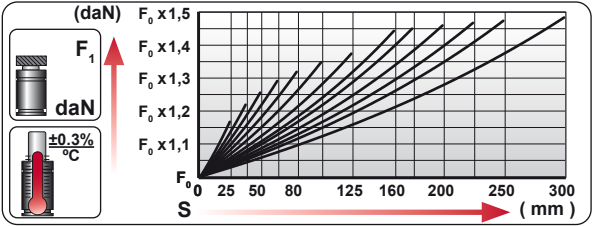
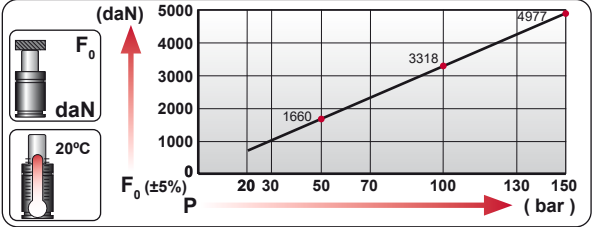
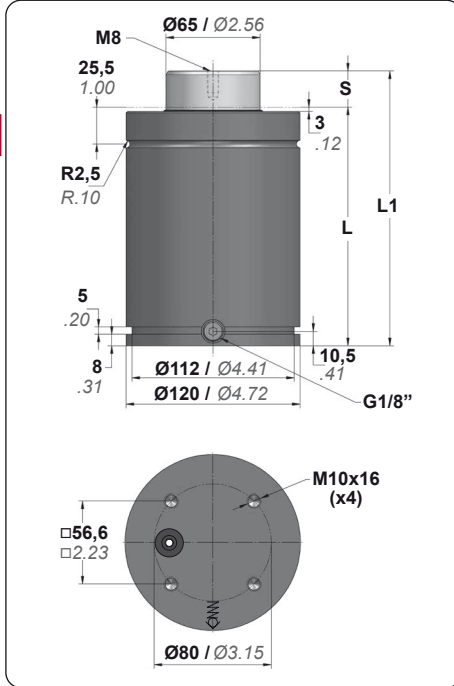


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

AG 5000

150

BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0










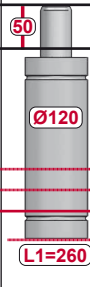
VDI SAFETY

STANDARS


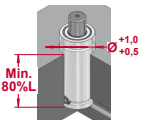













ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
AG 5000 025	25	0.98	190	7.48	165	6.50	4980	11195	5818	13078	576	35.2	9.78	21.56
AG 5000 038	38	1.50	216	8.50	178	7.01			6076	13660	699	42.7	10.31	22.73
AG 5000 050	50	1.97	240	9.45	190	7.48			6258	14069	812	49.6	10.80	23.81
AG 5000 063	63.5	2.50	267	10.51	203.5	8.01			6419	14431	940	57.4	11.35	25.02
AG 5000 080	80	3.15	300	11.81	220	8.66			6572	14775	1096	66.9	12.02	26.50
AG 5000 100	100	3.94	340	13.39	240	9.45			6715	15095	1285	78.4	12.83	28.29
AG 5000 125	125	4.92	390	15.35	265	10.43			6848	15395	1521	92.8	13.85	30.53
AG 5000 160	160	6.30	460	18.11	300	11.81			7181	16144	1732	105.7	15.27	33.66
AG 5000 175	175	6.89	490	19.29	315	12.40			7216	16223	1874	114.3	15.88	35.01
AG 5000 200	200	7.87	540	21.26	340	13.39			7265	16333	2110	128.8	16.90	37.26
AG 5000 225	225	8.86	590	23.23	365	14.37			7305	16421	2346	143.2	17.92	39.51
AG 5000 250	250	9.84	640	25.20	390	15.35			7337	16495	2582	157.6	18.93	41.73
AG 5000 300	300	11.81	740	29.13	440	17.32			7388	16609	3054	186.4	20.97	46.23

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	AG-H 5000 XXX		Cartridge Kit	S ≤ 125mm 65A0W560A S ≥ 160mm 65A0W750A

							
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000	CS 11800

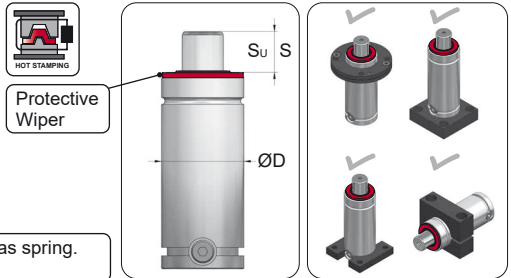
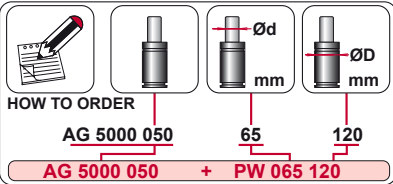
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-120  581 A34-120  583	B16-120  591 B21-120  591 B76-120  595	C05-120  597 C20-120  599	D02-120  601 D67-120  603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

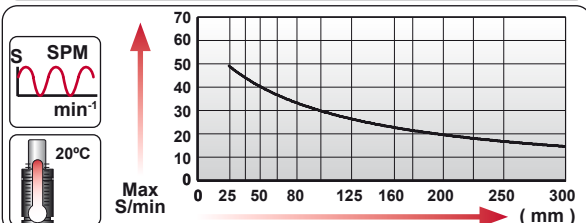
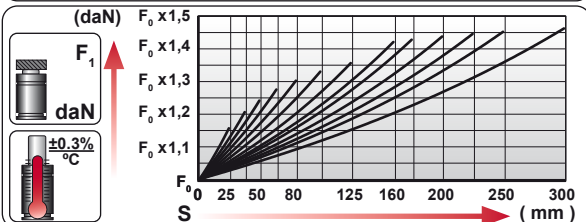
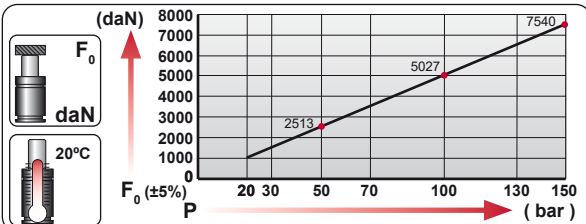
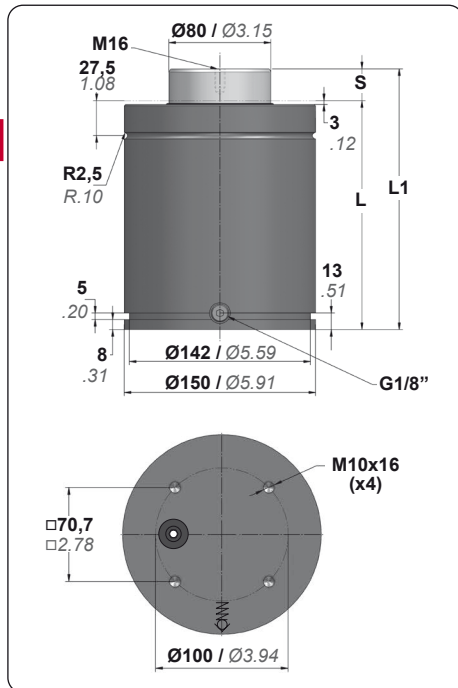


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

AG 7500

150

BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod




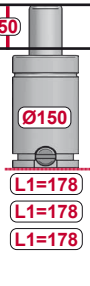

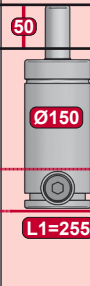
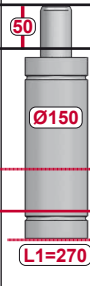
STANDARDS


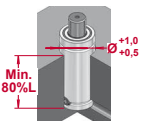













- APPROVED PED
- VDI 3003
- ISO 15011
- NAAMS
- ONOMO EM.24.54

ORDER	S		L1 ±0.25		L		F0 Initial Force		F1 (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm³	in³		
AG 7500 025	25	0.98	205	8.07	180	7.09	7540 16951 ±5% 150 bar 2175 psi at 20°C 68°F	16951	8734	19635	919	56.1	16.89	37.24
AG 7500 038	38	1.50	231	9.09	193	7.60			9108	20475	1110	67.7	17.71	39.04
AG 7500 050	50	1.97	255	10.04	205	8.07			9372	21070	1285	78.4	18.47	40.72
AG 7500 063	63.5	2.50	282	11.10	218.5	8.60			9608	21599	1483	90.5	19.33	42.61
AG 7500 080	80	3.15	315	12.40	235	9.25			9832	22104	1725	105.3	20.37	44.91
AG 7500 100	100	3.94	355	13.98	255	10.04			10041	22574	2018	123.1	21.63	47.69
AG 7500 125	125	4.92	405	15.94	280	11.02			10238	23017	2384	145.5	23.21	51.17
AG 7500 160	160	6.30	475	18.70	315	12.40			10724	24109	2709	165.3	25.42	56.04
AG 7500 175	175	6.89	505	19.88	330	12.99			10777	24229	2928	178.7	26.37	58.14
AG 7500 200	200	7.87	555	21.85	355	13.98			10851	24394	3295	201.0	27.95	61.62
AG 7500 225	225	8.86	605	23.82	380	14.96			10911	24529	3661	223.4	29.53	65.10
AG 7500 250	250	9.84	655	25.79	405	15.94			10960	24640	4027	245.7	31.11	68.59
AG 7500 300	300	11.81	755	29.72	455	17.91			11037	24812	4759	290.4	34.27	75.55

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0°C 32°F	80°C 176°F	Connection	AG-H 7500 XXX
Vmax	2 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	S ≤ 125mm 80C5X700A S ≥ 160mm 80C5X890A




						
mm	mm	mm	50 Ø150 L1=178	50 Ø150 L1=205 L1=236 L1=255	50 Ø150 L1=255	50 Ø150 L1=270
MODEL			CW 9500 CW 11800 KT 9500	GN 7500 CM 10000 CD 9600	AG 7500	CS 18300

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-150  581 A34-150  583	B16-150  591 B21-150  591 B76-150  595	C05-150  597 C20-150  599	D02-150  601 D67-150  603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


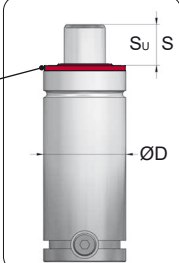
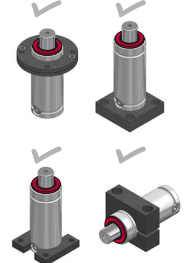
PW Protective Wiper

HOW TO ORDER

AG 7500 050 80 150

AG 7500 050 + PW 080 150

Protective Wiper

S_u S

$\varnothing D$

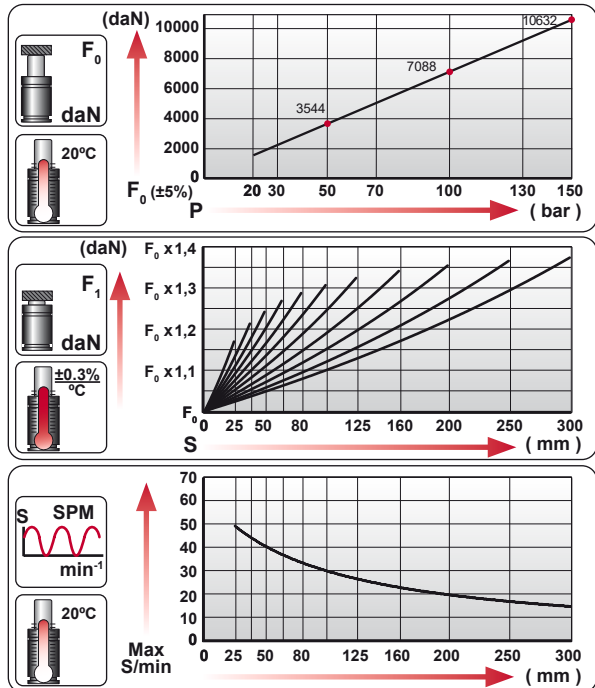
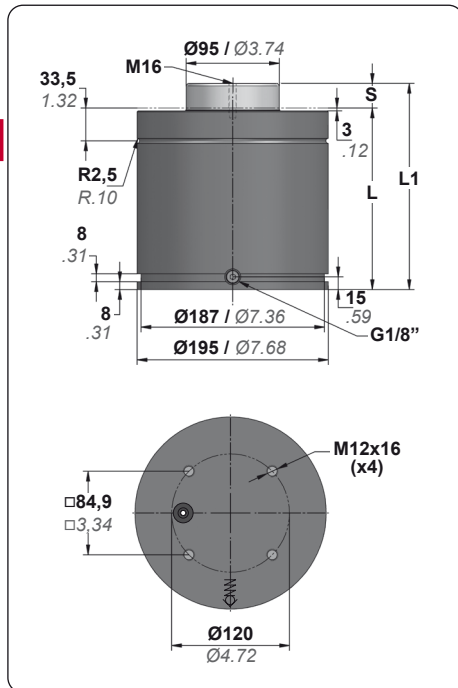
PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

AG 10000

150



	GM 90.25.00	RENAULT EM24.54.700
VW 39D 878		



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod

STANDARS

- PED APPROVED
- VDI 3003
- ISO 91901
- NAAMS
- ONOMO EM.24.54

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
AG 10000 025	25	0.98	210	8.27	185	7.28	10280 ±5% 145 bar 2105 psi at 20°C 68°F	23110	12039	27064	1213	74.0	31.71	69.91
AG 10000 038	38	1.50	236	9.29	198	7.80			12486	28070	1524	93.0	33.04	72.84
AG 10000 050	50	1.97	260	10.24	210	8.27			12780	28730	1812	110.6	34.26	75.53
AG 10000 063	63.5	2.50	287	11.30	223.5	8.80			13026	29283	2135	130.3	35.64	78.57
AG 10000 080	80	3.15	320	12.60	240	9.45			13249	29785	2531	154.4	37.32	82.28
AG 10000 100	100	3.94	360	14.17	260	10.24			13447	30230	3010	183.7	39.36	86.77
AG 10000 125	125	4.92	410	16.14	285	11.22			13626	30632	3609	220.2	41.91	92.39
AG 10000 160	160	6.30	480	18.90	320	12.60			13799	31022	4447	271.4	45.48	100.27
AG 10000 200	200	7.87	560	22.05	360	14.17			13935	31327	5405	329.8	49.57	109.28
AG 10000 250	250	9.84	660	25.98	410	16.14			14051	31588	6603	402.9	54.67	120.53
AG 10000 300	300	11.81	760	29.92	460	18.11	14133	31771	7801	476.0	59.77	131.77		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smix	< 90%	Tmin Tmax	20°C / 68°F	80°C / 176°F	Connection	AG-H 10000 XXX
Vmax	2 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	95G0Y950A

MODEL		CW 20000			CD 18500	AG 10000		

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-195 581 A34-195 583	B21-195 591 B76-195 595	C05-195 597 C20-195 599	D02-195 601

GAS SPRINGS

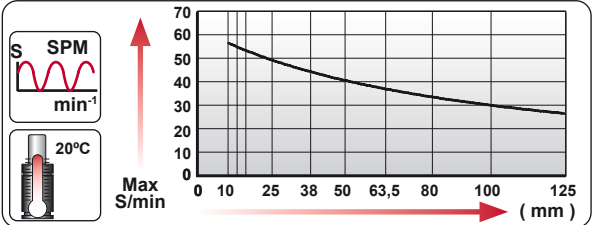
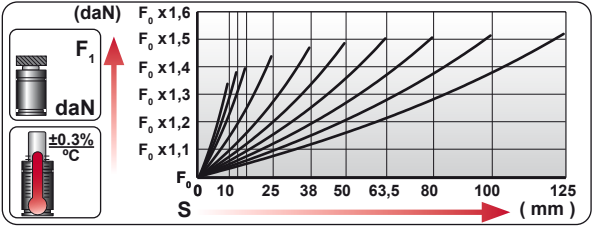
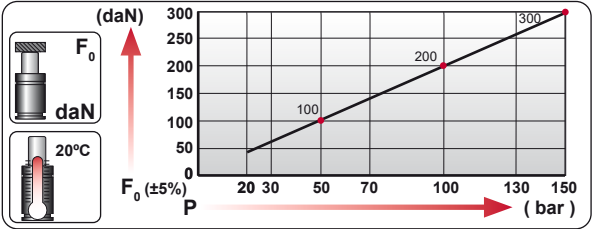
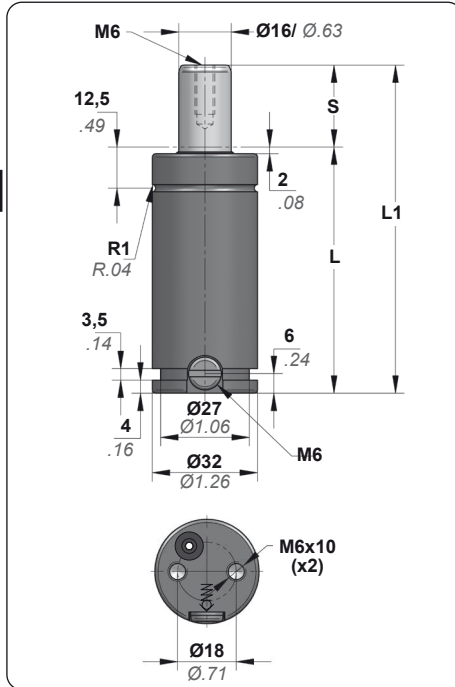


HEAVY DUTY CD

- Standard size gas springs (same as ISO)
- Higher contact force (300-18500 daN)
- Specified by ISO - VDI standards
- Used for heavy duty work

CD 300 V1

Heavy Duty






VDI SAFETY

- Safety symbol
- Maximum velocity symbol
- Maximum pressure symbol


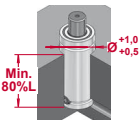








STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Bellows	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 300 010 V1	10	0.39	70	2.76	60	2.36	300 150 bar 2175 psi at 20°C 68°F	674	401	902	8	0.5	0.28	0.62
CD 300 012 V1	12.7	0.50	75.4	2.97	62.7	2.47			410	922	9	0.6	0.29	0.64
CD 300 016 V1	16	0.63	82	3.23	66	2.60			418	940	11	0.7	0.30	0.66
CD 300 025 V1	25	0.98	100	3.94	75	2.95			431	970	17	1.0	0.33	0.73
CD 300 038 V1	38	1.50	126	4.96	88	3.46			441	991	24	1.5	0.38	0.84
CD 300 050 V1	50	1.97	150	5.91	100	3.94			446	1002	31	1.9	0.42	0.93
CD 300 063 V1	63.5	2.50	177	6.97	113.5	4.47			449	1010	38	2.3	0.46	1.01
CD 300 080 V1	80	3.15	210	8.27	130	5.12			452	1016	48	2.9	0.52	1.15
CD 300 100 V1	100	3.94	250	9.84	150	5.91			454	1021	59	3.6	0.59	1.30
CD 300 125 V1	125	4.92	300	11.81	175	6.89			456	1025	73	4.5	0.67	1.48

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20°C / 68°F		20 bar	150 bar		Charging Adapter	06 CG 2-Q				
Smax	< 90%		Tmin Tmax			0 °C	80 °C		Connection	CD-H 300 XXX V1				
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		32 °F	176 °F		Cartridge Kit	1625F205B				

	50	50	50	50	50	50	50
							
							
	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$
	L1=142	L1=130 L1=140	L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350	CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770


MOUNTING OPTIONS

	Drop-in  Min. 80%L $+1.0$ $\varnothing +0.5$	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-032  580 A34-032  582		C20-032  598	D02-032  600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



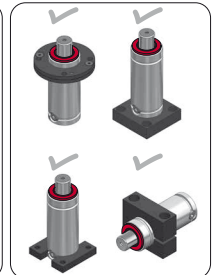
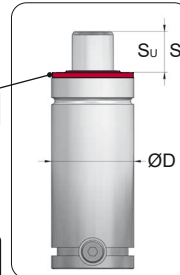
HOW TO ORDER

CD 300 050 V1 16 32

CD 300 050 V1 + PW 016 032



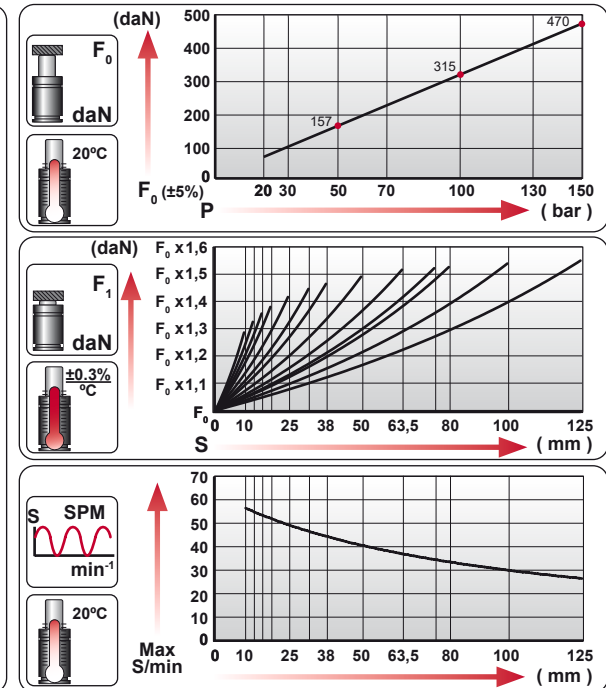
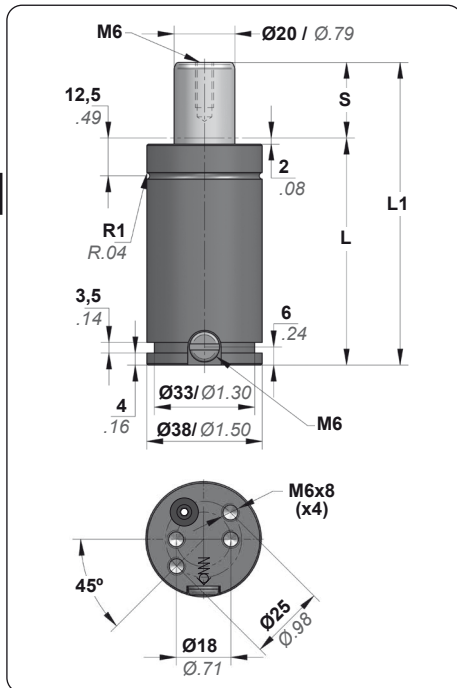
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 500 V1

Heavy Duty



VDI SAFETY







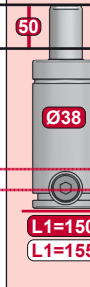
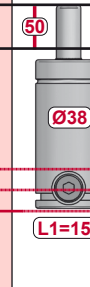
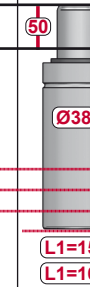
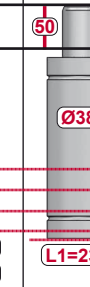
- > S
- > Vmax
- > Pmax

STANDARS


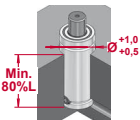








ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 500 010 V1	10	0.39	70	2.76	60	2.36	470 1057 ±5% 150 bar 2175 psi at 20°C 68°F		604	1358	14	0.9	0.38	0.84
CD 500 013 V1	13	0.51	76	2.99	63	2.48		622	1399	17	1.0	0.40	0.88	
CD 500 016 V1	16	0.63	82	3.23	66	2.60		637	1431	19	1.2	0.41	0.90	
CD 500 019 V1	19	0.75	88	3.46	69	2.72		648	1457	22	1.3	0.43	0.95	
CD 500 025 V1	25	0.98	100	3.94	75	2.95		665	1496	27	1.6	0.46	1.01	
CD 500 032 V1	32	1.26	114	4.49	82	3.23		679	1527	33	2.0	0.49	1.08	
CD 500 038 V1	38	1.50	126	4.96	88	3.46		688	1547	38	2.3	0.52	1.15	
CD 500 050 V1	50	1.97	150	5.91	100	3.94		700	1575	48	2.9	0.58	1.28	
CD 500 063 V1	63.5	2.50	177	6.97	113.5	4.47		710	1595	59	3.6	0.64	1.41	
CD 500 075 V1	75	2.95	200	7.87	125	4.92		715	1608	69	4.2	0.69	1.52	
CD 500 080 V1	80	3.15	210	8.27	130	5.12		717	1612	73	4.5	0.72	1.59	
CD 500 100 V1	100	3.94	250	9.84	150	5.91		723	1626	90	5.5	0.81	1.79	
CD 500 125 V1	125	4.92	300	11.81	175	6.89		728	1637	111	6.8	0.93	2.05	









TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	20 °C 32 °F	80 °C 176 °F	Connection	CD-H 500 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2030B190B


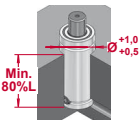












									
mm	mm	mm	Ø38 L1=130 L1=140	Ø38 L1=150	Ø38 L1=132 L1=137 L1=150	Ø38 L1=150 L1=155	Ø38 L1=150	Ø38 L1=155 L1=160	Ø38 L1=230
MODEL			CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-038  580 A34-038  582		C20-038  598	D02-038  600

							
mm	mm	mm	Ø45 L1=132 L1=142 L1=147	Ø45 L1=138 L1=150 L1=150	Ø45 L1=160 L1=185	Ø45 L1=185	Ø45 L1=160
MODEL			CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-045  581 A34-045  582	B21-045  590 B76-045  594	C05-045  596 C20-045  598	D02-045  600 D67-045  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



HOW TO ORDER

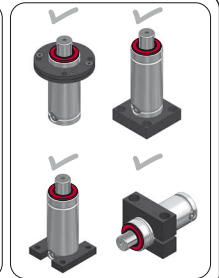
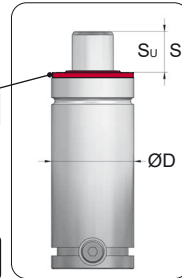
CD 700 050 25 45

CD 700 050 + PW 025 045

Ød mm ØD mm



Protective Wiper

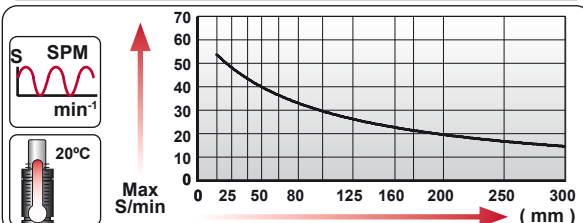
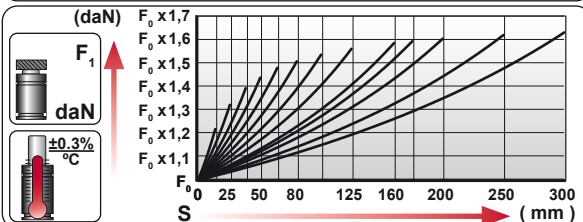
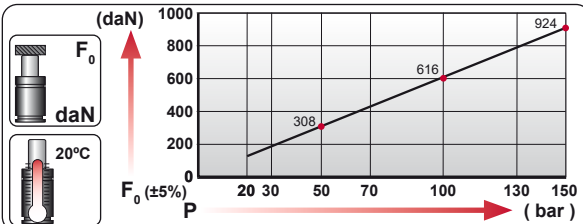
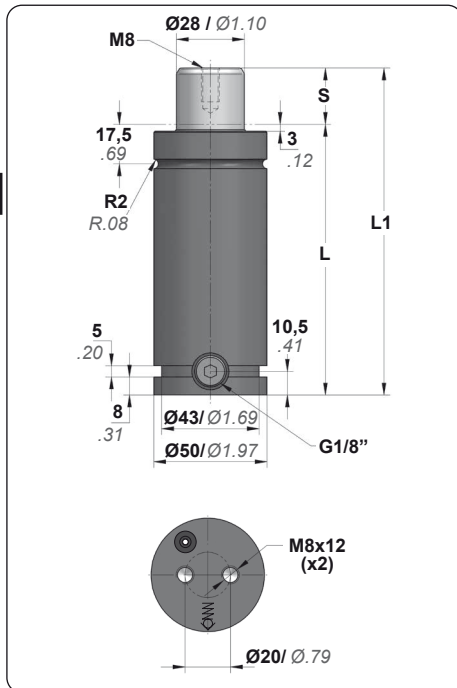


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 1000 V1

Heavy Duty

	GM	90.25.05
VW	39D 838	



VDI SAFETY




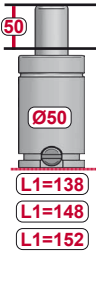



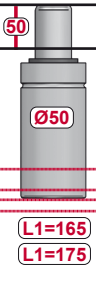
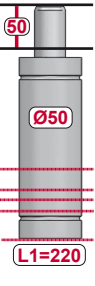
- >S
- >Vmax
- >Pmax
- Flex Rod


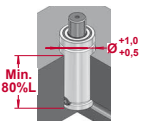












STANDARS

- PED APPROVED
- VDI 3003
- ISO 11901

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 1000 013 V1	13	0.51	121	4.76	108	4.25	925 2079 ±5% 150 bar 2175 psi at 20°C 68°F		1113	2503	47	2.9	1.18	2.60
CD 1000 025 V1	25	0.98	145	5.71	120	4.72		1209	2719	65	4.0	1.28	2.82	
CD 1000 038 V1	38	1.50	171	6.73	133	5.24		1276	2868	85	5.2	1.39	3.06	
CD 1000 050 V1	50	1.97	195	7.68	145	5.71		1318	2963	103	6.3	1.49	3.28	
CD 1000 063 V1	63.5	2.50	222	8.74	158.5	6.24		1353	3041	124	7.5	1.60	3.53	
CD 1000 080 V1	80	3.15	255	10.04	175	6.89		1384	3111	149	9.1	1.74	3.84	
CD 1000 100 V1	100	3.94	295	11.61	195	7.68		1411	3172	179	10.9	1.90	4.19	
CD 1000 125 V1	125	4.92	345	13.58	220	8.66		1435	3226	217	13.2	2.11	4.65	
CD 1000 160 V1	160	6.30	415	16.34	255	10.04		1458	3278	269	16.4	2.41	5.31	
CD 1000 175 V1	175	6.89	445	17.52	270	10.63		1466	3295	292	17.8	2.53	5.58	
CD 1000 200 V1	200	7.87	495	19.49	295	11.61		1476	3318	330	20.1	2.74	6.04	
CD 1000 250 V1	250	9.84	595	23.43	345	13.58		1491	3352	405	24.7	3.16	6.97	
CD 1000 300 V1	300	11.81	695	27.36	395	15.55		1502	3376	481	29.4	3.58	7.89	

TECHNICAL DATA															
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		290 psi 2175 psi		Charging Adapter		18 CG 1-Q					
Smax	< 90%		Tmin Tmax	20°C / 68°F		0°C / 32°F		80°C / 176°F		Connection		CD-H 1000 XXX V1			
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C						Cartridge Kit		2840T420A			




								
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-050  A34-050 	B21-050  B76-050 	C05-050  C20-050 	D02-050  D67-050 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


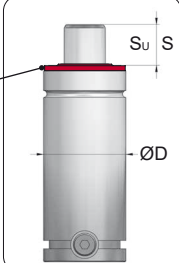
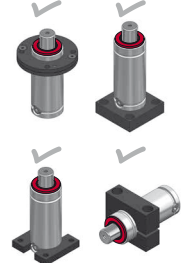
PW Protective Wiper

HOW TO ORDER

CD 1000 050 V1 28 50

CD 1000 050 V1 + PW 028 050

Protective Wiper

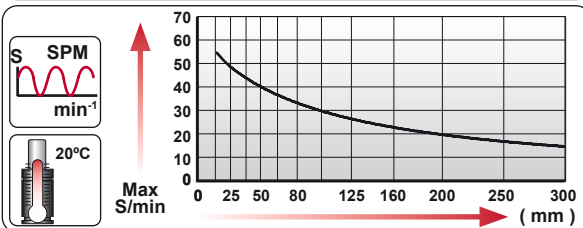
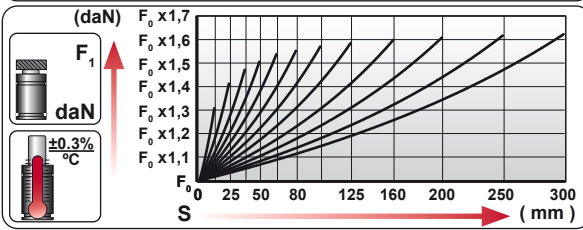
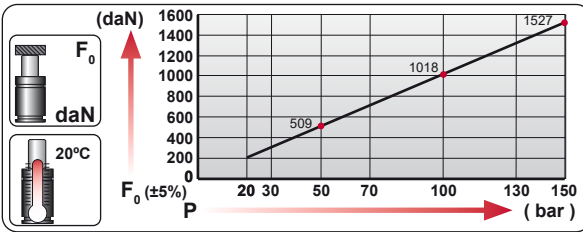
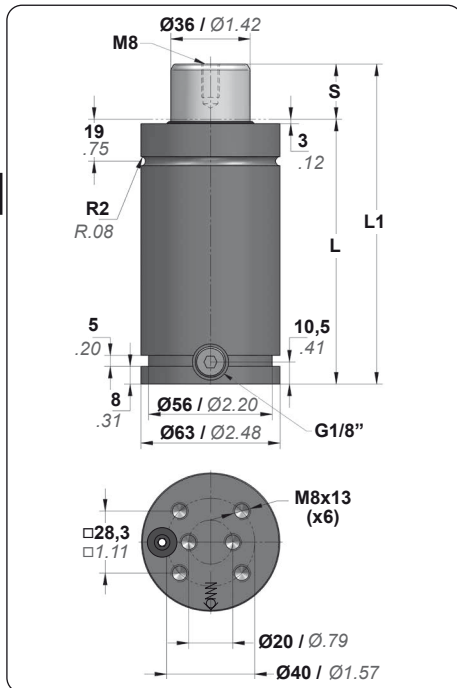
S_u S

$\varnothing D$

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 1500 V2

Heavy Duty



VDI SAFETY

- Safety symbol
- Safety symbol
- Safety symbol
- Safety symbol

STANDARDS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 1500 013 V2	13	0.51	121	4.76	108	4.25	1530 ±5% 150 bar 2175 psi at 20°C 68°F	3440	2000	4496	56	3.4	2.02	4.45
CD 1500 025 V2	25	0.98	145	5.71	120	4.72			2160	4856	87	5.3	2.17	4.78
CD 1500 038 V2	38	1.50	171	6.73	133	5.24			2251	5061	121	7.4	2.33	5.14
CD 1500 050 V2	50	1.97	195	7.68	145	5.71			2303	5177	152	9.3	2.48	5.47
CD 1500 063 V2	63.5	2.50	222	8.74	158.5	6.24			2342	5265	186	11.4	2.64	5.82
CD 1500 080 V2	80	3.15	255	10.04	175	6.89			2375	5339	229	14.0	2.84	6.26
CD 1500 100 V2	100	3.94	295	11.61	195	7.68			2402	5399	280	17.1	3.09	6.81
CD 1500 125 V2	125	4.92	345	13.58	220	8.66			2425	5451	345	21.0	3.39	7.47
CD 1500 160 V2	160	6.30	415	16.34	255	10.04			2446	5498	435	26.5	3.82	8.42
CD 1500 200 V2	200	7.87	495	19.49	295	11.61			2461	5533	538	32.8	4.31	9.50
CD 1500 250 V2	250	9.84	595	23.43	345	13.58			2474	5562	667	40.7	4.92	10.85
CD 1500 300 V2	300	11.81	695	27.36	395	15.55			2483	5582	796	48.6	5.54	12.21

TECHNICAL DATA															
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F		Tmin Tmax	0 °C 80 °C		32 °F 176 °F		Charging Adapter	18 CG 1-Q	
Sm _{ax}	< 90%		Force variation by temperature		±0,3% / °C		Connection	CD-H 1500 XXX V2		Cartridge Kit		3652L440A			



CD 1500 V2
Heavy Duty

mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		

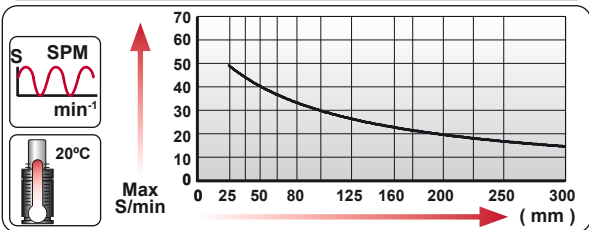
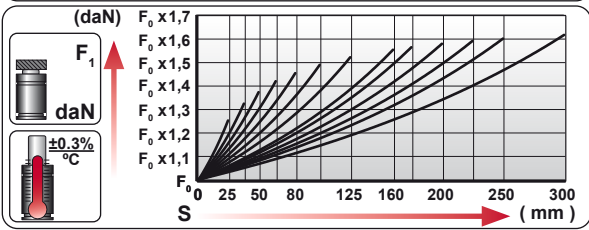
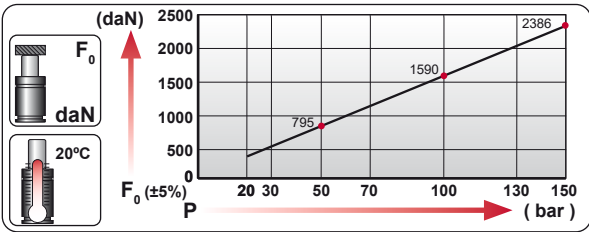
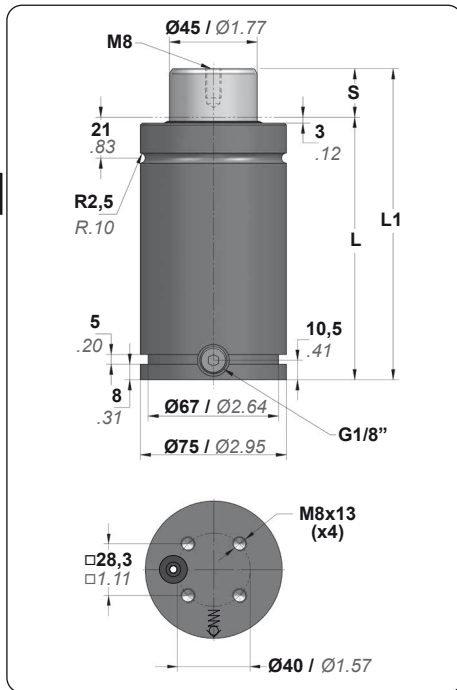
MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-063 581 A39-063 583 A69-063 583	B21-075 590 B76-075 594	C05-063 596 C35-063 599	D02-063 600 D67-063 602



CD 2400

Heavy Duty

	GM	90.25.05
VW	39D 838	



VDI SAFETY

- Safety level S
- Maximum velocity Vmax
- Maximum pressure Pmax
- Flex Rod




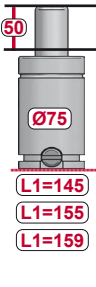

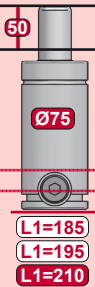

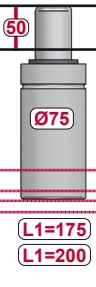
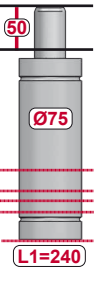
STANDARDS

- PED APPROVED
- VDI 3003
- ISO 11901


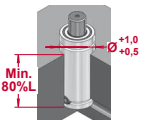












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 2400 025	25	0.98	160	6.30	135	5.31	2385	5362	2993	6728	196	11.9	3.06	6.75
CD 2400 038	38	1.50	186	7.32	148	5.83			3164	7113	245	15.0	3.28	7.23
CD 2400 050	50	1.97	210	8.27	160	6.30			3280	7375	291	17.8	3.48	7.67
CD 2400 063.5	63.5	2.50	237	9.33	173.5	6.83			3380	7600	343	20.9	3.72	8.20
CD 2400 080	80	3.15	270	10.63	190	7.48			3473	7808	406	24.8	4.00	8.82
CD 2400 100	100	3.94	310	12.20	210	8.27			3558	7998	483	29.4	4.34	9.57
CD 2400 125	125	4.92	360	14.17	235	9.25			3635	8172	578	35.3	4.77	10.52
CD 2400 160	160	6.30	430	16.93	270	10.63			3712	8344	712	43.4	5.37	11.84
CD 2400 175	175	6.89	460	18.11	285	11.22			3737	8401	769	46.9	5.63	12.41
CD 2400 200	200	7.87	510	20.08	310	12.20			3772	8480	865	52.8	6.06	13.36
CD 2400 225	225	8.86	560	22.05	335	13.19			3801	8545	961	58.6	6.48	14.29
CD 2400 250	250	9.84	610	24.02	360	14.17			3825	8599	1056	64.5	6.91	15.23
CD 2400 300	300	11.81	710	27.95	410	16.14			3862	8683	1247	76.1	7.77	17.13

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	CD-H 2400 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	4563R470A	

								
			50 Ø75 L1=145 L1=155 L1=159	50 Ø75 L1=154 L1=160 L1=160	50 Ø75 L1=185 L1=195 L1=210	50 Ø75 L1=210	50 Ø75 L1=175 L1=200	50 Ø75 L1=240
MODEL			CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-075  581 A34-075  582	B21-075  590 B76-075  594	C05-075  596 C20-075  598	D02-075  601 D67-075  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



HOW TO ORDER

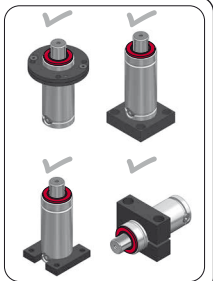
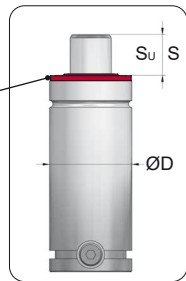
CD 2400 050 45 75

CD 2400 050 + PW 045 075





Protective Wiper

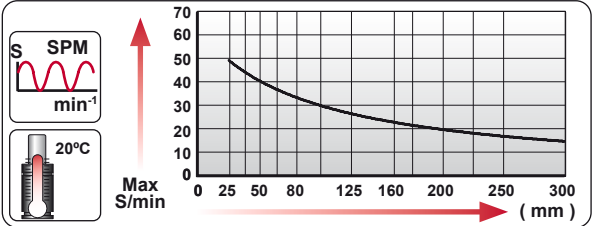
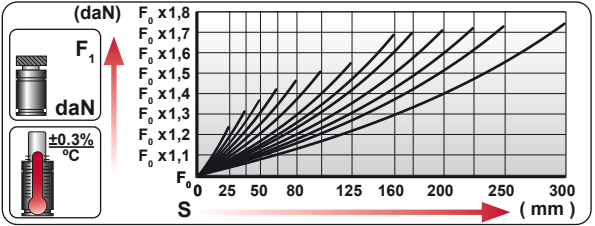
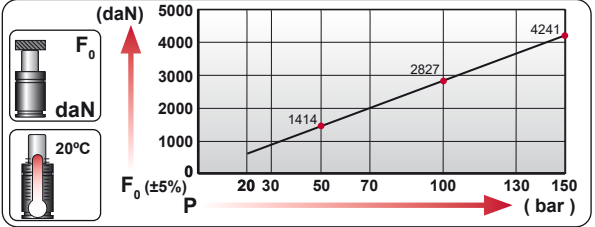
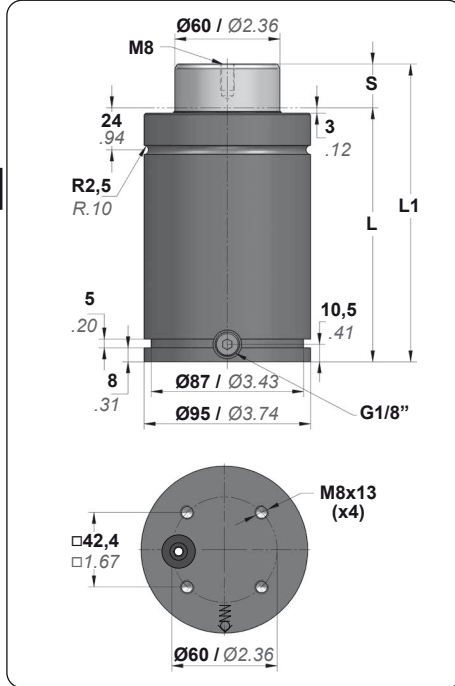


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 4200

Heavy Duty

	GM	90.25.05
VW	39D 838	



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod




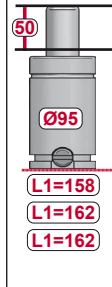
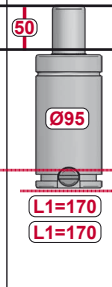
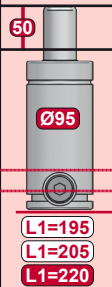
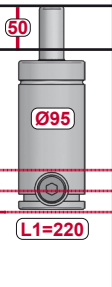
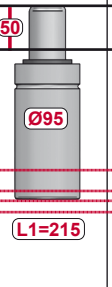
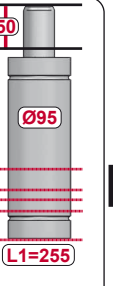
STANDARS

-
-
-


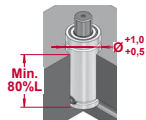












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 4200 025	25	0.98	170	6.69	145	5.71	4240	9532	5247	11797	368	22.5	5.21	11.49
CD 4200 038	38	1.50	196	7.72	158	6.22			5570	12523	450	27.5	5.58	12.30
CD 4200 050	50	1.97	220	8.66	170	6.69			5801	13042	525	32.1	5.93	13.07
CD 4200 063	63.5	2.50	247	9.72	183.5	7.22			6008	13507	610	37.2	6.31	13.91
CD 4200 080	80	3.15	280	11.02	200	7.87			6207	13954	714	43.6	6.78	14.95
CD 4200 100	100	3.94	320	12.60	220	8.66			6393	14373	839	51.2	7.35	16.20
CD 4200 125	125	4.92	370	14.57	245	9.65			6570	14770	997	60.8	8.06	17.77
CD 4200 160	160	6.30	440	17.32	280	11.02			7136	16043	1115	68.0	9.06	19.97
CD 4200 175	175	6.89	470	18.50	295	11.61			7178	16137	1209	73.8	9.49	20.92
CD 4200 200	200	7.87	520	20.47	320	12.60			7235	16266	1366	83.4	10.2	22.49
CD 4200 225	225	8.86	570	22.44	345	13.58			7281	16369	1523	92.9	10.92	24.07
CD 4200 250	250	9.84	620	24.41	370	14.57			7319	16455	1680	102.5	11.63	25.64
CD 4200 300	300	11.81	720	28.35	420	16.54			7378	16587	1994	121.7	13.05	28.77

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	CD-H 4200 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	S ≤ 125mm 6080U440A S ≥ 160mm 6080U710A	

								
MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500		

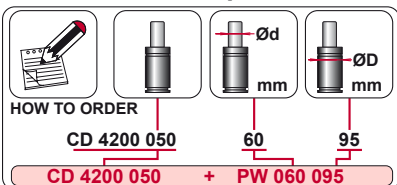
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  581 A34-095  582	B21-095  590 B76-095  594	C05-095  597 C20-095  598	D02-095  601 D67-095  603

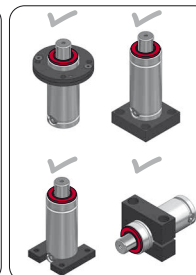
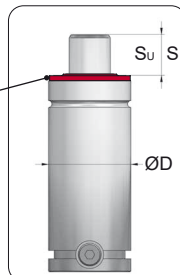
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



Protective Wiper

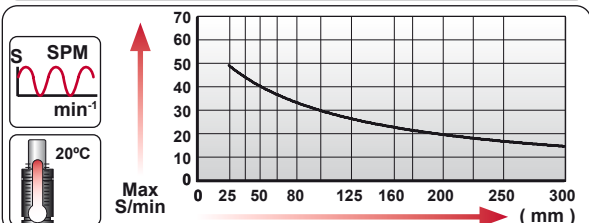
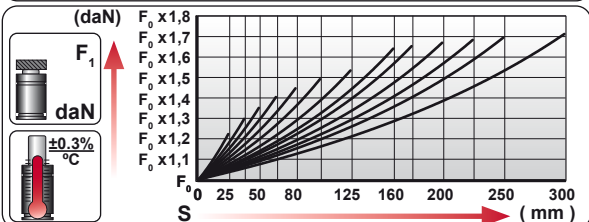
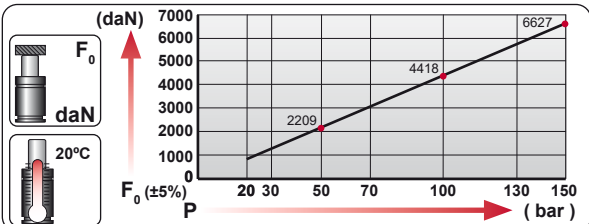
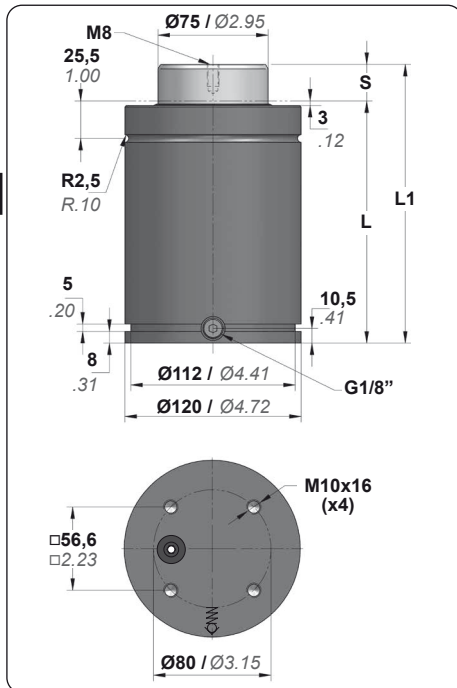


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 6600

Heavy Duty

	GM	90.25.05
VW	39D 838	



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod








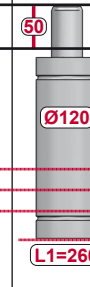
STANDARS

- APPROVED PED
- VDI 3003
- ISO 11901


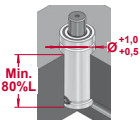












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.				
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb	
CD 6600 025	25	0.98	190	7.48	165	6.50	6630	14905	±5%	8123	18262	601	36.7	9.99	22.02
CD 6600 038	38	1.50	216	8.50	178	7.01				8616	19368	728	44.5	10.59	23.35
CD 6600 050	50	1.97	240	9.45	190	7.48				8972	20169	846	51.6	11.15	24.58
CD 6600 063	63.5	2.50	267	10.51	203.5	8.01				9294	20893	979	59.7	11.78	25.97
CD 6600 080	80	3.15	300	11.81	220	8.66				9606	21595	1141	69.6	12.54	27.65
CD 6600 100	100	3.94	340	13.39	240	9.45				9901	22259	1337	81.6	13.47	29.70
CD 6600 125	125	4.92	390	15.35	265	10.43				10183	22893	1583	96.6	14.63	32.25
CD 6600 160	160	6.30	460	18.11	300	11.81				10788	24253	1834	111.9	16.25	35.82
CD 6600 175	175	6.89	490	19.29	315	12.40				10873	24444	1981	120.9	16.95	37.37
CD 6600 200	200	7.87	540	21.26	340	13.39				10992	24711	2227	135.9	18.11	39.93
CD 6600 225	225	8.86	590	23.23	365	14.37				11089	24929	2472	150.9	19.27	42.48
CD 6600 250	250	9.84	640	25.20	390	15.35				11170	25111	2717	165.8	20.43	45.04
CD 6600 300	300	11.81	740	29.13	440	17.32				11297	25396	3208	195.8	22.75	50.15

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	CD-H 6600 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	S ≤ 125mm 75A0W540A S ≥ 160mm 75A0W730A	

							
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000	CS 11800

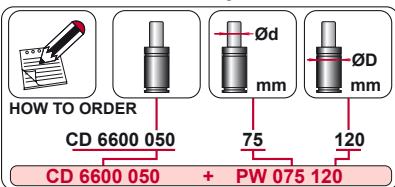
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-120  581 A34-120  583	B21-120  591 B76-120  595	C05-120  597 C20-120  599	D02-120  601 D67-120  603

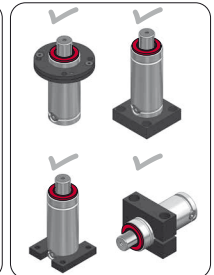
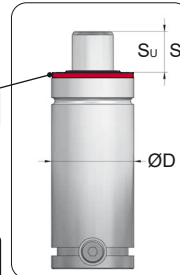
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



Protective Wiper

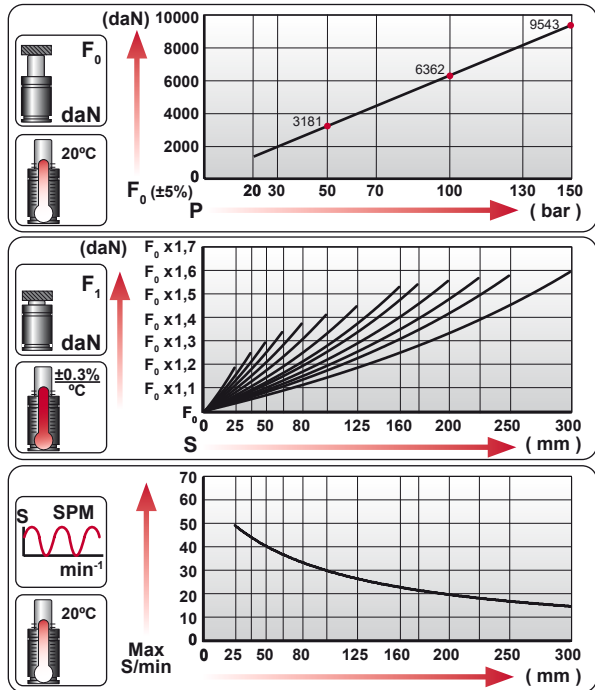
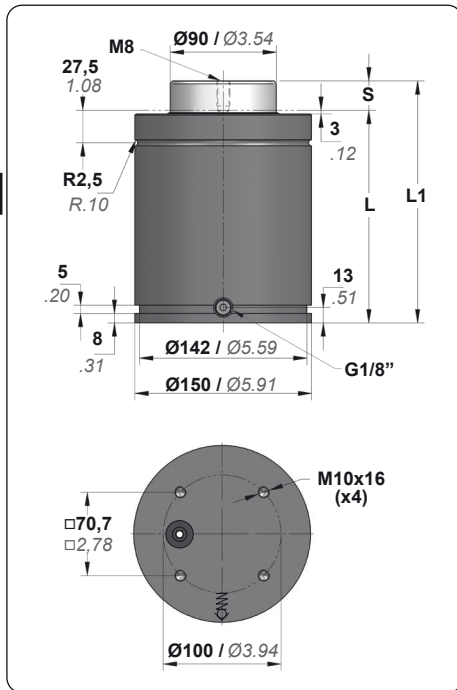


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 9600

Heavy Duty

	GM	90.25.05
VW	39D 838	



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod
















STANDARS

- APPROVED PED
- VDI 3003
- ISO 11901


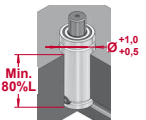












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CD 9600 025	25	0.98	205	8.07	180	7.09	9540	21447	11319	25447	1012	61.7	17.07	37.63
CD 9600 038	38	1.50	231	9.09	193	7.60			11911	26777	1214	74.1	17.93	39.53
CD 9600 050	50	1.97	255	10.04	205	8.07			12341	27744	1401	85.5	18.72	41.27
CD 9600 063	63.5	2.50	282	11.10	218.5	8.60			12730	28619	1612	98.4	19.62	43.25
CD 9600 080	80	3.15	315	12.40	235	9.25			13109	29471	1869	114.1	20.71	45.66
CD 9600 100	100	3.94	355	13.98	255	10.04			13469	30279	2181	133.1	22.04	48.59
CD 9600 125	125	4.92	405	15.94	280	11.02			13813	31052	2571	156.9	23.70	52.25
CD 9600 160	160	6.30	475	18.70	315	12.40			14580	32777	2945	179.7	26.02	57.36
CD 9600 175	175	6.89	505	19.88	330	12.99			14683	33008	3178	194.0	27.01	59.55
CD 9600 200	200	7.87	555	21.85	355	13.98			14827	33332	3568	217.7	28.67	63.21
CD 9600 225	225	8.86	605	23.82	380	14.96			14945	33597	3958	241.5	30.32	66.84
CD 9600 250	250	9.84	655	25.79	405	15.94			15043	33817	4348	265.3	31.98	70.50
CD 9600 300	300	11.81	755	29.72	455	17.91			15197	34163	5127	312.9	35.29	77.80

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Tmin Tmax	20°C / 68°F	80°C / 176°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection			CD-H 9600 XXX	
Vmax	1,6 m/s	Cartridge Kit			S ≤ 125mm 90C5X690A		S ≥ 160mm 90C5X890A		

				
				
				
MODEL	CW 9500 CW 11800 KT 9500	GN 7500 CM 10000 CD 9600	AG 7500	CS 18300


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-150  A34-150 	B21-150  B76-150 	C05-150  C20-150 	D02-150  D67-150 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



HOW TO ORDER

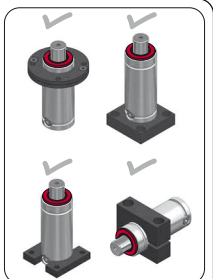
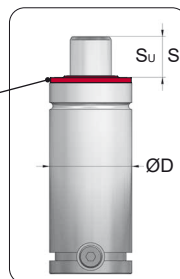
CD 9600 050 90 150

CD 9600 050 + PW 090 150

$\varnothing d$ mm $\varnothing D$ mm



Protective Wiper

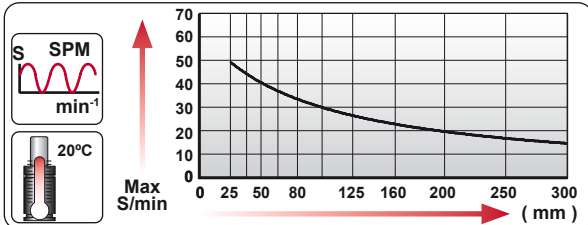
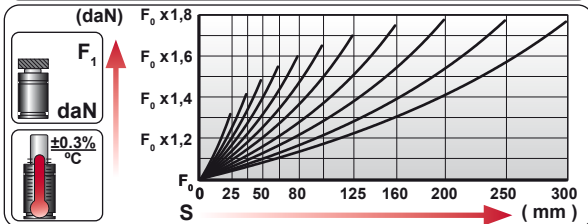
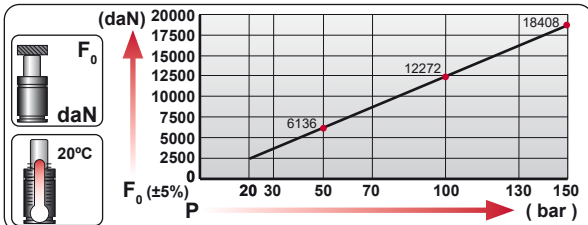
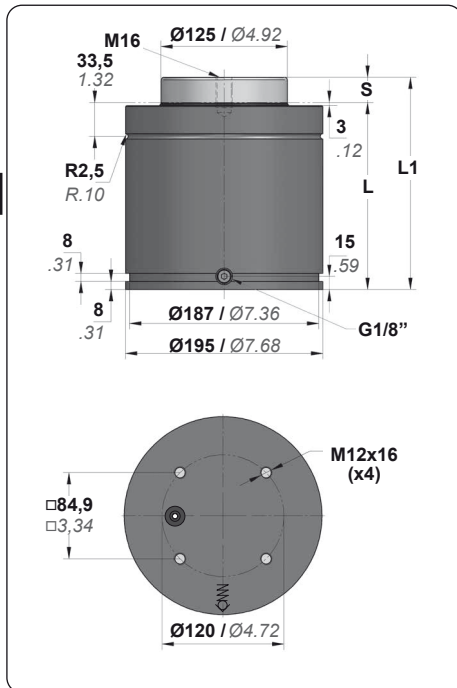


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CD 18500

Heavy Duty

GM	90.25.05
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VDI SAFETY

- Safety symbol
- Max velocity symbol
- Max pressure symbol
- Flex Rod symbol

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CD 18500 025	25	0.98	210	8.27	185	7.28	18410	41387	24270	54562	1271	77.5	33.88	74.69
CD 18500 038	38	1.50	236	9.29	198	7.80			26055	58573	1589	97.0	35.68	78.66
CD 18500 050	50	1.97	260	10.24	210	8.27	±5% 150 bar 2175 psi at 20°C 68°F		27304	61382	1884	114.9	37.33	82.30
CD 18500 063	63.5	2.50	287	11.30	223.5	8.80			28404	63855	2215	135.2	39.20	86.42
CD 18500 080	80	3.15	320	12.60	240	9.45			29447	66199	2619	159.8	41.48	91.45
CD 18500 100	100	3.94	360	14.17	260	10.24			30410	68365	3110	189.8	44.25	97.55
CD 18500 125	125	4.92	410	16.14	285	11.22			31311	70390	3723	227.2	47.70	105.16
CD 18500 160	160	6.30	480	18.90	320	12.60			32218	72430	4581	279.6	52.54	115.83
CD 18500 200	200	7.87	560	22.05	360	14.17			32729	73577	5610	342.3	58.07	128.02
CD 18500 250	250	9.84	660	25.98	410	16.14			32666	73435	7030	429.0	64.99	143.28
CD 18500 300	300	11.81	760	29.92	460	18.11			32563	73204	8470	516.9	71.90	158.51

TECHNICAL DATA													
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		290 psi 2175 psi		Charging Adapter	18 CG 1-Q				
Smax	< 90%		Tmin Tmax	20°C / 68°F		0°C 80°C		Connection	CD-H 18500 XXX				
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		32°F 176°F		Cartridge Kit	C5G0Y950A				



CD 18500

Heavy Duty

MODEL		CW 20000			CD 18500	AG 10000		

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-195 581 A34-195 583	B21-195 591 B76-195 595	C05-195 597 C20-195 599	D02-195 601

GAS SPRINGS



AZOL 
GAS



HEAVY DUTY CM

- Smaller size than ISO gas springs
- Higher force than ISO standard
- Contact force (200-10000 daN)
- Used for heavy duty work



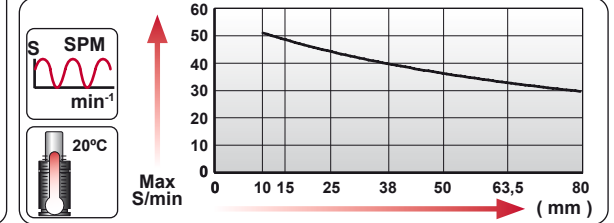
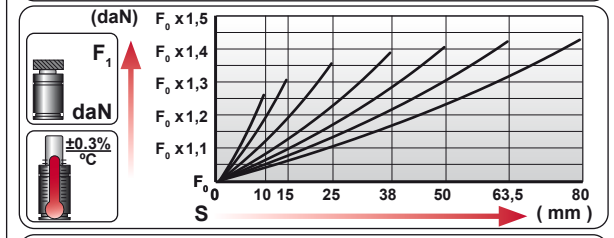
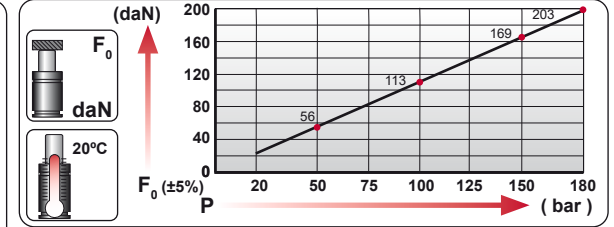
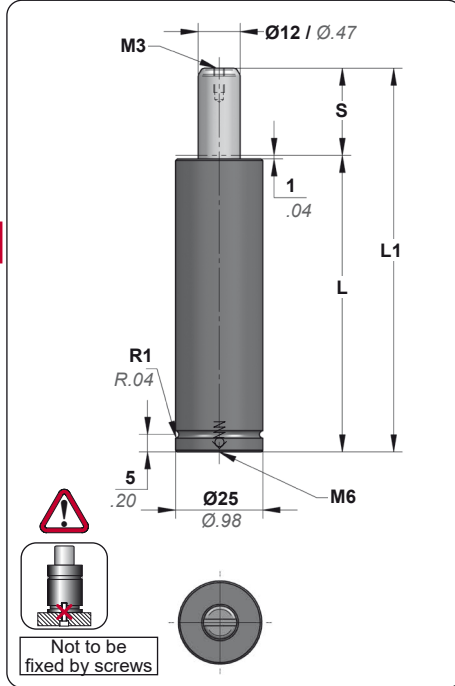
CM HEAVY DUTY MEDIUM

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CM 200	200 450	Ø25 Ø0.98	10 - 80 0.39 - 3.15	80 - 220 3.15 - 8.66	180 2610	M6	X	✓
CM 300	300 674	Ø32 Ø1.26	10 - 125 0.39 - 4.92	80 - 310 3.15 - 12.20	150 2175	M6	✓	✓
CM 350 V1	350 787	Ø32 Ø1.26	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	180 2610	M6	✓	✓
CM 500 V2	500 1124	Ø38 Ø1.50	10 - 125 0.39 - 4.92	75 - 310 2.95 - 12.20	150 2175	M6	✓	✓
CM 600 V1	600 1349	Ø45 Ø1.77	12 - 100 0.47 - 3.94	84 - 260 3.31 - 10.24	150 2175	M6	✓	✓
CM 1000 V1	1000 2248	Ø50 Ø1.97	13 - 200 0.51 - 7.87	111 - 495 4.37 - 19.49	160 2320	G1/8"	✓	✓
CM 1500 V2	1500 3372	Ø63 Ø2.48	13 - 200 0.51 - 7.87	111 - 495 4.37 - 19.49	150 2175	G1/8"	✓	✓
CM 2500 V1	2500 5620	Ø75 Ø2.95	25 - 200 0.98 - 7.87	145 - 510 5.71 - 20.08	160 2320	G1/8"	✓	✓
CM 4000 V1	4000 8992	Ø95 Ø3.74	25 - 200 0.98 - 7.87	155 - 530 6.10 - 20.87	150 2175	G1/8"	✓	✓
CM 6500 V1	6500 14613	Ø120 Ø4.72	25 - 200 0.98 - 7.87	165 - 540 6.50 - 21.26	150 2175	G1/8"	✓	✓
CM 10000	10000 22481	Ø150 Ø5.91	25 - 200 0.98 - 7.87	186 - 536 7.32 - 21.10	160 2320	G1/8"	✓	✓

MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		
SERIES	MINI 	COMPACT HEIGHT 	THREADED 	LOW PROFILE 	HEAVY DUTY 	ISO 	HEAVY LOAD 	POWER SHORT STROKE 		

CM 200

Heavy Duty
















VDI SAFETY


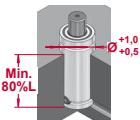







STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Bell	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CM 200 010	10	0.39	80	3.15	70	2.76	205 ±5% 180 bar 2610 psi at 20°C 68°F	461	282	634	4	0.3	0.22	0.49
CM 200 015	15	0.59	90	3.54	75	2.95			288	646	6	0.4	0.23	0.51
CM 200 025	25	0.98	110	4.33	85	3.35			293	658	9	0.6	0.25	0.55
CM 200 038	38	1.50	136	5.35	98	3.86			296	665	14	0.9	0.28	0.62
CM 200 050	50	1.97	160	6.30	110	4.33			297	668	18	1.1	0.30	0.66
CM 200 063	63.5	2.50	186.5	7.34	123	4.84			298	670	23	1.4	0.33	0.73
CM 200 080	80	3.15	220	8.66	140	5.51			299	672	29	1.8	0.36	0.79

TECHNICAL DATA																	
Fluid	N ₂	Smax	< 90%	Vmax	1,6 m/s	Pmin Pmax	20°C / 68°F	Tmin Tmax	20°C / 32°F	Force variation by temperature	±0,3% / °C	Charging Adapter	06 CG 2-Q	Connection	X	Cartridge Kit	12Y0B230A
							20 bar / 290 psi		180 bar / 2610 psi								
							0°C / 32°F		80°C / 176°F								

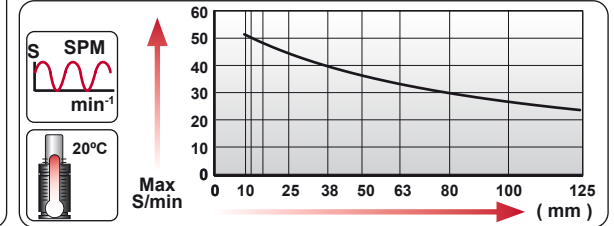
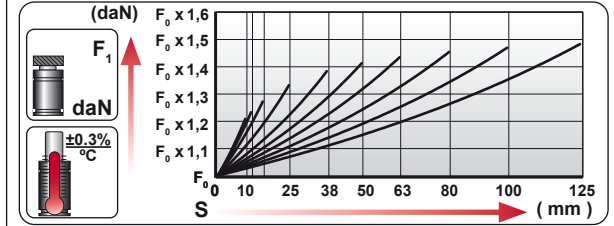
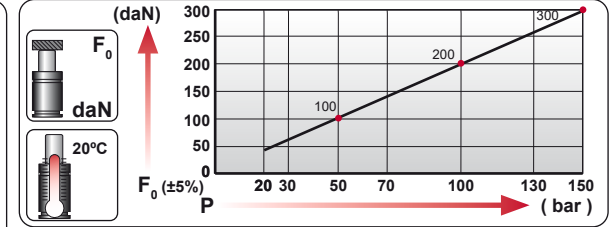
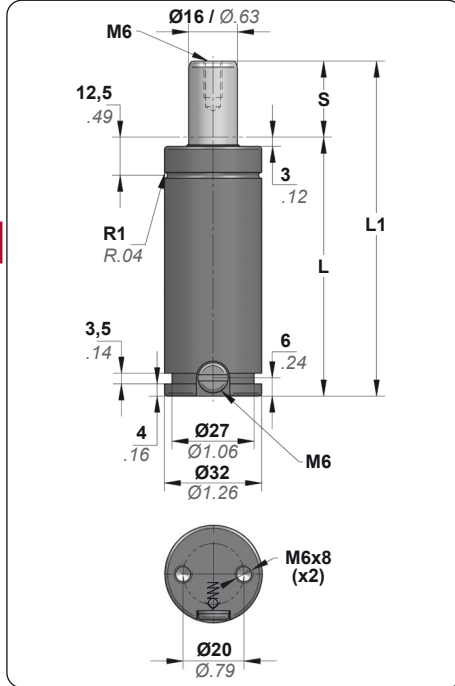
								
mm	mm	mm		mm	mm		mm	mm
								
	L1=142 L1=145 L1=154	L1=130		L1=132 L1=133	L1=160		L1=160	L1=195
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-025  580 A44-025  584 A49-025  584			

CM 300

Heavy Duty







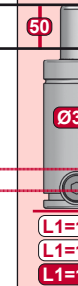







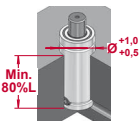








VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CM 300 010	10	0.39	80	3.15	70	2.76	300 ±5% 150 bar 2175 psi at 20°C 68°F	674	363	817	12	0.7	0.32	0.71
CM 300 012	12	0.47	84	3.31	72	2.83			371	833	13	0.8	0.32	0.71
CM 300 016	16	0.63	92	3.62	76	2.99			382	859	15	0.9	0.34	0.75
CM 300 025	25	0.98	110	4.33	85	3.35			400	900	20	1.2	0.37	0.82
CM 300 038	38	1.50	136	5.35	98	3.86			416	934	27	1.7	0.41	0.90
CM 300 050	50	1.97	160	6.30	110	4.33			424	954	34	2.1	0.45	0.99
CM 300 063	63	2.48	186	7.32	123	4.84			431	969	42	2.5	0.50	1.10
CM 300 080	80	3.15	220	8.66	140	5.51			437	982	51	3.1	0.56	1.23
CM 300 100	100	3.94	260	10.24	160	6.30			441	992	63	3.8	0.62	1.37
CM 300 125	125	4.92	310	12.20	185	7.28			445	1001	77	4.7	0.71	1.57

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar	150 bar		Charging Adapter	06 CG 2-Q					
	Smax	< 90%		20°C / 68°F	290 psi	2175 psi		Connection	CM-H 300 XXX					
	Vmax	1,6 m/s		Tmin Tmax	0 °C	80 °C		Cartridge Kit	1625A195B					
				Force variation by temperature	±0,3% / °C									
					32 °F	176 °F								


								
50	50		50	50	50	50	50	50
								
	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32	Ø32
	L1=142	L1=130 L1=140	L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195	
MODEL	AFT	CW 350 KZ 350	CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770	

MOUNTING OPTIONS					
	Drop-in  Min. 80%L +1.0 Ø+0.5	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-032  580 A44-032  584		C20-032  598	D67-032  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

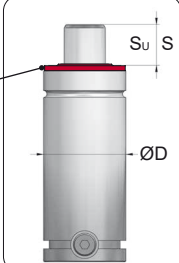
PW Protective Wiper



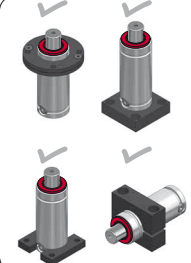
HOW TO ORDER

CM 300 050 16 32

CM 300 050 + PW 016 032



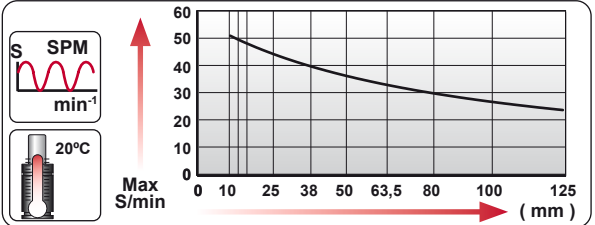
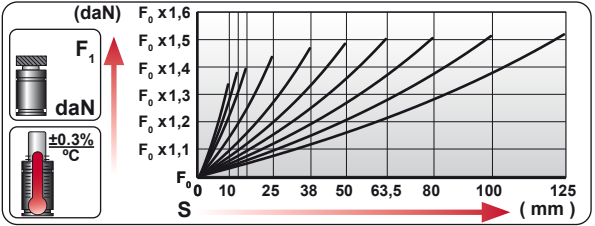
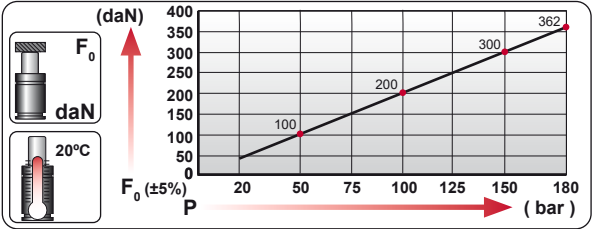
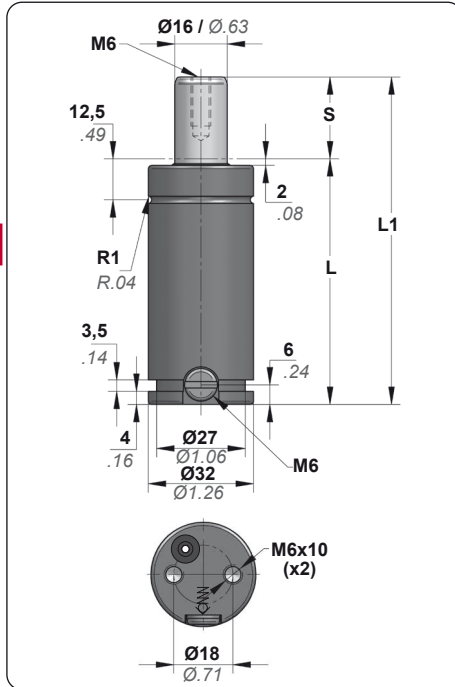
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CM 350 V1

Heavy Duty











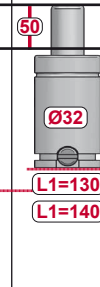

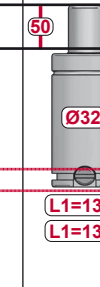
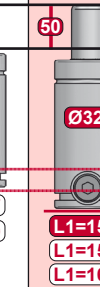
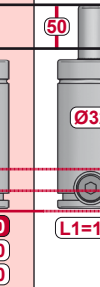
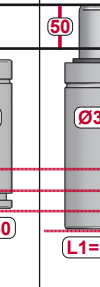


VDI SAFETY


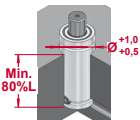








STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CM 350 010 V1	10	0.39	70	2.76	60	2.36	350 787 ±5% 175 bar 2540 psi at 20°C 68°F		468	1053	8	0.5	0.28	0.62
CM 350 012 V1	12.7	0.50	75.4	2.97	62.7	2.47			479	1076	9	0.6	0.29	0.64
CM 350 016 V1	16	0.63	82	3.23	66	2.60			488	1097	11	0.7	0.30	0.66
CM 350 025 V1	25	0.98	100	3.94	75	2.95			503	1131	17	1.0	0.33	0.73
CM 350 038 V1	38	1.50	126	4.96	88	3.46			514	1156	24	1.5	0.37	0.82
CM 350 050 V1	50	1.97	150	5.91	100	3.94			520	1169	31	1.9	0.42	0.93
CM 350 063 V1	63.5	2.50	177	6.97	113.5	4.47			524	1178	38	2.3	0.46	1.01
CM 350 080 V1	80	3.15	210	8.27	130	5.12			527	1186	48	2.9	0.52	1.15
CM 350 100 V1	100	3.94	250	9.84	150	5.91			530	1191	59	3.6	0.59	1.30
CM 350 125 V1	125	4.92	300	11.81	175	6.89			532	1196	73	4.5	0.67	1.48

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar	180 bar		Charging Adapter	06 CG 2-Q					
	Smix	< 90%		20°C / 68°F	290 psi	2610 psi		Connection	CM-H 350 XXX V1					
	Vmax	1,6 m/s		Tmin Tmax	0 °C	80 °C		Cartridge Kit	1625F205B					
				Force variation by temperature	32 °F	176 °F			±0,3% / °C					

									
50	50			50	50		50	50	50
									
	Ø32	Ø32		Ø32	Ø32	Ø32	Ø32	Ø32	Ø32
	L1=142	L1=130 L1=140		L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195	
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770	


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-032  580 A44-032  584		C20-032  598	D67-032  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



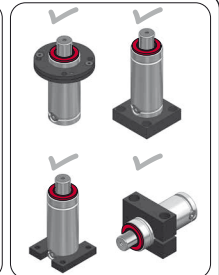
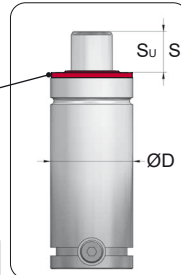
HOW TO ORDER

CM 350 050 V1 16 32

CM 350 050 V1 + PW 016 032



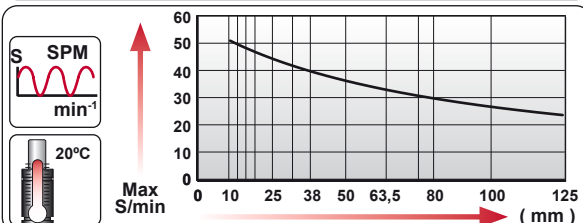
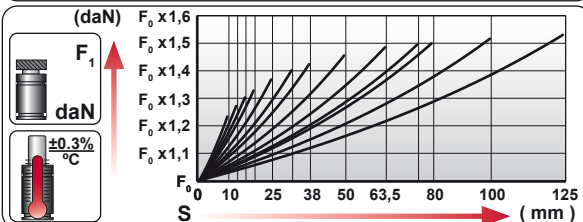
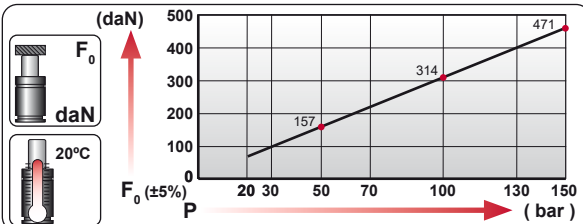
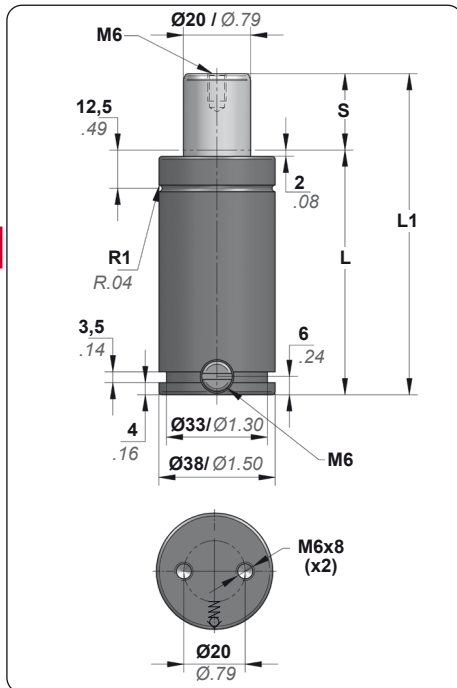
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CM 500 V2

Heavy Duty






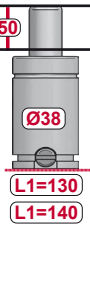


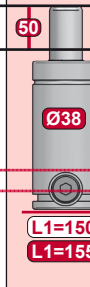
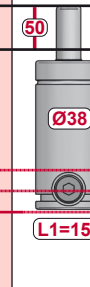
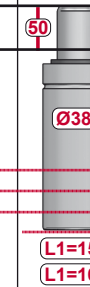
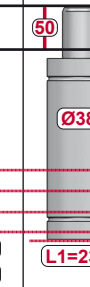
VDI SAFETY

STANDARS


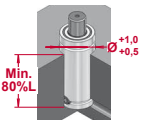








ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CM 500 010 V2	10	0.39	75	2.95	65	2.56	470	1057	580	1305	17	1.0	0.42	0.93
CM 500 013 V2	13	0.51	81	3.19	68	2.68			598	1345	19	1.2	0.43	0.95
CM 500 016 V2	16	0.63	87	3.43	71	2.80			613	1378	22	1.3	0.45	0.99
CM 500 019 V2	19	0.75	93	3.66	74	2.91			625	1405	24	1.5	0.46	1.01
CM 500 025 V2	25	0.98	105	4.13	80	3.15			644	1447	29	1.8	0.49	1.08
CM 500 032 V2	32	1.26	119	4.69	87	3.43			660	1483	35	2.1	0.52	1.15
CM 500 038 V2	38	1.50	131	5.16	93	3.66			670	1506	40	2.4	0.55	1.21
CM 500 050 V2	50	1.97	155	6.10	105	4.13			685	1539	50	3.1	0.61	1.34
CM 500 063 V2	63.5	2.50	187	7.36	123.5	4.86			696	1565	61	3.7	0.69	1.52
CM 500 075 V2	75	2.95	210	8.27	135	5.31			703	1581	71	4.3	0.75	1.65
CM 500 080 V2	80	3.15	220	8.66	140	5.51			706	1586	75	4.6	0.77	1.70
CM 500 100 V2	100	3.94	260	10.24	160	6.30			713	1604	92	5.6	0.87	1.92
CM 500 125 V2	125	4.92	310	12.20	185	7.28			720	1619	113	6.9	0.98	2.16

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	20°C / 68°F	80°C / 176°F	Connection	CM-H 500 XXX V2
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2030B190B

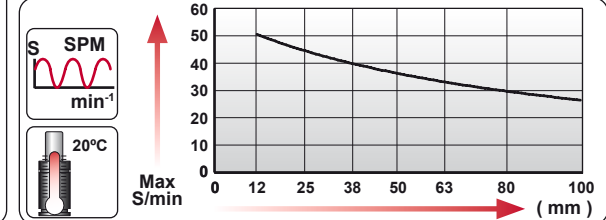
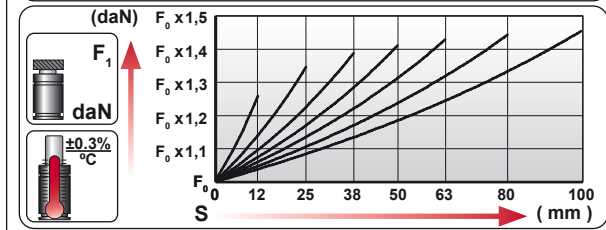
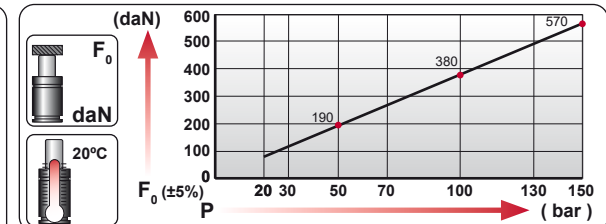
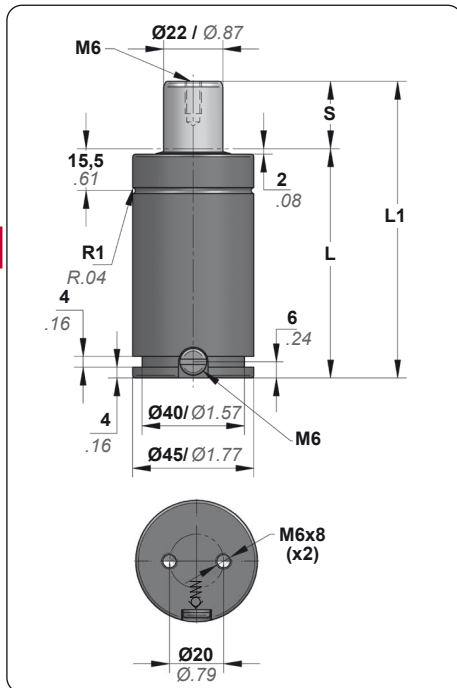
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	MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

MOUNTING OPTIONS

	<p>Drop-in</p> 	<p>Top Mount</p> 	<p>Base Mount</p> 	<p>Foot Mount</p> 	<p>Support Mount</p> 
<p>HOW TO ORDER</p>		<p>A14-038  580</p> <p>A34-038  582</p>		<p>C20-038  598</p>	<p>D67-038  602</p>

CM 600 V1

Heavy Duty



















VDI SAFETY


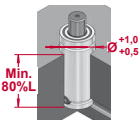








STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CM 600 012 V1	12	0.47	84	3.31	72	2.83	570 1281 ±5% 150 bar 2175 psi at 20°C 68°F		813	1827	20	1.2	0.69	1.52
CM 600 025 V1	25	0.98	110	4.33	85	3.35			859	1931	36	2.2	0.77	1.70
CM 600 038 V1	38	1.50	136	5.35	98	3.86			878	1973	53	3.2	0.85	1.87
CM 600 050 V1	50	1.97	160	6.30	110	4.33			887	1994	69	4.2	0.92	2.03
CM 600 063 V1	63	2.48	186	7.32	123	4.84			893	2009	85	5.2	1.01	2.23
CM 600 080 V1	80	3.15	220	8.66	140	5.51			899	2021	107	6.5	1.11	2.45
CM 600 100 V1	100	3.94	260	10.24	160	6.30			903	2030	133	8.1	1.23	2.71

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F		290 psi 2175 psi		Charging Adapter	06 CG 2-Q			
Smax	< 90%		Tmin Tmax	0 °C		32 °F		80 °C		Connection		CM-H 600 XXX V1		
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C						Cartridge Kit		2238E250B		

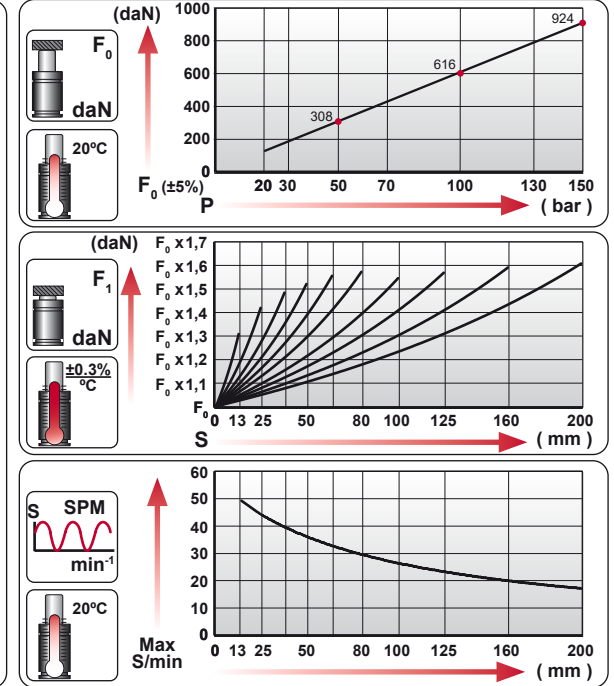
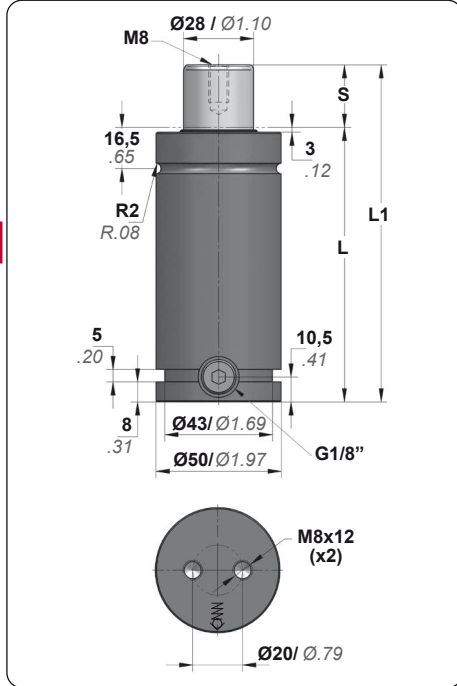
							
							
			L1=132 L1=142 L1=147	L1=138 L1=150 L1=150	L1=160 L1=185	L1=185	L1=160
MODEL			CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-045  581 A34-045  582		C20-045  598	D67-045  602

CM 1000 V1

Heavy Duty



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CM 1000 013 V1	13	0.51	111	4.37	98	3.86	985	2214	1281	2879	35	2.1	1.13	2.49
CM 1000 025 V1	25	0.98	135	5.31	110	4.33			1390	3125	53	3.2	1.23	2.71
CM 1000 038 V1	38	1.50	161	6.34	123	4.84			1455	3271	72	4.4	1.34	2.95
CM 1000 050 V1	50	1.97	185	7.28	135	5.31			1492	3354	91	5.5	1.44	3.17
CM 1000 063 V1	63.5	2.50	212	8.35	148.5	5.85			1521	3419	111	6.8	1.55	3.42
CM 1000 080 V1	80	3.15	245	9.65	165	6.50			1545	3473	136	8.3	1.69	3.73
CM 1000 100 V1	100	3.94	295	11.61	195	7.68			1520	3417	175	10.7	1.91	4.21
CM 1000 125 V1	125	4.92	345	13.58	220	8.66			1543	3470	213	13.0	2.12	4.67
CM 1000 160 V1	160	6.30	415	16.34	255	10.04			1566	3520	266	16.2	2.42	5.34
CM 1000 200 V1	200	7.87	495	19.49	295	11.61			1583	3558	326	19.9	2.75	6.06

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 160 bar		290 psi 2320 psi		Charging Adapter	18 CG 1-Q					
Smax	< 90%		Tmin Tmax	20°C / 68°F		0 °C 80 °C		Connection	CM-H 1000 XXX V1					
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		32 °F 176 °F		Cartridge Kit	2840T420A					



CM 1000 V1

Heavy Duty

mm	mm	mm	mm	mm	mm	mm	mm
	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$
	L1=138 L1=148 L1=152	L1=138 L1=150 L1=150	L1=170 L1=185 L1=195	L1=195	L1=165 L1=175	L1=220	
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800	

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-050 581 A34-050 582	B21-050 590 B76-050 594	C05-050 596 C20-050 598	D02-050 600 D67-050 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

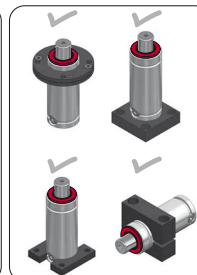
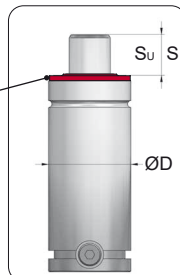
CM 1000 050 V1 28 50

CM 1000 050 V1 + PW 028 050

$\varnothing d$ mm $\varnothing D$ mm



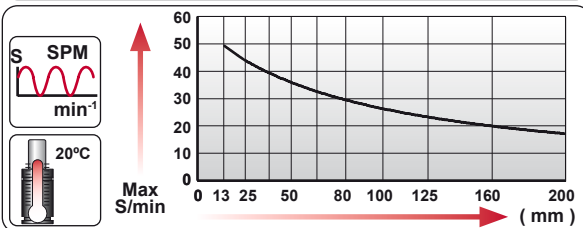
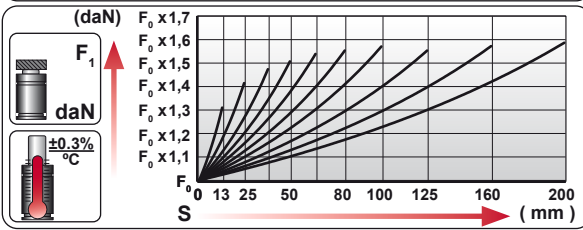
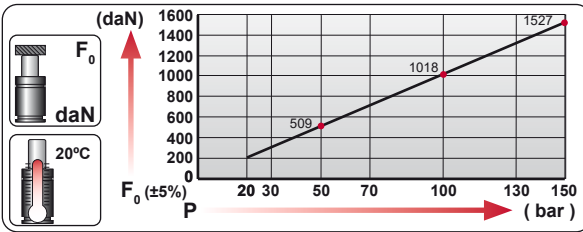
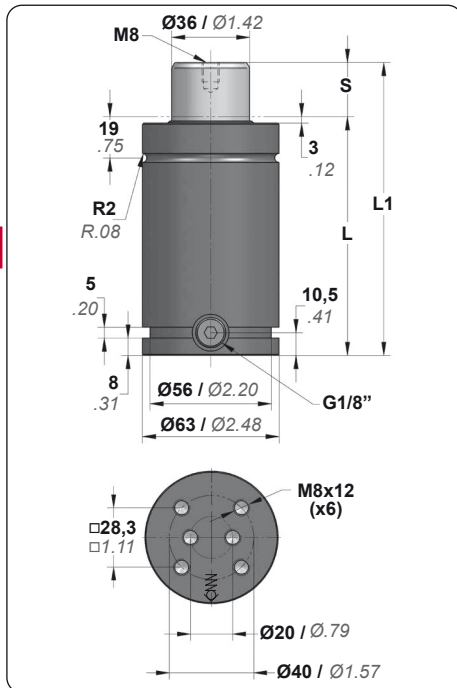
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CM 1500 V2

Heavy Duty



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CM 1500 013 V2	13	0.51	111	4.37	98	3.86	1530 3440 ±5% 150 bar 2175 psi at 20°C 68°F	3440	2005	4508	56	3.4	1.79	3.95
CM 1500 025 V2	25	0.98	135	5.31	110	4.33			2165	4867	87	5.3	1.95	4.30
CM 1500 038 V2	38	1.50	161	6.34	123	4.84			2256	5071	120	7.3	2.11	4.65
CM 1500 050 V2	50	1.97	185	7.28	135	5.31			2307	5185	151	9.2	2.26	4.98
CM 1500 063 V2	63.5	2.50	212	8.35	148.5	5.85			2345	5272	186	11.3	2.43	5.36
CM 1500 080 V2	80	3.15	245	9.65	165	6.50			2377	5345	228	13.9	2.64	5.82
CM 1500 100 V2	100	3.94	285	11.22	185	7.28			2404	5404	280	17.1	2.89	6.37
CM 1500 125 V2	125	4.92	345	13.58	220	8.66			2377	5345	357	21.8	3.29	7.25
CM 1500 160 V2	160	6.30	415	16.34	255	10.04			2407	5410	447	27.3	3.73	8.22
CM 1500 200 V2	200	7.87	495	19.49	295	11.61			2429	5460	550	33.6	4.24	9.35

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CM-H 1500 XXX V2
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	3652L440A



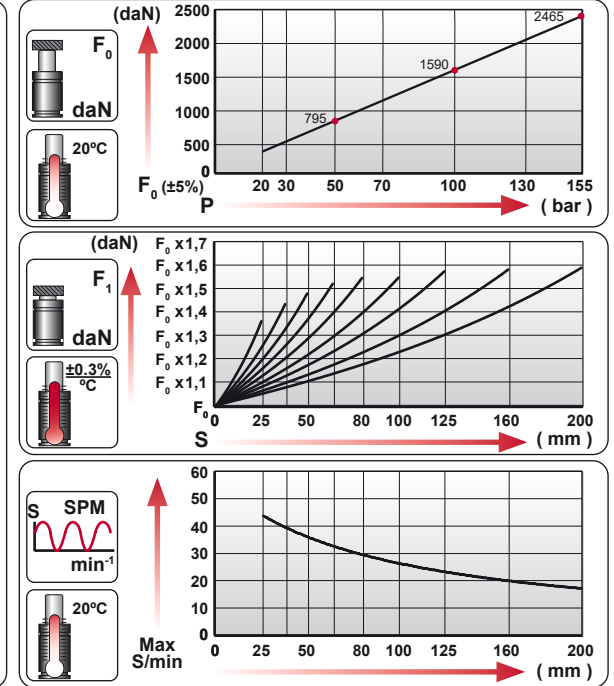
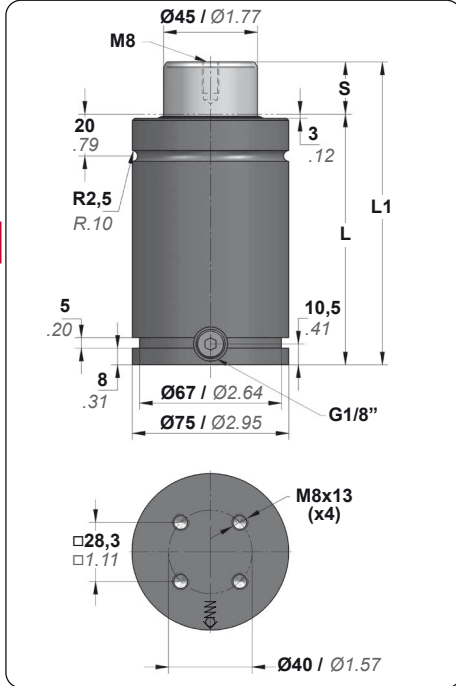
CM 1500 V2
Heavy Duty

mm	mm	mm	mm	mm	mm	mm	mm
L1	L1	L1	L1	L1	L1	L1	L1
mm	mm	mm	mm	mm	mm	mm	mm
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-063 581 A39-063 583 A69-063 583	B21-075 590 B76-063 594 B76-075 594	C05-063 596 C30-063 599 C35-063 599	D02-063 600 D67-063 602

CM 2500 V1

Heavy Duty



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CM 2500 025 V1	25	0.98	145	5.71	120	4.72	2465 ±5% 155 bar 2250 psi at 20°C 68°F	5542	3353	7537	150	9.2	2.90	6.39
CM 2500 038 V1	38	1.50	171	6.73	133	5.24			3533	7943	200	12.2	3.13	6.90
CM 2500 050 V1	50	1.97	195	7.68	145	5.71			3644	8192	246	15.0	3.33	7.34
CM 2500 063 V1	63.5	2.50	222	8.74	158.5	6.24			3732	8391	297	18.1	3.56	7.85
CM 2500 080 V1	80	3.15	255	10.04	175	6.89			3810	8564	360	22.0	3.85	8.49
CM 2500 100 V1	100	3.94	300	11.81	200	7.87			3818	8583	449	27.4	4.24	9.35
CM 2500 125 V1	125	4.92	350	13.78	225	8.86			3883	8729	544	33.2	4.67	10.30
CM 2500 160 V1	160	6.30	425	16.73	265	10.43			3905	8778	690	42.1	5.32	11.73
CM 2500 200 V1	200	7.87	510	20.08	310	12.20	3925	8824	855	52.2	6.06	13.36		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	160 bar 2320 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	20°C / 68°F	80°C 176°F	Connection	CM-H 2500 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	4563R470A

	50		50	50	50	50	50
	$\varnothing 75$	$\varnothing 75$	$\varnothing 75$	$\varnothing 75$	$\varnothing 75$	$\varnothing 75$	$\varnothing 75$
	L1=145 L1=155 L1=159	L1=154 L1=160 L1=160	L1=185 L1=195 L1=210	L1=210	L1=175 L1=200	L1=240	
MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700	

MOUNTING OPTIONS

	Drop-in Min. 80%L $\varnothing +0,5$	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-075 581 A34-075 582	B21-075 590 B76-075 594	C05-075 596 C20-075 598	D02-075 601 D67-075 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

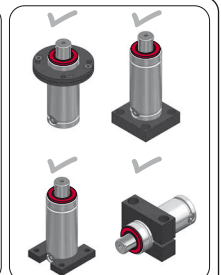
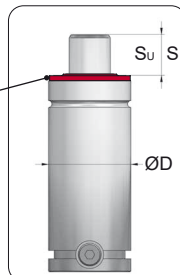
CM 2500 050 V1 45 75

CM 2500 050 V1 + PW 045 075

$\varnothing d$ mm $\varnothing D$ mm



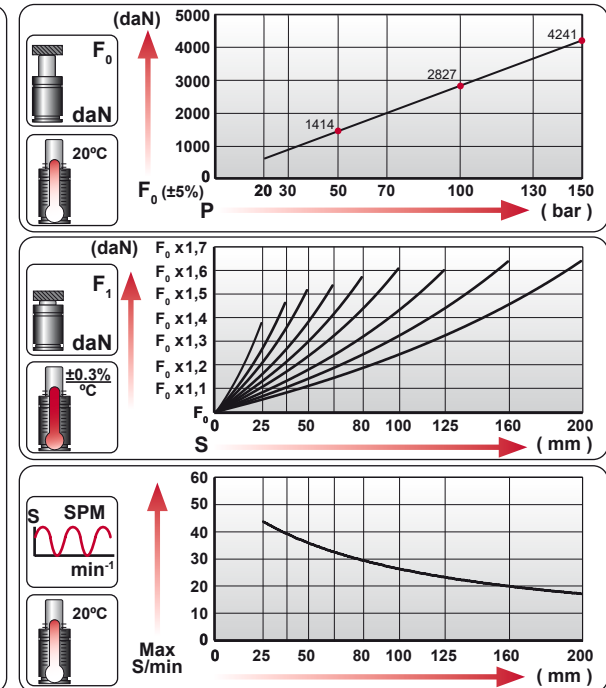
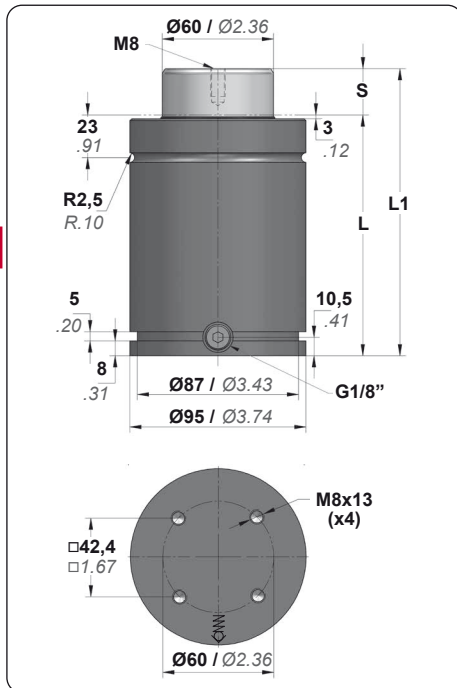
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CM 4000 V1

Heavy Duty




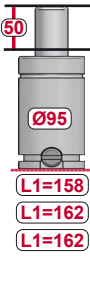



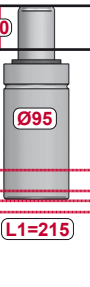



VDI SAFETY


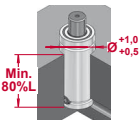












STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CM 4000 025 V1	25	0.98	155	6.10	130	5.12	3960 ±5% 140 bar 2030 psi at 20°C 68°F	8902	5453	12259	258	15.8	5.22	11.51
CM 4000 038 V1	38	1.50	181	7.13	143	5.63		5791	13018	340	20.7	5.59	12.32	
CM 4000 050 V1	50	1.97	205	8.07	155	6.10		6004	13497	415	25.3	5.94	13.10	
CM 4000 063 V1	63.5	2.50	237	9.33	173.5	6.83		6059	13621	518	31.6	6.40	14.11	
CM 4000 080 V1	80	3.15	270	10.63	190	7.48		6224	13991	622	38.0	6.87	15.15	
CM 4000 100 V1	100	3.94	310	12.20	210	8.27		6369	14317	748	45.6	7.44	16.40	
CM 4000 125 V1	125	4.92	370	14.57	245	9.65		6342	14257	941	57.4	8.32	18.34	
CM 4000 160 V1	160	6.30	440	17.32	280	11.02		6489	14587	1161	70.8	9.32	20.55	
CM 4000 200 V1	200	7.87	530	20.87	330	12.99		6496	14603	1449	88.4	10.62	23.41	

TECHNICAL DATA														
Fluid	N ₂	Pmin Pmax	20°C / 68°F	20 bar	150 bar	Charging Adapter	18 CG 1-Q							
Smax	< 90%	Tmin Tmax		290 psi	2175 psi	Connection	CM-H 4000 XXX V1							
Vmax	1,6 m/s	Force variation by temperature		0 °C	80 °C	Cartridge Kit	6080U440A							
				32 °F	176 °F									

								
			50	50	50	50	50	50
			Ø95	Ø95	Ø95	Ø95	Ø95	Ø95
			L1=158	L1=170	L1=195	L1=220	L1=215	L1=255
			L1=162	L1=170	L1=205			
			L1=162	L1=170	L1=220			
MODEL			CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  581 A34-095  582	B21-095  590 B76-095  594	C05-095  597 C20-095  598	D02-095  601 D67-095  603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



HOW TO ORDER

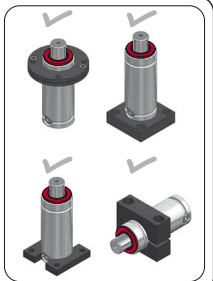
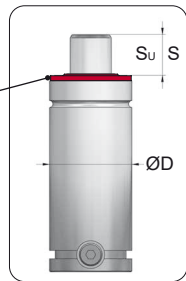
CM 4000 050 V1 60 95

CM 4000 050 V1 + PW 060 095




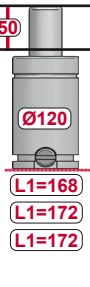






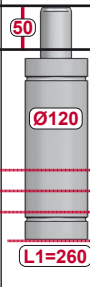





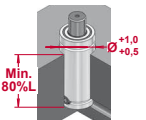












Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

										
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000				CS 11800


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-120  581 A34-120  583	B21-120  591 B76-120  595	C05-120  597 C20-120  599	D02-120  601 D67-120  603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

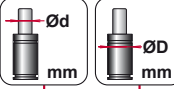
PW Protective Wiper



HOW TO ORDER

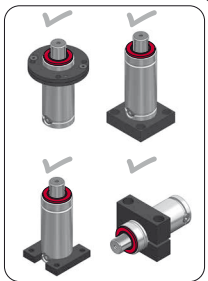
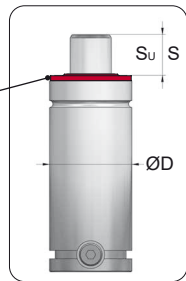
CM 6500 050 V1 75 120

CM 6500 050 V1 + PW 075 120


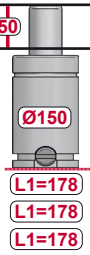

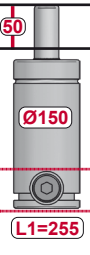
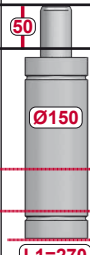















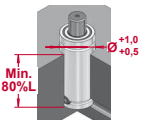












Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

				
				
				
MODEL	CW 9500 CW 11800 KT 9500	GN 7500 CM 10000 CD 9600	AG 7500	CS 18300


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-150  581 A34-150  583	B21-150  591 B76-150  595	C05-150  597 C20-150  599	D02-150  601 D67-150  603




PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



HOW TO ORDER

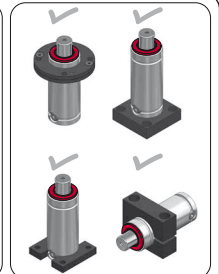
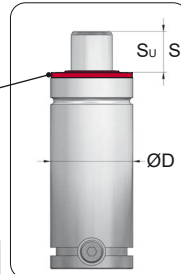
  

CM 10000 050 **90** **150**

CM 10000 050 + PW 090 150



Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



GAS SPRINGS







































































































































































































































































































AZOL 
GAS



HEAVY DUTY GN

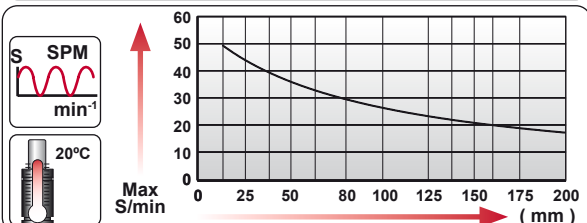
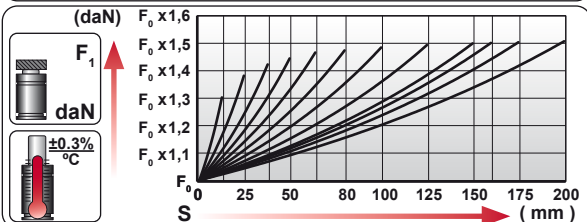
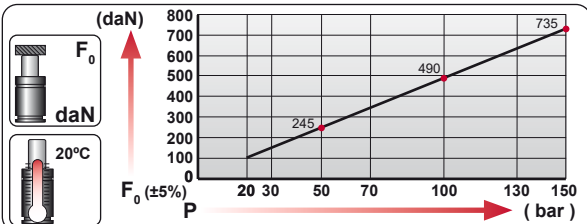
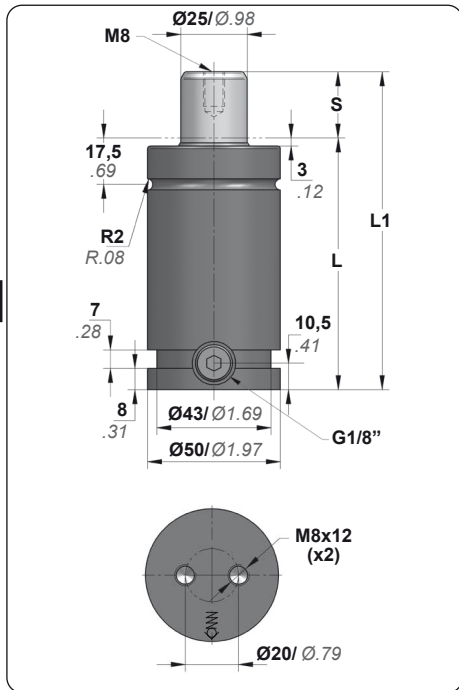
- Smaller size than ISO gas springs
- Same force as ISO standard
- Contact force (750-7500 daN)
- Used for heavy duty work

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
GN 750	750 1686	Ø50 Ø1.97	13 - 200 0.51 - 7.87	96 - 470 3.78 - 18.50	150 2175	G1/8"	✓	✓
GN 1500	1500 3372	Ø75 Ø2.95	25 - 250 0.98 - 9.84	135 - 585 5.31 - 23.03	150 2175	G1/8"	✓	✓
GN 3000	3000 6744	Ø95 Ø3.74	25 - 250 0.98 - 9.84	145 - 595 5.71 - 23.43	150 2175	G1/8"	✓	✓
GN 5000	5000 11240	Ø120 Ø4.72	25 - 250 0.98 - 9.84	152.5-602.5 6.00 - 23.72	150 2175	G1/8"	✓	✓
GN 7500	7500 16861	Ø150 Ø5.91	25 - 250 0.98 - 9.84	155 - 605 6.10 - 23.82	150 2175	G1/8"	✓	✓

GN 750

Heavy Duty



VDI SAFETY



STANDARS



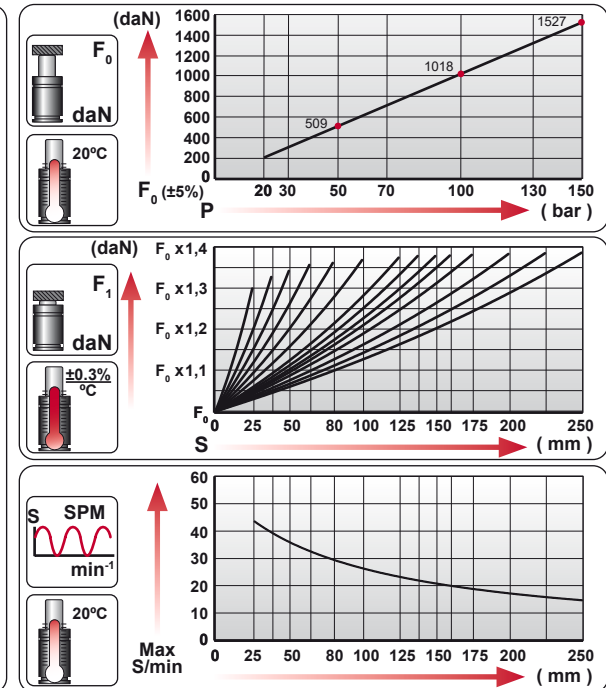
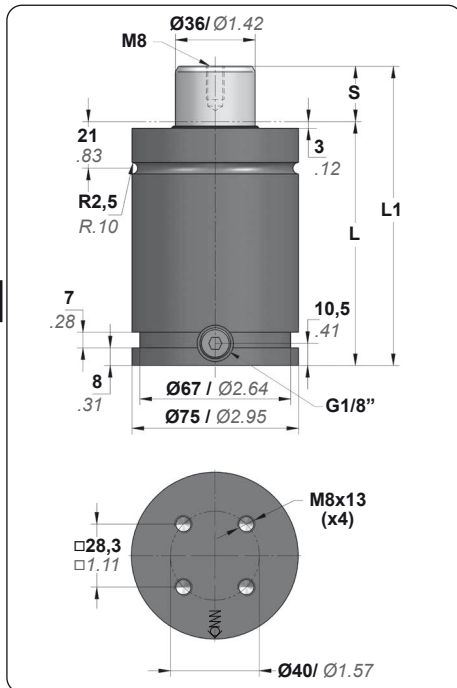
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
GN 750 013	13	0.51	96	3.78	83	3.27	740 ±5% 150 bar 2175 psi at 20°C 68°F	1664	965	2170	27	1.7	0.94	2.07
GN 750 025	25	0.98	120	4.72	95	3.74			1024	2302	44	2.7	1.04	2.29
GN 750 038	38	1.50	146	5.75	108	4.25			1054	2370	63	3.8	1.15	2.54
GN 750 050	50	1.97	170	6.69	120	4.72			1070	2406	80	4.9	1.24	2.73
GN 750 063	63.5	2.50	197	7.76	133.5	5.26			1082	2433	99	6.0	1.35	2.98
GN 750 080	80	3.15	230	9.06	150	5.91			1092	2455	122	7.4	1.49	3.28
GN 750 100	100	3.94	270	10.63	170	6.69			1100	2472	150	9.2	1.65	3.64
GN 750 125	125	4.92	320	12.60	195	7.68			1106	2487	185	11.3	1.86	4.10
GN 750 137	137.5	5.41	345	13.58	207.5	8.17			1109	2493	203	12.4	1.96	4.32
GN 750 150	150	5.91	370	14.57	220	8.66			1111	2497	221	13.5	2.06	4.54
GN 750 160	160	6.30	390	15.35	230	9.06			1112	2500	235	14.3	2.15	4.74
GN 750 175	175	6.89	420	16.54	245	9.65			1114	2505	256	15.6	2.27	5.00
GN 750 200	200	7.87	470	18.50	270	10.63	1117	2510	291	17.8	2.47	5.45		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	GN-H 750 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2540T340B

GN 1500

Heavy Duty



VDI SAFETY






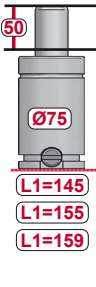

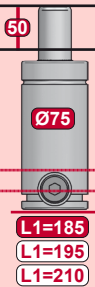

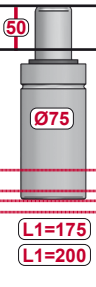
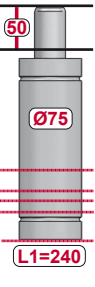
STANDARS




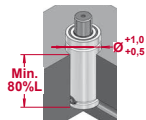












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb																																																																														
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³																																																																															
GN 1500 025	25	0.98	135	5.31	110	4.33	1530 3440 ±5% 150 bar 2175 psi at 20°C 68°F	1986	4465	111	6.8	2.69	5.93																																																																														
GN 1500 038	38	1.50	161	6.34	123	4.84								2029	4562	157	9.6	2.88	6.35																																																																								
GN 1500 050	50	1.97	185	7.28	135	5.31														2052	4613	200	12.2	3.05	6.72																																																																		
GN 1500 063	63.5	2.50	212	8.35	148.5	5.85																				2069	4650	248	15.1	3.25	7.16																																																												
GN 1500 080	80	3.15	245	9.65	165	6.50																										2082	4681	307	18.7	3.49	7.69																																																						
GN 1500 100	100	3.94	285	11.22	185	7.28																																2093	4705	379	23.1	3.79	8.36																																																
GN 1500 125	125	4.92	335	13.19	210	8.27																																						2102	4725	468	28.5	4.15	9.15																																										
GN 1500 137	137.5	5.41	360	14.17	222.5	8.76																																												2105	4732	512	31.3	4.34	9.57																																				
GN 1500 150	150	5.91	385	15.16	235	9.25																																																		2108	4738	557	34.0	4.52	9.96																														
GN 1500 160	160	6.30	405	15.94	245	9.65																																																								2110	4743	593	36.2	4.66	10.27																								
GN 1500 175	175	6.89	435	17.13	260	10.24																																																														2112	4748	646	39.4	4.88	10.76																		
GN 1500 200	200	7.87	485	19.09	285	11.22																																																																				2116	4756	735	44.9	5.25	11.57												
GN 1500 225	225	8.86	535	21.06	310	12.20																																																																										2118	4762	825	50.3	5.62	12.39						
GN 1500 250	250	9.84	585	23.03	335	13.19																																																																																2120	4767	914	55.8	5.98	13.18

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	GN-H 1500 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	3663R440A

								
mm	mm	mm	50 Ø75 L1=145 L1=155 L1=159	50 Ø75 L1=154 L1=160 L1=160	50 Ø75 L1=185 L1=195 L1=210	50 Ø75 L1=210	50 Ø75 L1=175 L1=200	50 Ø75 L1=240
MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-075  581 A34-075  582	B21-075  590 B76-075  594	C05-075  596 C20-075  598	D02-075  601 D67-075  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



HOW TO ORDER

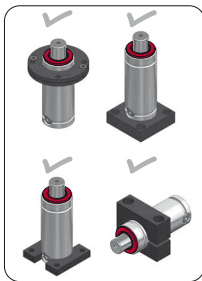
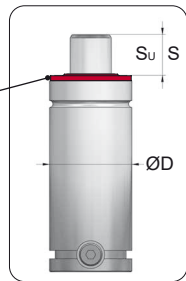
GN 1500 050 36 75

GN 1500 050 + PW 036 075





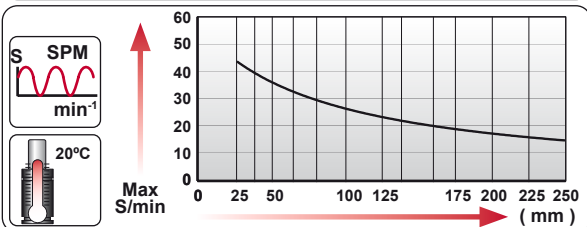
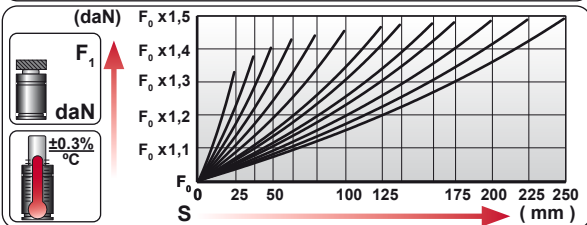
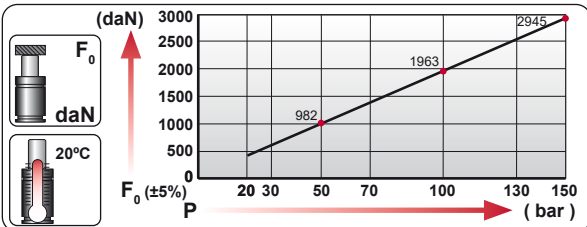
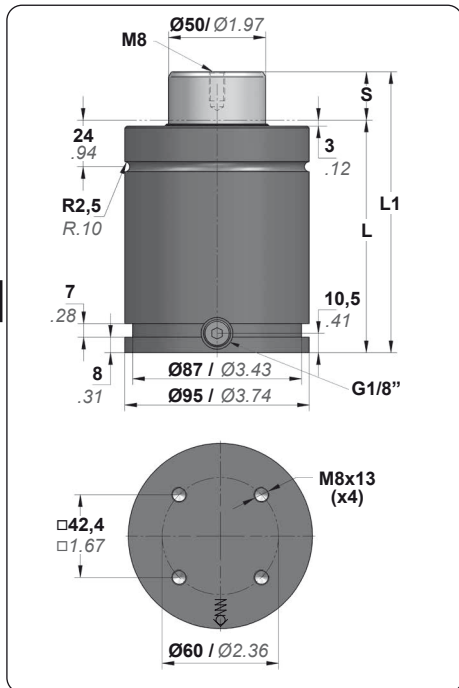
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

GN 3000

Heavy Duty



VDI SAFETY












STANDARS




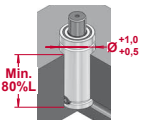












ORDER	S		L1 ±0.25		L		F0 Initial Force		F1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm³	in³	Kg.	lb
GN 3000 025	25	0.98	145	5.71	120	4.72	2945 6621 ±5% 150 bar 2175 psi at 20°C 68°F		3916	8804	198	12.1	4.85	10.69
GN 3000 038	38	1.50	171	6.73	133	5.24			4056	9117	272	16.6	5.19	11.44
GN 3000 050	50	1.97	195	7.68	145	5.71			4134	9295	341	20.8	5.50	12.13
GN 3000 063	63.5	2.50	222	8.74	158.5	6.24			4194	9429	419	25.5	5.85	12.90
GN 3000 080	80	3.15	255	10.04	175	6.89			4244	9540	513	31.3	6.28	13.84
GN 3000 100	100	3.94	295	11.61	195	7.68			4285	9633	628	38.3	6.80	14.99
GN 3000 125	125	4.92	345	13.58	220	8.66			4320	9711	771	47.1	7.45	16.42
GN 3000 137	137.5	5.41	370	14.57	232.5	9.15			4333	9740	843	51.4	7.78	17.15
GN 3000 160	160	6.30	415	16.34	255	10.04			4352	9783	972	59.3	8.37	18.45
GN 3000 175	175	6.89	445	17.52	270	10.63			4362	9805	1058	64.6	8.76	19.31
GN 3000 200	200	7.87	495	19.49	295	11.61			4375	9836	1201	73.3	9.41	20.75
GN 3000 225	225	8.86	545	21.46	320	12.60			4386	9860	1345	82.1	10.06	22.18
GN 3000 250	250	9.84	595	23.43	345	13.58	4395	9880	1488	90.8	10.71	23.61		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smix	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	GN-H 3000 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	5080U460A

								
mm	mm	mm	50 Ø95 L1=158 L1=162 L1=162	50 Ø95 L1=170 L1=170	50 Ø95 L1=195 L1=205 L1=220	50 Ø95 L1=220	50 Ø95 L1=215	50 Ø95 L1=255
MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  581 A34-095  582	B21-095  590 B76-095  594	C05-095  597 C20-095  598	D02-095  601 D67-095  603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

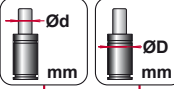
PW Protective Wiper



HOW TO ORDER

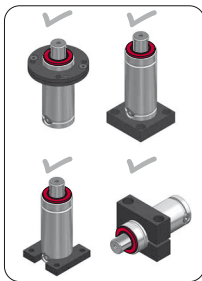
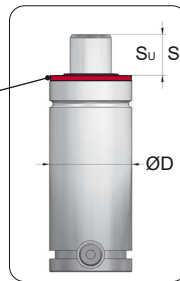
GN 3000 050 50 95

GN 3000 050 + PW 050 095





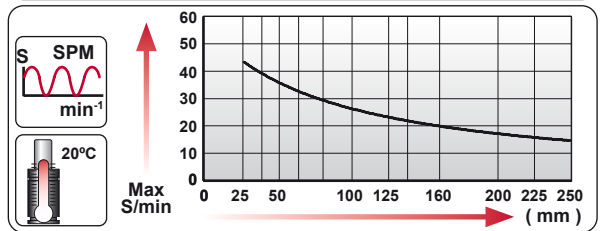
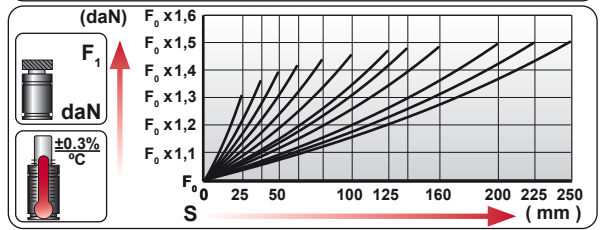
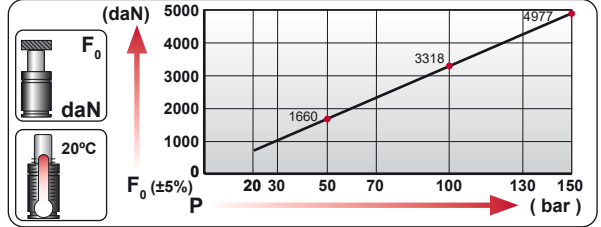
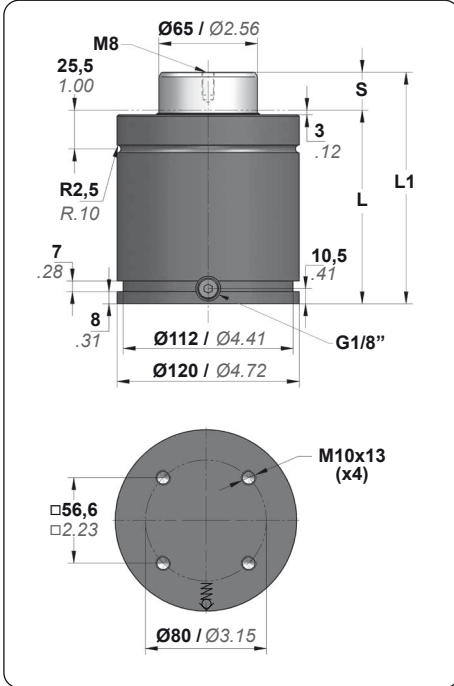
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

GN 5000

Heavy Duty







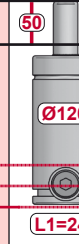



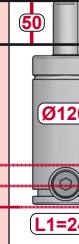



VDI SAFETY


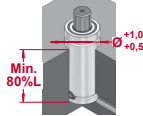












STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
GN 5000 025	25	0.98	152.5	6.00	127.5	5.02	4980	11195	6495	14601	356	21.7	8.35	18.41
GN 5000 038	38	1.50	178.5	7.03	140.5	5.53			6762	15202	478	29.2	8.88	19.58
GN 5000 050	50	1.97	202.5	7.97	152.5	6.00			6920	15557	592	36.1	9.36	20.64
GN 5000 063	63	2.48	228.5	9.00	165.5	6.52			7040	15826	715	43.6	9.89	21.80
GN 5000 080	80	3.15	262.5	10.33	182.5	7.19			7149	16071	875	53.4	10.59	23.35
GN 5000 100	100	3.94	302.5	11.91	202.5	7.97			7237	16270	1064	64.9	11.40	25.13
GN 5000 125	125	4.92	352.5	13.88	227.5	8.96			7313	16441	1300	79.3	12.42	27.38
GN 5000 137	137.5	5.41	377.5	14.86	240	9.45			7342	16506	1418	86.5	12.92	28.48
GN 5000 160	160	6.30	422.5	16.63	262.5	10.33			7384	16600	1631	99.5	13.84	30.51
GN 5000 200	200	7.87	502.5	19.78	302.5	11.91			7438	16721	2008	122.6	15.47	34.11
GN 5000 225	225	8.86	552.5	21.75	327.5	12.89	7462	16776	2245	137.0	16.49	36.35		
GN 5000 250	250	9.84	602.5	23.72	352.5	13.88	7482	16821	2481	151.4	17.50	38.58		

TECHNICAL DATA													
Fluid	N_2	Pmin Pmax	20 bar	150 bar	Charging Adapter	18 CG 1-Q							
Smax	< 90%	20°C / 68°F	290 psi	2175 psi	Connection	GN-H 5000 XXX							
Vmax	1,6 m/s	Tmin Tmax	0 °C	80 °C	Cartridge Kit	65A0W520A							
		Force variation by temperature	32 °F	176 °F									
			$\pm 0,3\%$ / °C										

											
			<p>50</p> <p>Ø120</p> <p>L1=168</p> <p>L1=172</p> <p>L1=172</p>	<p>50</p> <p>Ø120</p> <p>L1=190</p>	<p>50</p> <p>Ø120</p> <p>L1=202</p> <p>L1=215</p> <p>L1=240</p>	<p>50</p> <p>Ø120</p> <p>L1=240</p>	<p>50</p> <p>Ø120</p> <p>L1=240</p>	<p>50</p> <p>Ø120</p> <p>L1=260</p>			
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000			CS 11800		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		<p>A14-120  581</p> <p>A34-120  583</p>	<p>B21-120  591</p> <p>B76-120  595</p>	<p>C05-120  597</p> <p>C20-120  599</p>	<p>D02-120  601</p> <p>D67-120  603</p>




PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



HOW TO ORDER

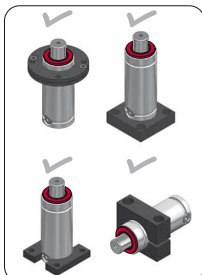
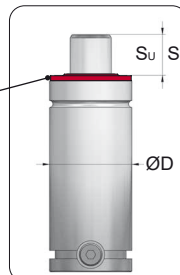




GN 5000 050 **65** **120**

GN 5000 050 + PW 065 120



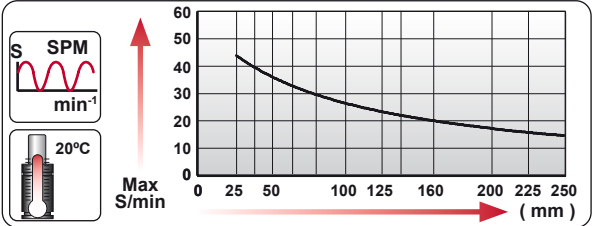
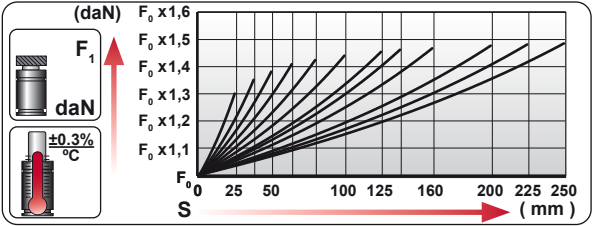
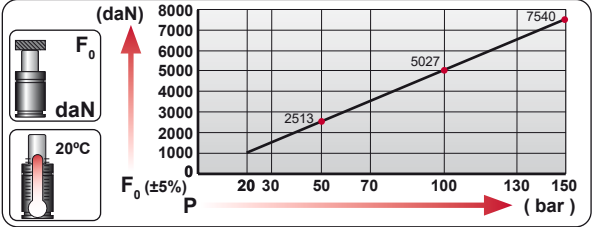
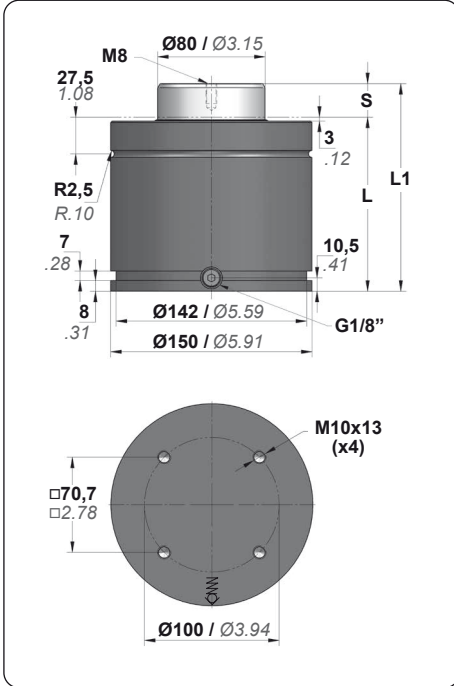
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

GN 7500

Heavy Duty




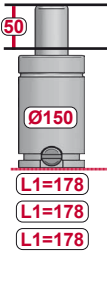
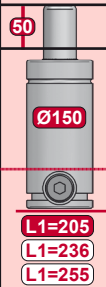
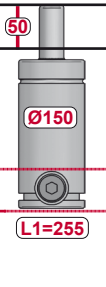
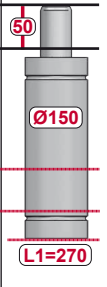


VDI SAFETY


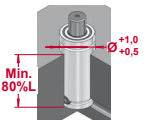












STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
GN 7500 025	25	0.98	155	6.10	130	5.12	7540	16951	9821	22077	541	33.0	13.27	29.26
GN 7500 038	38	1.50	181	7.13	143	5.63			10204	22940	732	44.6	14.09	31.06
GN 7500 050	50	1.97	205	8.07	155	6.10			10429	23445	907	55.4	14.84	32.72
GN 7500 063	63.5	2.50	232	9.13	168.5	6.63			10602	23835	1105	67.4	15.70	34.61
GN 7500 080	80	3.15	265	10.43	185	7.28			10750	24166	1347	82.2	16.74	36.91
GN 7500 100	100	3.94	305	12.01	205	8.07			10873	24444	1640	100.1	18.00	39.68
GN 7500 125	125	4.92	355	13.98	230	9.06			10979	24682	2006	122.4	19.58	43.17
GN 7500 137	137.5	5.41	380	14.96	242.5	9.55			11019	24772	2189	133.6	20.37	44.91
GN 7500 160	160	6.30	425	16.73	265	10.43			11077	24903	2519	153.7	21.80	48.06
GN 7500 200	200	7.87	505	19.88	305	12.01			11151	25068	3104	189.4	24.32	53.62
GN 7500 225	225	8.86	555	21.85	330	12.99			11185	25144	3471	211.8	25.90	57.10
GN 7500 250	250	9.84	605	23.82	355	13.98			11212	25206	3837	234.1	27.48	60.58

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F	290 psi 2175 psi	Charging Adapter	18 CG 1-Q					
Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F	Connection	GN-H 7500 XXX						
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	80C5X480A						

						
MODEL			CW 9500 CW 11800 KT 9500	GN 7500 CM 10000 CD 9600	AG 7500	CS 18300

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-150  581 A34-150  583	B21-150  591 B76-150  595	C05-150  597 C20-150  599	D02-150  601 D67-150  603

GAS SPRINGS



AZOL 
GAS



LOW PROFILE FD

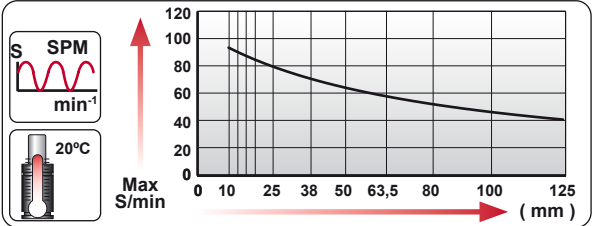
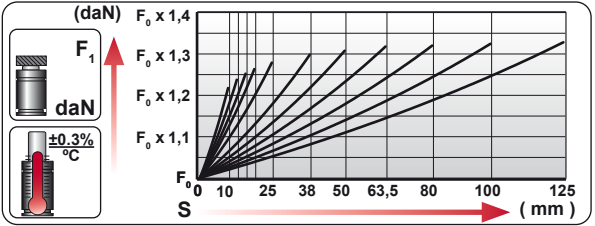
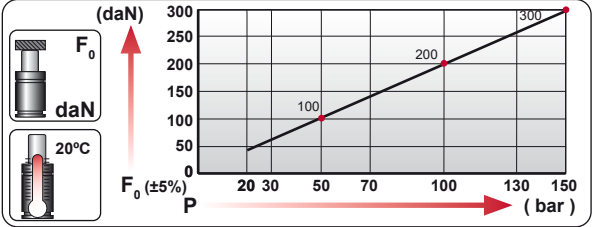
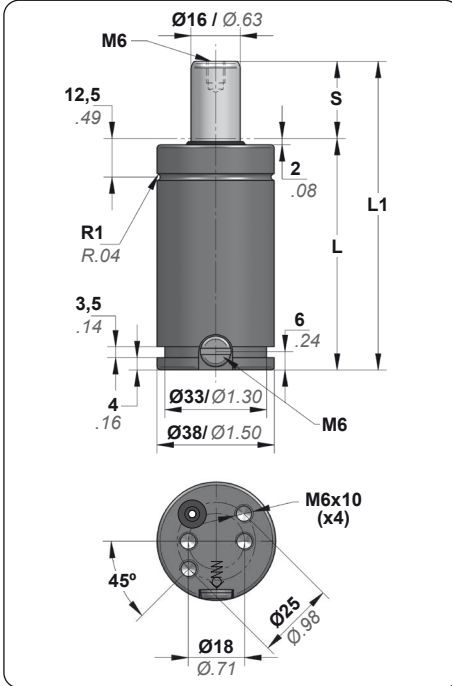
- Medium size gas springs
- Medium range contact force (300-5000 daN)
- Ideal for stampers of small parts
- Used for cam return

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
FD 300	300 674	Ø38 Ø1.50	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	150 2175	M6	✓	✓
FD 500	500 1124	Ø45 Ø1.77	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	150 2175	G1/8"	✓	✓
FD 750 V1	750 1686	Ø50 Ø1.97	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	150 2175	G1/8"	✓	✓
FD 1500 V2	1500 3372	Ø75 Ø2.95	25 - 125 0.98 - 4.92	110 - 310 4.33 - 12.20	150 2175	G1/8"	✓	✓
FD 3000	3000 6744	Ø95 Ø3.74	25 - 125 0.98 - 4.92	120 - 320 4.72 - 12.60	150 2175	G1/8"	✓	✓
FD 5000 V1	5000 11240	Ø120 Ø4.72	25 - 125 0.98 - 4.92	140 - 340 5.51 - 13.39	150 2175	G1/8"	✓	✓

MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800
SERIES	MINI 	COMPACT HEIGHT 	THREADED 	LOW PROFILE 	HEAVY DUTY 	ISO 	HEAVY LOAD 	POWER SHORT STROKE

FD 300

Low Profile



VDI SAFETY

- Safety symbol
- Maximum velocity symbol
- Maximum pressure symbol

STANDARDS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
FD 300 010	10	0.39	70	2.76	60	2.36	300	674	365	821	11	0.7	0.39	0.86
FD 300 013	13	0.51	76	2.99	63	2.48			371	835	14	0.8	0.40	0.88
FD 300 016	16	0.63	82	3.23	66	2.60	±5%	150 bar 2175 psi at 20°C 68°F	376	845	16	1.0	0.41	0.90
FD 300 019	19	0.75	88	3.46	69	2.72			379	852	18	1.1	0.43	0.95
FD 300 025	25	0.98	100	3.94	75	2.95			384	863	23	1.4	0.45	0.99
FD 300 038	38	1.50	126	4.96	88	3.46			390	876	33	2.0	0.51	1.12
FD 300 050	50	1.97	150	5.91	100	3.94			393	882	43	2.6	0.56	1.23
FD 300 063	63.5	2.50	177	6.97	113.5	4.47			395	887	53	3.2	0.62	1.37
FD 300 080	80	3.15	210	8.27	130	5.12			396	891	66	4.0	0.69	1.52
FD 300 100	100	3.94	250	9.84	150	5.91			398	894	82	5.0	0.77	1.70
FD 300 125	125	4.92	300	11.81	175	6.89			399	896	102	6.2	0.88	1.94

TECHNICAL DATA													
Fluid	N ₂		Pmin	Pmax	20 bar	150 bar	Charging Adapter	06 CG 2-Q					
Smax	< 90%		20°C / 68°F		290 psi	2175 psi	Connection	FD-H 300 XXX					
Vmax	1,6 m/s		Tmin Tmax		32°F	80°C / 176°F	Cartridge Kit	1630B205B					
Force variation by temperature					±0,3% / °C								

	MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

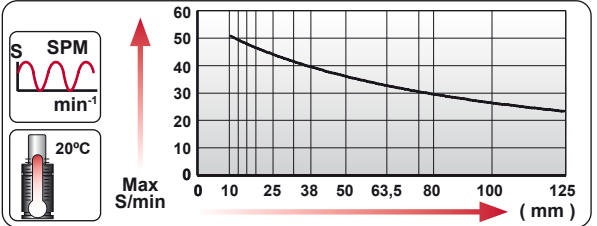
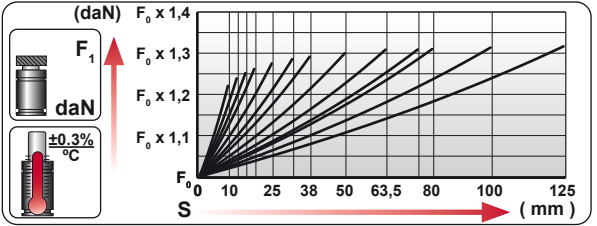
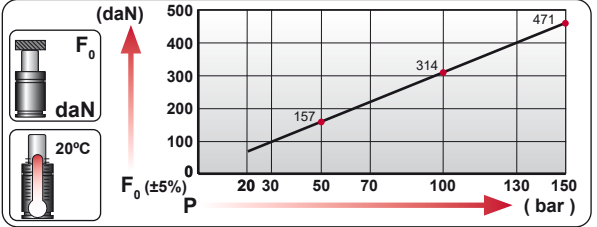
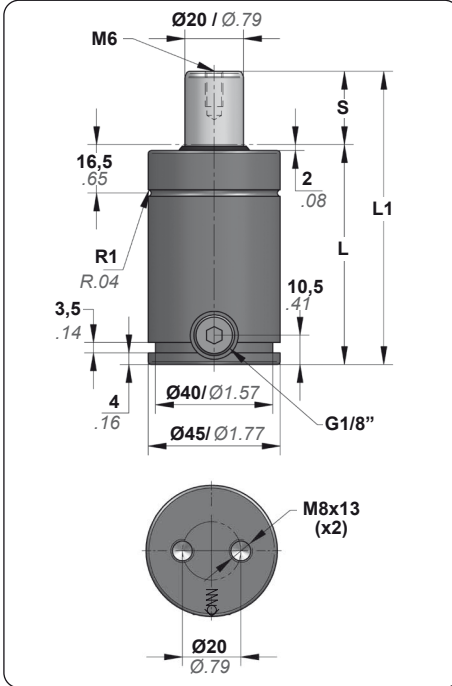
MOUNTING OPTIONS

	<p>Drop-in</p>	<p>Top Mount</p>	<p>Base Mount</p>	<p>Foot Mount</p>	<p>Support Mount</p>
HOW TO ORDER		<p>A14-038 580</p> <p>A34-038 582</p>		<p>C05-038 596</p>	

FD 500

Low Profile

		RENAULT EM24.54.700
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VDI SAFETY

STANDARS


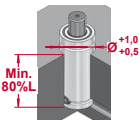












ONOMO

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
FD 500 010	10	0.39	70	2.76	60	2.36	470 1057 ±5% 150 bar 2175 psi at 20°C 68°F		574	1290	17	1.1	0.54	1.19
FD 500 013	13	0.51	76	2.99	63	2.48		582	1309	21	1.3	0.56	1.23	
FD 500 016	16	0.63	82	3.23	66	2.60		588	1323	25	1.5	0.57	1.26	
FD 500 019	19	0.75	88	3.46	69	2.72		593	1333	29	1.8	0.59	1.30	
FD 500 025	25	0.98	100	3.94	75	2.95		599	1348	36	2.2	0.62	1.37	
FD 500 032	32	1.26	114	4.49	82	3.23		604	1359	45	2.8	0.65	1.43	
FD 500 038	38	1.50	126	4.96	88	3.46		607	1365	53	3.2	0.68	1.50	
FD 500 050	50	1.97	150	5.91	100	3.94		611	1374	68	4.2	0.74	1.63	
FD 500 063	63.5	2.50	177	6.97	113.5	4.47		614	1380	85	5.2	0.81	1.79	
FD 500 075	75	2.95	200	7.87	125	4.92		615	1384	100	6.1	0.87	1.92	
FD 500 080	80	3.15	210	8.27	130	5.12		616	1385	106	6.5	0.89	1.96	
FD 500 100	100	3.94	250	9.84	150	5.91		618	1389	131	8.0	0.99	2.18	
FD 500 125	125	4.92	300	11.81	175	6.89		619	1392	163	10.0	1.12	2.47	

TECHNICAL DATA														
Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q								
Smax	< 90%	Tmin Tmax	20 °C 32 °F	80 °C 176 °F	Connection	FD-H 500 XXX								
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2038E190B								

							
			50	50	50	50	50
			Ø45	Ø45	Ø45	Ø45	Ø45
			L1=132	L1=138	L1=160	L1=185	L1=160
			L1=142	L1=150	L1=185		
			L1=147	L1=150			
MODEL			CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250

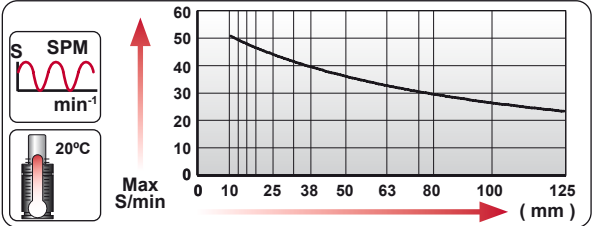
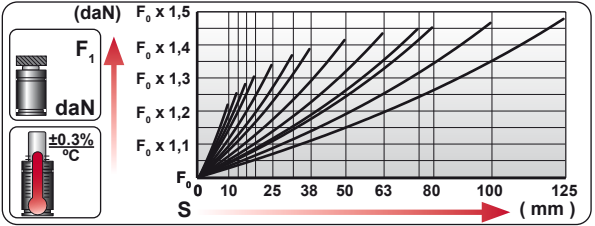
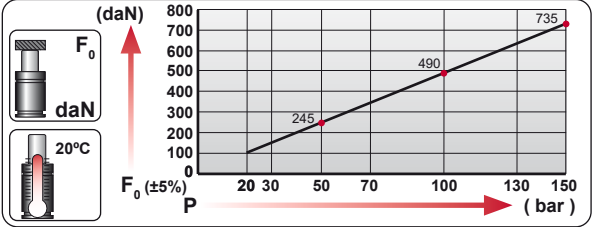
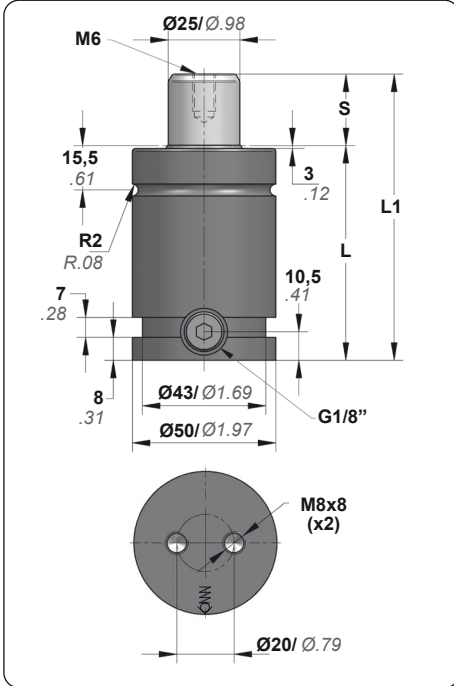
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-045  A34-045 	B21-045  B76-045 	C05-045  C20-045 	D02-045  D67-045 

FD 750 V1

Low Profile

MB B8 3180 220 000 003	RENAULT EM24.54.700
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VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
FD 750 010 V1	10	0.39	70	2.76	60	2.36	740 1664 ±5% 150 bar 2175 psi at 20°C 68°F		903	2029	27	1.7	0.63	1.39
FD 750 013 V1	13	0.51	76	2.99	63	2.48			928	2087	31	1.9	0.66	1.46
FD 750 016 V1	16	0.63	82	3.23	66	2.60			949	2133	36	2.2	0.68	1.50
FD 750 019 V1	19	0.75	88	3.46	69	2.72			965	2170	40	2.4	0.70	1.54
FD 750 025 V1	25	0.98	100	3.94	75	2.95			991	2229	48	3.0	0.75	1.65
FD 750 032 V1	32	1.26	114	4.49	82	3.23			1013	2277	58	3.6	0.81	1.79
FD 750 038 V1	38	1.50	126	4.96	88	3.46			1027	2309	67	4.1	0.86	1.90
FD 750 050 V1	50	1.97	150	5.91	100	3.94			1047	2354	84	5.1	0.96	2.12
FD 750 063 V1	63	2.48	176	6.93	113	4.45			1062	2387	102	6.2	1.07	2.36
FD 750 075 V1	75	2.95	200	7.87	125	4.92			1072	2409	119	7.3	1.16	2.56
FD 750 080 V1	80	3.15	210	8.27	130	5.12			1075	2417	126	7.7	1.20	2.65
FD 750 100 V1	100	3.94	250	9.84	150	5.91			1086	2441	154	9.4	1.37	3.02
FD 750 125 V1	125	4.92	300	11.81	175	6.89			1094	2460	189	11.6	1.57	3.46

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	FD-H 750 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	2540K140A

MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-050 581 A34-050 582	B21-050 590 B76-050 594	C05-050 596 C20-050 598	D02-050 600 D67-050 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

FD 750 050 V1 25 50

FD 750 050 V1 + PW 025 050

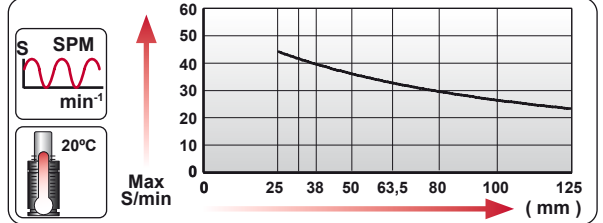
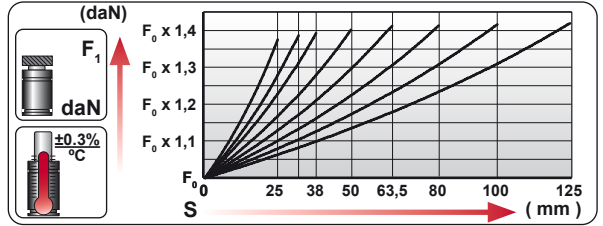
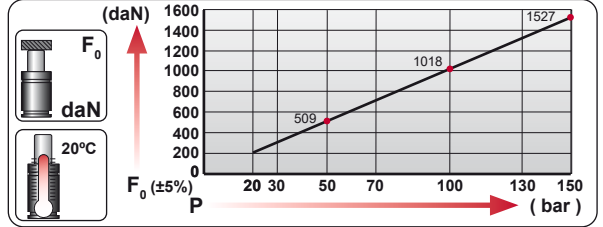
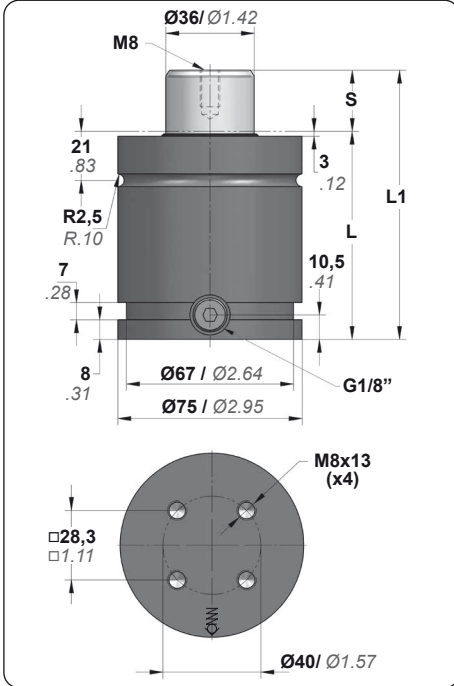
Protective Wiper

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

FD 1500 V2

Low Profile

		RENAULT EM24.54.700
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VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F0 Initial Force		F1 (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm³	in³	Kg.	lb
FD 1500 025 V2	25	0.98	110	4.33	85	3.35	1530 ±5% 150 bar 2175 psi at 20°C 68°F	3440	1952	4388	118	7.2	1.94	4.28
FD 1500 032 V2	32	1.26	124	4.88	92	3.62			1982	4457	143	8.7	2.04	4.50
FD 1500 038 V2	38	1.50	136	5.35	98	3.86			2002	4500	164	10.0	2.13	4.70
FD 1500 050 V2	50	1.97	160	6.30	110	4.33			2029	4561	207	12.6	2.31	5.09
FD 1500 063 V2	63.5	2.50	187	7.36	123.5	4.86			2049	4606	255	15.6	2.50	5.51
FD 1500 080 V2	80	3.15	220	8.66	140	5.51			2066	4644	314	19.2	2.75	6.06
FD 1500 100 V2	100	3.94	260	10.24	160	6.30			2079	4674	385	23.5	3.41	7.52
FD 1500 125 V2	125	4.92	310	12.20	185	7.28			2090	4699	475	29.0	4.75	10.47

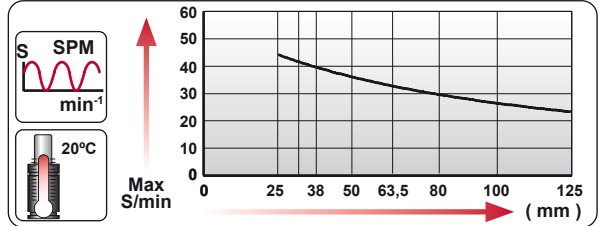
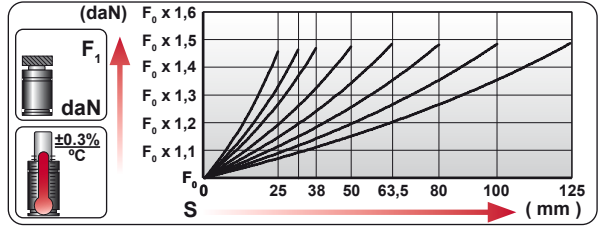
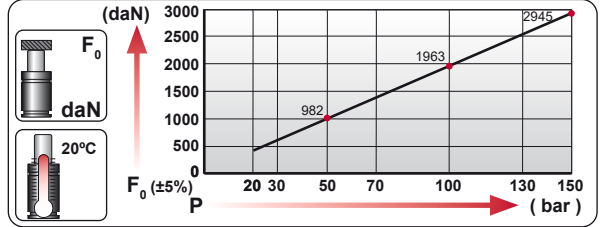
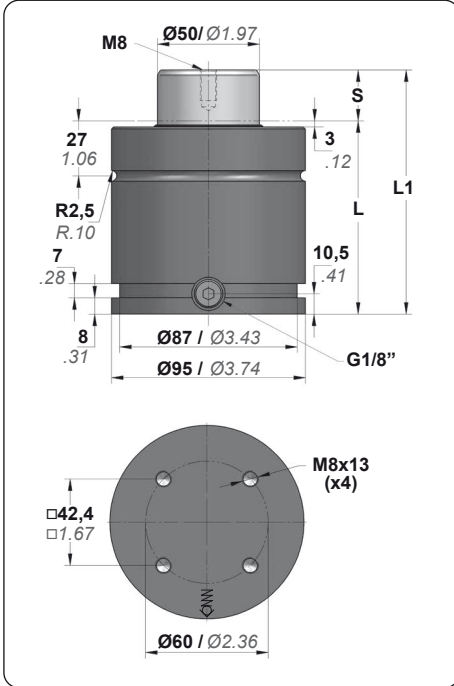
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	FD-H 1500 XXX V2	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	3663L210A	

FD 3000

Low Profile

MB B8 3180 220 000 003	RENAULT EM24.54.700
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VDI SAFETY


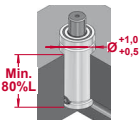












STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
FD 3000 025	25	0.98	120	4.72	95	3.74	2945 ±5% 150 bar 2175 psi at 20°C 68°F	6621	3954	8888	192	11.7	3.82	8.42
FD 3000 032	32	1.26	134	5.28	102	4.02			4035	9072	233	14.2	4.00	8.82
FD 3000 038	38	1.50	146	5.75	108	4.25			4087	9189	267	16.3	4.47	9.85
FD 3000 050	50	1.97	170	6.69	120	4.72			4162	9356	336	20.5	4.81	10.60
FD 3000 063	63.5	2.50	197	7.76	133.5	5.26			4218	9482	413	25.2	5.25	11.57
FD 3000 080	80	3.15	230	9.06	150	5.91			4264	9586	508	31.0	5.77	12.72
FD 3000 100	100	3.94	270	10.63	170	6.69			4302	9672	622	38.0	5.73	12.63
FD 3000 125	125	4.92	320	12.60	195	7.68			4334	9744	766	46.7	6.42	14.15

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar	150 bar	Charging Adapter	18 CG 1-Q							
Smax	< 90%	20°C / 68°F	290 psi	2175 psi	Connection	FD-H 3000 XXX							
Vmax	1,6 m/s	Tmin Tmax	0 °C	80 °C	Cartridge Kit	5080U300A							
		Force variation by temperature	32 °F	176 °F									
			±0,3% / °C										

								
			Ø95 L1=158 L1=162 L1=162	Ø95 L1=170 L1=170	Ø95 L1=195 L1=205 L1=220	Ø95 L1=220	Ø95 L1=215	Ø95 L1=255
MODEL			CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500

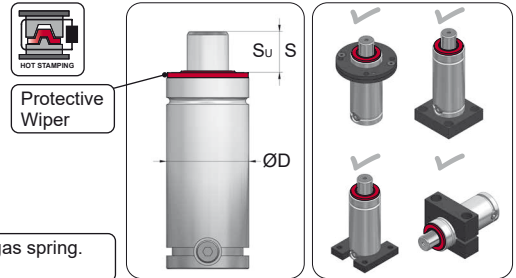
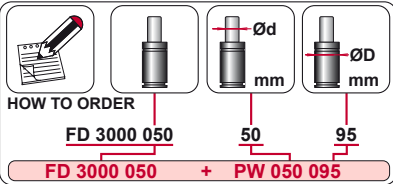
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  581 A34-095  582	B21-095  590 B76-095  594	C05-095  597 C20-095  598	D02-095  601 D67-095  603




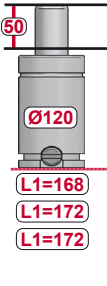
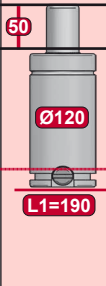
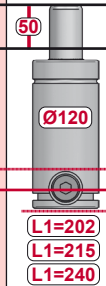
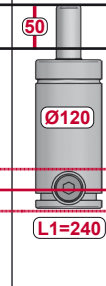
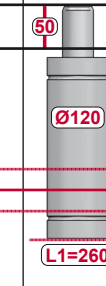
PROTECTION OPTIONS


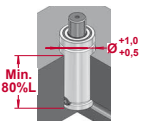












Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.





							
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000	CS 11800

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-120  A34-120 	B21-120  B76-120 	C05-120  C20-120 	D02-120  D67-120 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


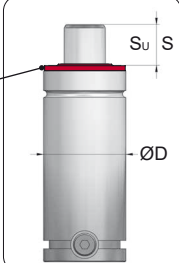
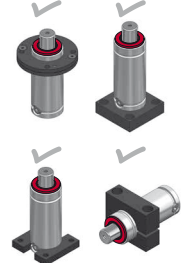
PW Protective Wiper

HOW TO ORDER

FD 5000 050 V1 65 120

FD 5000 050 V1 + PW 065 120

Protective Wiper

S_u S

$\varnothing D$

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



GAS SPRINGS



AZOL 
GAS



LOW PROFILE CK

- Medium size gas springs
- Medium range contact force (200-4000 daN)
- Ideal for stampers of small parts
- Used for cam return



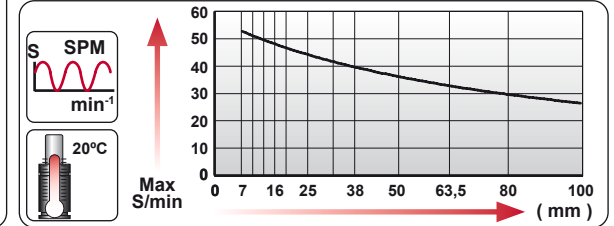
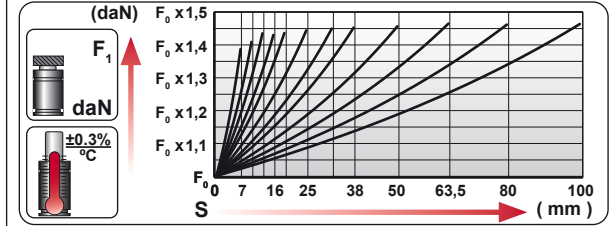
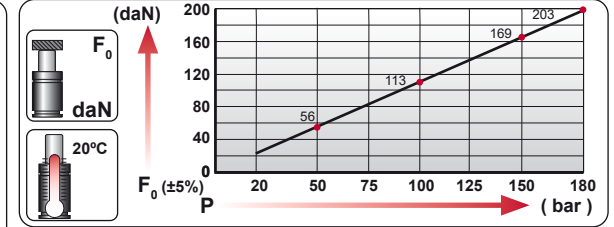
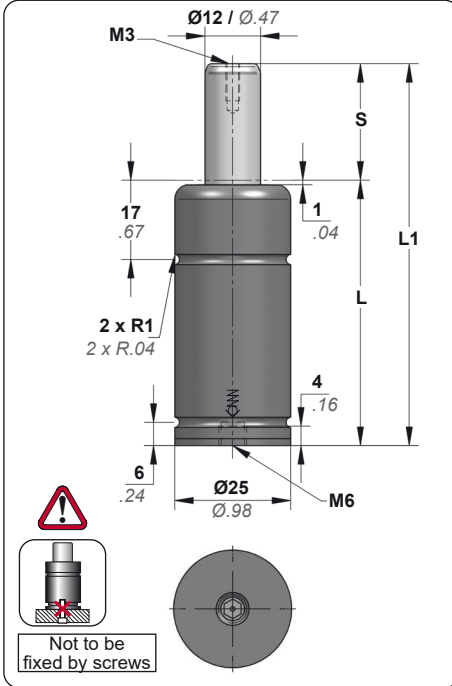
CK LOW PROFILE MEDIUM

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CK 200 V1	200 450	Ø25 Ø0.98	7 - 100 0.28 - 3.94	46 - 232 1.81 - 9.13	180 2610	M6	X	X
CK 300 V1	300 674	Ø32 Ø1.26	7 - 125 0.28 - 4.92	53 - 289 2.09 - 11.38	150 2175	M6	X	X
CK 500	500 1124	Ø38 Ø1.50	10 - 125 0.39 - 4.92	57 - 287 2.24 - 11.30	150 2175	M6	✓	✓
CK 750 V2	750 1686	Ø45 Ø1.77	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	150 2175	G1/8"	✓	✓
CK 1000 V3	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	70 - 300 2.76 - 11.81	160 2320	G1/8"	✓	✓
CK 1500 V3	1500 3372	Ø63 Ø2.48	13 - 125 0.51 - 4.92	86 - 310 3.39 - 12.20	150 2175	G1/8"	✓	✓
CK 2500 V1	2500 5620	Ø75 Ø2.95	13 - 125 0.51 - 4.92	86 - 310 3.39 - 12.20	160 2320	G1/8"	✓	✓
CK 4000 V1	4000 8992	Ø95 Ø3.74	25 - 100 0.98 - 3.94	120 - 270 4.72 - 10.63	150 2175	G1/8"	✓	✓

	50	Ø50	L1=138 L1=148 L1=152	50	Ø50	L1=138 L1=150 L1=150	50	Ø50	L1=170 L1=185 L1=195
				50	Ø50		50	Ø50	L1=195
				50	Ø50		50	Ø50	L1=165 L1=175
				50	Ø50		50	Ø50	L1=220
MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800	
SERIES	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE	

CK 200 V1

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.																																																			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb																																																
CK 200 007 V1	7	0.28	46	1.81	39	1.54	190	427	264	594	3	0.2	0.11	0.24																																																
CK 200 010 V1	10	0.39	52	2.05	42	1.65									268	603	4	0.2	0.12	0.26																																										
CK 200 012 V1	12.7	0.50	57.4	2.26	44.7	1.76															270	608	5	0.3	0.12	0.26																																				
CK 200 016 V1	16	0.63	64	2.52	48	1.89																					272	612	6	0.4	0.13	0.29																														
CK 200 019 V1	19	0.75	70	2.76	51	2.01																											273	614	7	0.4	0.13	0.29																								
CK 200 025 V1	25	0.98	82	3.23	57	2.24																																	275	618	9	0.6	0.15	0.33																		
CK 200 032 V1	32	1.26	96	3.78	64	2.52																																							276	620	12	0.7	0.16	0.35												
CK 200 038 V1	38	1.50	108	4.25	70	2.76																																													276	621	14	0.8	0.17	0.37						
CK 200 050 V1	50	1.97	132	5.20	82	3.23																																																			277	623	18	1.1	0.19	0.42
CK 200 063 V1	63.5	2.50	159	6.26	95.5	3.76																																																								
CK 200 080 V1	80	3.15	192	7.56	112	4.41	278	625	29	1.7	0.25	0.55																																																		
CK 200 100 V1	100	3.94	232	9.13	132	5.20							278	626	36	2.2	0.29	0.64																																												

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 180 bar	290 psi 2610 psi		Tmin Tmax	0 °C 80 °C	32 °F 176 °F		Charging Adapter	06 CG 2-Q	
	Smax	< 90%		Force variation by temperature	±0,3% / °C			Connection	X			Cartridge Kit	X	



CK 200 V1

Low Profile

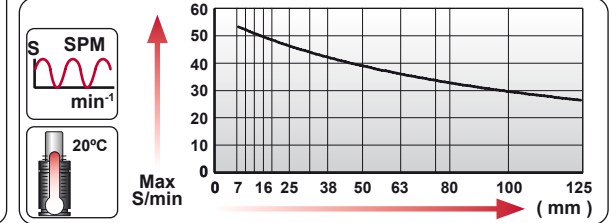
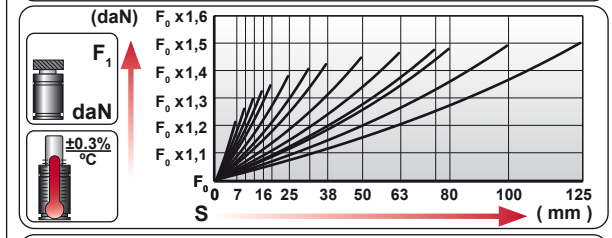
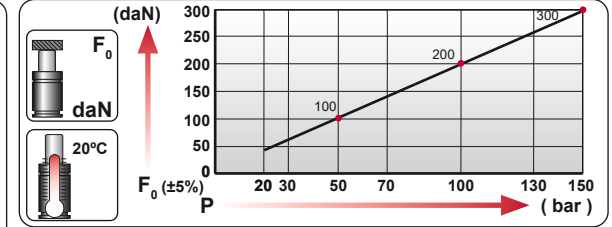
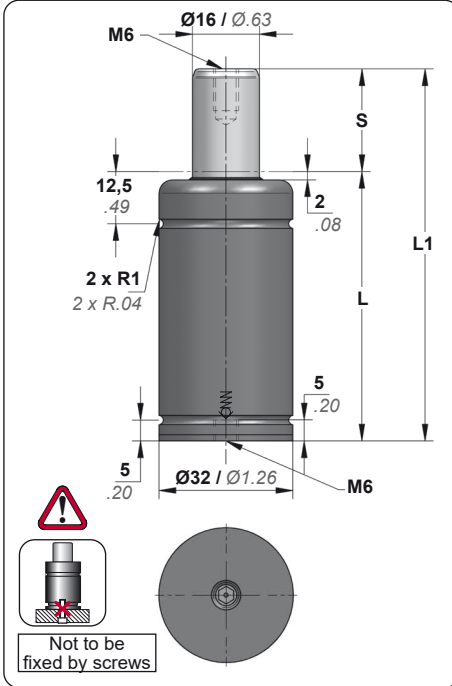
	50	50		50	50		50	50
	Ø25	Ø25		Ø25	Ø25		Ø25	Ø25
	L1=142	L1=130		L1=132	L1=160		L1=160	L1=195
	L1=145			L1=133				
	L1=154							
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-025 580 A44-025 584 A49-025 584		A19-025 586	

CK 300 V1

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CK 300 007 V1	7	0.28	53	2.09	46	1.81	300 ±5% 150 bar 2175 psi at 20°C 68°F	674	364	819	8	0.5	0.21	0.46
CK 300 010 V1	10	0.39	59	2.32	49	1.93			379	851	10	0.6	0.22	0.49
CK 300 013 V1	13	0.51	65	2.56	52	2.05			389	875	11	0.7	0.23	0.51
CK 300 016 V1	16	0.63	71	2.80	55	2.17			398	894	13	0.8	0.24	0.53
CK 300 019 V1	19	0.75	77	3.03	58	2.28			404	909	15	0.9	0.25	0.55
CK 300 025 V1	25	0.98	89	3.50	64	2.52			414	931	18	1.1	0.27	0.60
CK 300 032 V1	32	1.26	103	4.06	71	2.80			422	949	22	1.4	0.30	0.66
CK 300 038 V1	38	1.50	115	4.53	77	3.03			427	961	26	1.6	0.32	0.71
CK 300 050 V1	50	1.97	139	5.47	89	3.50			435	977	32	2.0	0.36	0.79
CK 300 063 V1	63	2.48	165	6.50	102	4.02			440	989	40	2.4	0.40	0.88
CK 300 075 V1	75	2.95	189	7.44	114	4.49			443	996	47	2.8	0.44	0.97
CK 300 080 V1	80	3.15	199	7.83	119	4.69			444	999	50	3.0	0.46	1.01
CK 300 100 V1	100	3.94	239	9.41	139	5.47			448	1007	61	3.7	0.53	1.17
CK 300 125 V1	125	4.92	289	11.38	164	6.46			451	1013	75	4.6	0.61	1.34

TECHNICAL DATA														
Fluid	N ₂	Pmin Pmax	20 bar	150 bar	Charging Adapter	06 CG 2-Q								
Smax	< 90%	20°C / 68°F	290 psi	2175 psi	Connection	X								
Vmax	1,6 m/s	Tmin Tmax	0°C	80°C	Cartridge Kit	X								
		Force variation by temperature	32°F	176°F										
			±0,3% / °C											



CK 300 V1
Low Profile

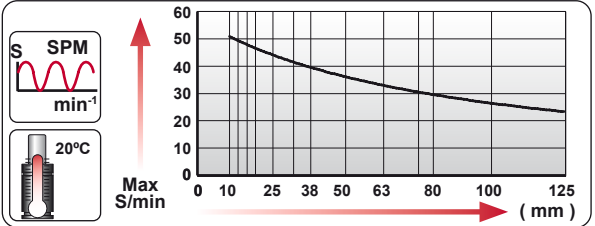
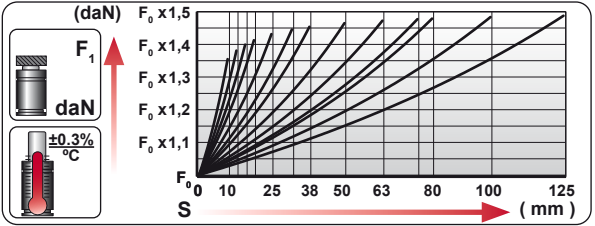
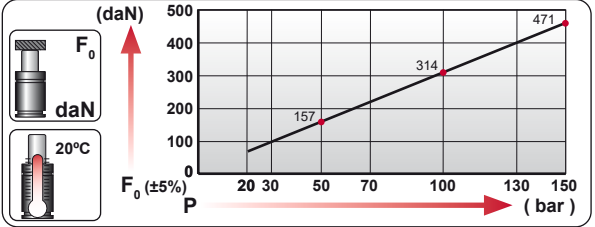
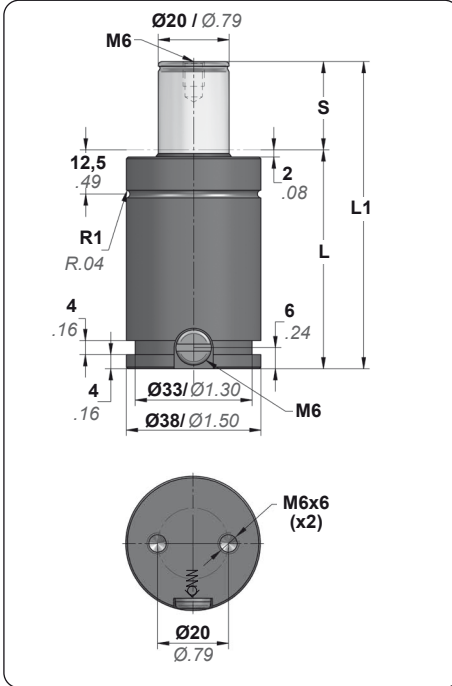
	50	50		50	50	50	50	50
	$\varnothing 32$	$\varnothing 32$		$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$	$\varnothing 32$
	L1=142	L1=140		L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-032 580 A34-032 582 A44-032 584			

CK 500

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.				
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.	lb
CK 500 010	10	0.39	57	2.24	47	1.85	470	1057	±5%	636	1431	12	0.7	0.29	0.64
CK 500 013	13	0.51	63	2.48	50	1.97				649	1458	15	0.9	0.31	0.68
CK 500 016	16	0.63	69	2.72	53	2.09				657	1478	18	1.1	0.32	0.71
CK 500 019	19	0.75	75	2.95	56	2.20				664	1492	20	1.2	0.33	0.73
CK 500 025	25	0.98	87	3.43	62	2.44				673	1512	26	1.6	0.36	0.79
CK 500 032	32	1.26	101	3.98	69	2.72				679	1527	33	2.0	0.38	0.84
CK 500 038	38	1.50	113	4.45	75	2.95				683	1536	38	2.3	0.41	0.90
CK 500 050	50	1.97	137	5.39	87	3.43				688	1548	49	3.0	0.46	1.01
CK 500 063	63	2.48	163	6.42	100	3.94				692	1556	62	3.8	0.51	1.12
CK 500 075	75	2.95	187	7.36	112	4.41				694	1561	73	4.4	0.56	1.23
CK 500 080	80	3.15	197	7.76	117	4.61				695	1563	78	4.7	0.58	1.28
CK 500 100	100	3.94	237	9.33	137	5.39				697	1568	96	5.9	0.66	1.46
CK 500 125	125	4.92	287	11.30	162	6.38	699	1572	120	7.3	0.76	1.68			

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	CK-H 500 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2032D125B

		50	50	50	50	50	50	50
		Ø38	Ø38	Ø38	Ø38	Ø38	Ø38	Ø38
		L1=130 L1=140	L1=150	L1=132 L1=137 L1=150	L1=150 L1=155	L1=150	L1=155 L1=160	L1=230
MODEL		CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

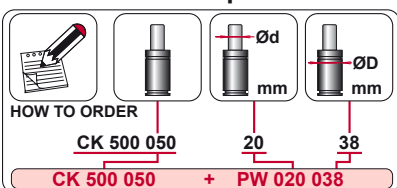
MOUNTING OPTIONS

HOW TO ORDER		A14-038 580 A34-038 582		C20-038 598	D67-038 602

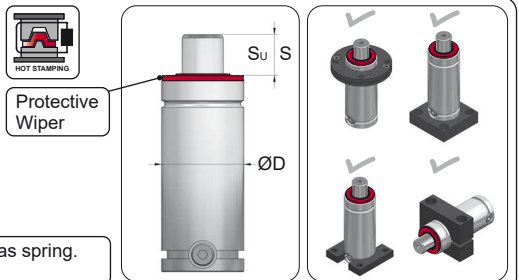
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

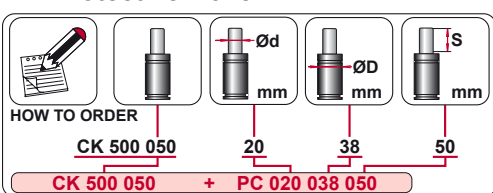
PW Protective Wiper



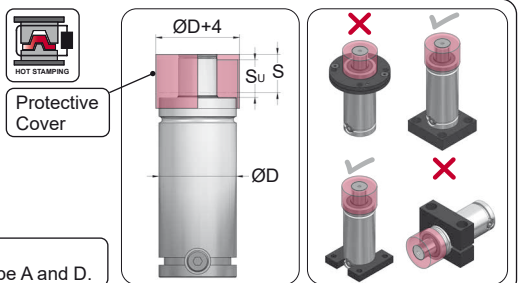
PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



PC Protective Cover

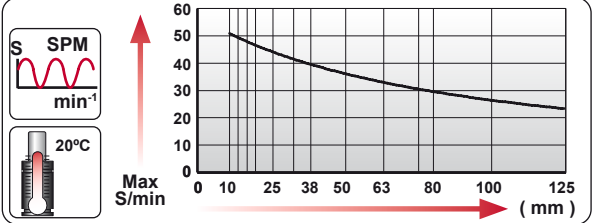
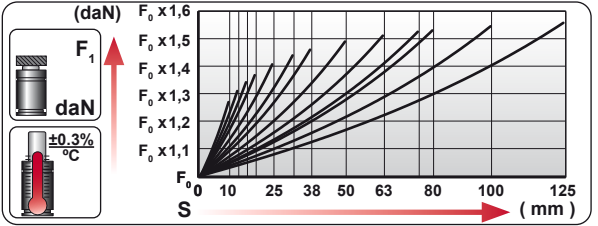
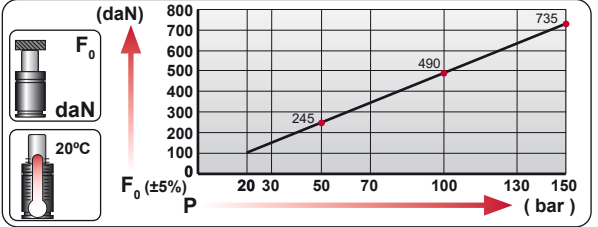
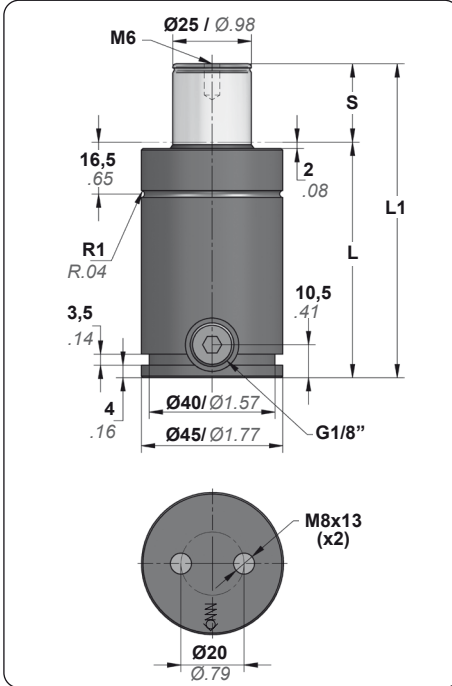


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.



CK 750 V2

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CK 750 010 V2	10	0.39	70	2.76	60	2.36	740 1664 ±5% 150 bar 2175 psi at 20°C 68°F		940	2114	23	1.4	0.53	1.17
CK 750 013 V2	13	0.51	76	2.99	63	2.48			970	2181	27	1.6	0.55	1.21
CK 750 016 V2	16	0.63	82	3.23	66	2.60			994	2234	31	1.9	0.57	1.26
CK 750 019 V2	19	0.75	88	3.46	69	2.72			1013	2277	35	2.1	0.59	1.30
CK 750 025 V2	25	0.98	100	3.94	75	2.95			1042	2342	42	2.6	0.63	1.39
CK 750 032 V2	32	1.26	114	4.49	82	3.23			1066	2396	51	3.1	0.67	1.48
CK 750 038 V2	38	1.50	126	4.96	88	3.46			1081	2431	59	3.6	0.71	1.57
CK 750 050 V2	50	1.97	150	5.91	100	3.94			1103	2480	75	4.6	0.78	1.72
CK 750 063 V2	63	2.48	176	6.93	113	4.45			1119	2516	91	5.6	0.86	1.90
CK 750 075 V2	75	2.95	200	7.87	125	4.92			1129	2539	107	6.5	0.94	2.07
CK 750 080 V2	80	3.15	210	8.27	130	5.12			1133	2547	113	6.9	0.97	2.14
CK 750 100 V2	100	3.94	250	9.84	150	5.91			1144	2572	139	8.5	1.09	2.40
CK 750 125 V2	125	4.92	300	11.81	175	6.89			1153	2593	171	10.4	1.25	2.76

TECHNICAL DATA													
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F	Charging Adapter	18 CG 1-Q					
Smax	< 90%		Tmin Tmax	0°C 80°C		32°F 176°F	Connection	CK-H 750 XXX V2					
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	2538E150B					

 mm mm mm						
	MODEL	CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250

MOUNTING OPTIONS					
HOW TO ORDER		A14-045 581 A34-045 582	B21-045 590 B76-045 594	C05-045 596 C20-045 598	D02-045 600 D67-045 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

CK 750 050 V2 25 45

CK 750 050 V2 + PW 025 045

Protective Wiper

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover

HOW TO ORDER

CK 750 050 V2 25 45 50

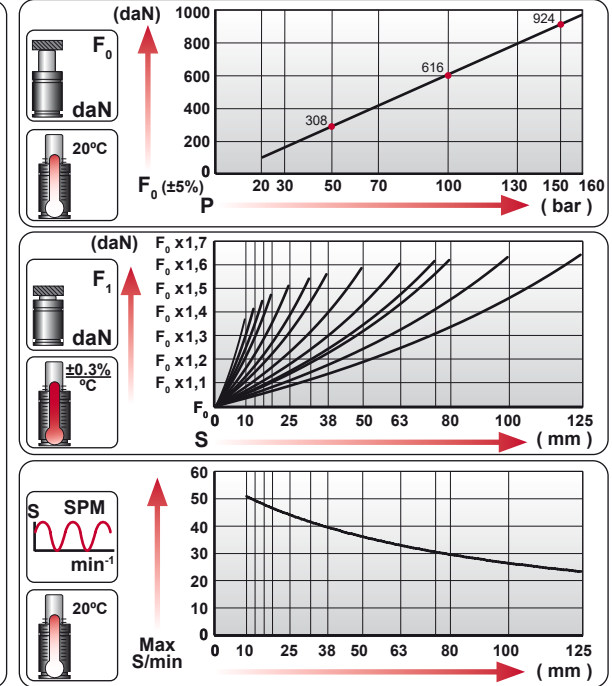
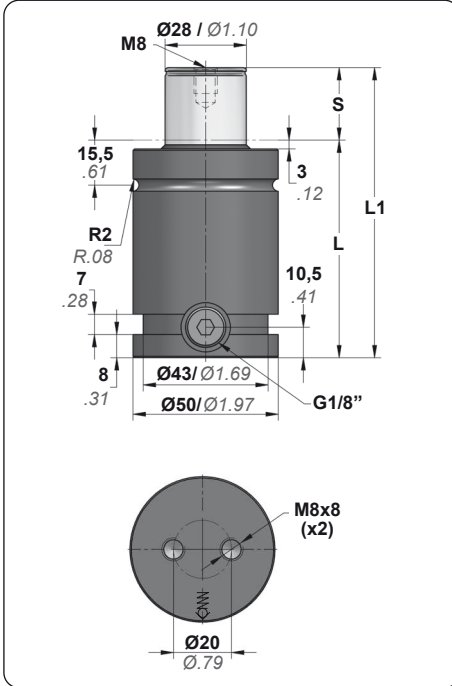
CK 750 050 V2 + PC 025 045 050

Protective Cover

The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CK 1000 V3

Low Profile






VDI SAFETY

STANDARS


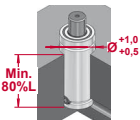












ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CK 1000 010 V3	10	0.39	70	2.76	60	2.36	985	2214	1371	3081	22	1.3	0.68	1.50
CK 1000 013 V3	13	0.51	76	2.99	63	2.48			1413	3177	26	1.6	0.71	1.57
CK 1000 016 V3	16	0.63	82	3.23	66	2.60			1445	3248	31	1.9	0.73	1.61
CK 1000 019 V3	19	0.75	88	3.46	69	2.72			1469	3304	35	2.2	0.76	1.68
CK 1000 025 V3	25	0.98	100	3.94	75	2.95			1505	3383	45	2.7	0.81	1.79
CK 1000 032 V3	32	1.26	114	4.49	82	3.23			1533	3446	55	3.4	0.86	1.90
CK 1000 038 V3	38	1.50	126	4.96	88	3.46			1550	3484	64	3.9	0.92	2.03
CK 1000 050 V3	50	1.97	150	5.91	100	3.94			1573	3537	82	5.0	1.02	2.25
CK 1000 063 V3	63	2.48	176	6.93	113	4.45			1590	3574	102	6.2	1.12	2.47
CK 1000 075 V3	75	2.95	200	7.87	125	4.92			1600	3598	120	7.3	1.23	2.71
CK 1000 080 V3	80	3.15	210	8.27	130	5.12			1604	3606	128	7.8	1.27	2.80
CK 1000 100 V3	100	3.94	250	9.84	150	5.91			1615	3630	158	9.6	1.43	3.15
CK 1000 125 V3	125	4.92	300	11.81	175	6.89	1624	3650	196	11.9	1.64	3.62		

$\pm 5\%$
160 bar
2320 psi
at
 20°C
 68°F

TECHNICAL DATA														
	Fluid	N_2		Pmin Pmax $20^\circ\text{C} / 68^\circ\text{F}$	20 bar 290 psi	160 bar 2320 psi		Tmin Tmax $0^\circ\text{C} / 32^\circ\text{F}$ $80^\circ\text{C} / 176^\circ\text{F}$		Charging Adapter	18 CG 1-Q		Connection	CK-H 1000 XXX V3
	Smax	< 90%		Force variation by temperature	$\pm 0,3\% / ^\circ\text{C}$			Cartridge Kit	2840K169A					
	Vmax	1,6 m/s												

								
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		


MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-050  A34-050 	B21-050  B76-050 	C05-050  C20-050 	D02-050  D67-050 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



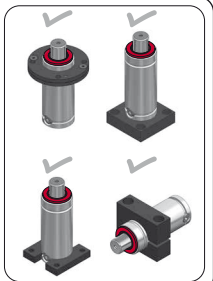
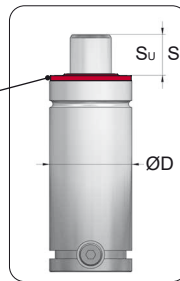
HOW TO ORDER

CK 1000 050 V3 28 50

CK 1000 050 V3 + PW 028 050




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



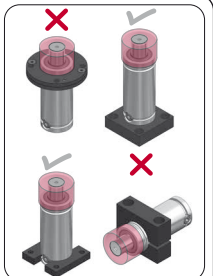
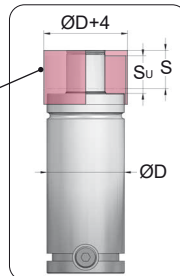
HOW TO ORDER

CK 1000 050 V3 28 50 50

CK 1000 050 V3 + PC 028 050 050



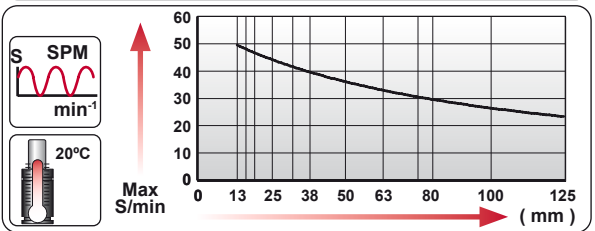
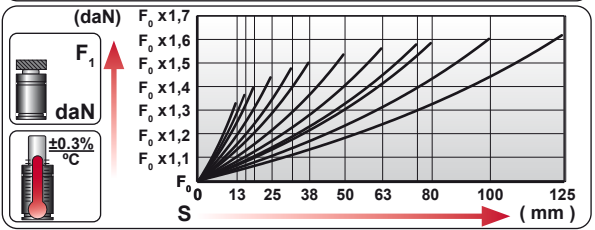
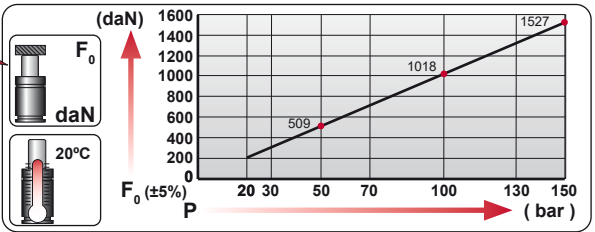
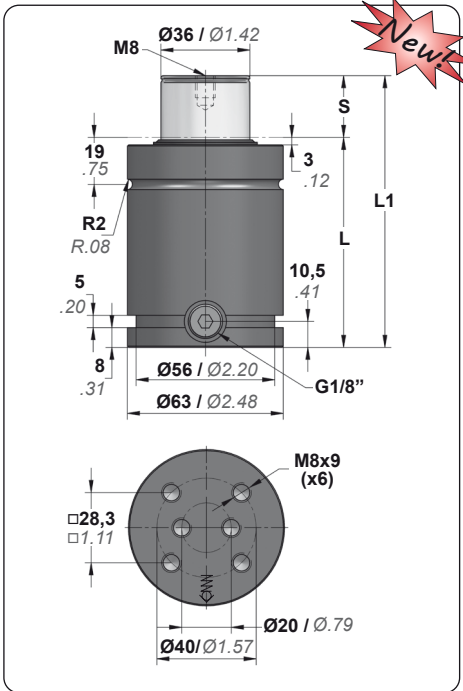
Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CK 1500 V3

Low Profile








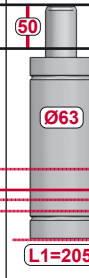


VDI SAFETY


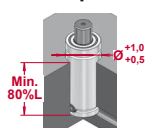













STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CK 1500 013 V3	13	0.51	86	3.39	73	2.87	1530 3440 ±5% 150 bar 2175 psi at 20°C 68°F		2059	4629	51	3.1	1.28	2.82
CK 1500 016 V3	16	0.63	92	3.62	76	2.99			2114	4752	59	3.6	1.32	2.91
CK 1500 019 V3	19	0.75	98	3.86	79	3.11			2158	4851	66	4.1	1.36	3.00
CK 1500 025 V3	25	0.98	110	4.33	85	3.35			2225	5003	81	5.0	1.44	3.17
CK 1500 032 V3	32	1.26	124	4.88	92	3.62			2281	5129	99	6.0	1.53	3.37
CK 1500 038 V3	38	1.50	136	5.35	98	3.86			2317	5209	114	6.9	1.60	3.53
CK 1500 050 V3	50	1.97	160	6.30	110	4.33			2368	5324	144	8.8	1.76	3.88
CK 1500 063 V3	63	2.48	186	7.32	123	4.84			2405	5407	176	10.8	1.93	4.25
CK 1500 075 V3	75	2.95	210	8.27	135	5.31			2430	5462	206	12.6	2.08	4.59
CK 1500 080 V3	80	3.15	220	8.66	140	5.51			2438	5480	219	13.3	2.15	4.74
CK 1500 100 V3	100	3.94	260	10.24	160	6.30			2464	5539	269	16.4	2.40	5.29
CK 1500 125 V3	125	4.92	310	12.20	185	7.28			2486	5588	331	20.2	2.72	6.00

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20°C / 68°F		20 bar	150 bar	Charging Adapter	18 CG 1-Q					
Smax	< 90%		Tmin Tmax			290 psi	2175 psi	Connection	CK-H 1500 XXX V3					
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		0 °C	80 °C	Cartridge Kit	3651L210A					
						32 °F	176 °F							

							
			50	50	50	50	50
			Ø63	Ø63	Ø63	Ø63	Ø63
			L1=144	L1=152	L1=185	L1=175	L1=205
			L1=152	L1=160	L1=195	L1=190	
			L1=154				
MODEL			CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000


MOUNTING OPTIONS

					
HOW TO ORDER		A14-063  581 A39-063  583 A69-063  583	B21-075  590 B76-075  594	C05-063  596 C35-063  599	D02-063  600 D67-063  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

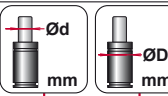
PW Protective Wiper



HOW TO ORDER

CK 1500 050 V3 36 63

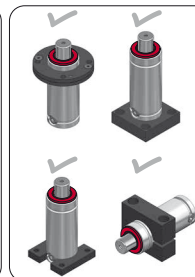
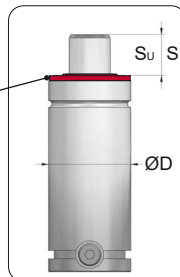
CK 1500 050 V3 + PW 036 063




PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



Protective Wiper



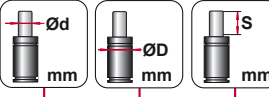
PC Protective Cover



HOW TO ORDER

CK 1500 050 V3 36 63 50

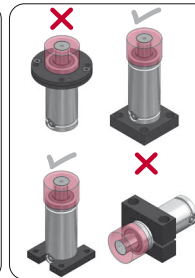
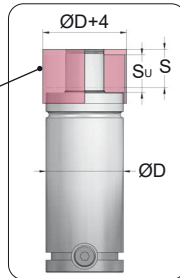
CK 1500 050 V3 + PC 036 063 050









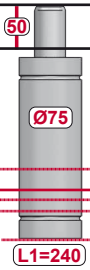


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.


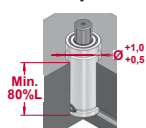














Protective Cover



								
			50	50	50	50	50	50
			Ø75	Ø75	Ø75	Ø75	Ø75	Ø75
			L1=145	L1=154	L1=185	L1=210	L1=175	L1=240
			L1=155	L1=160	L1=195	L1=210	L1=200	
			L1=159	L1=160	L1=210			
MODEL			CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-075  A34-075 	B21-075  B76-075 	C05-075  C20-075 	D02-075  D67-075 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



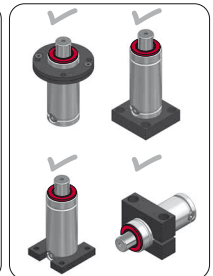
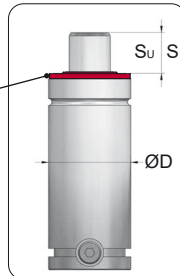
HOW TO ORDER

CK 2500 050 V1 45 75

CK 2500 050 V1 + PW 045 075




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



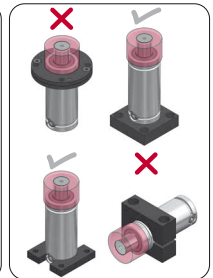
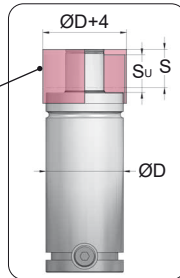
HOW TO ORDER

CK 2500 050 V1 45 75 50

CK 2500 050 V1 + PC 045 075 050



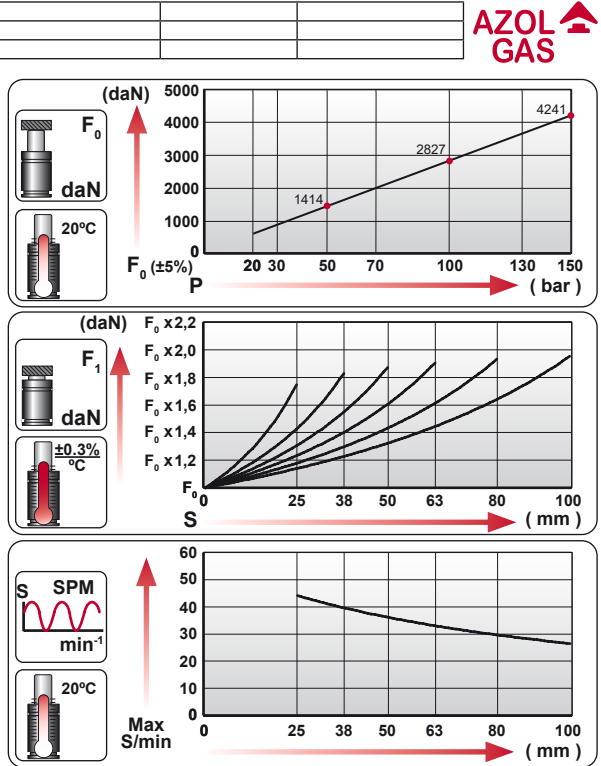
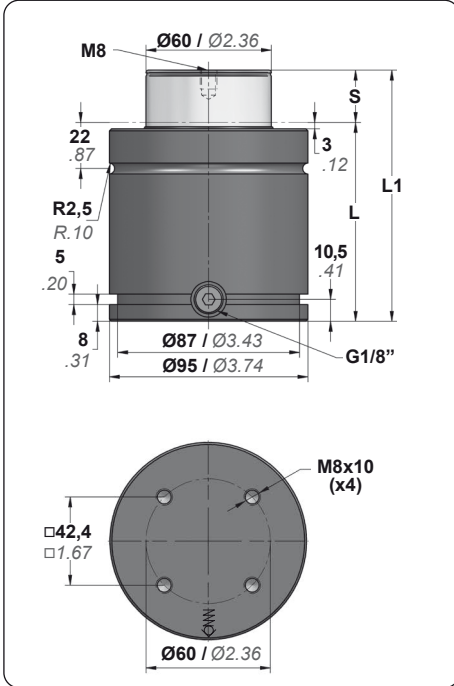
Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CK 4000 V1

Low Profile




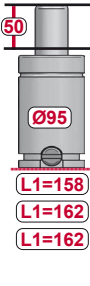



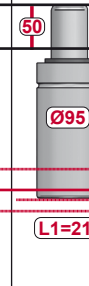
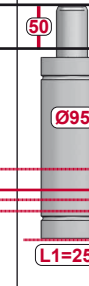


VDI SAFETY


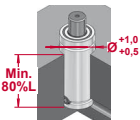












STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CK 4000 025 V1	25	0.98	120	4.72	95	3.74	3960 8902 ±5% 140 bar 2030 psi at 20°C 68°F		5930	13332	213	13.0	3.52	7.76
CK 4000 038 V1	38	1.50	146	5.75	108	4.25			6235	14017	294	18.0	3.89	8.58
CK 4000 050 V1	50	1.97	170	6.69	120	4.72			6410	14411	370	22.6	4.23	9.33
CK 4000 063 V1	63	2.48	196	7.72	133	5.24			6540	14703	452	27.6	4.60	10.14
CK 4000 080 V1	80	3.15	230	9.06	150	5.91			6657	14965	558	34.1	5.09	11.22
CK 4000 100 V1	100	3.94	270	10.63	170	6.69			6750	15175	684	41.7	5.66	12.48

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		290 psi 2175 psi		Charging Adapter		18 CG 1-Q				
Smax	< 90%		Tmin Tmax	20°C / 68°F		0 °C 80 °C		Connection		CK-H 4000 XXX V1				
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		32 °F 176 °F		Cartridge Kit		6080U275A				

								
			Ø95 L1=158 L1=162 L1=162	Ø95 L1=170 L1=170	Ø95 L1=195 L1=205 L1=220	Ø95 L1=220	Ø95 L1=215	Ø95 L1=255
MODEL			CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  A34-095 	B21-095  B76-095 	C05-095  C20-095 	D02-095  D67-095 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



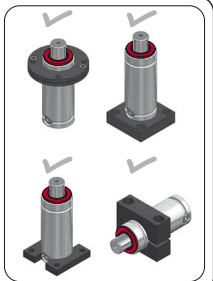
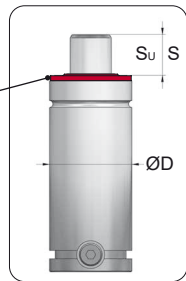
HOW TO ORDER

CK 4000 050 V1 60 95

CK 4000 050 V1 + PW 060 095




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



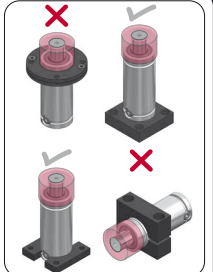
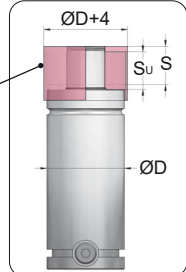
HOW TO ORDER

CK 4000 050 V1 60 95 50

CK 4000 050 V1 + PC 060 095 050



Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.



GAS SPRINGS



AZOL 
GAS



LOW PROFILE CT

- Medium size gas springs
- Medium range contact force (200-5000 daN)
- Ideal for stampers of small parts
- Used for cam return



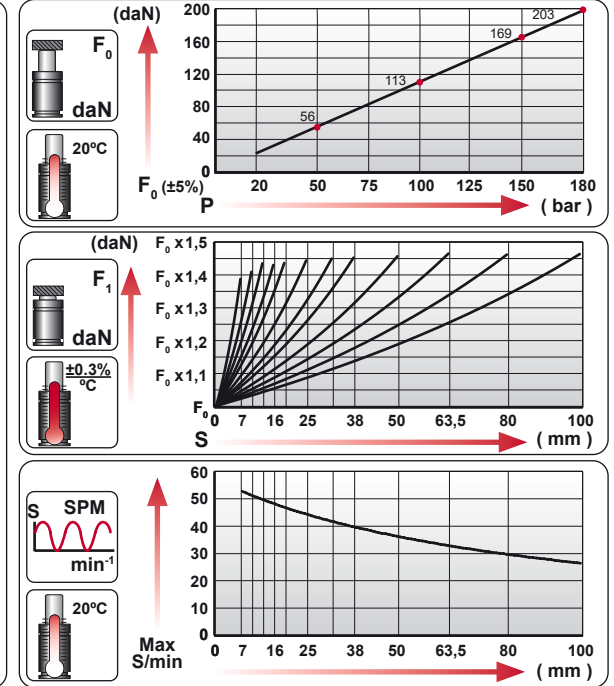
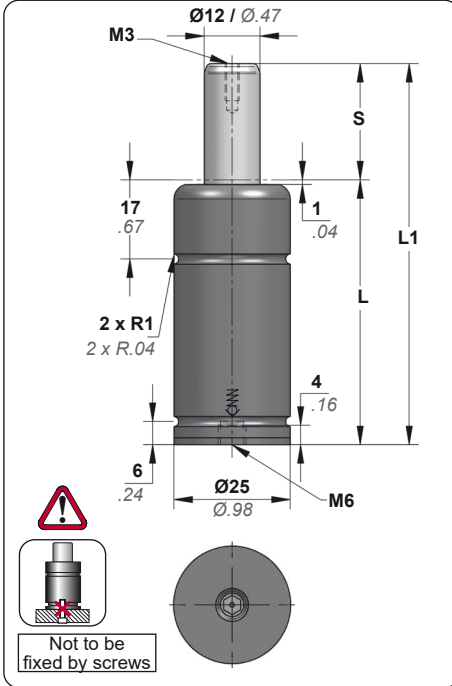
CT LOW PROFILE SMALL

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CT 200 V2	200 450	Ø25 Ø0.98	7 - 100 0.28 - 3.94	46 - 232 1.81 - 9.13	180 2610	M6	X	X
CT 300 V2	300 674	Ø32 Ø1.26	7 - 125 0.28 - 4.92	51 - 287 2.00 - 11.30	150 2175	M6	X	X
CT 500	500 1124	Ø38 Ø1.50	10 - 125 0.39 - 4.92	52 - 282 2.05 - 11.10	150 2175	M6	✓	✓
CT 700	700 1574	Ø45 Ø1.77	10 - 125 0.39 - 4.92	58 - 288 2.28 - 11.34	150 2175	M6	✓	✓
CT 1000 V1	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	58 - 288 2.28 - 11.34	160 2320	M6	✓	✓
CT 1500 V1	1500 3372	Ø63 Ø2.48	13 - 125 0.51 - 4.92	78 - 302 3.07 - 11.89	150 2175	M6	✓	✓
CT 3000 V1	3000 6744	Ø75 Ø2.95	12 - 125 0.47 - 4.92	78 - 304 3.07 - 11.97	150 2175	M6	✓	✓
CT 5000	5000 11240	Ø105 Ø4.13	12 - 125 0.47 - 4.92	84 - 310 3.31 - 12.20	150 2175	M6	✓	✓

		Ø50	L1=138 L1=148 L1=152	X	Ø50	L1=138 L1=150 L1=150		Ø50	L1=170 L1=185 L1=195	Ø50	L1=195
					Ø50			Ø50		Ø50	L1=165 L1=175
MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800			
SERIES	MINI 	COMPACT HEIGHT 	THREADED 	LOW PROFILE 	HEAVY DUTY 	ISO 	HEAVY LOAD 	POWER SHORT STROKE 			

CT 200 V2

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠		
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb	
CT 200 007 V2	7	0.28	46	1.81	39	1.54	200	450	±5%	278	625	3	0.2	0.11	0.24
CT 200 010 V2	10	0.39	52	2.05	42	1.65				282	635	4	0.2	0.12	0.26
CT 200 012 V2	12.7	0.50	57.4	2.26	44.7	1.76				285	640	5	0.3	0.12	0.26
CT 200 016 V2	16	0.63	64	2.52	48	1.89				286	644	6	0.4	0.13	0.29
CT 200 019 V2	19	0.75	70	2.76	51	2.01				288	647	7	0.4	0.13	0.29
CT 200 025 V2	25	0.98	82	3.23	57	2.24				289	650	9	0.6	0.15	0.33
CT 200 032 V2	32	1.26	96	3.78	64	2.52				290	653	12	0.7	0.16	0.35
CT 200 038 V2	38	1.50	108	4.25	70	2.76				291	654	14	0.8	0.17	0.37
CT 200 050 V2	50	1.97	132	5.20	82	3.23				292	656	18	1.1	0.19	0.42
CT 200 063 V2	63.5	2.50	159	6.26	95.5	3.76				292	657	23	1.4	0.22	0.49
CT 200 080 V2	80	3.15	192	7.56	112	4.41	293	658	29	1.7	0.25	0.55			
CT 200 100 V2	100	3.94	232	9.13	132	5.20	293	659	36	2.2	0.29	0.64			

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 180 bar		290 psi 2610 psi		Charging Adapter		06 CG 2-Q				
Sm _{max}	< 90%		Tmin Tmax	20°C / 68°F		0°C 80°C		Connection		X				
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		32°F 176°F		Cartridge Kit		X				



CT 200 V2
Low Profile

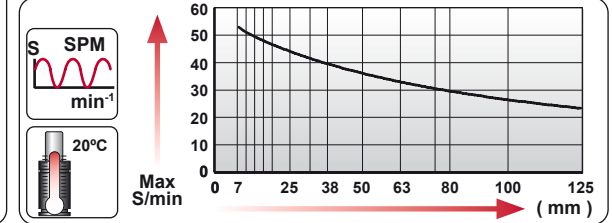
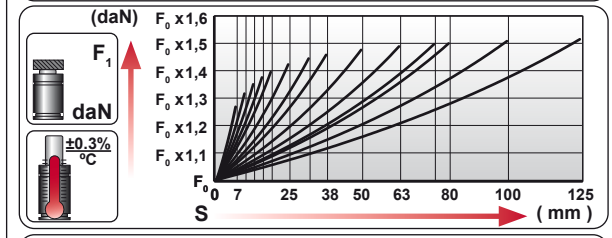
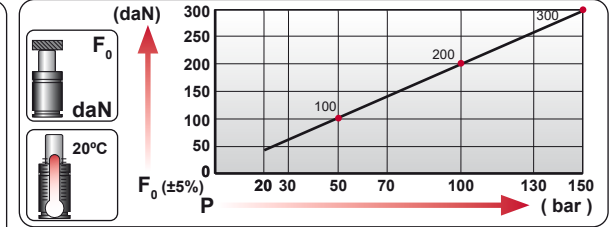
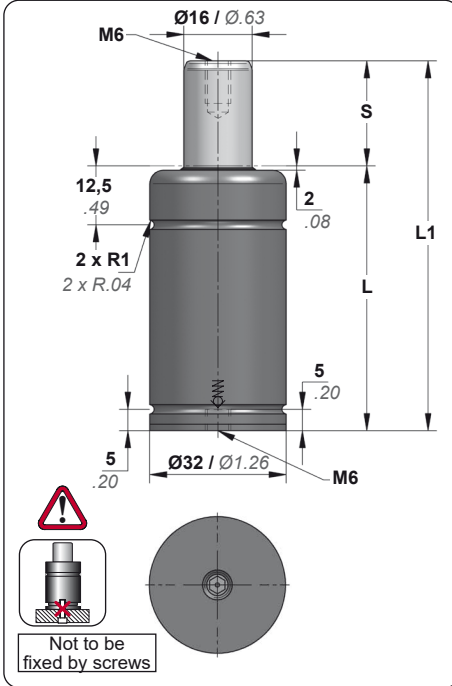
MODEL	AFC	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-025 A44-025 A49-025		A19-025	

CT 300 V2

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CT 300 007 V2	7	0.28	51	2.01	44	1.73	300 ±5% 150 bar 2175 psi at 20°C 68°F	674	381	857	7	0.4	0.21	0.46
CT 300 010 V2	10	0.39	57	2.24	47	1.85			396	889	8	0.5	0.22	0.49
CT 300 013 V2	13	0.51	63	2.48	50	1.97			406	912	10	0.6	0.23	0.51
CT 300 016 V2	16	0.63	69	2.72	53	2.09			413	929	12	0.7	0.24	0.53
CT 300 019 V2	19	0.75	75	2.95	56	2.20			419	942	13	0.8	0.25	0.55
CT 300 025 V2	25	0.98	87	3.43	62	2.44			427	961	17	1.0	0.27	0.60
CT 300 032 V2	32	1.26	101	3.98	69	2.72			434	975	21	1.3	0.29	0.64
CT 300 038 V2	38	1.50	113	4.45	75	2.95			438	984	24	1.5	0.31	0.68
CT 300 050 V2	50	1.97	137	5.39	87	3.43			443	997	31	1.9	0.35	0.77
CT 300 063 V2	63	2.48	163	6.42	100	3.94			447	1005	39	2.3	0.40	0.88
CT 300 075 V2	75	2.95	187	7.36	112	4.41			450	1011	45	2.8	0.44	0.97
CT 300 080 V2	80	3.15	197	7.76	117	4.61			450	1012	48	2.9	0.46	1.01
CT 300 100 V2	100	3.94	237	9.33	137	5.39	453	1018	60	3.6	0.52	1.15		
CT 300 125 V2	125	4.92	287	11.30	162	6.38	455	1023	74	4.5	0.61	1.34		

TECHNICAL DATA																
Fluid	N ₂	Smax	< 90%	Vmax	1,6 m/s	Pmin Pmax 20°C / 68°F	20 bar 290 psi	Tmin Tmax 0°C / 32°F	150 bar 2175 psi	80°C / 176°F	Charging Adapter	06 CG 2-Q	Connection	X	Cartridge Kit	X
						Force variation by temperature				±0,3% / °C						

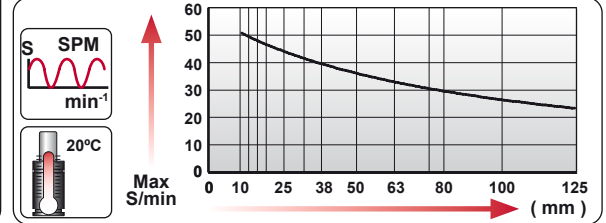
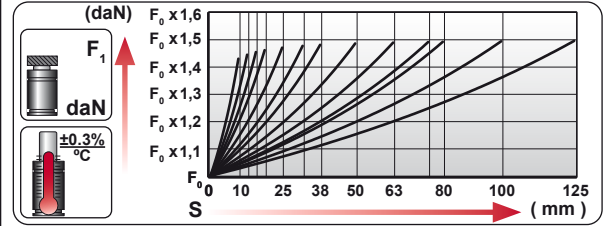
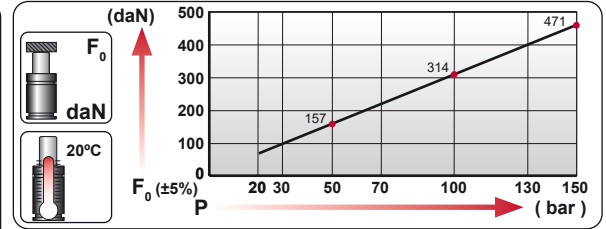
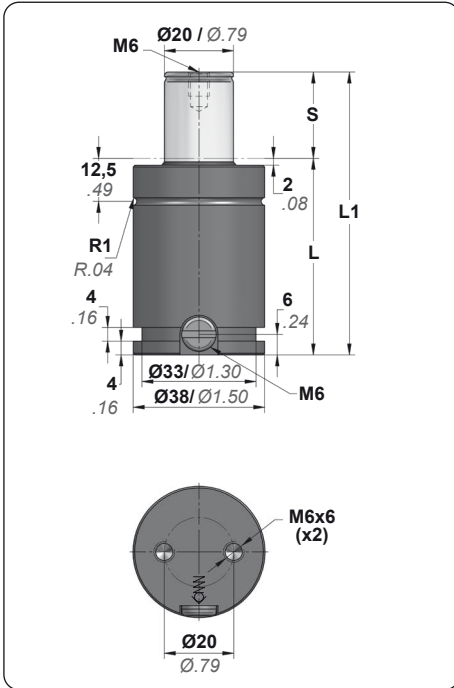
	50	50		50	50	50	50	50
	Ø32	Ø32		Ø32	Ø32	Ø32	Ø32	Ø32
	L1=142	L1=130		L1=137	L1=150	L1=150	L1=155	L1=195
	L1=145	L1=140		L1=139	L1=150			
	L1=154				L1=160			
MODEL	AFC/AFD AFNA AF	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-032 580 A34-032 582 A44-032 584			

CT 500

Low Profile






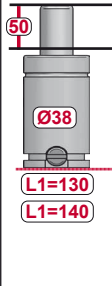
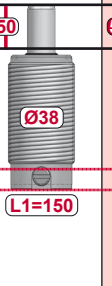
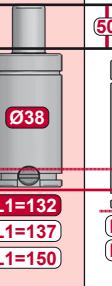
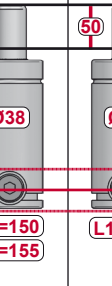
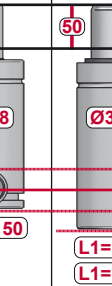
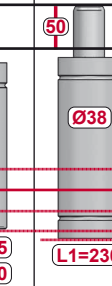

VDI SAFETY

STANDARS


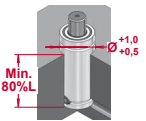








ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CT 500 010	10	0.39	52	2.05	42	1.65	470	1057	672	1511	10	0.6	0.26	0.57
CT 500 013	13	0.51	58	2.28	45	1.77			680	1529	13	0.8	0.28	0.62
CT 500 016	16	0.63	64	2.52	48	1.89			685	1539	16	1.0	0.29	0.64
CT 500 019	19	0.75	70	2.76	51	2.01			688	1547	19	1.1	0.30	0.66
CT 500 025	25	0.98	82	3.23	57	2.24			692	1556	24	1.5	0.33	0.73
CT 500 032	32	1.26	96	3.78	64	2.52			695	1563	31	1.9	0.35	0.77
CT 500 038	38	1.50	108	4.25	70	2.76			697	1567	37	2.2	0.38	0.84
CT 500 050	50	1.97	132	5.20	82	3.23			699	1572	48	2.9	0.43	0.95
CT 500 063	63	2.48	158	6.22	95	3.74			701	1576	60	3.7	0.48	1.06
CT 500 075	75	2.95	182	7.17	107	4.21			702	1578	71	4.4	0.53	1.17
CT 500 080	80	3.15	192	7.56	112	4.41			702	1579	76	4.6	0.55	1.21
CT 500 100	100	3.94	232	9.13	132	5.20			703	1581	95	5.8	0.63	1.39
CT 500 125	125	4.92	282	11.10	157	6.18	704	1583	118	7.2	0.73	1.61		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	CT-H 500 XXX		Cartridge Kit	2032D125B

									
MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-038  580 A34-038  582		C20-038  598	D02-038  600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



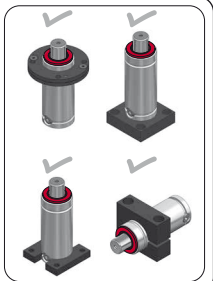
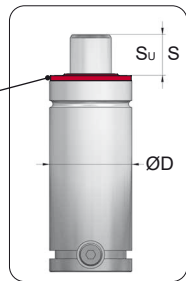
HOW TO ORDER

CT 500 050 20 38

CT 500 050 + PW 020 038




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



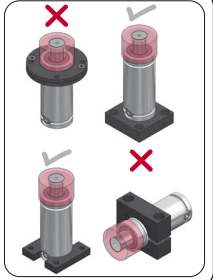
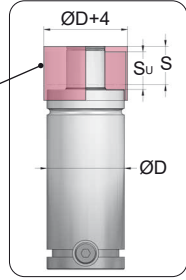
HOW TO ORDER

CT 500 050 20 38 50

CT 500 050 + PC 020 038 050



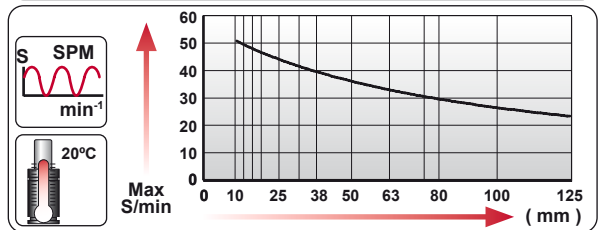
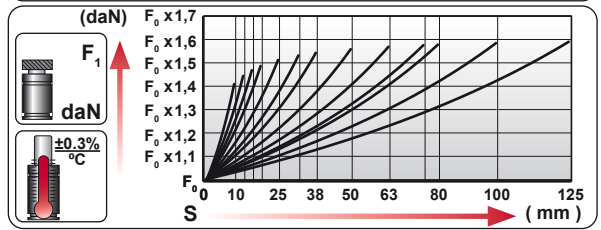
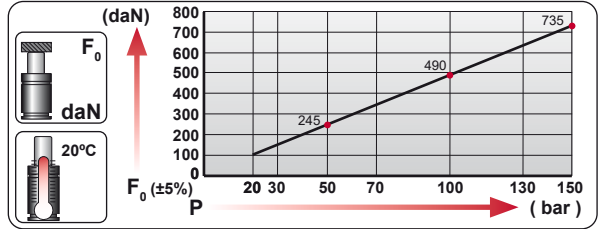
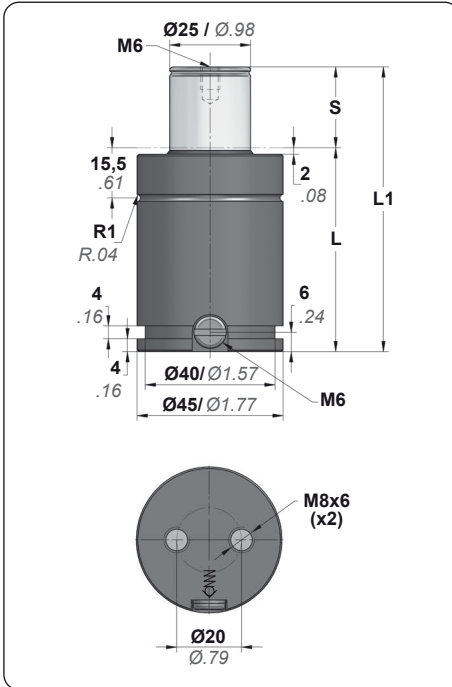
Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CT 700

Low Profile







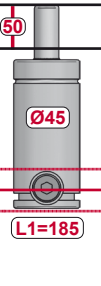
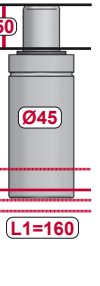


VDI SAFETY


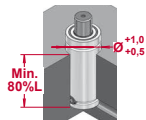












STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CT 700 010	10	0.39	58	2.28	48	1.89	712	1601	1006	2261	17	1.0	0.44	0.97
CT 700 013	13	0.51	64	2.52	51	2.01								
CT 700 016	16	0.63	70	2.76	54	2.13								
CT 700 019	19	0.75	76	2.99	57	2.24								
CT 700 025	25	0.98	88	3.46	63	2.48								
CT 700 032	32	1.26	102	4.02	70	2.76								
CT 700 038	38	1.50	114	4.49	76	2.99								
CT 700 050	50	1.97	138	5.43	88	3.46								
CT 700 063	63	2.48	164	6.46	101	3.98								
CT 700 075	75	2.95	188	7.40	113	4.45								
CT 700 080	80	3.15	198	7.80	118	4.65								
CT 700 100	100	3.94	238	9.37	138	5.43								
CT 700 125	125	4.92	288	11.34	163	6.42								
							145 bar	2015 psi						
							at 20°C	68°F						
									1092	2455	45	2.8	0.58	1.28
									1100	2473	53	3.2	0.61	1.34
									1111	2498	68	4.2	0.69	1.52
									1119	2515	85	5.2	0.77	1.70
									1123	2526	101	6.1	0.84	1.85
									1125	2529	107	6.5	0.87	1.92
									1130	2540	133	8.1	1.00	2.20
									1134	2549	165	10.1	1.15	2.54

TECHNICAL DATA													
	Fluid	N ₂		Pmin Pmax	20 bar	150 bar		Charging Adapter	06 CG 2-Q				
	Smax	< 90%		20°C / 68°F	290 psi	2175 psi		Connection	CT-H 700 XXX				
	Vmax	1,6 m/s		Tmin Tmax	0 °C	80 °C		Cartridge Kit	2538E150B				
				Force variation by temperature	32 °F	176 °F							
					$\pm 0,3\% / ^\circ C$								

								
MODEL	CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250			

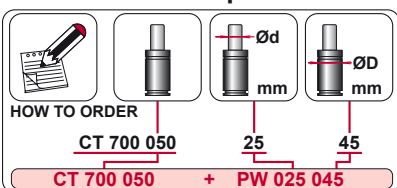
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-045  581 A34-045  582	B21-045  590 B76-045  594	C05-045  596 C20-045  598	D02-045  600 D67-045  602

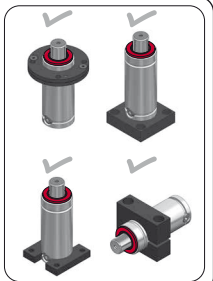
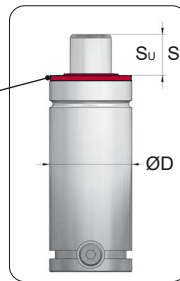
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

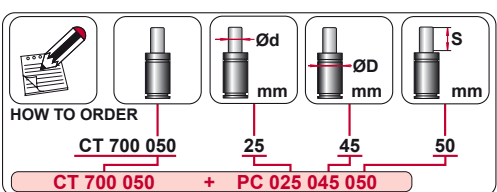


Protective Wiper

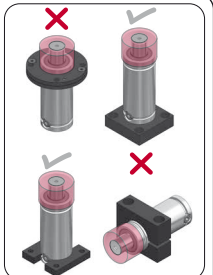
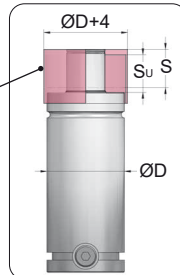


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.




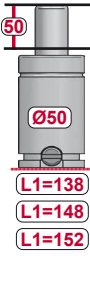



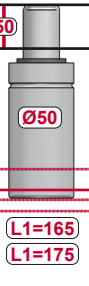

PC Protective Cover




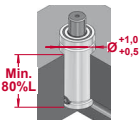












Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

								
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		
	$\varnothing 50$ L1=138 L1=148 L1=152	$\varnothing 50$ L1=138 L1=150 L1=150	$\varnothing 50$ L1=170 L1=185 L1=195	$\varnothing 50$ L1=195	$\varnothing 50$ L1=165 L1=175	$\varnothing 50$ L1=220		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-050  A34-050 	B21-050  B76-050 	C05-050  C20-050 	D02-050  D67-050 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



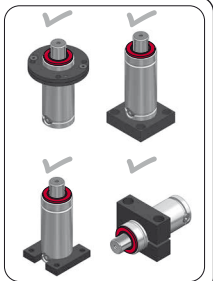
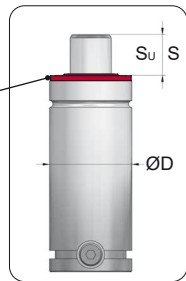
HOW TO ORDER

CT 1000 050 V1 28 50

CT 1000 050 V1 + PW 028 050





Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.


PC Protective Cover



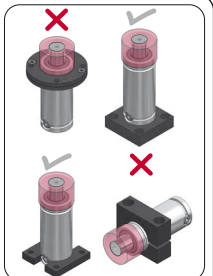
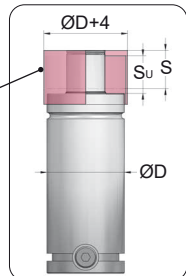
HOW TO ORDER

CT 1000 050 V1 28 50 50

CT 1000 050 V1 + PC 028 050 050



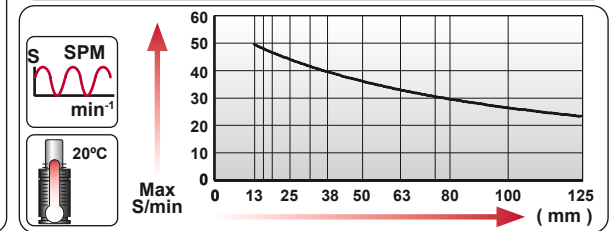
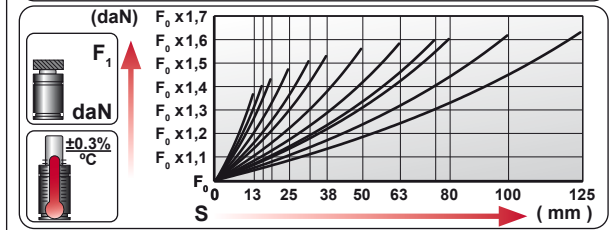
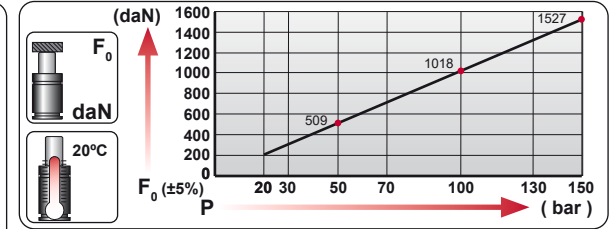
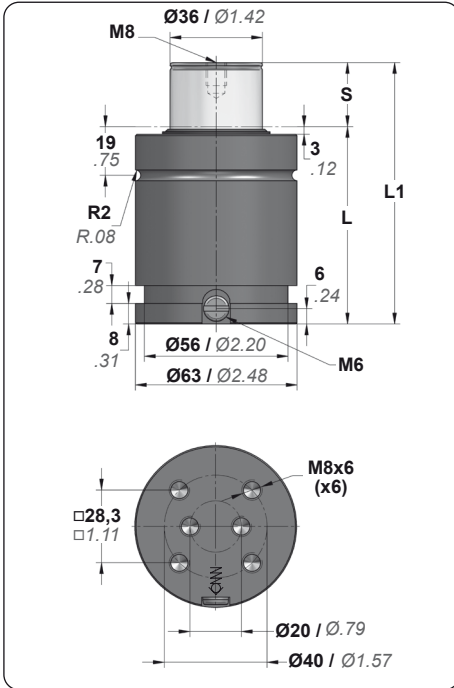

Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CT 1500 V1

Low Profile






VDI SAFETY


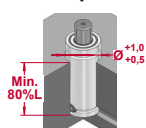










STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CT 1500 013 V1	13	0.51	78	3.07	65	2.56	1530	3440	2103	4727	45	2.7	1.10	2.43
CT 1500 016 V1	16	0.63	84	3.31	68	2.68			2177	4893	55	3.3	1.16	2.56
CT 1500 019 V1	19	0.75	90	3.54	71	2.80			2219	4988	62	3.8	1.19	2.62
CT 1500 025 V1	25	0.98	102	4.02	77	3.03			2281	5128	77	4.7	1.27	2.80
CT 1500 032 V1	32	1.26	116	4.57	84	3.31			2332	5242	95	5.8	1.36	3.00
CT 1500 038 V1	38	1.50	128	5.04	90	3.54			2363	5313	110	6.7	1.44	3.17
CT 1500 050 V1	50	1.97	152	5.98	102	4.02			2407	5412	140	8.5	1.59	3.51
CT 1500 063 V1	63	2.48	178	7.01	115	4.53			2439	5483	172	10.5	1.76	3.88
CT 1500 075 V1	75	2.95	202	7.95	127	5.00			2459	5529	202	12.3	1.91	4.21
CT 1500 080 V1	80	3.15	212	8.35	132	5.20			2466	5544	215	13.1	1.98	4.37
CT 1500 100 V1	100	3.94	252	9.92	152	5.98	2488	5592	264	16.1	2.24	4.94		
CT 1500 125 V1	125	4.92	302	11.89	177	6.97	2505	5633	327	19.9	2.56	5.64		

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F	290 psi 2175 psi	Charging Adapter	06 CG 2-Q					
Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F	Connection	CT-H 1500 XXX V1						
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	3651L210A						

							
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-063  581 A39-063  583 A69-063  583	B21-075  590 B76-075  594		D67-063  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

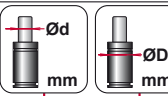
PW Protective Wiper



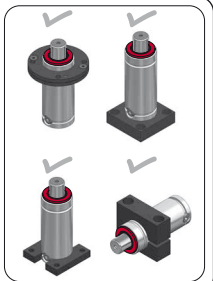
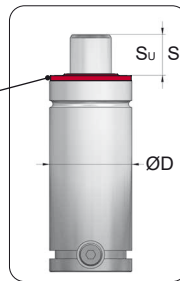
HOW TO ORDER

CT 1500 050 V1 36 63

CT 1500 050 V1 + PW 036 063





Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

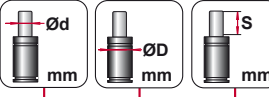
PC Protective Cover



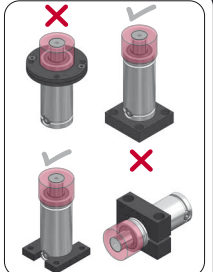
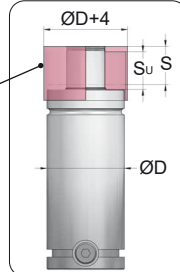
HOW TO ORDER

CT 1500 050 V1 36 63 50

CT 1500 050 V1 + PC 036 063 050



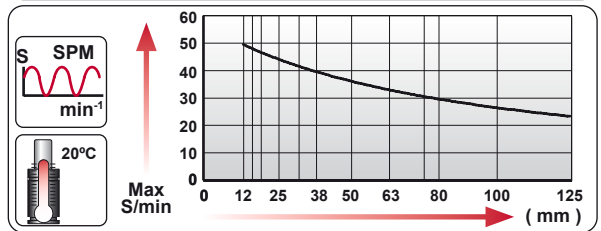
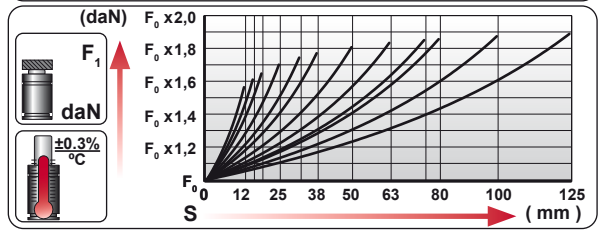
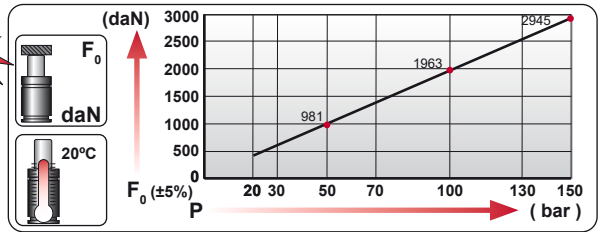
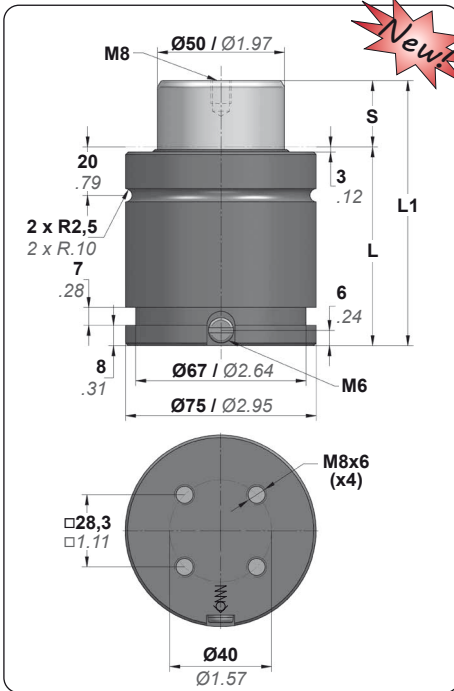

Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CT 3000 V1

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CT 3000 012 V1	12	0.47	78	3.07	66	2.60	2945 6621 ±5% 150 bar 2175 psi at 20°C 68°F		4552	10234	67	4.1	1.69	3.73
CT 3000 016 V1	16	0.63	86	3.39	70	2.76		4744	10665	83	5.1	1.75	3.86	
CT 3000 019 V1	19	0.75	92	3.62	73	2.87		4852	10908	95	5.8	1.80	3.97	
CT 3000 025 V1	25	0.98	104	4.09	79	3.11		5011	11265	119	7.3	1.92	4.23	
CT 3000 032 V1	32	1.26	118	4.65	86	3.39		5137	11549	147	9.0	2.04	4.50	
CT 3000 038 V1	38	1.50	130	5.12	92	3.62		5215	11725	171	10.5	2.16	4.76	
CT 3000 050 V1	50	1.97	154	6.06	104	4.09		5324	11969	220	13.4	2.38	5.25	
CT 3000 063 V1	63	2.48	180	7.09	117	4.61		5401	12142	272	16.6	2.62	5.78	
CT 3000 075 V1	75	2.95	204	8.03	129	5.08		5451	12254	320	19.5	2.84	6.26	
CT 3000 080 V1	80	3.15	214	8.43	134	5.28		5468	12292	340	20.8	2.93	6.46	
CT 3000 100 V1	100	3.94	254	10.00	154	6.06	5520	12408	421	25.7	3.30	7.28		
CT 3000 125 V1	125	4.92	304	11.97	179	7.05	5562	12505	522	31.8	3.76	8.29		

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		Tmin Tmax	20°C / 68°F		Charging Adapter	06 CG 2-Q				
Smax	< 90%		Force variation by temperature	290 psi 2175 psi			80°C		Connection	CT-H 3000 XXX V1				
Vmax	1,6 m/s			32°F 176°F			±0,3% / °C		Cartridge Kit	5065P280A				



CT 3000 V1
Low Profile

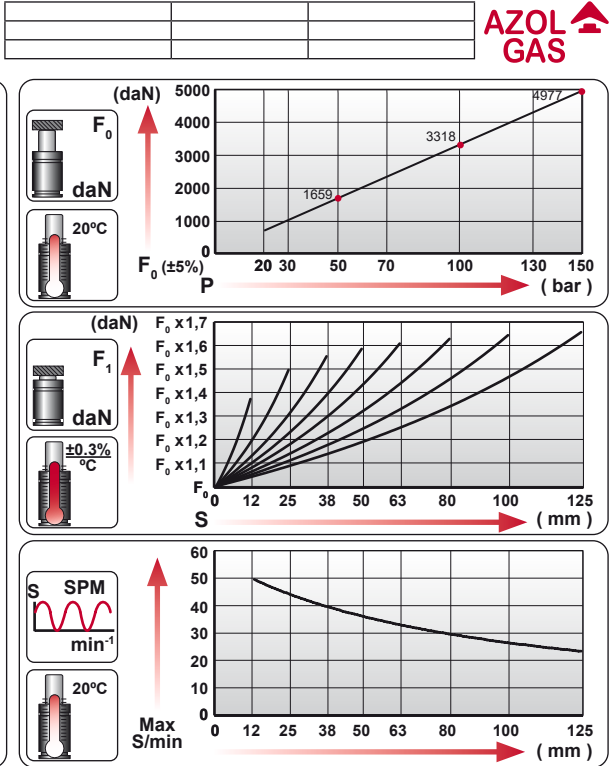
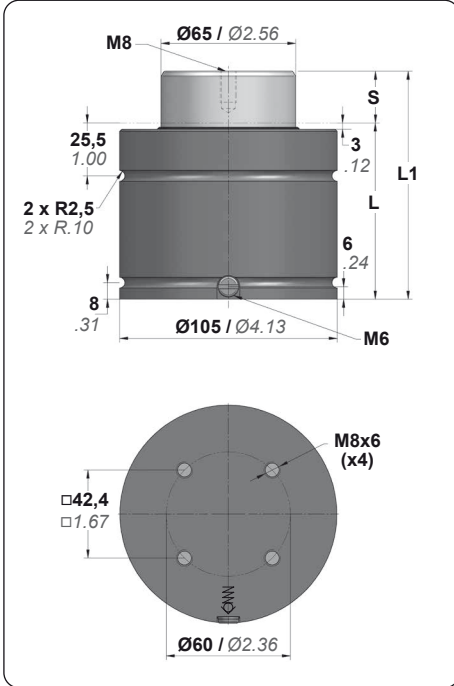
 mm mm mm	 50 Ø75 L1=145 L1=155 L1=159	 50 Ø75 L1=154 L1=160 L1=160	 50 Ø75 L1=185 L1=195 L1=210	 50 Ø75 L1=210	 50 Ø75 L1=175 L1=200	 50 Ø75 L1=240	
	MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700

MOUNTING OPTIONS					
	Drop-in Min. 80%L +1.0 Ø+0.5	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-075 581 A34-075 582	B21-075 590 B76-075 594	C05-075 596 C20-075 598	D02-075 601 D67-075 602



CT 5000

Low Profile



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CT 5000 012	12	0.47	84	3.31	72	2.83	4980 ±5% 150 bar 2175 psi at 20°C 68°F	11195	6960	15647	140	8.5	3.48	7.67
CT 5000 025	25	0.98	110	4.33	85	3.35			7556	16986	243	14.8	3.92	8.64
CT 5000 038	38	1.50	136	5.35	98	3.86			7826	17594	347	21.2	4.37	9.63
CT 5000 050	50	1.97	160	6.30	110	4.33			7971	17920	442	27.0	4.78	10.54
CT 5000 063	63	2.48	186	7.32	123	4.84			8074	18152	546	33.3	5.22	11.51
CT 5000 080	80	3.15	220	8.66	140	5.51			8164	18353	681	41.5	5.80	12.79
CT 5000 100	100	3.94	260	10.24	160	6.30			8234	18510	840	51.2	6.49	14.31
CT 5000 125	125	4.92	310	12.20	185	7.28			8292	18640	1039	63.4	7.34	16.18

TECHNICAL DATA														
Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	20°C / 68°F	0°C / 32°F	80°C / 176°F	Charging Adapter	06 CG 2-Q					
Smax	< 90%	Tmin Tmax					Connection	CT-H 5000 XXX						
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C				Cartridge Kit	6590W310A						



CT 5000
Low Profile

MODEL				CT 5000				

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-105 581	B21-105 590 B76-105 594		

GAS SPRINGS



COMPACT HEIGHT KZ

- Compact size gas springs
- Contact force (350-6600 daN)
- Meet same size as KT series
- Widely used in progressive die sets



KZ COMPACT HEIGHT LARGE

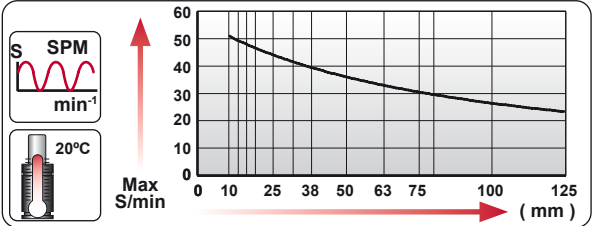
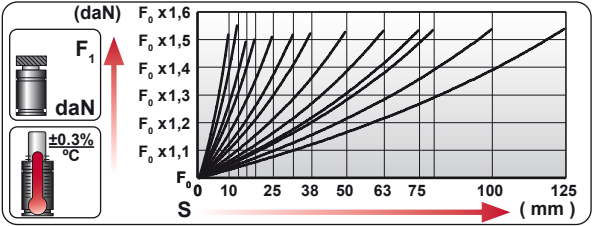
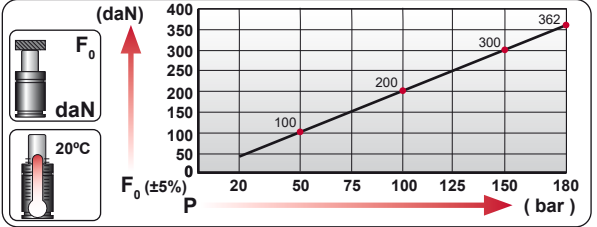
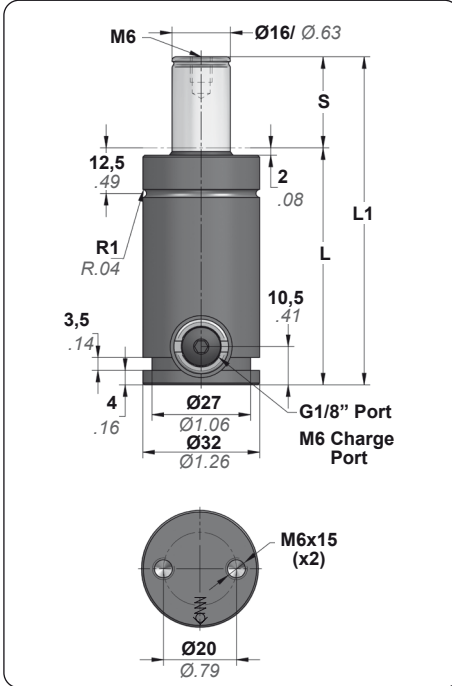
MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
KZ 350	350 787	Ø32 Ø1.26	10 - 125 0.39 - 4.92	60 - 290 2.36 - 11.42	180 2610	M6	✓	✓
KZ 500	500 1124	Ø38 Ø1.50	10 - 125 0.39 - 4.92	60 - 290 2.36 - 11.42	150 2175	M6	✓	✓
KZ 750 V1	750 1686	Ø45 Ø1.77	10 - 125 0.39 - 4.92	67 - 297 2.64 - 11.69	150 2175	G1/8"	✓	✓
KZ 1000 V1	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	72 - 302 2.83 - 11.89	150 2175	G1/8"	✓	✓
KZ 1500 V1	1500 3372	Ø63 Ø2.48	13 - 125 0.51 - 4.92	78 - 302 3.07 - 11.89	150 2175	G1/8"	✓	✓
KZ 2400	2400 5395	Ø75 Ø2.95	13 - 125 0.51 - 4.92	85 - 309 3.35 - 12.17	150 2175	G1/8"	✓	✓
KZ 4200	4200 9442	Ø95 Ø3.74	16 - 125 0.63 - 4.92	94 - 312 3.70 - 12.28	150 2175	G1/8"	✓	✓
KZ 6600	6600 14837	Ø120 Ø4.72	16 - 125 0.63 - 4.92	104 - 322 4.09 - 12.68	150 2175	G1/8"	✓	✓

	50	Ø50	L1=138 L1=148 L1=152	50	Ø50	L1=138 L1=150 L1=150	50	Ø50	L1=170 L1=185 L1=195
				50	Ø50	L1=195	50	Ø50	L1=165 L1=175
				50	Ø50	L1=220			
MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800	
SERIES	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE	

KZ 350

Compact Height

	MAZDA PG230-PG24D


















VDI SAFETY


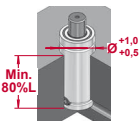








STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KZ 350 010	10	0.39	60	2.36	50	1.97	360 809 ±5% 180 bar 2610 psi at 20°C 68°F		526	1183	6	0.4	0.23	0.51
KZ 350 013	13	0.51	66	2.60	53	2.09		532	1197	8	0.5	0.24	0.53	
KZ 350 016	16	0.63	72	2.83	56	2.20		537	1206	10	0.6	0.26	0.57	
KZ 350 019	19	0.75	78	3.07	59	2.32		539	1213	11	0.7	0.27	0.60	
KZ 350 025	25	0.98	90	3.54	65	2.56		543	1221	15	0.9	0.29	0.64	
KZ 350 032	32	1.26	104	4.09	72	2.83		546	1227	19	1.2	0.31	0.68	
KZ 350 038	38	1.50	116	4.57	78	3.07		548	1231	22	1.4	0.33	0.73	
KZ 350 050	50	1.97	140	5.51	90	3.54		550	1236	29	1.8	0.37	0.82	
KZ 350 063	63	2.48	166	6.54	103	4.06		551	1239	37	2.2	0.42	0.93	
KZ 350 075	75	2.95	190	7.48	115	4.53		552	1241	43	2.6	0.46	1.01	
KZ 350 080	80	3.15	200	7.87	120	4.72		552	1241	46	2.8	0.47	1.04	
KZ 350 100	100	3.94	240	9.45	140	5.51		553	1243	58	3.5	0.54	1.19	
KZ 350 125	125	4.92	290	11.42	165	6.50	554	1245	72	4.4	0.63	1.39		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	180 bar / 2610 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	KZ-H 350 XXX		Cartridge Kit	1625A135B
Vmax	1,6 m/s								

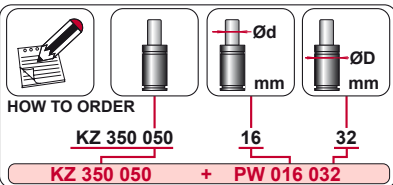
								
								
MODEL	AFT	CW 350 KZ 350	CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770	
	Ø32	Ø32 L1=130 L1=140	Ø32 L1=137 L1=139	Ø32 L1=150 L1=150 L1=160	Ø32 L1=150	Ø32 L1=155	Ø32 L1=195	

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-032  580 A34-032  582		C05-032  596	D02-032  600

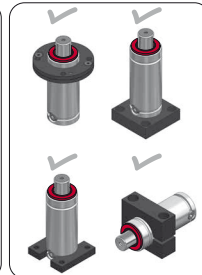
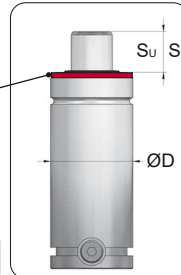
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

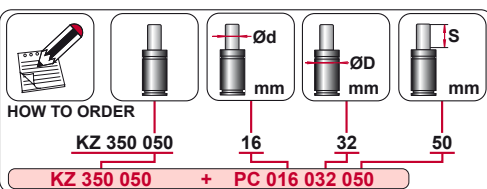


Protective Wiper

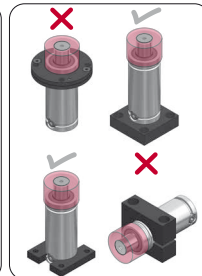
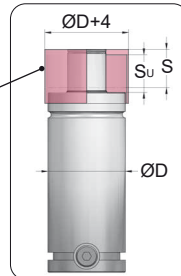


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



Protective Cover



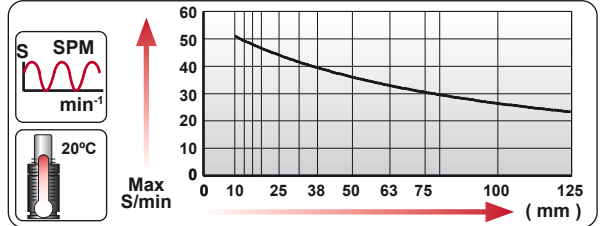
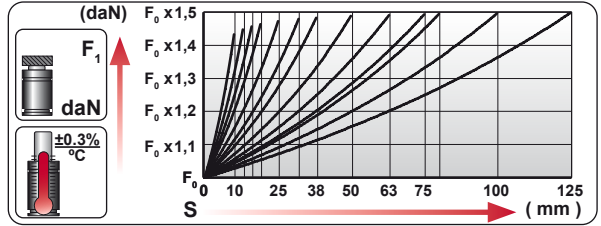
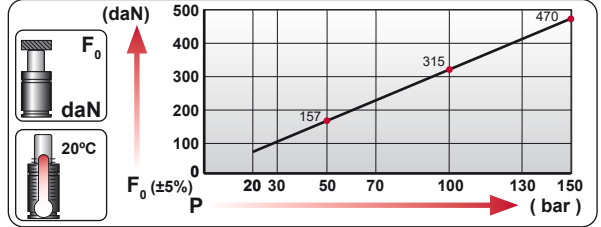
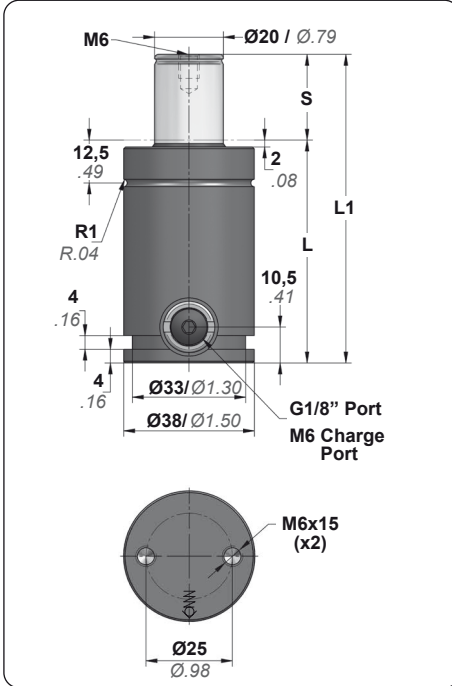
The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KZ 500

Compact Height



	MAZDA PG230-PG24D



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KZ 500 010	10	0.39	60	2.36	50	1.97	470	1057	672	1511	10	0.6	0.33	0.73
KZ 500 013	13	0.51	66	2.60	53	2.09			679	1527	13	0.8	0.34	0.75
KZ 500 016	16	0.63	72	2.83	56	2.20			684	1538	16	1.0	0.35	0.77
KZ 500 019	19	0.75	78	3.07	59	2.32			687	1545	19	1.2	0.36	0.79
KZ 500 025	25	0.98	90	3.54	65	2.56			692	1555	25	1.5	0.39	0.86
KZ 500 032	32	1.26	104	4.09	72	2.83			695	1562	31	1.9	0.42	0.93
KZ 500 038	38	1.50	116	4.57	78	3.07			697	1566	37	2.2	0.44	0.97
KZ 500 050	50	1.97	140	5.51	90	3.54			699	1572	48	2.9	0.49	1.08
KZ 500 063	63	2.48	166	6.54	103	4.06			701	1575	60	3.7	0.54	1.19
KZ 500 075	75	2.95	190	7.48	115	4.53			702	1578	71	4.4	0.59	1.30
KZ 500 080	80	3.15	200	7.87	120	4.72			702	1578	76	4.6	0.61	1.34
KZ 500 100	100	3.94	240	9.45	140	5.51			703	1581	95	5.8	0.69	1.52
KZ 500 125	125	4.92	290	11.42	165	6.50	704	1582	118	7.2	0.79	1.74		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	KZ-H 500 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2032D125B	

	50	50	50	50	50	50	50
	Ø38	Ø38	Ø38	Ø38	Ø38	Ø38	Ø38
	L1=130 L1=140	L1=150	L1=132 L1=137 L1=150	L1=150 L1=155	L1=150	L1=155 L1=160	L1=230
MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-038 580 A34-038 582		C05-038 596	D02-038 600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

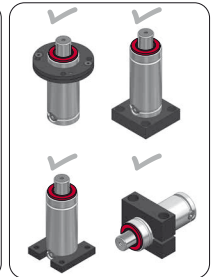
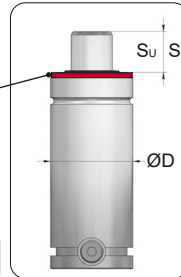
HOW TO ORDER

KZ 500 050 20 38

KZ 500 050 + PW 020 038



Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover

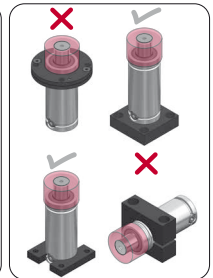
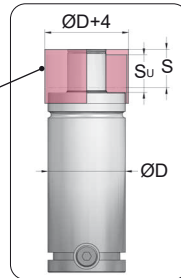
HOW TO ORDER

KZ 500 050 20 38 50




KZ 500 050 + PC 020 038 050













Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

							
MODEL			CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250


MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-045  581 A34-045  582	B21-045  590 B43-045  593 B76-045  594	C05-045  596 C20-045  598	D02-045  600 D67-045  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



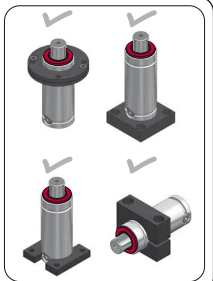
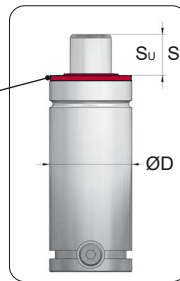
HOW TO ORDER

KZ 750 050 V1 25 45

KZ 750 050 V1 + PW 025 045




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



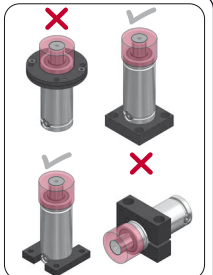
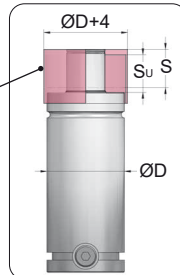
HOW TO ORDER

KZ 750 050 V1 25 45 50

KZ 750 050 V1 + PC 025 045 050



Protective Cover

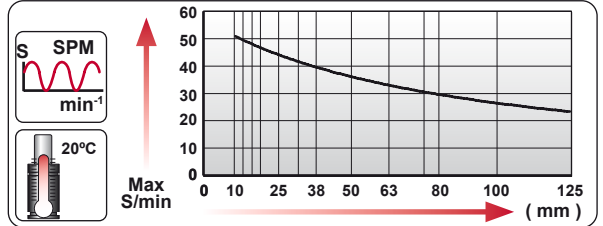
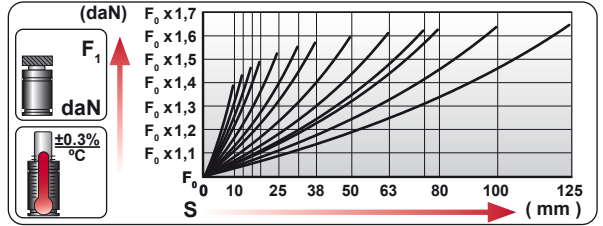
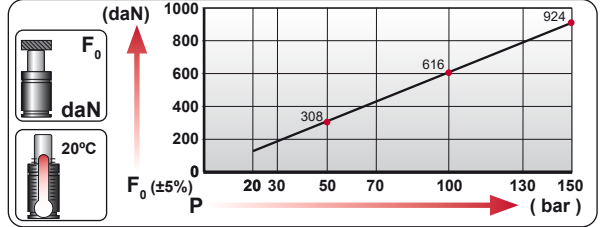
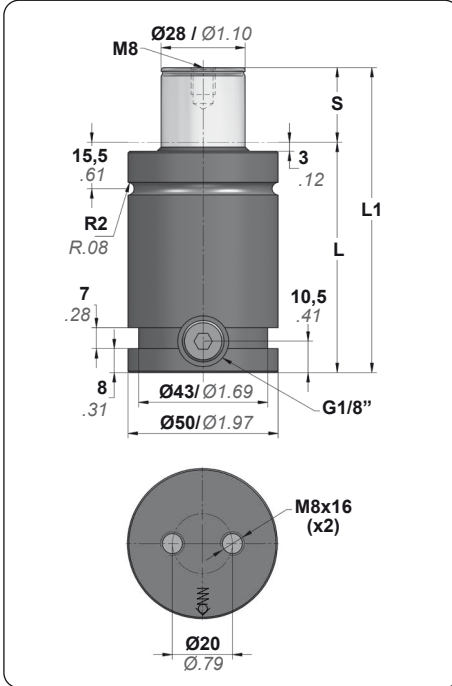


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KZ 1000 V1

Compact Height

	RENAULT EM24.54.700
	MAZDA PG230-PG24D









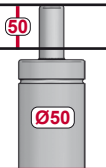
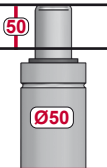

VDI SAFETY


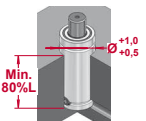












STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KZ 1000 010 V1	10	0.39	72	2.83	62	2.44	920 ±5% 150 bar 2175 psi at 20°C 68°F	2068	1300	2922	21	1.3	0.71	1.57
KZ 1000 013 V1	13	0.51	78	3.07	65	2.56			1338	3008	26	1.6	0.74	1.63
KZ 1000 016 V1	16	0.63	84	3.31	68	2.68			1367	3072	30	1.8	0.76	1.68
KZ 1000 019 V1	19	0.75	90	3.54	71	2.80			1388	3121	35	2.1	0.79	1.74
KZ 1000 025 V1	25	0.98	102	4.02	77	3.03			1420	3191	44	2.7	0.84	1.85
KZ 1000 032 V1	32	1.26	116	4.57	84	3.31			1444	3245	54	3.3	0.90	1.98
KZ 1000 038 V1	38	1.50	128	5.04	90	3.54			1458	3278	63	3.9	0.95	2.09
KZ 1000 050 V1	50	1.97	152	5.98	102	4.02			1478	3323	82	5.0	1.05	2.31
KZ 1000 063 V1	63	2.48	178	7.01	115	4.53			1492	3355	101	6.2	1.16	2.56
KZ 1000 075 V1	75	2.95	202	7.95	127	5.00			1501	3375	119	7.3	1.26	2.78
KZ 1000 080 V1	80	3.15	212	8.35	132	5.20			1504	3381	127	7.7	1.30	2.87
KZ 1000 100 V1	100	3.94	252	9.92	152	5.98			1513	3402	157	9.6	1.47	3.24
KZ 1000 125 V1	125	4.92	302	11.89	177	6.97			1521	3419	195	11.9	1.68	3.70

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi / 150 bar 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0°C / 32°F / 80°C / 176°F	Connection	KZ-H 1000 XXX V1	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2840K169A


								
mm	mm	mm	Ø50 L1=138 L1=148 L1=152	Ø50 L1=138 L1=150 L1=150	Ø50 L1=170 L1=185 L1=195	Ø50 L1=195	Ø50 L1=165 L1=175	Ø50 L1=220
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-050  A34-050 	B76-050  B43-050 	C05-050  C20-050 	D02-050  D67-050 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



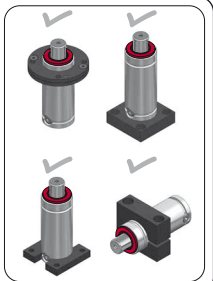
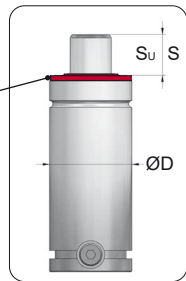
HOW TO ORDER

KZ 1000 050 V1 28 50

KZ 1000 050 V1 + PW 028 050




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



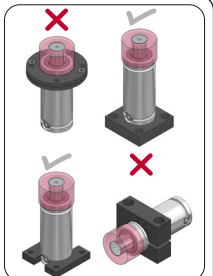
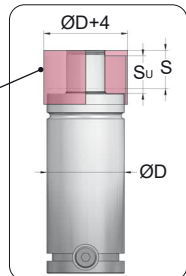
HOW TO ORDER

KZ 1000 050 V1 28 50 50

KZ 1000 050 V1 + PC 028 050 050



Protective Cover

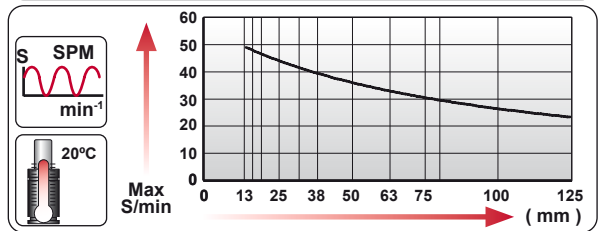
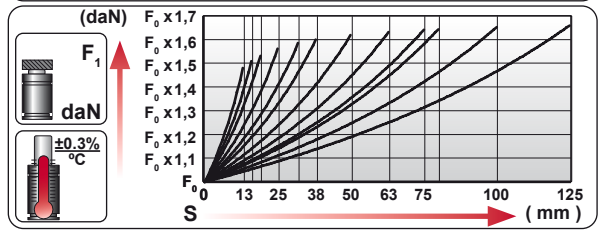
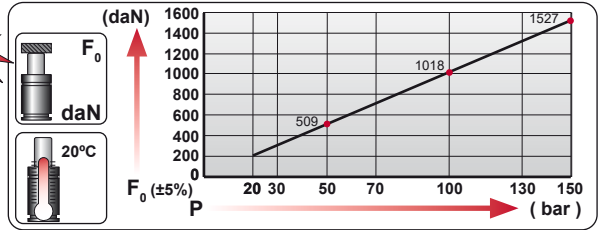
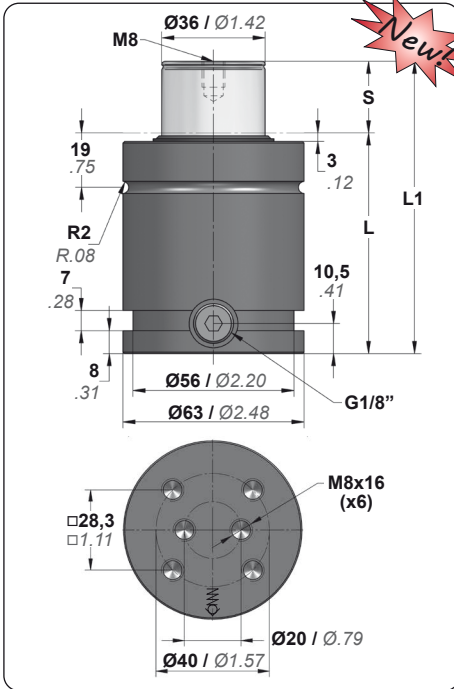


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KZ 1500 V1

Compact Height

	MAZDA PG230-PG24D




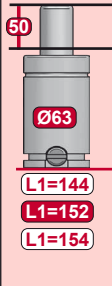

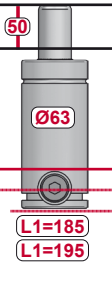
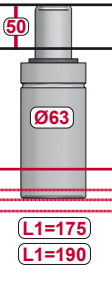
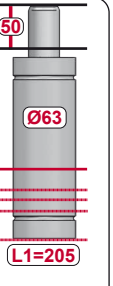


VDI SAFETY


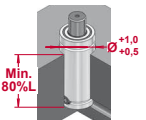












STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KZ 1500 013 V1	13	0.51	78	3.07	65	2.56	1530 3440 ±5% 150 bar 2175 psi at 20°C 68°F	3440	2315	5205	39	2.4	1.17	2.58
KZ 1500 016 V1	16	0.63	84	3.31	68	2.68			2355	5293	47	2.8	1.21	2.67
KZ 1500 019 V1	19	0.75	90	3.54	71	2.80			2384	5359	54	3.3	1.25	2.76
KZ 1500 025 V1	25	0.98	102	4.02	77	3.03			2425	5451	69	4.2	1.32	2.91
KZ 1500 032 V1	32	1.26	116	4.57	84	3.31			2455	5520	86	5.3	1.41	3.11
KZ 1500 038 V1	38	1.50	128	5.04	90	3.54			2474	5561	101	6.2	1.49	3.28
KZ 1500 050 V1	50	1.97	152	5.98	102	4.02			2498	5616	131	8.0	1.65	3.64
KZ 1500 063 V1	63	2.48	178	7.01	115	4.53			2515	5653	164	10.0	1.81	3.99
KZ 1500 075 V1	75	2.95	202	7.95	127	5.00			2525	5677	194	11.8	1.97	4.34
KZ 1500 080 V1	80	3.15	212	8.35	132	5.20			2529	5684	206	12.6	2.03	4.48
KZ 1500 100 V1	100	3.94	252	9.92	152	5.98			2539	5708	256	15.6	2.29	5.05
KZ 1500 125 V1	125	4.92	302	11.89	177	6.97			2548	5728	318	19.4	2.61	5.75

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F	290 psi 2175 psi	Charging Adapter	18 CG 1-Q					
Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F	Connection	KZ-H 1500 XXX						
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		Cartridge Kit	3651L210A							

							
MODEL			CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-063  581 A69-063  583	B21-075  590 B76-075  594	C05-063  596 C35-063  599	D02-063  600 D67-063  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



HOW TO ORDER

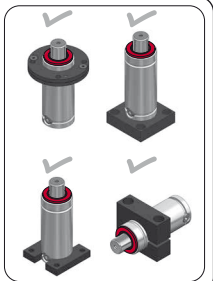
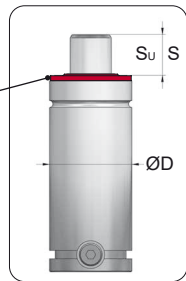
KZ 1500 050 V1 **36** **63**

KZ 1500 050 V1 + PW 036 063






Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.


PC Protective Cover



HOW TO ORDER

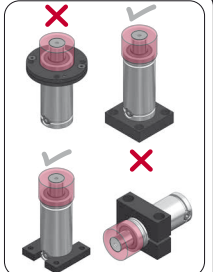
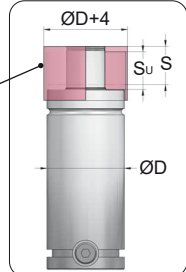
KZ 1500 050 V1 **36** **63** **50**

KZ 1500 050 V1 + PC 036 063 050





Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

			50	50	50	50	50	50
mm	Ø75	L1=145						
mm		L1=155						
mm		L1=159						
MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700		

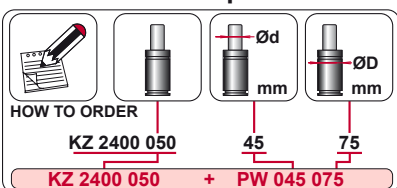
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-075 581 A34-075 582	B21-075 590 B43-075 593 B76-075 594	C05-075 596 C20-075 598	D02-075 601 D67-075 602

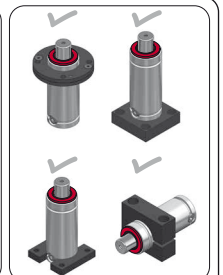
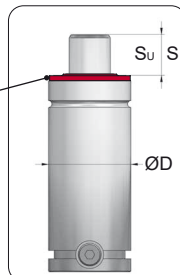
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

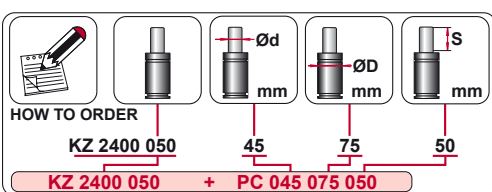


Protective Wiper

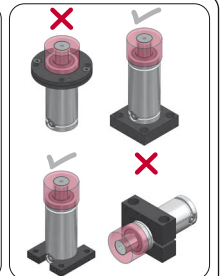
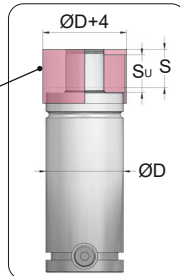


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

mm	50	50	50	50	50	50	50	50
	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95
	L1=158	L1=170	L1=195	L1=220	L1=215	L1=220	L1=215	L1=255
	L1=162	L1=170	L1=205	L1=220	L1=215	L1=220	L1=215	L1=255
	L1=162	L1=170	L1=205	L1=220	L1=215	L1=220	L1=215	L1=255
MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500		

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-095 581 A34-095 582	B21-095 590 B43-095 593 B76-095 594	C05-095 597 C20-095 598	D02-095 601 D67-095 603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

KZ 4200 050 60 95

KZ 4200 050 + PW 060 095

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

Protective Wiper

PC Protective Cover

HOW TO ORDER

KZ 4200 050 60 95 50

KZ 4200 050 + PC 060 095 050

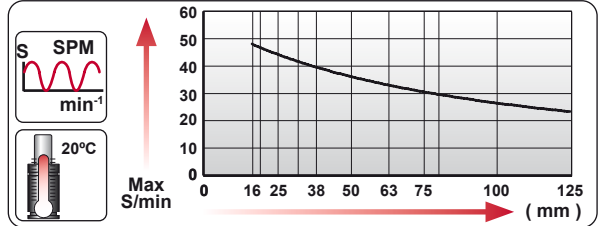
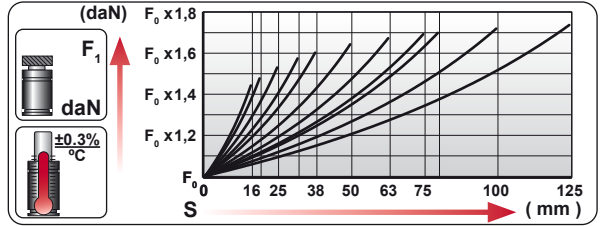
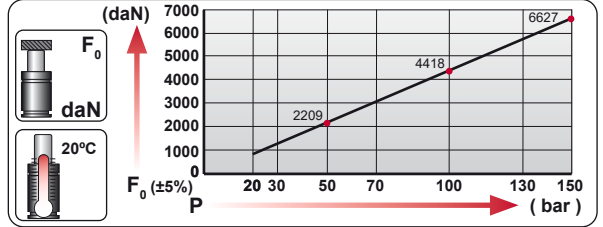
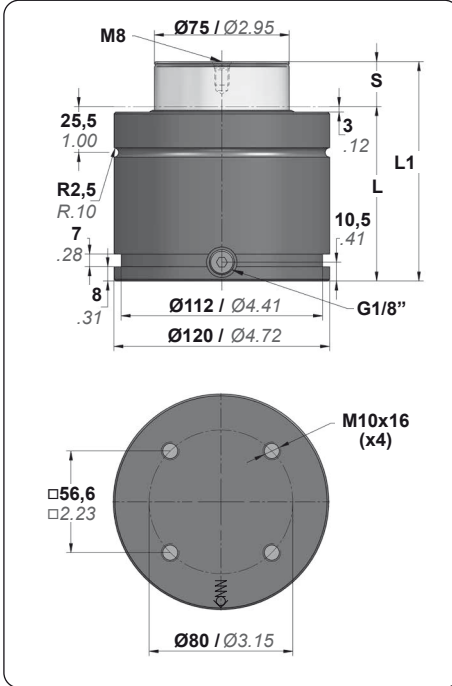
The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

Protective Cover

KZ 6600

Compact Height

	MAZDA PG230-PG24D







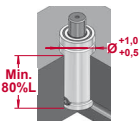













VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
KZ 6600 016	16	0.63	104	4.09	88	3.46	6630	14905	9730	21873	222	13.5	5.94	13.10
KZ 6600 019	19	0.75	110	4.33	91	3.58			9955	22379	251	15.3	6.08	13.40
KZ 6600 025	25	0.98	122	4.80	97	3.82	±5% 150 bar 2175 psi at 20°C 68°F		10295	23145	310	18.9	6.35	14.00
KZ 6600 032	32	1.26	136	5.35	104	4.09			10575	23774	379	23.1	6.68	14.73
KZ 6600 038	38	1.50	148	5.83	110	4.33			10753	24173	438	26.7	6.96	15.34
KZ 6600 050	50	1.97	172	6.77	122	4.80			11005	24739	556	33.9	7.51	16.56
KZ 6600 063	63	2.48	198	7.80	135	5.31			11187	25149	683	41.7	8.12	17.90
KZ 6600 075	75	2.95	222	8.74	147	5.79			11306	25418	801	48.9	8.67	19.11
KZ 6600 080	80	3.15	232	9.13	152	5.98			11347	25509	850	51.9	8.91	19.64
KZ 6600 100	100	3.94	272	10.71	172	6.77			11473	25793	1047	63.9	9.83	21.67
KZ 6600 125	125	4.92	322	12.68	197	7.76			11579	26032	1292	78.8	10.99	24.23

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar	150 bar	Charging Adapter	18 CG 1-Q							
Smax	< 90%	20°C / 68°F	290 psi	2175 psi	Connection	KZ-H 6600 XXX							
Vmax	1,6 m/s	Tmin Tmax	0 °C	80 °C	Cartridge Kit	75A0W360A							
		Force variation by temperature	32 °F	176 °F									
			±0,3% / °C										

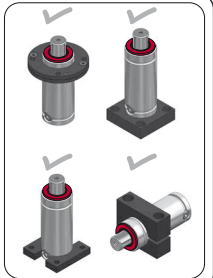
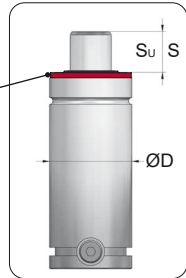
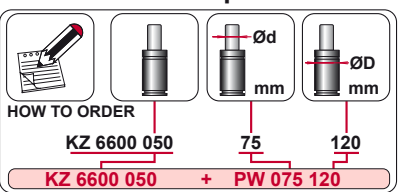
							
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000	CS 11800

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-120  A34-120 	B21-120  B43-120  B76-120 	C05-120  C20-120 	D02-120  D67-120 

PROTECTION OPTIONS

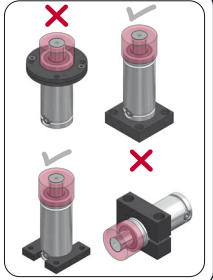
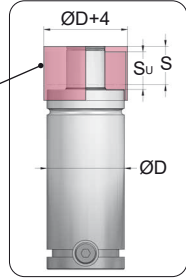
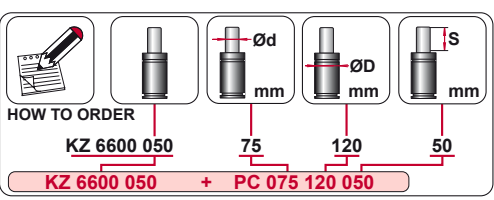
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PW Protective Wiper



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PC Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.



GAS SPRINGS



COMPACT HEIGHT KT

- Compact size gas springs
- High contact force (1000-9500 daN)
- Meet automotive standards (Toyota, Nissan)
- Widely used in progressive die sets



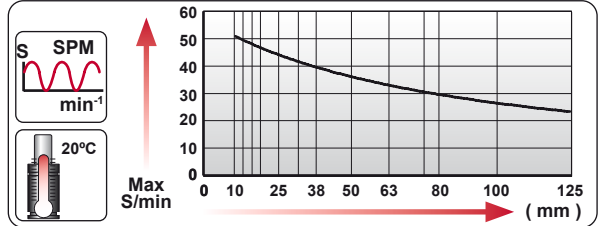
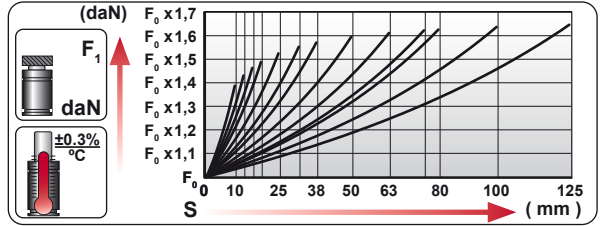
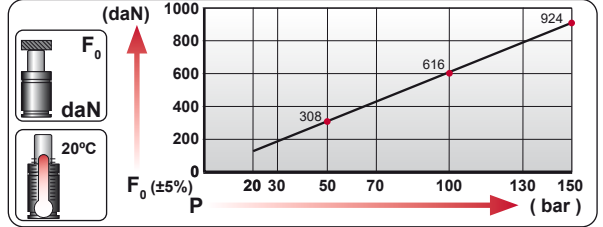
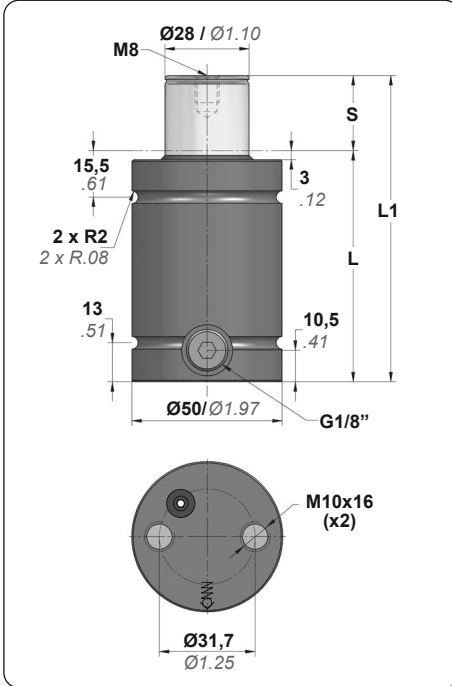
KT COMPACT HEIGHT LARGE

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
KT 1000	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	72 - 302 2.83 - 11.89	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KT 1500	1500 3372	Ø63 Ø2.48	13 - 125 0.51 - 4.92	78 - 302 3.07 - 11.89	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KT 2400	2400 5395	Ø75 Ø2.95	13 - 125 0.51 - 4.92	85 - 309 3.35 - 12.17	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KT 4200	4200 9442	Ø95 Ø3.74	16 - 125 0.63 - 4.92	94 - 312 3.70 - 12.28	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KT 6600	6600 14837	Ø120 Ø4.72	16 - 125 0.63 - 4.92	104 - 322 4.09 - 12.68	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KT 9500	9500 21357	Ø150 Ø5.91	19 - 125 0.75 - 4.92	116 - 328 4.57 - 12.91	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

KT 1000

Compact Height

		PSA	E24.54.815.G
		RENAULT	EM24.54.700
	TOYOTA SMS DKH3221n	NISSAN	K32R0



VDI SAFETY




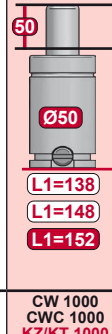
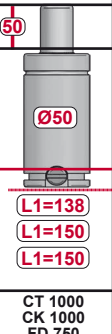
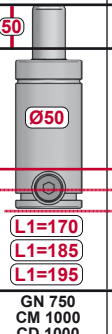
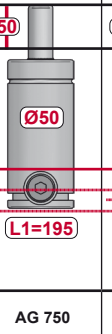
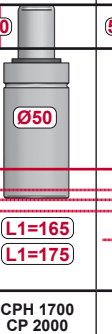
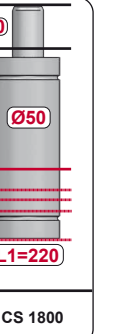
- Safety symbol for stroke length.
- Safety symbol for maximum stroke rate.
- Safety symbol for maximum pressure.

STANDARS


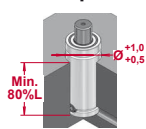



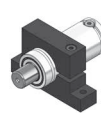







ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KT 1000 010	10	0.39	72	2.83	62	2.44	920 ±5% 150 bar 2175 psi at 20°C 68°F	2068	1318	2964	20	1.2	0.73	1.61
KT 1000 013	13	0.51	78	3.07	65	2.56			1356	3048	25	1.5	0.75	1.65
KT 1000 016	16	0.63	84	3.31	68	2.68			1383	3108	29	1.8	0.78	1.72
KT 1000 019	19	0.75	90	3.54	71	2.80			1403	3154	34	2.1	0.80	1.76
KT 1000 025	25	0.98	102	4.02	77	3.03			1432	3220	43	2.6	0.85	1.87
KT 1000 032	32	1.26	116	4.57	84	3.31			1454	3270	54	3.3	0.91	2.01
KT 1000 038	38	1.50	128	5.04	90	3.54			1468	3300	63	3.8	0.96	2.12
KT 1000 050	50	1.97	152	5.98	102	4.02			1486	3341	81	4.9	1.06	2.34
KT 1000 063	63	2.48	178	7.01	115	4.53			1499	3369	100	6.1	1.17	2.58
KT 1000 075	75	2.95	202	7.95	127	5.00			1507	3387	119	7.2	1.27	2.80
KT 1000 080	80	3.15	212	8.35	132	5.20			1509	3393	126	7.7	1.31	2.89
KT 1000 100	100	3.94	252	9.92	152	5.98			1518	3412	156	9.5	1.48	3.26
KT 1000 125	125	4.92	302	11.89	177	6.97			1524	3427	194	11.8	1.69	3.73

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0°C / 32°F	80°C / 176°F	Connection	KT-H 1000 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2840K169B

								
mm	mm	mm	50 Ø50 L1=138 L1=148 L1=152	50 Ø50 L1=138 L1=150 L1=150	50 Ø50 L1=170 L1=185 L1=195	50 Ø50 L1=195	50 Ø50 L1=165 L1=175	50 Ø50 L1=220
MODEL			CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-050  A34-050 	B33-050 	AX9-050  AY4-050 	D02-050  D67-050 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

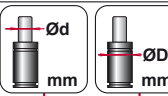
PW Protective Wiper



HOW TO ORDER

KT 1000 050 28 50

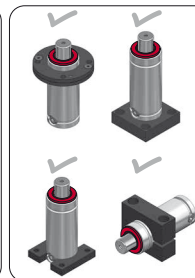
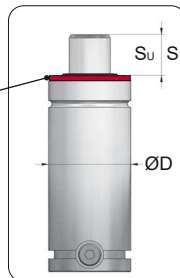
KT 1000 050 + PW 028 050




PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



Protective Wiper



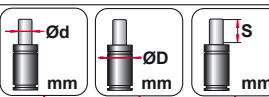
PC Protective Cover



HOW TO ORDER

KT 1000 050 28 50 50

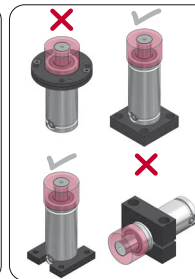
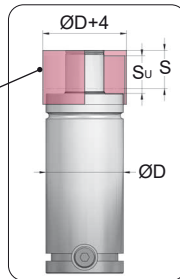
KT 1000 050 + PC 028 050 050



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

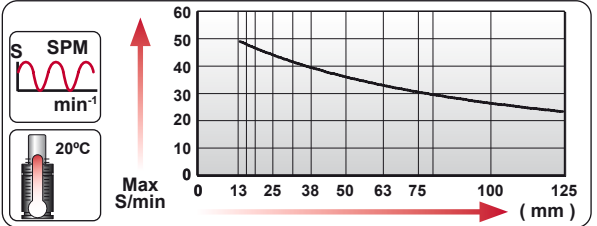
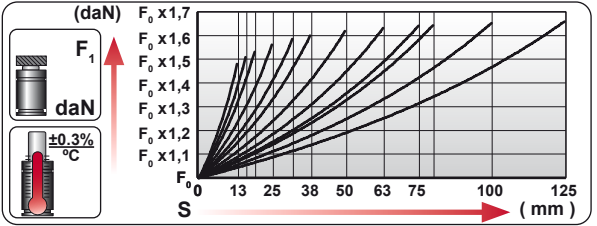
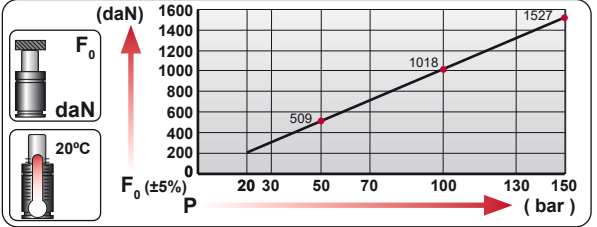
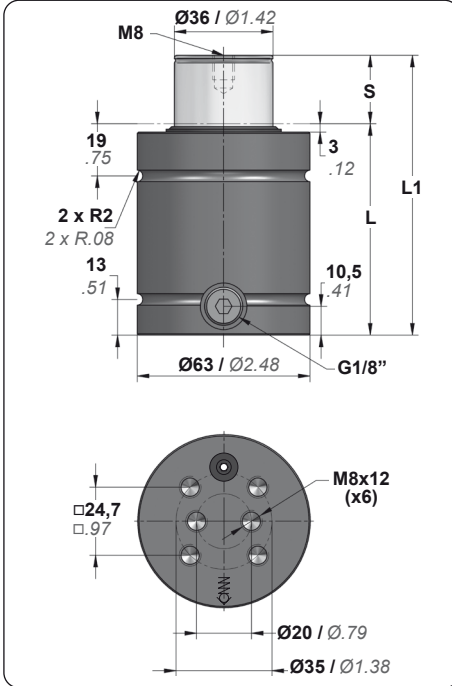


Protective Cover



KT 1500

Compact Height






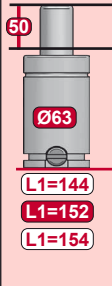

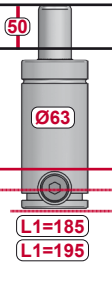
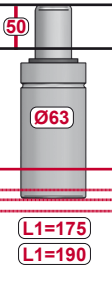
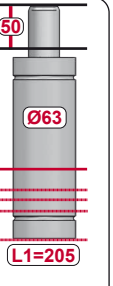
VDI SAFETY

- $> S$
- $> V_{max}$
- $> P_{max}$


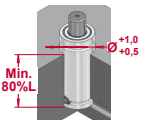











STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.											
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb								
KT 1500 013	13	0.51	78	3.07	65	2.56	1530	3440	2315	5205	39	2.4	1.19	2.62								
KT 1500 016	16	0.63	84	3.31	68	2.68																
KT 1500 019	19	0.75	90	3.54	71	2.80																
KT 1500 025	25	0.98	102	4.02	77	3.03																
KT 1500 032	32	1.26	116	4.57	84	3.31																
KT 1500 038	38	1.50	128	5.04	90	3.54																
KT 1500 050	50	1.97	152	5.98	102	4.02																
KT 1500 063	63	2.48	178	7.01	115	4.53																
KT 1500 075	75	2.95	202	7.95	127	5.00																
KT 1500 080	80	3.15	212	8.35	132	5.20																
KT 1500 100	100	3.94	252	9.92	152	5.98																
KT 1500 125	125	4.92	302	11.89	177	6.97																
															±5%		150 bar					
															2175 psi		2455		5520		86	
							at 20°C		2474		5561		101		6.2							
							68°F		2498		5616		131		8.0							
									2515		5653		164		10.0							
									2525		5677		194		11.8							
									2529		5684		206		12.6							
									2539		5708		256		15.6							
									2548		5728		318		19.4							

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F	290 psi 2175 psi	0 °C 80 °C	32 °F 176 °F	Charging Adapter	18 CG 1-Q			
Smax	< 90%		Tmin Tmax							Connection	KT-H 1500 XXX			
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C						Cartridge Kit	3651L210A			

							
MODEL			CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000


MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-063  A69-063 	B21-075  B76-075 	AY4-063 	D02-063  D67-063 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



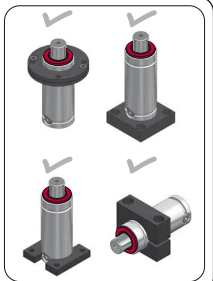
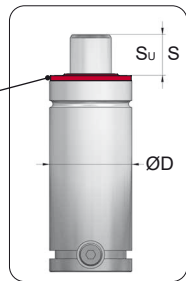
HOW TO ORDER

KT 1500 050 36 63

KT 1500 050 + PW 036 063





Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.


PC Protective Cover



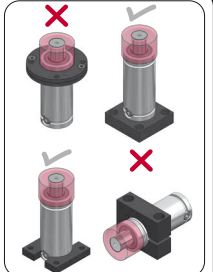
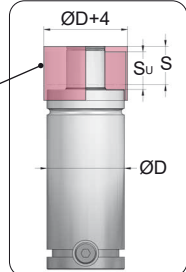
HOW TO ORDER

KT 1500 050 36 63 50

KT 1500 050 + PC 036 063 050




Protective Cover

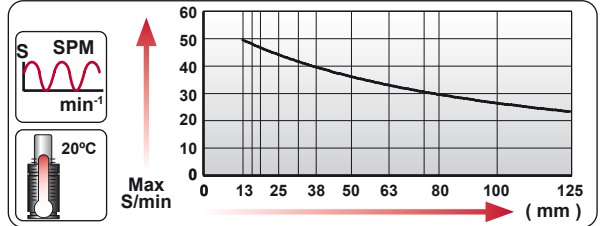
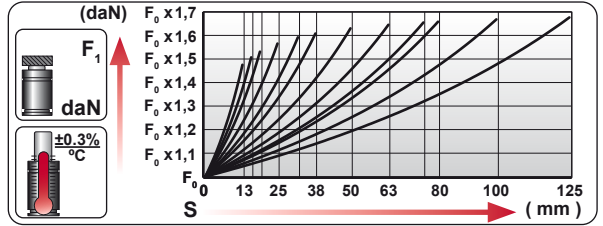
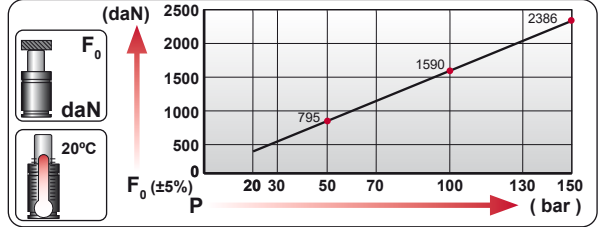
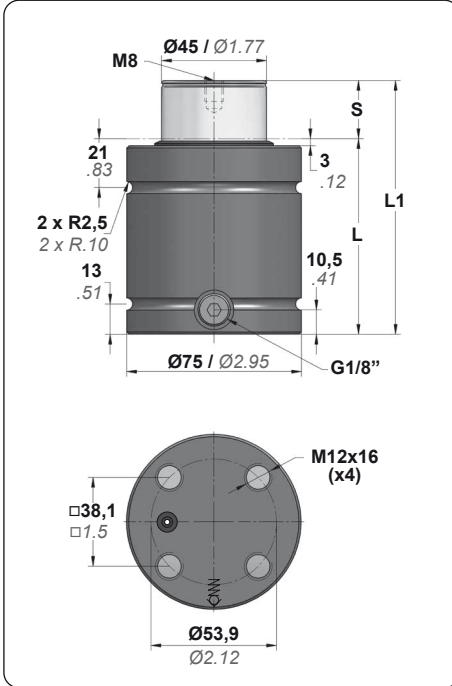


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KT 2400

Compact Height

	PSA	E24.54.815.G
	RENAULT	EM24.54.700
	TOYOTA	SMS DKH3221n
	NISSAN	K32R0



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod

STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.																																																																					
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb																																																																		
KT 2400 013	13	0.51	85	3.35	72	2.83	2385	5362	3432	7715	68	4.1	1.81	3.99																																																																		
KT 2400 016	16	0.63	91	3.58	75	2.95									3513	7898	79	4.8	1.86	4.10																																																												
KT 2400 019	19	0.75	97	3.82	78	3.07															3576	8040	91	5.5	1.91	4.21																																																						
KT 2400 025	25	0.98	109	4.29	84	3.31																					3668	8246	114	6.9	2.01	4.43																																																
KT 2400 032	32	1.26	123	4.84	91	3.58																											3741	8409	140	8.6	2.13	4.70																																										
KT 2400 038	38	1.50	135	5.31	97	3.82																																	3785	8510	163	10.0	2.23	4.92																																				
KT 2400 050	50	1.97	159	6.26	109	4.29																																							3847	8648	209	12.8	2.44	5.38																														
KT 2400 063	63	2.48	185	7.28	122	4.80																																													3890	8745	259	15.8	2.66	5.86																								
KT 2400 075	75	2.95	209	8.23	134	5.28																																																			3918	8808	305	18.6	2.87	6.33																		
KT 2400 080	80	3.15	219	8.62	139	5.47																																																									3927	8829	324	19.8	2.96	6.53												
KT 2400 100	100	3.94	259	10.20	159	6.26																																																															3956	8894	400	24.4	3.30	7.28						
KT 2400 125	125	4.92	309	12.17	184	7.24																																																																					3980	8947	496	30.3	3.73	8.22

TECHNICAL DATA														
Fluid	N ₂	Pmin Pmax	20 bar / 150 bar	290 psi / 2175 psi	Charging Adapter	18 CG 1-Q								
Smax	< 90%	Tmin Tmax	20 °C / 68 °F	0 °C / 32 °F	Connection	KT-H 2400 XXX								
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	80 °C / 176 °F	Cartridge Kit	4563L245A								

mm	mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm	mm
MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700		

MOUNTING OPTIONS

Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER	A14-075 581 A34-075 582	B33-075 592 B91-075 595	AX9-075 589 AY4-075 588	D02-075 601 D67-075 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

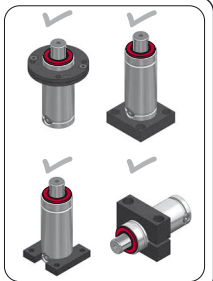
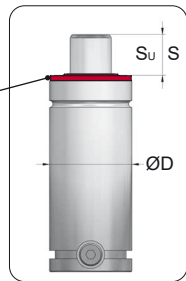
HOW TO ORDER

KT 2400 050 45 75

KT 2400 050 + PW 045 075



Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover

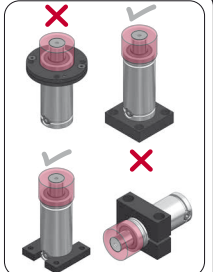
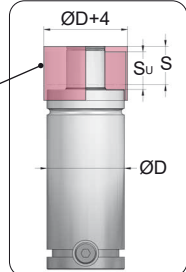
HOW TO ORDER

KT 2400 050 45 75 50

KT 2400 050 + PC 045 075 050



Protective Cover

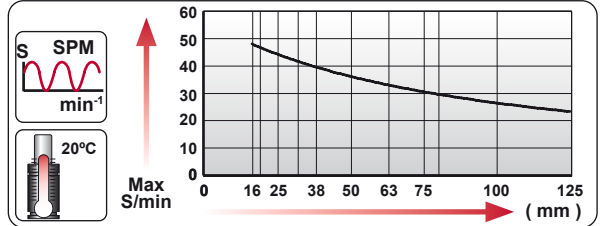
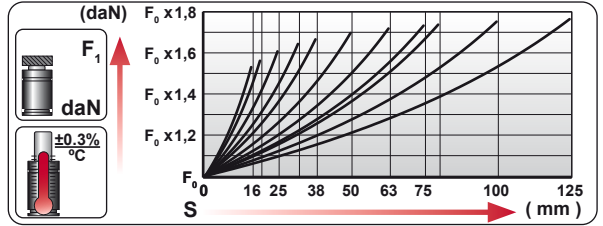
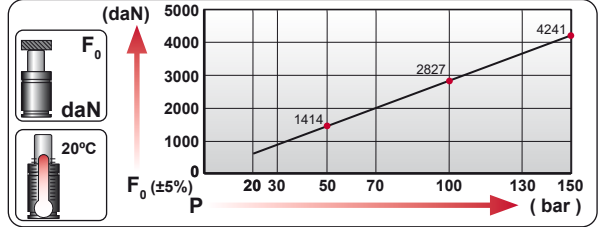
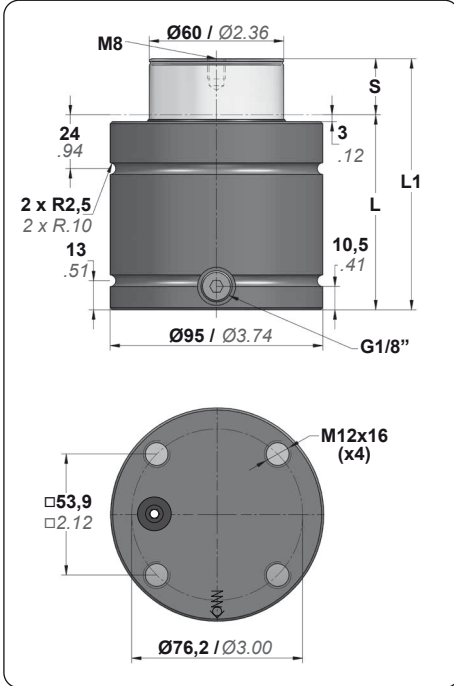


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KT 4200

Compact Height

	PSA	E24.54.815.G
	RENAULT	EM24.54.700
TOYOTA	SMS DKH3221n	NISSAN K32R0



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
KT 4200 016	16	0.63	94	3.70	78	3.07	4240	9532	6248	14047	141	8.6	3.18	7.01
KT 4200 019	19	0.75	100	3.94	81	3.19			6391	14369	160	9.7	3.27	7.21
KT 4200 025	25	0.98	112	4.41	87	3.43	±5% 150 bar 2175 psi at 20°C 68°F		6607	14854	197	12.0	3.44	7.58
KT 4200 032	32	1.26	126	4.96	94	3.70			6784	15251	241	14.7	3.64	8.02
KT 4200 038	38	1.50	138	5.43	100	3.94			6896	15502	279	17.0	3.81	8.40
KT 4200 050	50	1.97	162	6.38	112	4.41			7054	15858	354	21.6	4.15	9.15
KT 4200 063	63	2.48	188	7.40	125	4.92			7168	16115	436	26.6	4.52	9.96
KT 4200 075	75	2.95	212	8.35	137	5.39			7243	16283	511	31.2	4.86	10.71
KT 4200 080	80	3.15	222	8.74	142	5.59			7269	16340	543	33.1	5.01	11.05
KT 4200 100	100	3.94	262	10.31	162	6.38			7347	16518	669	40.8	5.58	12.30
KT 4200 125	125	4.92	312	12.28	187	7.36			7414	16667	826	50.4	6.29	13.87

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q							
Smix	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	KT-H 4200 XXX							
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	6080U275A							

	50	50	50	50	50	50	50
	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95
	L1=158 L1=162 L1=162	L1=170 L1=170	L1=195 L1=205 L1=220	L1=220	L1=215	L1=255	
MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500	

MOUNTING OPTIONS

	Drop-in Min. 80%L +1.0 Ø+0.5	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-095 581 A34-095 582	B33-095 592 B91-095 595	AX9-095 589 AY4-095 588	D02-095 601 D67-095 603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

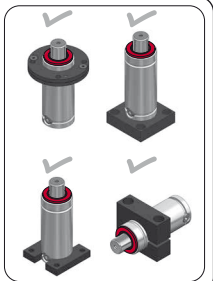
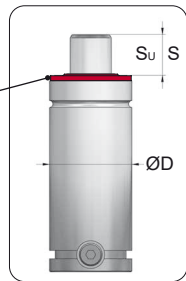
KT 4200 050 60 95

KT 4200 050 + PW 060 095

Ød mm ØD mm



Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover

HOW TO ORDER

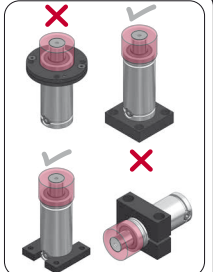
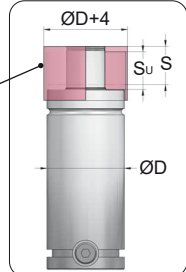
KT 4200 050 60 95 50

KT 4200 050 + PC 060 095 050

Ød mm ØD mm s mm



Protective Cover

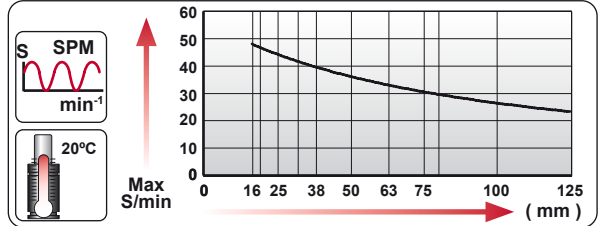
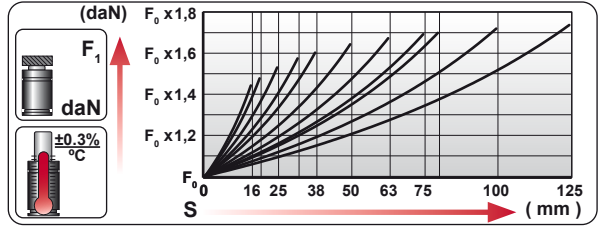
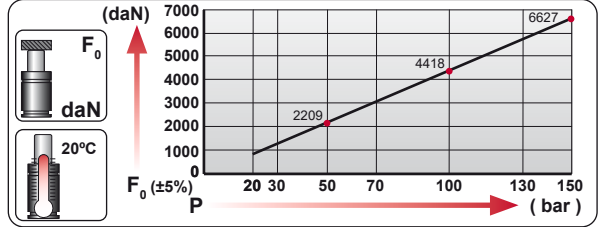
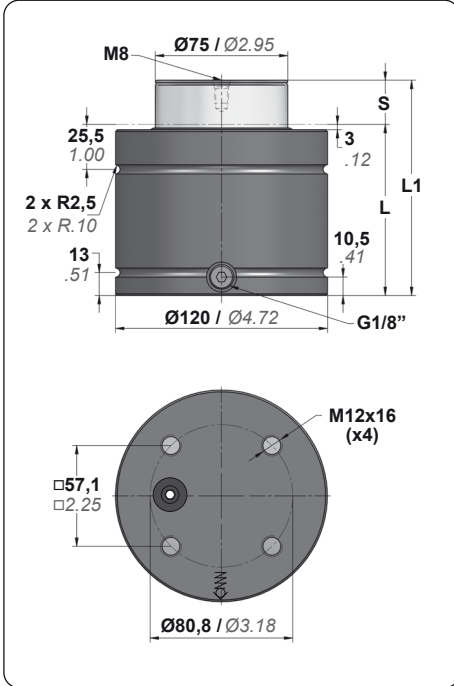


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KT 6600

Compact Height

		RENAULT	EM24.54.700
	TOYOTA	SMS DKH3221n	NISSAN K32R0



VDI SAFETY




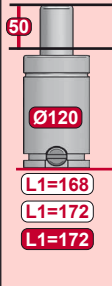



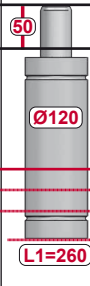
- > S
- > Vmax
- > Pmax
- Flex Rod

STANDARS


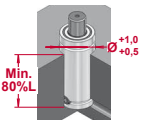










ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KT 6600 016	16	0.63	104	4.09	88	3.46	6630	14905	9577	21529	230	14.0	5.89	12.99
KT 6600 019	19	0.75	110	4.33	91	3.58			9806	22044	259	15.8	6.03	13.29
KT 6600 025	25	0.98	122	4.80	97	3.82	±5% 150 bar 2175 psi at 20°C 68°F		10157	22833	318	19.4	6.31	13.91
KT 6600 032	32	1.26	136	5.35	104	4.09			10449	23490	387	23.6	6.63	14.62
KT 6600 038	38	1.50	148	5.83	110	4.33			10636	23911	446	27.2	6.91	15.23
KT 6600 050	50	1.97	172	6.77	122	4.80			10904	24514	564	34.4	7.47	16.47
KT 6600 063	63	2.48	198	7.80	135	5.31			11100	24954	691	42.2	8.07	17.79
KT 6600 075	75	2.95	222	8.74	147	5.79			11229	25245	809	49.4	8.63	19.03
KT 6600 080	80	3.15	232	9.13	152	5.98			11274	25344	858	52.4	8.86	19.53
KT 6600 100	100	3.94	272	10.71	172	6.77			11411	25654	1054	64.3	9.79	21.58
KT 6600 125	125	4.92	322	12.68	197	7.76			11527	25915	1300	79.3	10.95	24.14

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smix	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	KT-H 6600 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	75A0W360A	

							
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000	CS 11800


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-120  A34-120 	B33-120 	AY4-120 	D02-120  D67-120 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



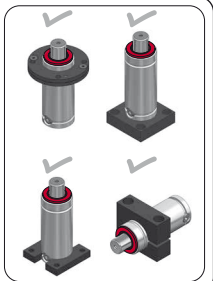
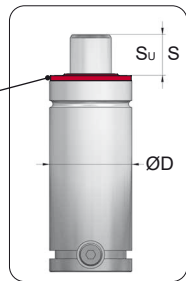
HOW TO ORDER

KT 6600 050 75 120

KT 6600 050 + PW 075 120





Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.


PC Protective Cover



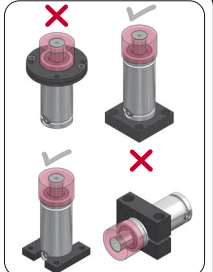
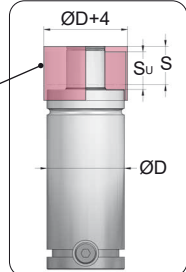
HOW TO ORDER

KT 6600 050 75 120 50

KT 6600 050 + PC 075 120 050




Protective Cover

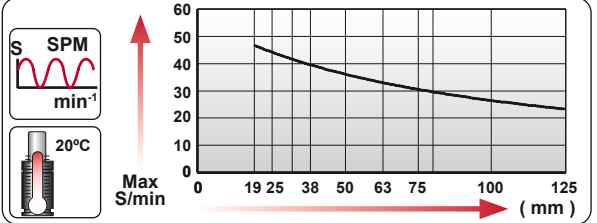
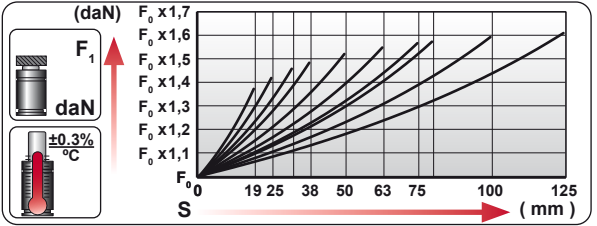
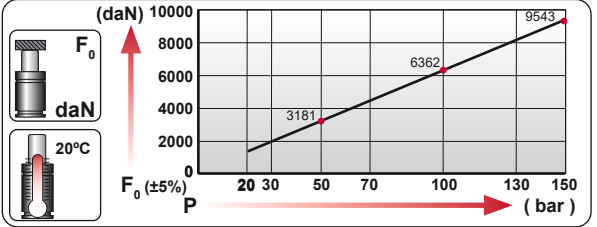
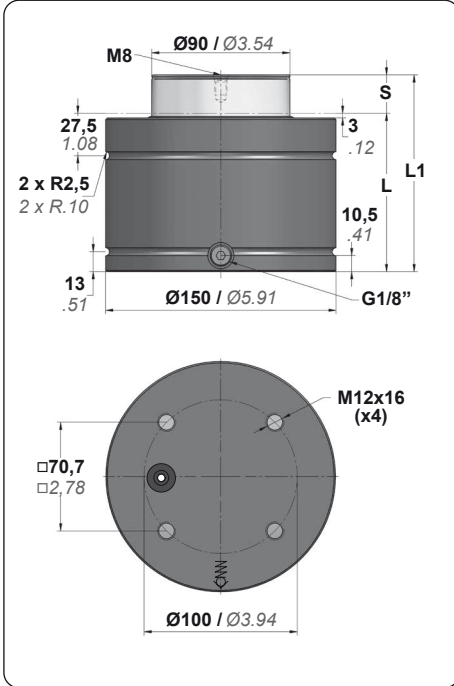


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

KT 9500

Compact Height

	TOYOTA SMS DKH3221n






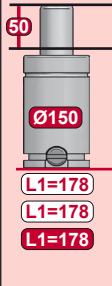
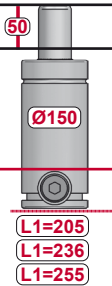
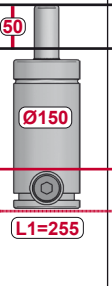
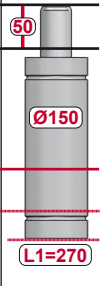
VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod


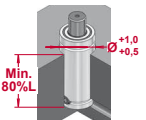











STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
KT 9500 019	19	0.75	116	4.57	97	3.82	9540	21447	13263	29817	431	26.3	10.02	22.09
KT 9500 025	25	0.98	128	5.04	103	4.06			13696	30790	524	32.0	10.42	22.97
KT 9500 032	32	1.26	142	5.59	110	4.33	±5% 150 bar 2175 psi at 20°C 68°F		14060	31608	633	38.6	10.88	23.99
KT 9500 038	38	1.50	154	6.06	116	4.57			14295	32136	727	44.4	11.28	24.87
KT 9500 050	50	1.97	178	7.01	128	5.04			14633	32897	914	55.8	12.07	26.61
KT 9500 063	63	2.48	204	8.03	141	5.55			14882	33456	1117	68.1	12.93	28.51
KT 9500 075	75	2.95	228	8.98	153	6.02			15047	33828	1304	79.6	13.73	30.27
KT 9500 080	80	3.15	238	9.37	158	6.22			15104	33955	1382	84.3	14.06	31.00
KT 9500 100	100	3.94	278	10.94	178	7.01			15281	34352	1693	103.3	15.39	33.93
KT 9500 125	125	4.92	328	12.91	203	7.99			15430	34689	2083	127.1	17.04	37.57

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar	150 bar	Charging Adapter	18 CG 1-Q							
Smax	< 90%	20°C / 68°F	290 psi	2175 psi	Connection	KT-H 9500 XXX							
Vmax	1,6 m/s	Tmin Tmax	0 °C	80 °C	Cartridge Kit	90C5X380A							
		Force variation by temperature	32 °F	176 °F									
			±0,3% / °C										

						
MODEL			CW 9500 CW 11800 KT 9500	GN 7500 CM 10000 CD 9600	AG 7500	CS 18300


MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-150  A34-150 	B21-150  B76-150  ADDITIONAL	AY4-150 	D02-150  D67-150 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



HOW TO ORDER

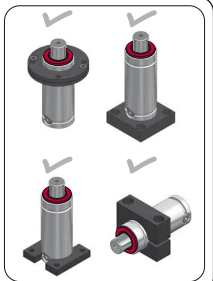
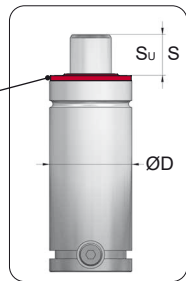
KT 9500 050 90 150

KT 9500 050 + PW 090 150






Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

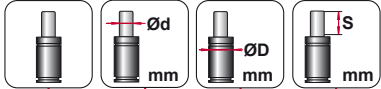
PC Protective Cover



HOW TO ORDER

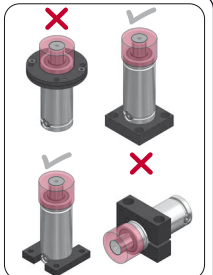
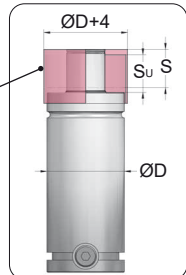
KT 9500 050 90 150 50

KT 9500 050 + PC 090 150 050





Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

GAS SPRINGS



COMPACT HEIGHT CW

- Compact size gas springs
- High contact force (170-20000 daN)
- Meet major automotive standards
- Widely used in progressive die sets and hot forming

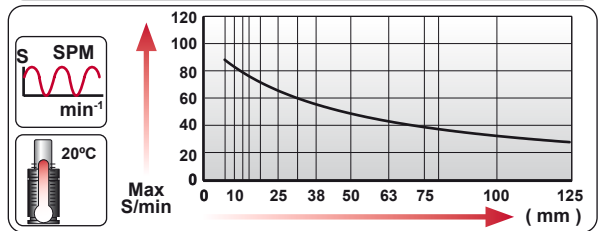
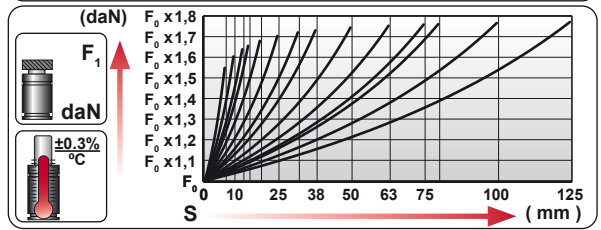
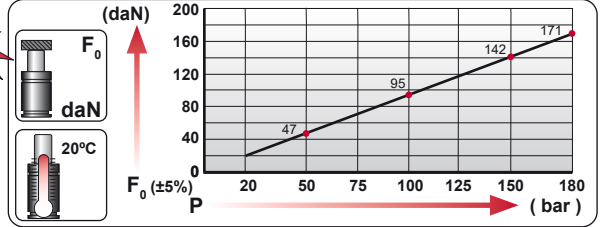
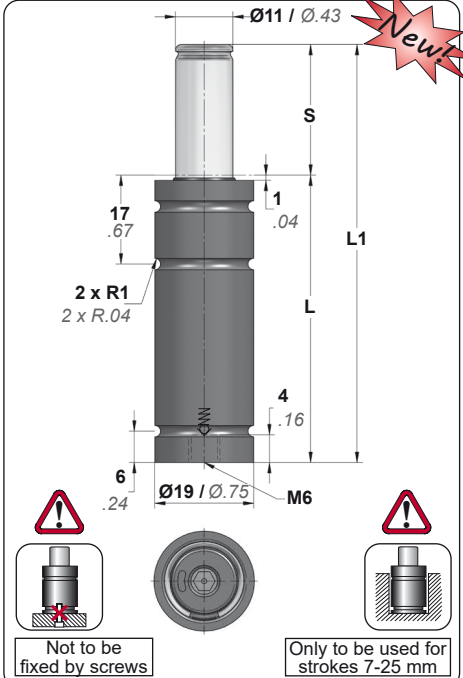
MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CW 170 V2	170 382	Ø19 Ø0.75	7 - 125 0.28 - 4.92	44 - 285 1.73 - 11.22	180 2610	M6	X	X
CW 320 V2	320 719	Ø25 Ø0.98	7 - 125 0.28 - 4.92	44 - 285 1.73 - 11.22	180 2610	M6	X	X
CW 350 V1	350 787	Ø32 Ø1.26	10 - 125 0.39 - 4.92	50 - 280 1.97 - 11.02	180 2610	M6	✓	✓
CW 500 V1	500 1124	Ø38 Ø1.50	10 - 125 0.39 - 4.92	50 - 280 1.97 - 11.02	150 2175	M6	✓	✓
CW 750 V1	750 1686	Ø45 Ø1.77	10 - 125 0.39 - 4.92	52 - 282 2.05 - 11.10	150 2175	M6	✓	✓
CWC 750 V2	750 1686	Ø45 Ø1.77	10 - 125 0.39 - 4.92	62 - 292 2.44 - 11.50	150 2175	G1/8"	✓	✓
CW 1000 V2	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	58 - 288 2.28 - 11.34	150 2175	M6	✓	✓
CWC 1000 V2	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	68 - 298 2.68 - 11.73	150 2175	G1/8"	✓	✓
CW 1500 V1	1500 3372	Ø63 Ø2.48	13 - 125 0.51 - 4.92	70 - 294 2.76 - 11.57	150 2175	M6	✓	✓
CWC 1500 V1	1500 3372	Ø63 Ø2.48	13 - 125 0.51 - 4.92	80 - 304 3.15 - 11.97	150 2175	G1/8"	✓	✓
CW 2400 V1	2400 5395	Ø75 Ø2.95	13 - 125 0.51 - 4.92	71 - 295 2.80 - 11.61	150 2175	M6	✓	✓
CWC 2400 V2	2400 5395	Ø75 Ø2.95	13 - 125 0.51 - 4.92	81 - 305 3.19 - 12.01	150 2175	G1/8"	✓	✓
CW 4200 V1	4200 9442	Ø95 Ø3.74	16 - 125 0.63 - 4.92	90 - 308 3.54 - 12.13	150 2175	G1/8"	✓	✓
CW 6600	6600 14837	Ø120 Ø4.72	16 - 125 0.63 - 4.92	100 - 318 3.94 - 12.52	150 2175	G1/8"	✓	✓
CW 9500	9500 21357	Ø150 Ø5.91	19 - 125 0.75 - 4.92	116 - 328 4.57 - 12.91	150 2175	G1/8"	✓	✓
CW 11800	11800 26527	Ø150 Ø5.91	19 - 125 0.75 - 4.92	116 - 328 4.57 - 12.91	150 2175	G1/8"	✓	✓
CW 20000	20000 44962	Ø195 Ø7.68	19 - 125 0.75 - 4.92	148 - 360 5.83 - 14.17	150 2175	G1/8"	✓	✓

		50		50	50	50	50	50
		Ø50		Ø50	Ø50	Ø50	Ø50	Ø50
		L1=138 L1=148 L1=152		L1=138 L1=150 L1=150	L1=170 L1=185 L1=195	L1=195	L1=165 L1=175	L1=220
MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800
SERIES	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE

CW 170 V2

Compact Height

BMW	B2 4005		
MB	B8 3180 220 000 004		
VW	39D 997		



VDI SAFETY

- >S
- >Vmax
- >Pmax

STANDARDS

- PED
- VDI 3003
- ISO 11901

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Bell		
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb	
CW 170 007 V2	7	0.28	44	1.73	37	1.46	170	382	±5%	255	572	2	0.1	0.08	0.18
CW 170 010 V2	10	0.39	50	1.97	40	1.57				267	601	3	0.2	0.08	0.18
CW 170 013 V2	13	0.51	56	2.20	43	1.69				276	620	3	0.2	0.08	0.18
CW 170 015 V2	15	0.59	60	2.36	45	1.77				280	629	4	0.2	0.09	0.20
CW 170 019 V2	19	0.75	68	2.68	49	1.93				286	644	4	0.3	0.09	0.20
CW 170 025 V2	25	0.98	80	3.15	55	2.17				293	658	6	0.3	0.10	0.22
CW 170 032 V2	32	1.26	94	3.70	62	2.44				298	669	7	0.4	0.11	0.24
CW 170 038 V2	38	1.50	106	4.17	68	2.68				301	676	8	0.5	0.12	0.26
CW 170 050 V2	50	1.97	130	5.12	80	3.15				304	685	11	0.7	0.13	0.29
CW 170 063 V2	63	2.48	156	6.14	93	3.66				307	691	13	0.8	0.15	0.33
CW 170 075 V2	75	2.95	185	7.28	110	4.33				306	688	16	1.0	0.16	0.35
CW 170 080 V2	80	3.15	195	7.68	115	4.53				307	689	17	1.0	0.17	0.37
CW 170 100 V2	100	3.94	235	9.25	135	5.31				309	695	21	1.3	0.20	0.44
CW 170 125 V2	125	4.92	285	11.22	160	6.30				311	699	26	1.6	0.23	0.51

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 180 bar		20°C / 68°F		290 psi 2610 psi		Charging Adapter	06 CG 2-Q			
Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F				Connection	X			
Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C						Cartridge Kit	X			



CW 170 V2
Compact Height

mm	50	50					50	
	$\varnothing 19$	$\varnothing 19$					$\varnothing 19$	
mm		L1=130					L1=160	
	L1=142							
mm								
MODEL	AFJ	CW 170					CP 150	

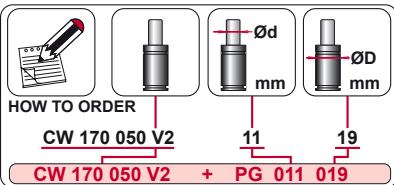
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-019 580 A44-019 584 A59-019 585		A19-019 586	

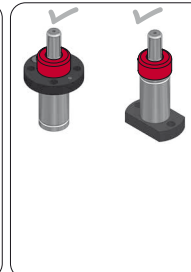
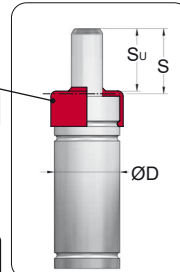
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PG Protective Guard



Protective Guard



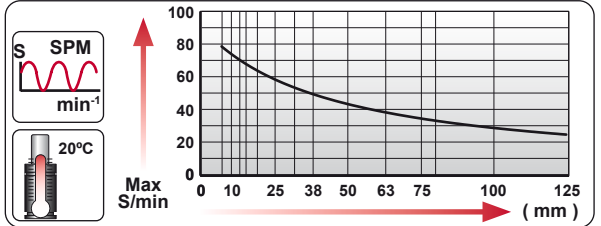
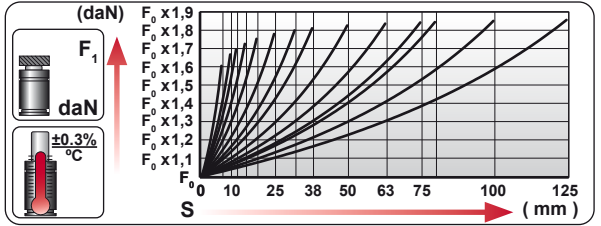
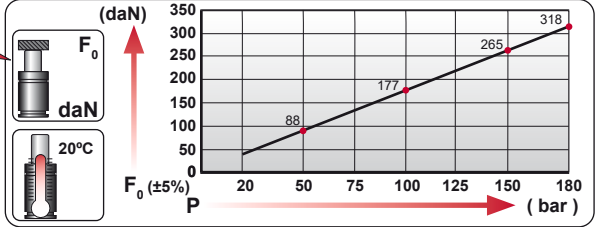
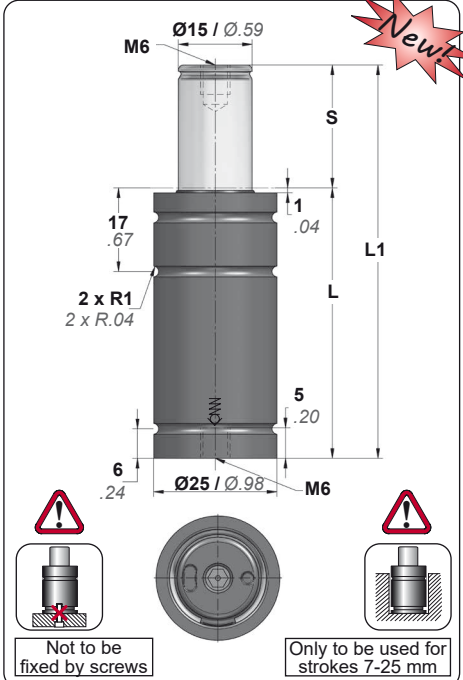
PG involves a variation of the dimensions of the gas spring. The nominal stroke (S) decreases to the size of the useful stroke (Su).

CW 320 V2

Compact Height



VW	39D 997
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VDI SAFETY

>S

>Vmax

>Pmax

STANDARDS

APPROVED PED

VDI 3003

ISO 11901

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CW 320 007 V2	7	0.28	44	1.73	37	1.46	320	719	601	1351	3	0.2	0.11	0.24
CW 320 010 V2	10	0.39	50	1.97	40	1.57			621	1396	4	0.2	0.11	0.24
CW 320 013 V2	13	0.51	56	2.20	43	1.69			629	1415	4	0.3	0.12	0.26
CW 320 015 V2	15	0.59	60	2.36	45	1.77			638	1435	5	0.3	0.13	0.29
CW 320 019 V2	19	0.75	68	2.68	49	1.93			646	1453	7	0.4	0.13	0.29
CW 320 025 V2	25	0.98	80	3.15	55	2.17			654	1470	9	0.5	0.15	0.33
CW 320 032 V2	32	1.26	94	3.70	62	2.44			659	1482	11	0.7	0.16	0.35
CW 320 038 V2	38	1.50	106	4.17	68	2.68			662	1489	13	0.8	0.18	0.40
CW 320 050 V2	50	1.97	130	5.12	80	3.15			666	1498	17	1.0	0.21	0.46
CW 320 063 V2	63	2.48	156	6.14	93	3.66			669	1504	21	1.3	0.23	0.51
CW 320 075 V2	75	2.95	185	7.28	110	4.33			671	1508	25	1.5	0.26	0.57
CW 320 080 V2	80	3.15	195	7.68	115	4.53			671	1509	27	1.6	0.27	0.60
CW 320 100 V2	100	3.94	235	9.25	135	5.31			673	1513	34	2.1	0.32	0.71
CW 320 125 V2	125	4.92	285	11.22	160	6.30			674	1516	42	2.6	0.38	0.84

TECHNICAL DATA													
	Fluid	N ₂		Pmin Pmax	20 bar	180 bar		Charging Adapter	06 CG 2-Q				
	Smax	< 90%		20°C / 68°F	290 psi	2610 psi		Connection	X				
	Vmax	1,6 m/s		Tmin Tmax	0 °C	80 °C		Cartridge Kit	X				
	Force variation by temperature	±0,3% / °C		32 °F		176 °F							

	50	50	50	50	50	50	50	
	Ø25	Ø25	Ø25	Ø25	Ø25	Ø25	Ø25	
		L1=130						
	L1=142 L1=145 L1=154		L1=132 L1=133	L1=160		L1=160	L1=195	
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

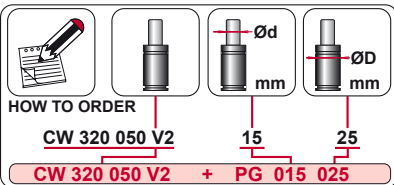
MOUNTING OPTIONS

	Drop-in Min. 80%L +1.0 Ø+0.5	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A44-025 584 A49-025 584		A19-025 586	D02-025 600

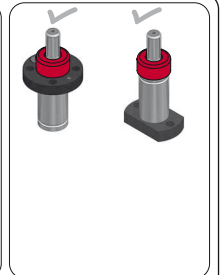
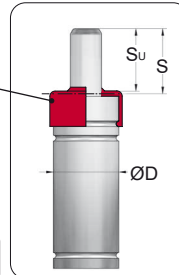
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PG Protective Guard



Protective Guard

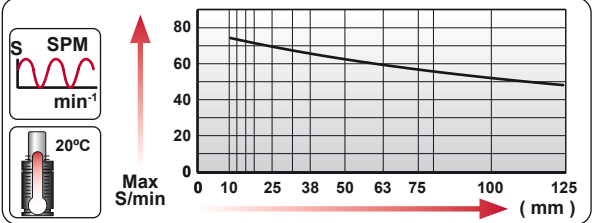
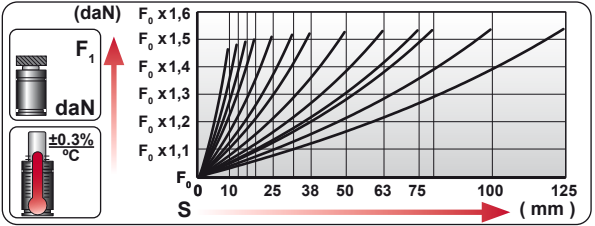
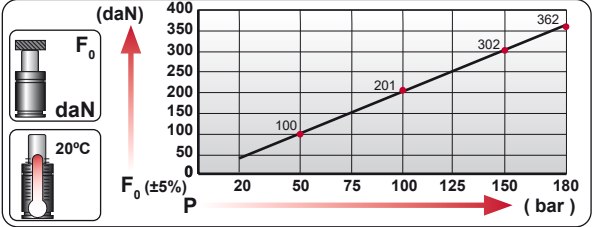
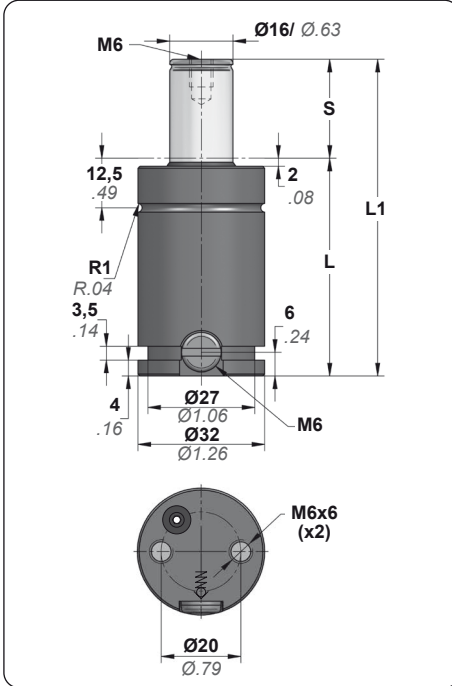


PG involves a variation of the dimensions of the gas spring. The nominal stroke (S) decreases to the size of the useful stroke (Su).

CW 350 V1

Compact Height

BMW B2 4005	FORD W-DX35-6204
MB B8 3180 220 000 004	GM 90.25.08
VW 39D 997	












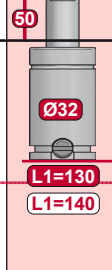




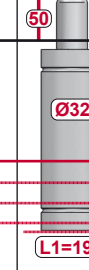
VDI SAFETY

STANDARDS


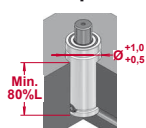



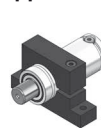




ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CW 350 010 V1	10	0.39	50	1.97	40	1.57	360 809 ±5% 180 bar 2610 psi at 20°C 68°F		527	1185	6	0.4	0.18	0.40
CW 350 013 V1	13	0.51	56	2.20	43	1.69			533	1199	8	0.5	0.19	0.42
CW 350 016 V1	16	0.63	62	2.44	46	1.81			537	1208	10	0.6	0.20	0.44
CW 350 019 V1	19	0.75	68	2.68	49	1.93			540	1214	11	0.7	0.21	0.46
CW 350 025 V1	25	0.98	80	3.15	55	2.17			544	1222	15	0.9	0.23	0.51
CW 350 032 V1	32	1.26	94	3.70	62	2.44			546	1228	19	1.2	0.25	0.55
CW 350 038 V1	38	1.50	106	4.17	68	2.68			548	1232	22	1.4	0.28	0.62
CW 350 050 V1	50	1.97	130	5.12	80	3.15			550	1236	29	1.8	0.32	0.71
CW 350 063 V1	63	2.48	156	6.14	93	3.66			551	1239	37	2.2	0.36	0.79
CW 350 075 V1	75	2.95	180	7.09	105	4.13			552	1241	43	2.6	0.40	0.88
CW 350 080 V1	80	3.15	190	7.48	110	4.33			552	1242	46	2.8	0.42	0.93
CW 350 100 V1	100	3.94	230	9.06	130	5.12			553	1243	58	3.5	0.49	1.08
CW 350 125 V1	125	4.92	280	11.02	155	6.10		554	1245	72	4.4	0.57	1.26	

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 180 bar / 2610 psi	20°C / 68°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0°C / 32°F	80°C / 176°F	Connection	CW-H 350 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	1625A135B

								
50	50			50	50	50	50	50
								
	L1=142	L1=130 L1=140		L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-032  580 A34-032  582		C20-032  598	D02-032  600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

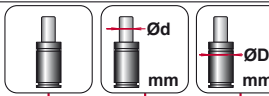
PW Protective Wiper



HOW TO ORDER

CW 350 050 V1 16 32

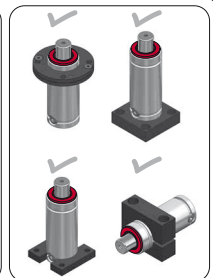
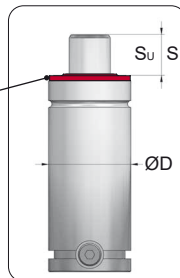
CW 350 050 V1 + PW 016 032




PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



Protective Wiper



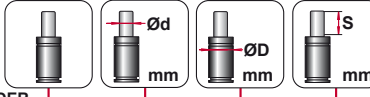
PC Protective Cover



HOW TO ORDER

CW 350 050 V1 16 32 50

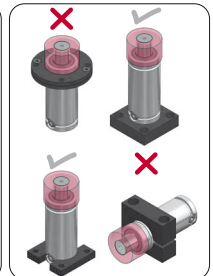
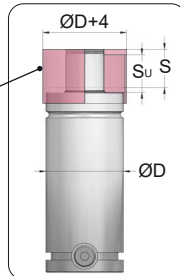
CW 350 050 V1 + PC 016 032 050



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.



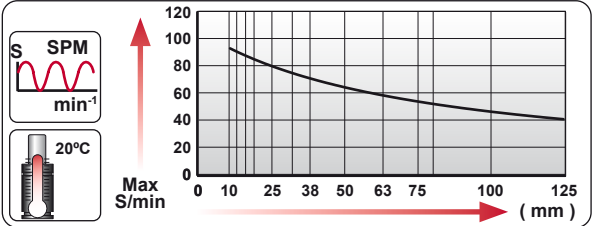
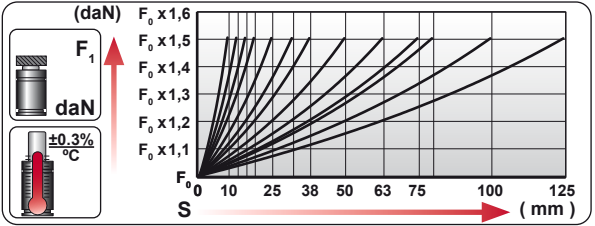
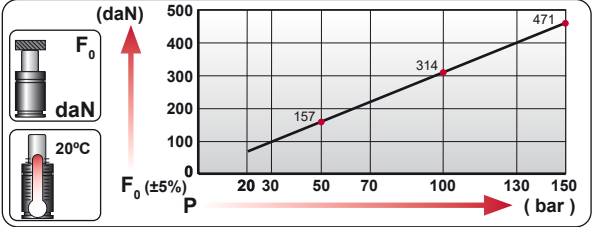
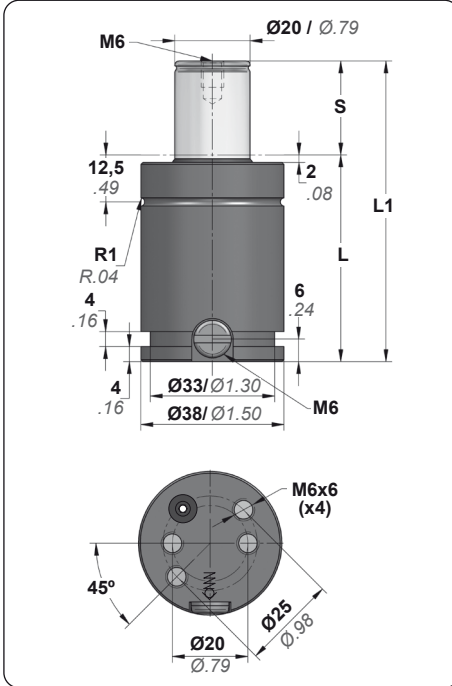
Protective Cover



CW 500 V1

Compact Height

BMW B2 4005	FORD W-DX35-6204	PSA	E24.54.815.G
MB B8 3180 220 000 004	GM 90.25.08		
VW 39D 997			



VDI SAFETY

- >S
- >Vmax
- >Pmax




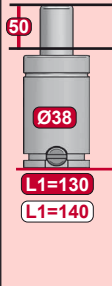
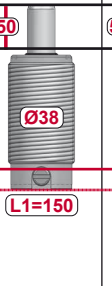
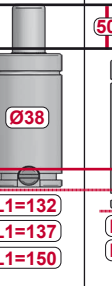
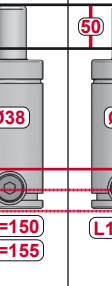
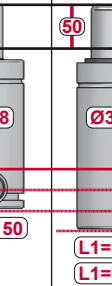
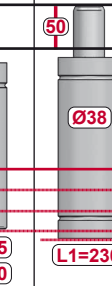
STANDARS

- PED
- VDI 3003
- ISO 11901
- ONOMO EM.24.54


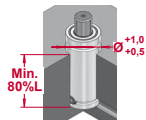








ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 500 010 V1	10	0.39	50	1.97	40	1.57	470 1057 ±5% 150 bar 2175 psi at 20°C 68°F		672	1511	10	0.6	0.24	0.53
CW 500 013 V1	13	0.51	56	2.20	43	1.69			679	1527	13	0.8	0.26	0.57
CW 500 016 V1	16	0.63	62	2.44	46	1.81			684	1538	16	1.0	0.27	0.60
CW 500 019 V1	19	0.75	68	2.68	49	1.93			687	1545	19	1.2	0.28	0.62
CW 500 025 V1	25	0.98	80	3.15	55	2.17			692	1555	25	1.5	0.31	0.68
CW 500 032 V1	32	1.26	94	3.70	62	2.44			695	1562	31	1.9	0.33	0.73
CW 500 038 V1	38	1.50	106	4.17	68	2.68			697	1566	37	2.2	0.36	0.79
CW 500 050 V1	50	1.97	130	5.12	80	3.15			699	1572	48	2.9	0.41	0.90
CW 500 063 V1	63	2.48	156	6.14	93	3.66			701	1575	60	3.7	0.46	1.01
CW 500 075 V1	75	2.95	180	7.09	105	4.13			702	1578	71	4.4	0.51	1.12
CW 500 080 V1	80	3.15	190	7.48	110	4.33			702	1578	76	4.6	0.53	1.17
CW 500 100 V1	100	3.94	230	9.06	130	5.12			703	1581	95	5.8	0.61	1.34
CW 500 125 V1	125	4.92	280	11.02	155	6.10			704	1582	118	7.2	0.71	1.57

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C		Connection	CW-H 500 XXX V1			
Vmax	1,6 m/s	Cartridge Kit	2032D125B						

								
MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000	


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-038  580 A34-038  582		C20-038  598	D02-038  600

PROTECTION OPTIONS

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PW Protective Wiper



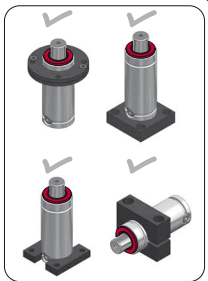
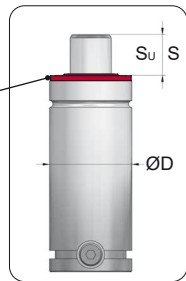
HOW TO ORDER

CW 500 050 V1 20 38

CW 500 050 V1 + PW 020 038




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



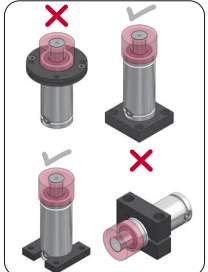
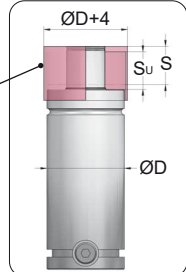
HOW TO ORDER

CW 500 050 V1 20 38 50

CW 500 050 V1 + PC 020 038 050



Protective Cover

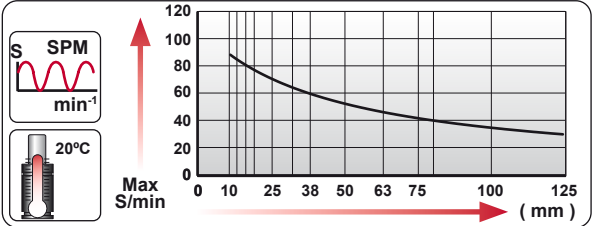
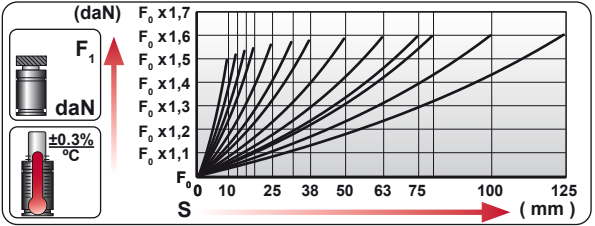
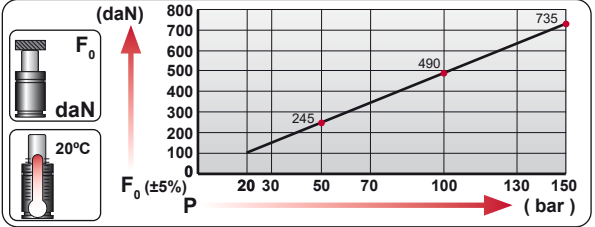
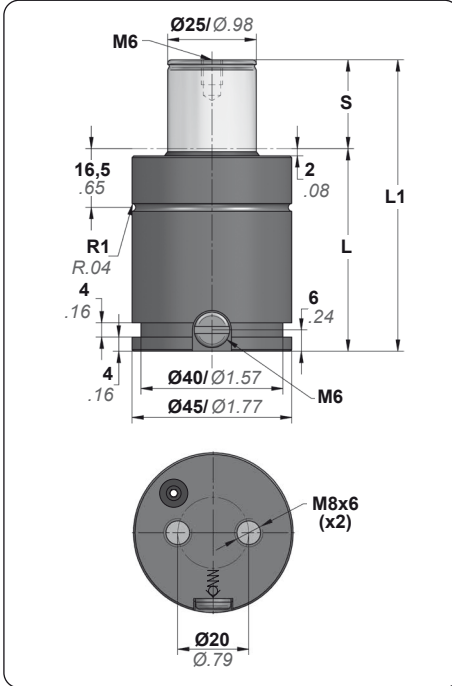


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CW 750 V1

Compact Height

BMW B2 4005	FORD W-DX35-6204	PSA E24.54.815.G
MB B8 3180 220 000 004	GM 90.25.08	
VW 39D 997		



VDI SAFETY

- >S
- >Vmax
- >Pmax




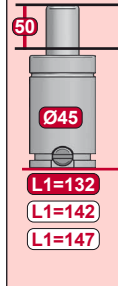

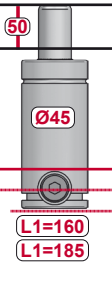
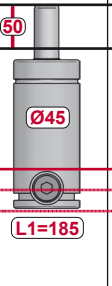
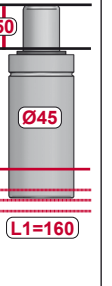
STANDARDS


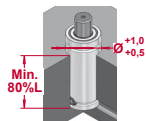












- PED
- VDI 3003
- ISO 11901
- ONOMO EM.24.54

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 750 010 V1	10	0.39	52	2.05	42	1.65	740 1664 ±5% 150 bar 2175 psi at 20°C 68°F		1106	2486	15	0.9	0.38	0.84
CW 750 013 V1	13	0.51	58	2.28	45	1.77			1123	2525	19	1.1	0.40	0.88
CW 750 016 V1	16	0.63	64	2.52	48	1.89			1135	2551	23	1.4	0.42	0.93
CW 750 019 V1	19	0.75	70	2.76	51	2.01			1143	2571	26	1.6	0.44	0.97
CW 750 025 V1	25	0.98	82	3.23	57	2.24			1155	2596	34	2.1	0.47	1.04
CW 750 032 V1	32	1.26	96	3.78	64	2.52			1163	2615	43	2.6	0.52	1.15
CW 750 038 V1	38	1.50	108	4.25	70	2.76			1168	2626	51	3.1	0.55	1.21
CW 750 050 V1	50	1.97	132	5.20	82	3.23			1174	2640	66	4.0	0.63	1.39
CW 750 063 V1	63	2.48	158	6.22	95	3.74			1179	2649	83	5.1	0.71	1.57
CW 750 075 V1	75	2.95	182	7.17	107	4.21			1181	2655	99	6.0	0.78	1.72
CW 750 080 V1	80	3.15	192	7.56	112	4.41			1182	2657	105	6.4	0.82	1.81
CW 750 100 V1	100	3.94	232	9.13	132	5.20			1185	2663	131	8.0	0.94	2.07
CW 750 125 V1	125	4.92	282	11.10	157	6.18			1187	2668	163	9.9	1.10	2.43

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi / 20°C / 68°F	150 bar / 2175 psi / 80°C / 176°F	Charging Adapter	06 CG 2-Q
Smag	< 90%	Tmin Tmax	20°C / 68°F	80°C / 176°F	Connection	CW-H 750 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2538E150B


								
MODEL			CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250	

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-045  A34-045 	B21-045  B76-045 	C05-045  C20-045 	D02-045  D67-045 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



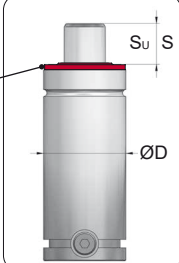
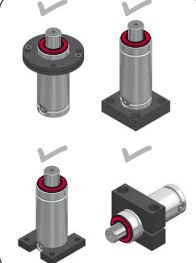
HOW TO ORDER

CW 750 050 V1 25 45

CW 750 050 V1 + PW 025 045




Protective Wiper

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.


PC Protective Cover



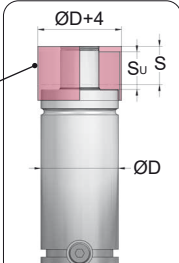
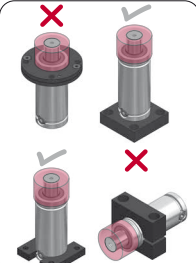
HOW TO ORDER

CW 750 050 V1 25 45 50

CW 750 050 V1 + PC 025 045 050



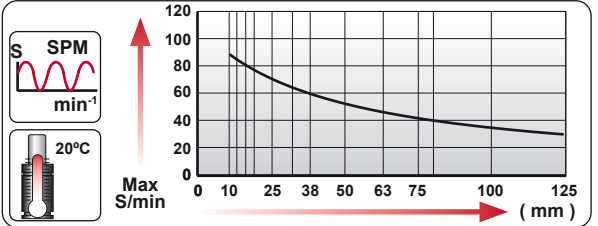
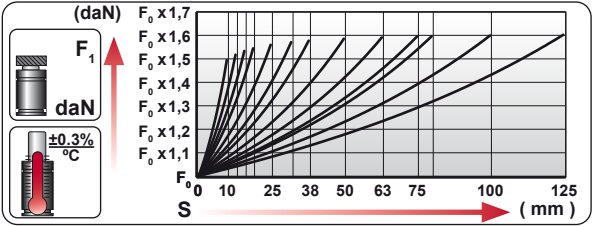
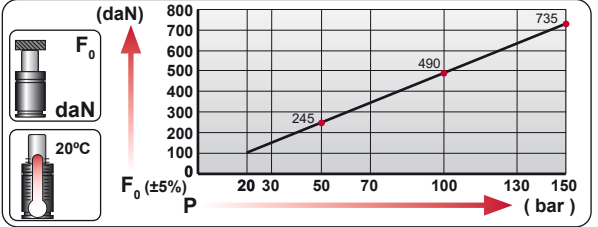
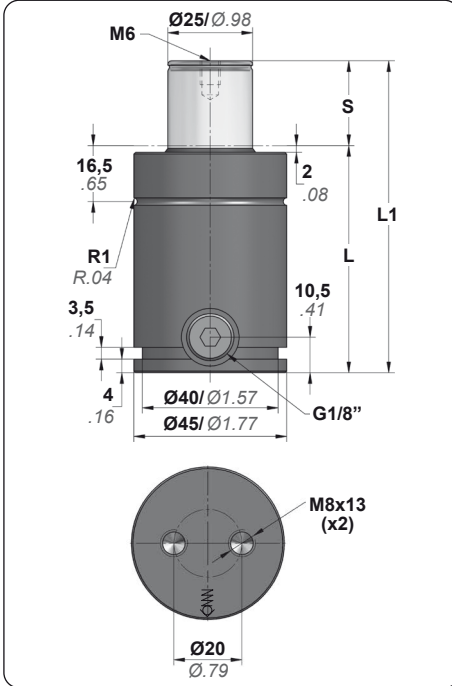
Protective Cover

The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CWC 750 V2

Compact Height



VDI SAFETY

STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CWC 750 010 V2	10	0.39	62	2.44	52	2.05	740 1664 ±5% 150 bar 2175 psi at 20°C 68°F		1106	2486	15	0.9	0.49	1.08
CWC 750 013 V2	13	0.51	68	2.68	55	2.17			1123	2525	19	1.1	0.50	1.10
CWC 750 016 V2	16	0.63	74	2.91	58	2.28			1135	2551	23	1.4	0.52	1.15
CWC 750 019 V2	19	0.75	80	3.15	61	2.40			1143	2571	26	1.6	0.54	1.19
CWC 750 025 V2	25	0.98	92	3.62	67	2.64			1155	2596	34	2.1	0.58	1.28
CWC 750 032 V2	32	1.26	106	4.17	74	2.91			1163	2615	43	2.6	0.62	1.37
CWC 750 038 V2	38	1.50	118	4.65	80	3.15			1168	2626	51	3.1	0.66	1.46
CWC 750 050 V2	50	1.97	142	5.59	92	3.62			1174	2640	66	4.0	0.74	1.63
CWC 750 063 V2	63	2.48	168	6.61	105	4.13			1179	2649	83	5.1	0.82	1.81
CWC 750 075 V2	75	2.95	192	7.56	117	4.61			1181	2655	99	6.0	0.89	1.96
CWC 750 080 V2	80	3.15	202	7.95	122	4.80			1182	2657	105	6.4	0.92	2.03
CWC 750 100 V2	100	3.94	242	9.53	142	5.59			1185	2663	131	8.0	1.05	2.31
CWC 750 125 V2	125	4.92	292	11.50	167	6.57			1187	2668	163	9.9	1.20	2.65

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Charging Adapter	18 CG 1-Q					
	Smax	< 90%		Tmin Tmax	0°C 32°F	80°C 176°F		Connection	CWC-H 750 XXX V2					
	Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	2538E150B					



CWC 750 V2

Compact Height

mm	50	50	50	50	50	50
	$\varnothing 45$	$\varnothing 45$	$\varnothing 45$	$\varnothing 45$	$\varnothing 45$	$\varnothing 45$
	L1=132 L1=142 L1=147	L1=138 L1=150 L1=150	L1=160 L1=185	L1=185	L1=160	L1=160
MODEL	CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250	

MOUNTING OPTIONS

	Drop-in Min. 80%L $\varnothing +0.5$	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-045 581 A34-045 582	B21-045 590 B76-045 594	C05-045 596 C20-045 598	D02-045 600 D67-045 602

PROTECTION OPTIONS

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PW Protective Wiper

HOW TO ORDER

CWC 750 050 V2 25 45

CWC 750 050 V2 + PW 025 045

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

Protective Wiper

S_u S

$\varnothing D$

PC Protective Cover

HOW TO ORDER

CWC 750 050 V2 25 45 50

CWC 750 050 V2 + PC 025 045 050

The body diameter ($\varnothing D$) increases to the size of ($\varnothing PC$). PC can be used with mounts B and C, but not with mounts type A and D.

Protective Cover

$\varnothing D + 4$ S

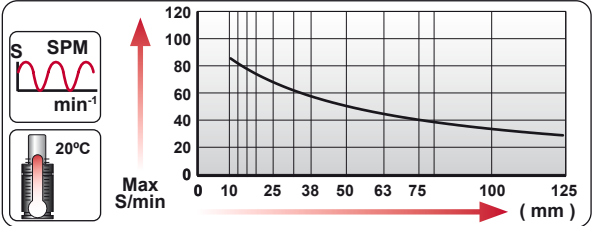
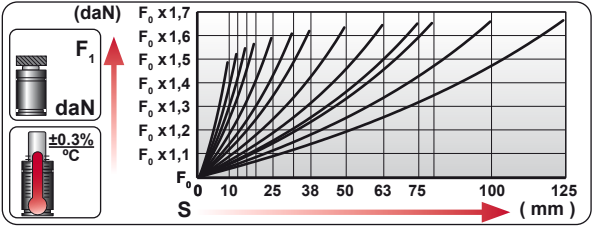
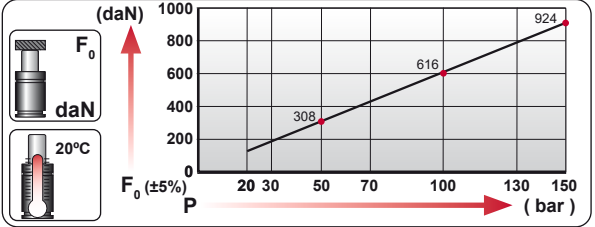
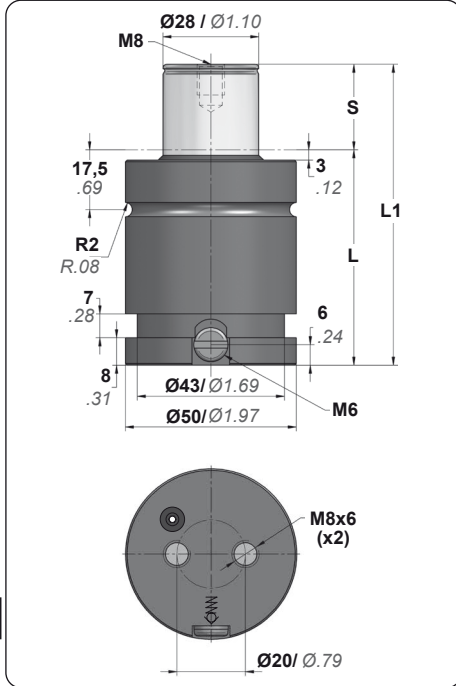
S_u S

$\varnothing D$

CW 1000 V2

Compact Height

BMW B2 4005	FORD W-DX35-6204	PSA E24.54.815.G
MB B8 3180 220 000 004	GM 90.25.08	
VW 39D 997		



VDI SAFETY

- > S
- > Vmax
- > Pmax

STANDARDS

- PEP
- VDI 3003
- ISO 11901
- ONOMO EM.24.54

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 1000 010 V2	10	0.39	58	2.28	48	1.89	920 ±5% 150 bar 2175 psi at 20°C 68°F	2068	1404	3156	18	1.1	0.53	1.17
CW 1000 013 V2	13	0.51	64	2.52	51	2.01			1432	3219	22	1.4	0.56	1.23
CW 1000 016 V2	16	0.63	70	2.76	54	2.13			1451	3261	27	1.6	0.58	1.28
CW 1000 019 V2	19	0.75	76	2.99	57	2.24			1465	3293	31	1.9	0.61	1.34
CW 1000 025 V2	25	0.98	88	3.46	63	2.48			1483	3335	41	2.5	0.66	1.46
CW 1000 032 V2	32	1.26	102	4.02	70	2.76			1497	3366	51	3.1	0.72	1.59
CW 1000 038 V2	38	1.50	114	4.49	76	2.99			1505	3384	60	3.7	0.77	1.70
CW 1000 050 V2	50	1.97	138	5.43	88	3.46			1516	3408	78	4.8	0.87	1.92
CW 1000 063 V2	63	2.48	164	6.46	101	3.98			1523	3424	98	6.0	0.98	2.16
CW 1000 075 V2	75	2.95	188	7.40	113	4.45			1528	3435	116	7.1	1.08	2.38
CW 1000 080 V2	80	3.15	198	7.80	118	4.65			1529	3438	124	7.5	1.12	2.47
CW 1000 100 V2	100	3.94	238	9.37	138	5.43			1534	3448	154	9.4	1.29	2.84
CW 1000 125 V2	125	4.92	288	11.34	163	6.42			1538	3456	192	11.7	1.50	3.31

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	20°C / 68°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CW-H 1000 XXX V2	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2840K169B	

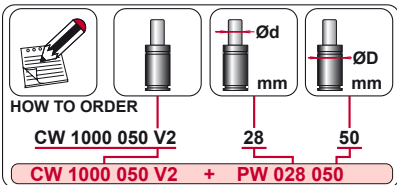
mm	mm	mm	mm	mm	mm	mm	mm	mm
	50	50	50	50	50	50	50	50
	Ø50	Ø50	Ø50	Ø50	Ø50	Ø50	Ø50	Ø50
	L1=138 L1=148 L1=152	L1=138 L1=150 L1=150	L1=170 L1=185 L1=195	L1=195	L1=165 L1=175	L1=220		
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800		

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-050 581 A34-050 582	B21-050 590 B76-050 594	C05-050 596 C20-050 598	D02-050 600 D67-050 602

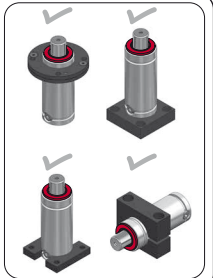
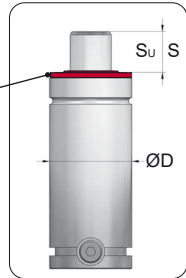
PROTECTION OPTIONS

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PW Protective Wiper

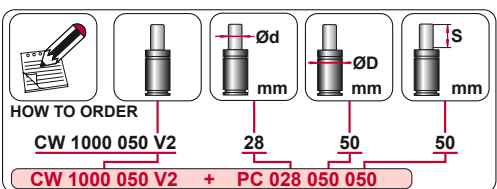


Protective Wiper

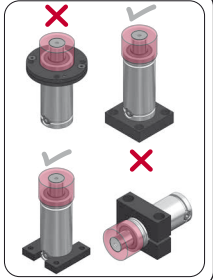
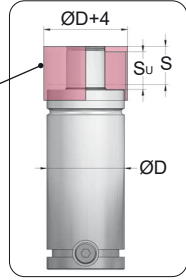


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



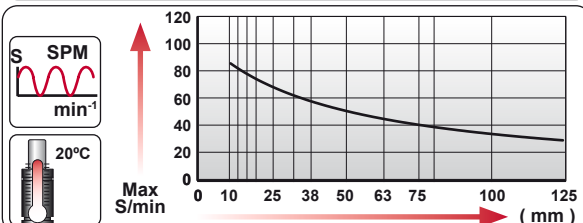
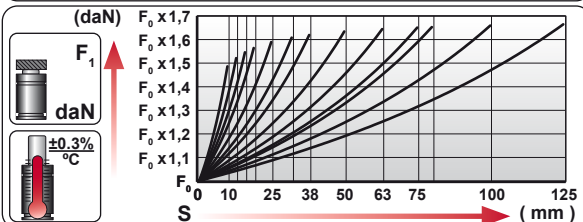
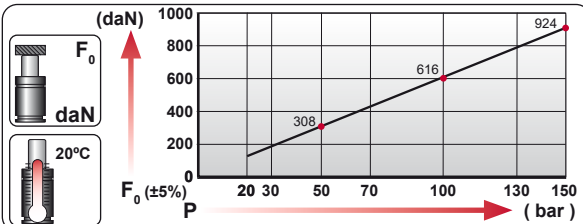
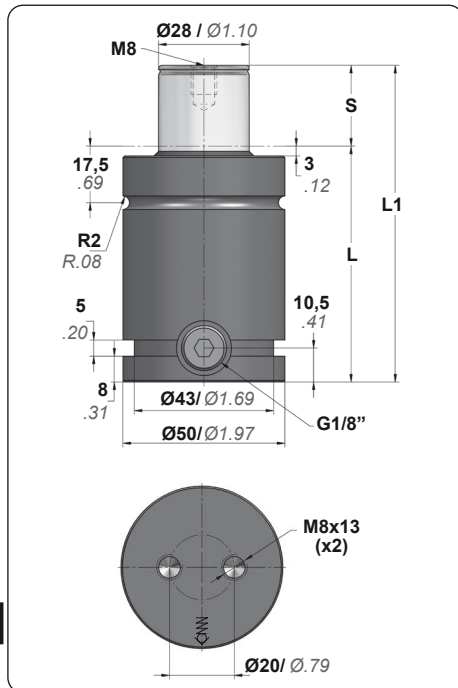
Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CWC 1000 V2

Compact Height



VDI SAFETY



STANDARS



ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CWC 1000 010 V2	10	0.39	68	2.68	58	2.28	920 $\pm 5\%$ 150 bar 2175 psi at 20°C 68°F	2068	1343	3020	20	1.2	0.73	1.61
CWC 1000 013 V2	13	0.51	74	2.91	61	2.40			1368	3075	24	1.5	0.75	1.65
CWC 1000 016 V2	16	0.63	80	3.15	64	2.52			1384	3112	29	1.8	0.78	1.72
CWC 1000 019 V2	19	0.75	86	3.39	67	2.64			1396	3139	34	2.1	0.80	1.76
CWC 1000 025 V2	25	0.98	98	3.86	73	2.87			1413	3176	44	2.7	0.85	1.87
CWC 1000 032 V2	32	1.26	112	4.41	80	3.15			1425	3203	56	3.4	0.91	2.01
CWC 1000 038 V2	38	1.50	124	4.88	86	3.39			1432	3219	65	4.0	0.96	2.12
CWC 1000 050 V2	50	1.97	148	5.83	98	3.86			1441	3240	85	5.2	1.06	2.34
CWC 1000 063 V2	63	2.48	174	6.85	111	4.37			1447	3254	106	6.5	1.17	2.58
CWC 1000 075 V2	75	2.95	198	7.80	123	4.84			1451	3263	126	7.7	1.27	2.80
CWC 1000 080 V2	80	3.15	208	8.19	128	5.04			1453	3266	134	8.2	1.31	2.89
CWC 1000 100 V2	100	3.94	248	9.76	148	5.83			1457	3275	167	10.2	1.48	3.26
CWC 1000 125 V2	125	4.92	298	11.73	173	6.81			1460	3282	208	12.7	1.69	3.73

TECHNICAL DATA

Fluid	N_2	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	CWC-H 1000 XXX V2	
Vmax	1,6 m/s	Force variation by temperature	$\pm 0,3\% / ^\circ\text{C}$		Cartridge Kit	2840K169B	



CWC 1000 V2

Compact Height

mm	50	50	50	50	50	50
	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$	$\varnothing 50$
	L1=138 L1=148 L1=152	L1=138 L1=150 L1=150	L1=170 L1=185 L1=195	L1=195	L1=165 L1=175	L1=220
MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800

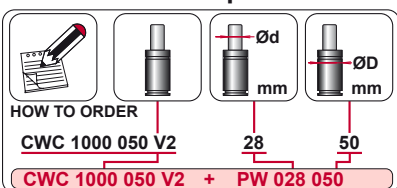
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-050 581 A34-050 582	B21-050 590 B76-050 594	C05-050 596 C20-050 598	D02-050 600 D67-050 602

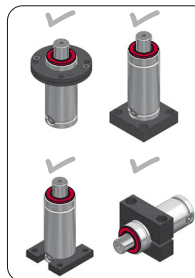
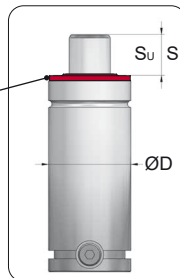
PROTECTION OPTIONS

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PW Protective Wiper

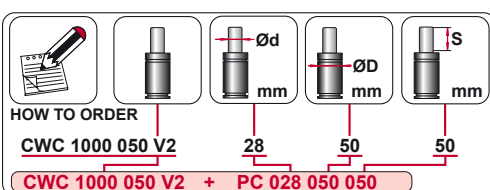


Protective Wiper

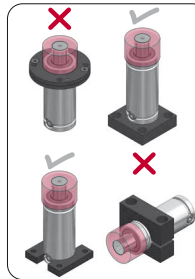
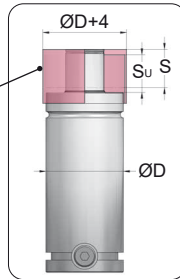


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



Protective Cover

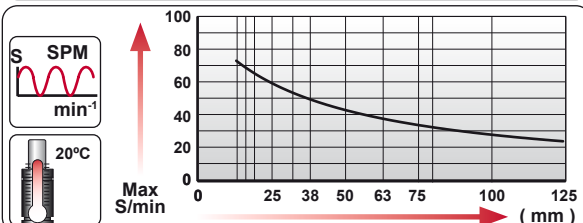
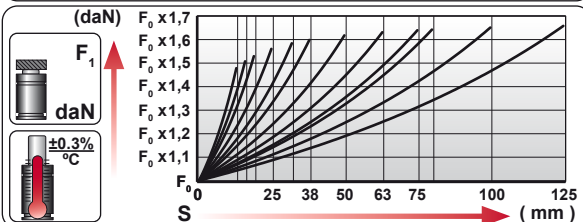
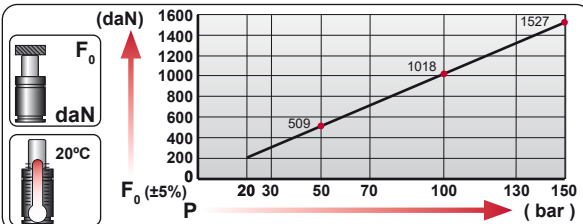
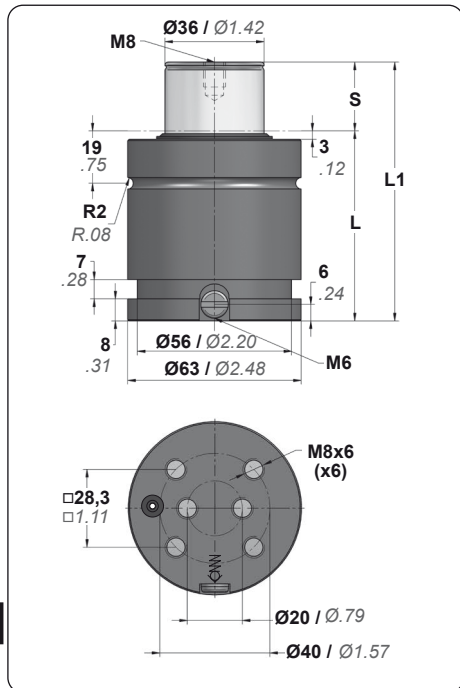


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CW 1500 V1

Compact Height

BMW B2 4005	FORD W-DX35-6204
MB B8 3180 220 000 004	
VW 39D 997	






VDI SAFETY

STANDARDS










ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CW 1500 013 V1	13	0.51	70	2.76	57	2.24	1530 3440 ±5% 150 bar 2175 psi at 20°C 68°F		2315	5205	39	2.4	0.99	2.18
CW 1500 016 V1	16	0.63	76	2.99	60	2.36			2355	5293	47	2.8	1.03	2.27
CW 1500 019 V1	19	0.75	82	3.23	63	2.48			2384	5359	54	3.3	1.07	2.36
CW 1500 025 V1	25	0.98	94	3.70	69	2.72			2425	5451	69	4.2	1.15	2.54
CW 1500 032 V1	32	1.26	108	4.25	76	2.99			2455	5520	86	5.3	1.24	2.73
CW 1500 038 V1	38	1.50	120	4.72	82	3.23			2474	5561	101	6.2	1.31	2.89
CW 1500 050 V1	50	1.97	144	5.67	94	3.70			2498	5616	131	8.0	1.47	3.24
CW 1500 063 V1	63	2.48	170	6.69	107	4.21			2515	5653	164	10.0	1.63	3.59
CW 1500 075 V1	75	2.95	194	7.64	119	4.69			2525	5677	194	11.8	1.79	3.95
CW 1500 080 V1	80	3.15	204	8.03	124	4.88			2529	5684	206	12.6	1.85	4.08
CW 1500 100 V1	100	3.94	244	9.61	144	5.67			2539	5708	256	15.6	2.11	4.65
CW 1500 125 V1	125	4.92	294	11.57	169	6.65			2548	5728	318	19.4	2.43	5.36

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar	20°C / 68°F	290 psi 2175 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 80 °C	32 °F 176 °F	Connection	CW-H 1500 XXX V1	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	3651L210A	

							
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		


MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-063  581 A69-063  583	B21-063  590 B76-063  594	C05-063  596 C35-063  599	D02-063  600 D67-063  602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper



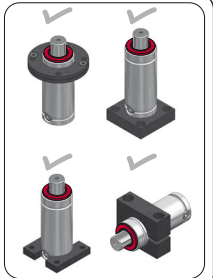
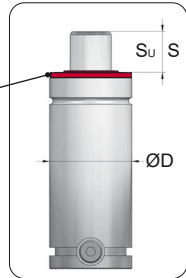
HOW TO ORDER

CW 1500 050 V1 36 63

CW 1500 050 V1 + PW 036 063





Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.


PC Protective Cover



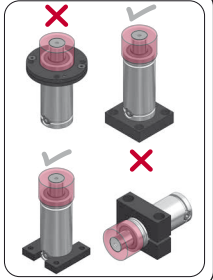
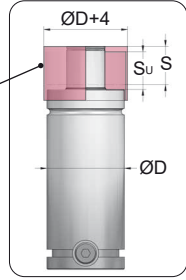
HOW TO ORDER

CW 1500 050 V1 36 63 50

CW 1500 050 V1 + PC 036 063 050



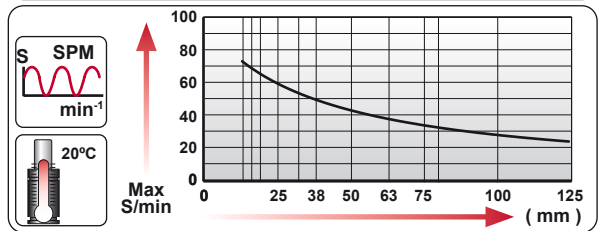
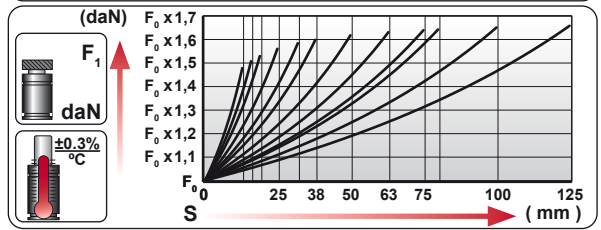
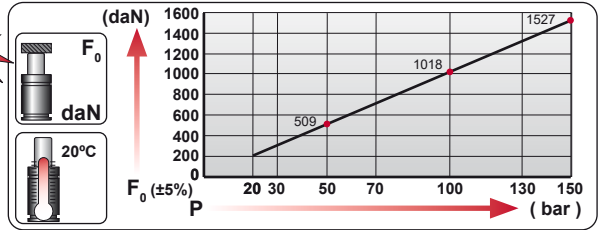
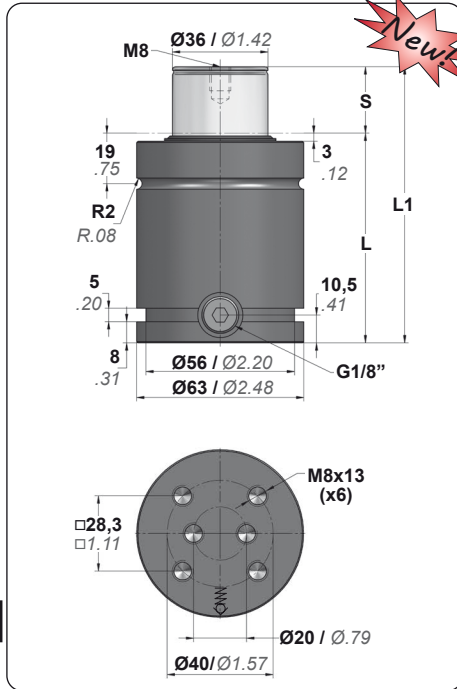

Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CWC 1500 V1

Compact Height



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CWC 1500 013 V1	13	0.51	80	3.15	67	2.64	1530 ±5% 150 bar 2175 psi at 20°C 68°F	3440	2315	5205	39	2.4	1.23	2.71
CWC 1500 016 V1	16	0.63	86	3.39	70	2.76			2355	5293	47	2.8	1.27	2.80
CWC 1500 019 V1	19	0.75	92	3.62	73	2.87			2384	5359	54	3.3	1.31	2.89
CWC 1500 025 V1	25	0.98	104	4.09	79	3.11			2425	5451	69	4.2	1.38	3.04
CWC 1500 032 V1	32	1.26	118	4.65	86	3.39			2455	5520	86	5.3	1.47	3.24
CWC 1500 038 V1	38	1.50	130	5.12	92	3.62			2474	5561	101	6.2	1.55	3.42
CWC 1500 050 V1	50	1.97	154	6.06	104	4.09			2498	5616	131	8.0	1.70	3.75
CWC 1500 063 V1	63	2.48	180	7.09	117	4.61			2515	5653	164	10.0	1.87	4.12
CWC 1500 075 V1	75	2.95	204	8.03	129	5.08			2525	5677	194	11.8	2.03	4.48
CWC 1500 080 V1	80	3.15	214	8.43	134	5.28			2529	5684	206	12.6	2.09	4.61
CWC 1500 100 V1	100	3.94	254	10.00	154	6.06			2539	5708	256	15.6	2.35	5.18
CWC 1500 125 V1	125	4.92	304	11.97	179	7.05			2548	5728	318	19.4	2.67	5.89

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Charging Adapter	18 CG 1-Q					
	Sm _{ax}	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	CWC-H 1500 XXX					
	V _{max}	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	3651L210A					



CWC 1500 V1

Compact Height

mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-063 581 A69-063 583	B21-075 590 B76-075 594	C05-063 596 C35-063 599	D02-063 600 D67-063 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

CWC 1500 050 V1 36 63

CWC 1500 050 V1 + PW 036 063

Protective Wiper

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover

HOW TO ORDER

CWC 1500 050 V1 36 63 50

CWC 1500 050 V1 + PC 036 063 050

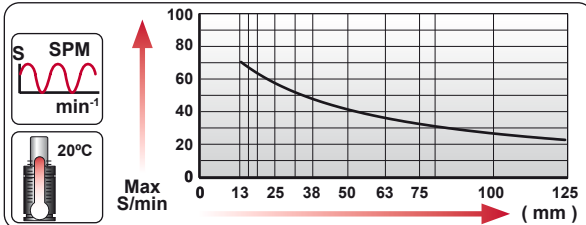
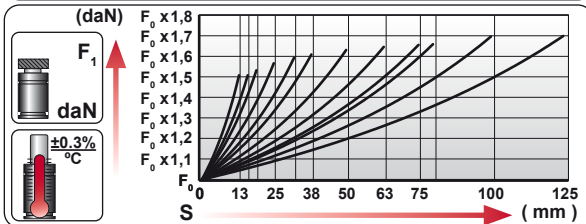
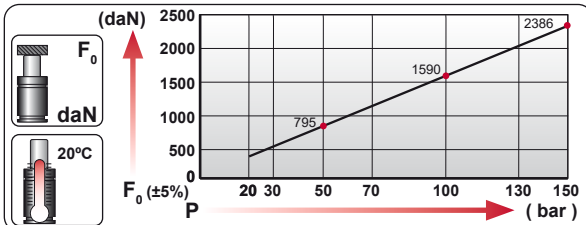
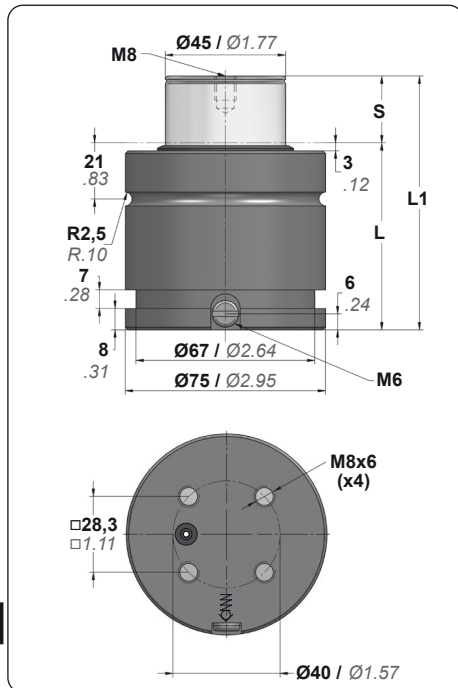
Protective Cover

The body diameter ($\varnothing D$) increases to the size of ($\varnothing PC$).
PC can be used with mounts B and C, but not with mounts type A and D.

CW 2400 V1

Compact Height

BMW B2 4005	FORD W-DX35-6204	PSA	E24.54.815.G
MB B8 3180 220 000 004	GM 90.25.08		
VW 39D 997			



VDI SAFETY








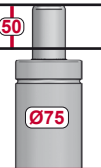

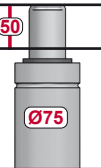

STANDARDS




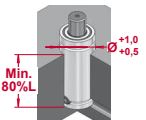












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 2400 013 V1	13	0.51	71	2.80	58	2.28	2385 ±5% 150 bar 2175 psi at 20°C 68°F	5362	3592	8075	62	3.8	1.41	3.11
CW 2400 016 V1	16	0.63	77	3.03	61	2.40			3661	8230	73	4.5	1.46	3.22
CW 2400 019 V1	19	0.75	83	3.27	64	2.52			3713	8347	84	5.2	1.51	3.33
CW 2400 025 V1	25	0.98	95	3.74	70	2.76			3786	8512	107	6.6	1.62	3.57
CW 2400 032 V1	32	1.26	109	4.29	77	3.03			3842	8637	134	8.2	1.74	3.84
CW 2400 038 V1	38	1.50	121	4.76	83	3.27			3876	8713	157	9.6	1.84	4.06
CW 2400 050 V1	50	1.97	145	5.71	95	3.74			3921	8814	203	12.4	2.05	4.52
CW 2400 063 V1	63	2.48	171	6.73	108	4.25			3952	8883	253	15.4	2.27	5.00
CW 2400 075 V1	75	2.95	195	7.68	120	4.72			3971	8928	299	18.2	2.47	5.45
CW 2400 080 V1	80	3.15	205	8.07	125	4.92			3978	8942	318	19.4	2.56	5.64
CW 2400 100 V1	100	3.94	245	9.65	145	5.71			3998	8987	394	24.1	2.90	6.39
CW 2400 125 V1	125	4.92	295	11.61	170	6.69			4014	9024	490	29.9	3.33	7.34

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CW-H 2400 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	4563L245A

								
			50	50	50	50	50	50
			Ø75	Ø75	Ø75	Ø75	Ø75	Ø75
			L1=145	L1=154	L1=185	L1=210	L1=175	L1=240
			L1=155	L1=160	L1=195	L1=210	L1=200	
			L1=159	L1=160	L1=210			
MODEL			CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-075  A34-075 	B21-075  B76-075 	C05-075  C20-075 	D02-075  D67-075 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



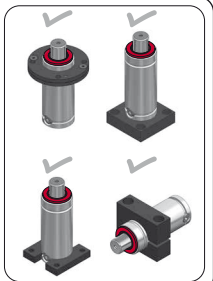
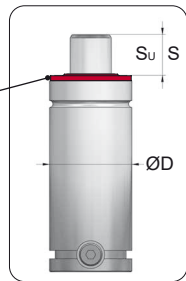
HOW TO ORDER

CW 2400 050 V1 45 75

CW 2400 050 V1 + PW 045 075




Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



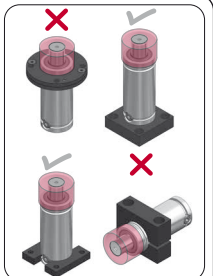
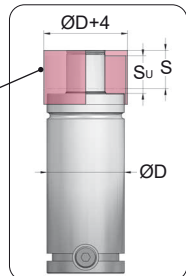
HOW TO ORDER

CW 2400 050 V1 45 75 50

CW 2400 050 V1 + PC 045 075 050



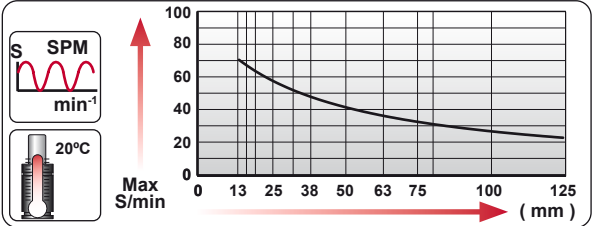
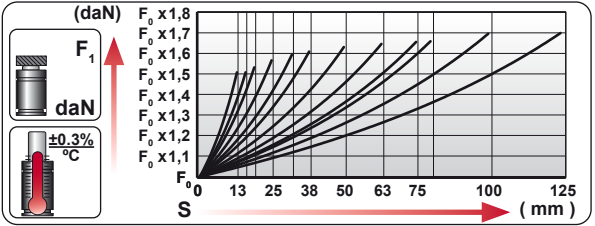
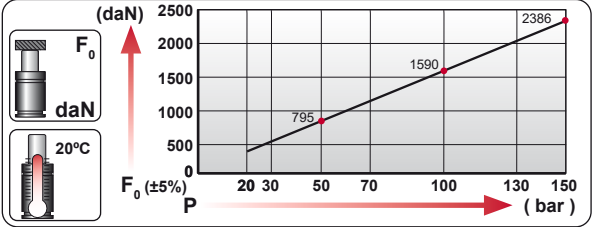
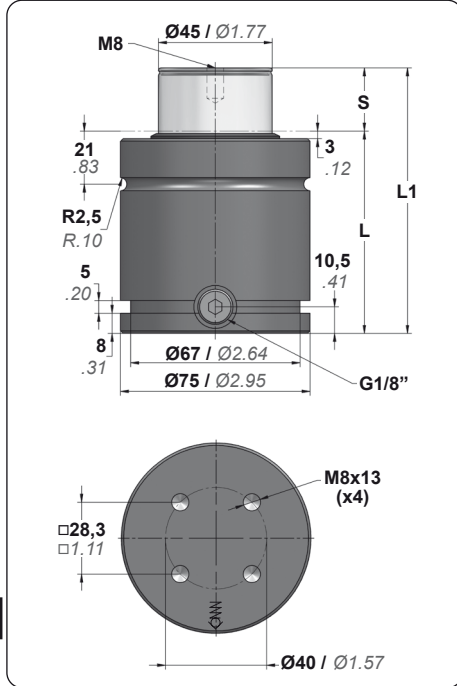
Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CWC 2400 V2

Compact Height



VDI SAFETY






STANDARS












ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CWC 2400 013 V2	13	0.51	81	3.19	68	2.68	2385	5362	3592	8075	62	3.8	1.73	3.81
CWC 2400 016 V2	16	0.63	87	3.43	71	2.80			3661	8230	73	4.5	1.78	3.92
CWC 2400 019 V2	19	0.75	93	3.66	74	2.91			3713	8347	84	5.2	1.84	4.06
CWC 2400 025 V2	25	0.98	105	4.13	80	3.15			3786	8512	107	6.6	1.94	4.28
CWC 2400 032 V2	32	1.26	119	4.69	87	3.43			3842	8637	134	8.2	2.06	4.54
CWC 2400 038 V2	38	1.50	131	5.16	93	3.66			3876	8713	157	9.6	2.16	4.76
CWC 2400 050 V2	50	1.97	155	6.10	105	4.13			3921	8814	203	12.4	2.37	5.22
CWC 2400 063 V2	63	2.48	181	7.13	118	4.65			3952	8883	253	15.4	2.59	5.71
CWC 2400 075 V2	75	2.95	205	8.07	130	5.12			3971	8928	299	18.2	2.80	6.17
CWC 2400 080 V2	80	3.15	215	8.46	135	5.31			3978	8942	318	19.4	2.88	6.35
CWC 2400 100 V2	100	3.94	255	10.04	155	6.10	3998	8987	394	24.1	3.22	7.10		
CWC 2400 125 V2	125	4.92	305	12.01	180	7.09	4014	9024	490	29.9	3.65	8.05		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CWC-H 2400 XXX V2	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	4563L245A	

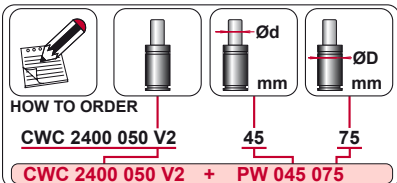
								
MODEL			CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-075  A34-075 	B21-075  B76-075 	C05-075  C20-075 	D02-075  D67-075 

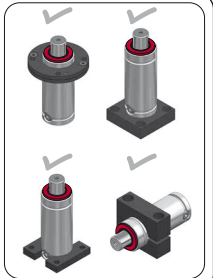
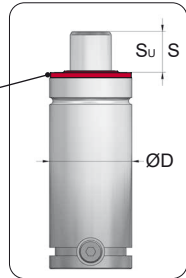
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

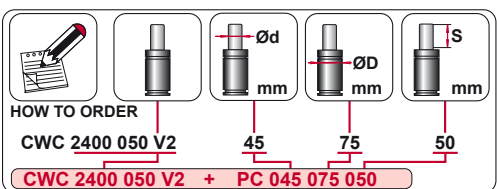


Protective Wiper

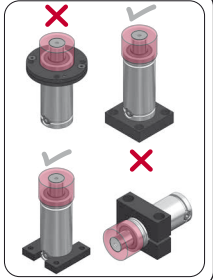
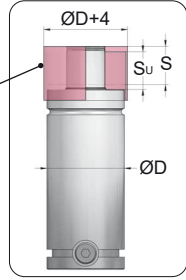


PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover



Protective Cover

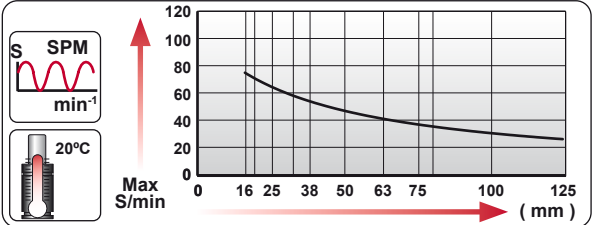
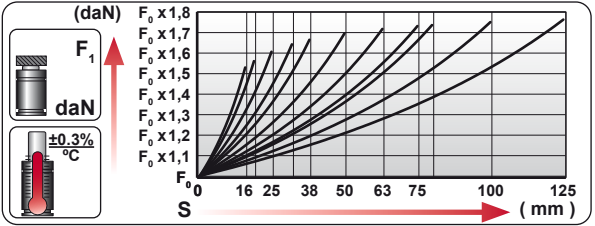
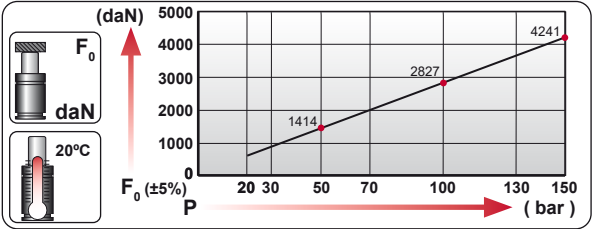
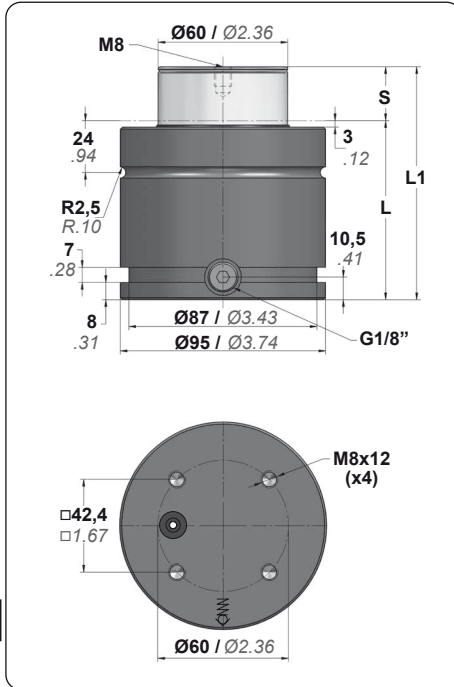


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CW 4200 V1

Compact Height

BMW B2 4005	FORD W-DX35-6204	PSA E24.54.815.G
MB B8 3180 220 000 004	GM 90.25.08	
VW 39D 997		






VDI SAFETY icons: $>S$, $>V_{max}$, $>P_{max}$, Flex Rod.

STANDARDS: PED, VDI 3003, ISO 11901, ONOMO EM.24.54.


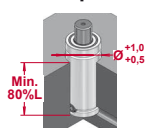



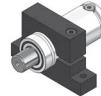








ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 4200 016 V1	16	0.63	90	3.54	74	2.91	4240	9532	6625	14894	126	7.7	3.03	6.68
CW 4200 019 V1	19	0.75	96	3.78	77	3.03			6749	15172	145	8.8	3.11	6.86
CW 4200 025 V1	25	0.98	108	4.25	83	3.27	$\pm 5\%$		6927	15573	182	11.1	3.29	7.25
CW 4200 032 V1	32	1.26	122	4.80	90	3.54			7067	15886	226	13.8	3.49	7.69
CW 4200 038 V1	38	1.50	134	5.28	96	3.78	150 bar	2175 psi	7152	16078	264	16.1	3.66	8.07
CW 4200 050 V1	50	1.97	158	6.22	108	4.25			7269	16340	339	20.7	4.00	8.82
CW 4200 063 V1	63	2.48	184	7.24	121	4.76	at	20°C	7350	16524	421	25.7	4.37	9.63
CW 4200 075 V1	75	2.95	208	8.19	133	5.24			7402	16641	496	30.3	4.71	10.38
CW 4200 080 V1	80	3.15	218	8.58	138	5.43	68°F		7420	16681	528	32.2	4.85	10.69
CW 4200 100 V1	100	3.94	258	10.16	158	6.22			7474	16802	653	39.9	5.42	11.95
CW 4200 125 V1	125	4.92	308	12.13	183	7.20			7518	16902	811	49.5	6.14	13.54

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	20°C / 68°F	80°C / 176°F	Connection	CW-H 4200 XXX V1
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	6080U275A

								
	50	50	50	50	50	50	50	50
	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95	Ø95
	L1=158	L1=170	L1=195	L1=220	L1=215	L1=220	L1=255	
	L1=162	L1=170	L1=205					
	L1=162		L1=220					
MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500		

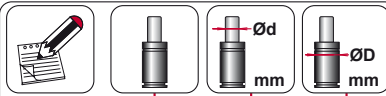
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-095  581 A34-095  582	B21-095  590 B76-095  594	C05-095  597 C20-095  598	D02-095  601 D67-095  603

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

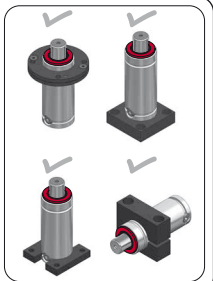
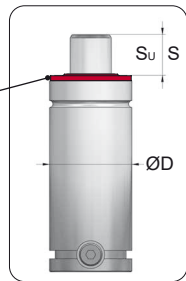
PW Protective Wiper



HOW TO ORDER
CW 4200 050 V1 **60** **95**
CW 4200 050 V1 + PW 060 095

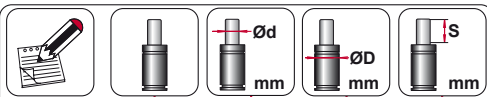


Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

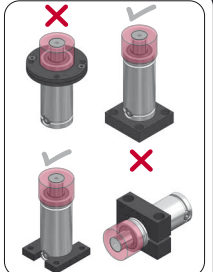
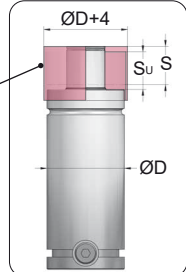
PC Protective Cover



HOW TO ORDER
CW 4200 050 V1 **60** **95** **50**
CW 4200 050 V1 + PC 060 095 050



Protective Cover

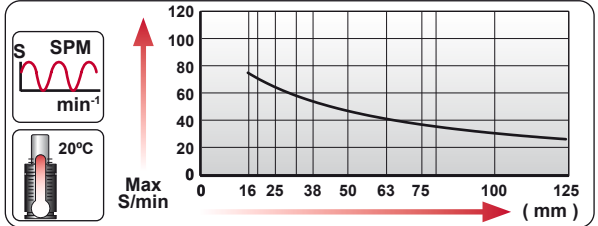
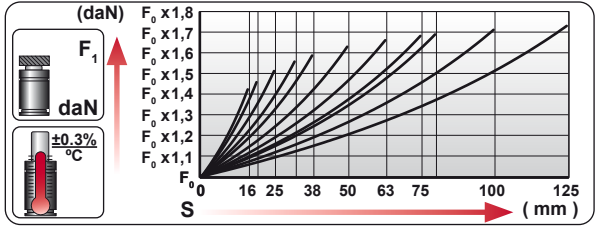
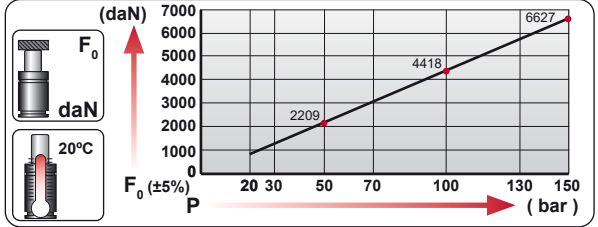
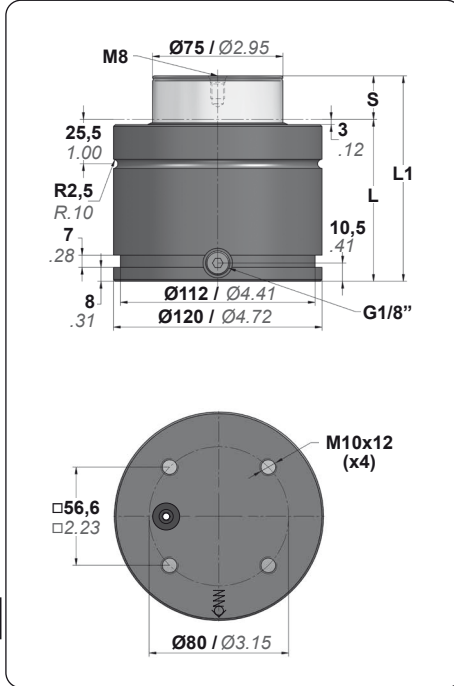


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CW 6600

Compact Height

BMW B2 4005	FORD W-DX35-6204
MB B8 3180 220 000 004	GM 90.25.08
VW 39D 997	






VDI SAFETY icons: $>S$, $>V_{max}$, $>P_{max}$, Flex Rod.

STANDARDS: PED, VDI 3003, ISO 11901.


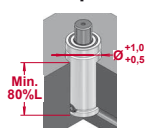



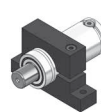








ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 6600 016	16	0.63	100	3.94	84	3.31	6630	14905	9577	21529	230	14.0	5.51	12.15
CW 6600 019	19	0.75	106	4.17	87	3.43			9806	22044	259	15.8	5.65	12.46
CW 6600 025	25	0.98	118	4.65	93	3.66	±5% 150 bar 2175 psi at 20°C 68°F		10157	22833	318	19.4	5.93	13.07
CW 6600 032	32	1.26	132	5.20	100	3.94			10449	23490	387	23.6	6.26	13.80
CW 6600 038	38	1.50	144	5.67	106	4.17			10636	23911	446	27.2	6.53	14.40
CW 6600 050	50	1.97	168	6.61	118	4.65			10904	24514	564	34.4	7.09	15.63
CW 6600 063	63	2.48	194	7.64	131	5.16			11100	24954	691	42.2	7.69	16.95
CW 6600 075	75	2.95	218	8.58	143	5.63			11229	25245	809	49.4	8.25	18.19
CW 6600 080	80	3.15	228	8.98	148	5.83			11274	25344	858	52.4	8.48	18.70
CW 6600 100	100	3.94	268	10.55	168	6.61			11411	25654	1054	64.3	9.41	20.75
CW 6600 125	125	4.92	318	12.52	193	7.60			11527	25915	1300	79.3	10.57	23.30

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smix	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	CW-H 6600 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	75A0W360A	

							
MODEL			CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000	CS 11800


MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
					
HOW TO ORDER		A14-120  A34-120 	B21-120  B76-120 	C05-120  C20-120 	D02-120  D67-120 

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

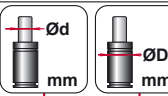
PW Protective Wiper



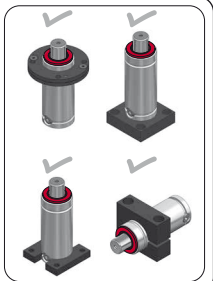
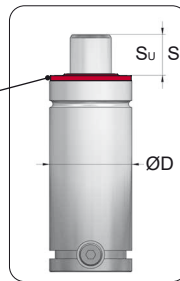
HOW TO ORDER

CW 6600 050 75 120

CW 6600 050 + PW 075 120





Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

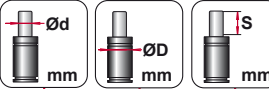
PC Protective Cover



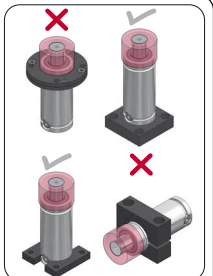
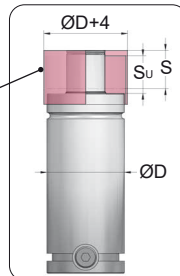
HOW TO ORDER

CW 6600 050 75 120 50

CW 6600 050 + PC 075 120 050




Protective Cover

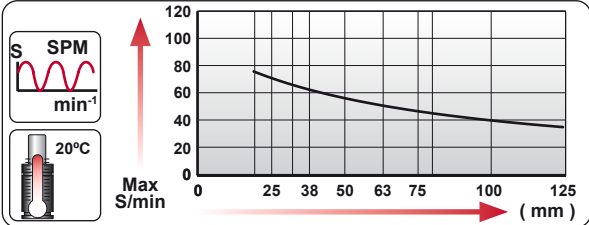
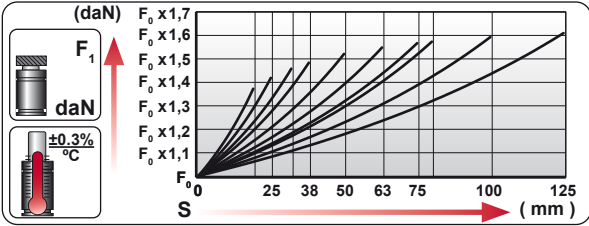
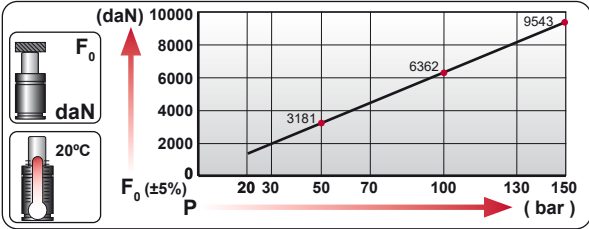
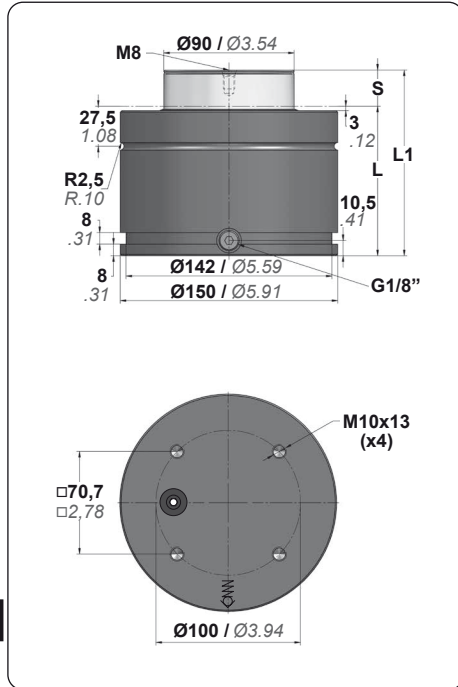


The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CW 9500

Compact Height

BMW B2 4005	FORD W-DX35-6204
MB B8 3180 220 000 004	GM 90.25.08
VW 39D 997	



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod

STANDARS

- APPROVED PED
- VDI 3003
- ISO 11901

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 9500 019	19	0.75	116	4.57	97	3.82	9540 ±5% 150 bar 2175 psi at 20°C 68°F	21447	13263	29817	431	26.3	9.96	21.96
CW 9500 025	25	0.98	128	5.04	103	4.06		13696	30790	524	32.0	10.35	22.82	
CW 9500 032	32	1.26	142	5.59	110	4.33		14060	31608	633	38.6	10.82	23.85	
CW 9500 038	38	1.50	154	6.06	116	4.57		14295	32136	727	44.4	11.22	24.74	
CW 9500 050	50	1.97	178	7.01	128	5.04		14633	32897	914	55.8	12.01	26.48	
CW 9500 063	63	2.48	204	8.03	141	5.55		14882	33456	1117	68.1	12.87	28.37	
CW 9500 075	75	2.95	228	8.98	153	6.02		15047	33828	1304	79.6	13.67	30.14	
CW 9500 080	80	3.15	238	9.37	158	6.22		15104	33955	1382	84.3	14.00	30.86	
CW 9500 100	100	3.94	278	10.94	178	7.01		15281	34352	1693	103.3	15.32	33.77	
CW 9500 125	125	4.92	328	12.91	203	7.99		15430	34689	2083	127.1	16.98	37.43	

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smix	< 90%	Tmin Tmax	0 °C 80 °C	32 °F 176 °F	Connection	CW-H 9500 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	90C5X380A



CW 9500
Compact Height

mm	50	50	50	50	50	50
	Ø150	Ø150	Ø150	Ø150	Ø150	Ø150
	L1=178	L1=205	L1=236	L1=255	L1=270	L1=178
	L1=178	L1=205	L1=236	L1=255	L1=270	L1=178
	L1=178	L1=205	L1=236	L1=255	L1=270	L1=178
MODEL	CW 9500 CW 11800 KT 9500	GN 7500 CM 10000 CD 9600	AG 7500			CS 18300

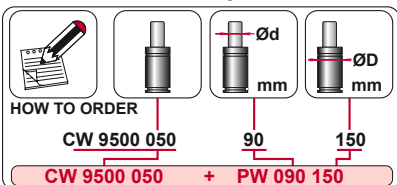
MOUNTING OPTIONS

	Drop-in Min. 80%L +1.0 Ø+0.5	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-150 581 A34-150 583	B21-150 591 B76-150 595	C05-150 596 C20-150 599	D02-150 601 D67-150 603

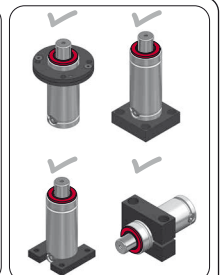
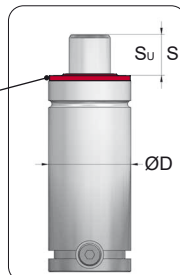
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper



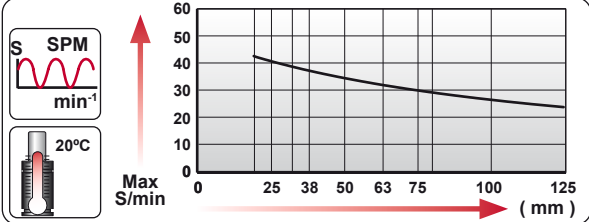
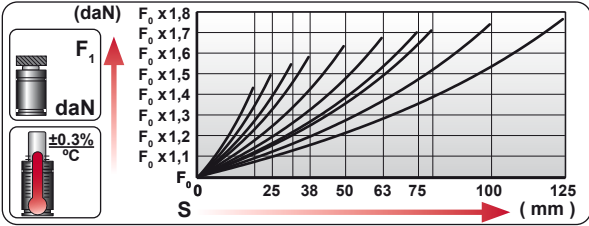
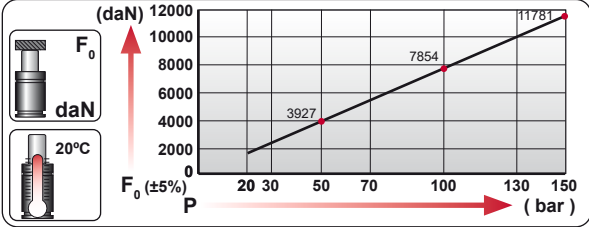
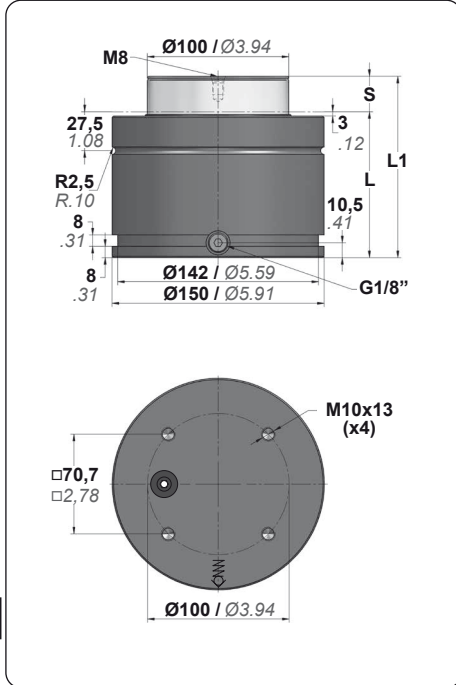
Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

CW 11800

Compact Height



VDI SAFETY

- > S
- > Vmax
- > Pmax
- Flex Rod

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 11800 019	19	0.75	116	4.57	97	3.82	11780 ±5% 150 bar 2175 psi at 20°C 68°F	26482	17165	38589	476	29.0	9.89	21.80
CW 11800 025	25	0.98	128	5.04	103	4.06			17876	40186	576	35.1	10.31	22.73
CW 11800 032	32	1.26	142	5.59	110	4.33			18489	41565	693	42.3	10.79	23.79
CW 11800 038	38	1.50	154	6.06	116	4.57			18892	42472	793	48.4	11.21	24.71
CW 11800 050	50	1.97	178	7.01	128	5.04			19486	43805	993	60.6	12.04	26.54
CW 11800 063	63	2.48	204	8.03	141	5.55			19930	44804	1210	73.8	12.94	28.53
CW 11800 075	75	2.95	228	8.98	153	6.02			20229	45478	1410	86.1	13.78	30.38
CW 11800 080	80	3.15	238	9.37	158	6.22			20333	45710	1494	91.2	14.12	31.13
CW 11800 100	100	3.94	278	10.94	178	7.01			20658	46441	1828	111.5	15.51	34.19
CW 11800 125	125	4.92	328	12.91	203	7.99			20937	47067	2245	137.0	17.25	38.03

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CW-H 11800 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	A0C5X380A	



CW 11800
Compact Height

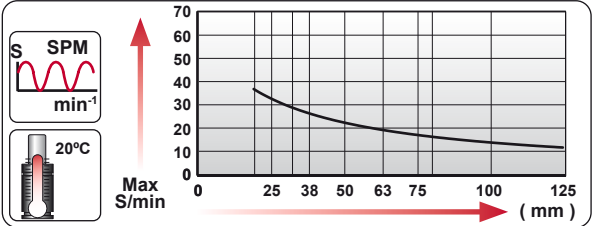
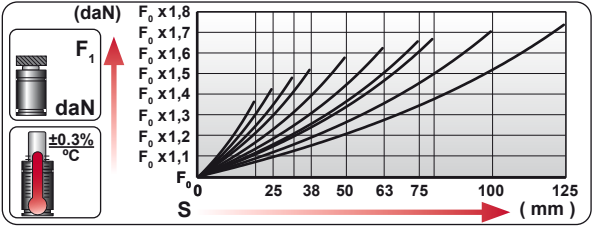
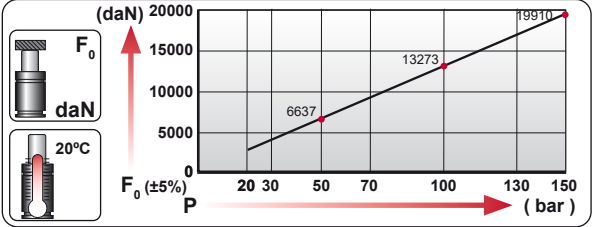
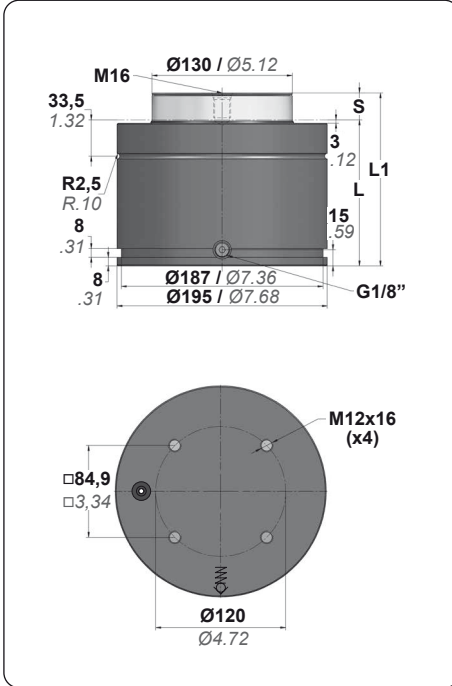
MODEL	CW 9500 CW 11800 KT 9500			GN 7500 CM 10000 CD 9600	AG 7500		CS 18300

MOUNTING OPTIONS					
	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A14-150 581 A34-150 583	B21-150 591 B76-150 595	C05-150 597 C20-150 599	D02-150 601 D67-150 603

CW 20000

Compact Height

	GM	90.25.08
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VDI SAFETY

- $> S$
- $> V_{max}$
- $> P_{max}$
- Flex Rod




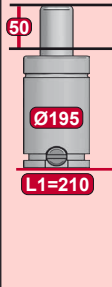
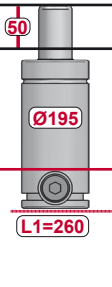
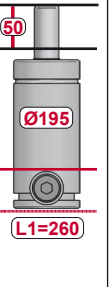
STANDARDS

-
-


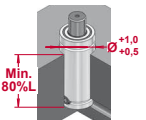











ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW 20000 019	19	0.75	148	5.83	129	5.08	19910	44759	27148	61031	946	57.7	22.69	50.02
CW 20000 025	25	0.98	160	6.30	135	5.31			28360	63756	1114	68.0	23.40	51.59
CW 20000 032	32	1.26	174	6.85	142	5.59	±5% 150 bar 2175 psi at 20°C 68°F		29469	66249	1309	79.9	24.24	53.44
CW 20000 038	38	1.50	186	7.32	148	5.83			30233	67967	1477	90.1	24.95	55.00
CW 20000 050	50	1.97	210	8.27	160	6.30			31410	70612	1813	110.6	26.38	58.16
CW 20000 063	63	2.48	236	9.29	173	6.81			32335	72692	2176	132.8	27.93	61.57
CW 20000 075	75	2.95	260	10.24	185	7.28			32982	74147	2512	153.3	29.36	64.73
CW 20000 080	80	3.15	270	10.63	190	7.48			33210	74658	2652	161.8	29.96	66.05
CW 20000 100	100	3.94	310	12.20	210	8.27			33942	76304	3211	195.9	32.34	71.30
CW 20000 125	125	4.92	360	14.17	235	9.25			34588	77757	3910	238.6	35.32	77.87

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi 20°C / 68°F	150 bar 2175 psi		Charging Adapter	18 CG 1-Q
Smix	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	CW-H 20000 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C			Cartridge Kit	D0G0Y630A

							
			50 Ø195 L1=210	50 Ø195 L1=260	50 Ø195 L1=260		
MODEL			CW 20000	CD 18500	AG 10000		


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A14-195  581 A34-195  583	B21-195  591 B76-195  595	C05-195  597 C20-195  599	D02-195  600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.


PW Protective Wiper




HOW TO ORDER

CW 20000 050 130 195

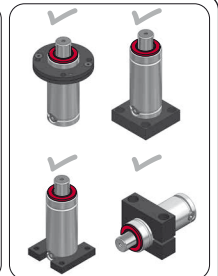
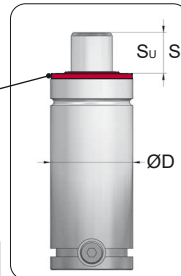
CW 20000 050 + PW 130 195

 $\varnothing d$ mm

 $\varnothing D$ mm



Protective Wiper



PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.



GAS SPRINGS



AZOL 
GAS



HEAVY LOAD CP

- Full height size gas springs
- The highest contact force (150-8000 daN)
- Limited strokes (up to 80 mm)
- Used for extra heavy duty work



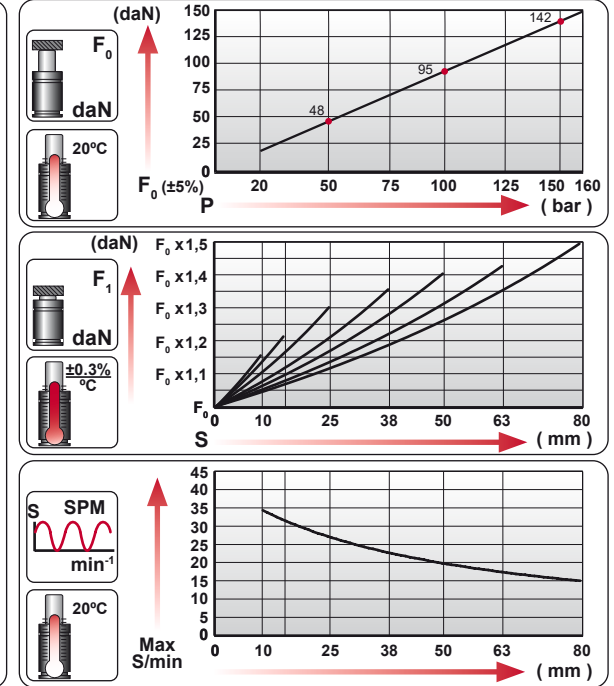
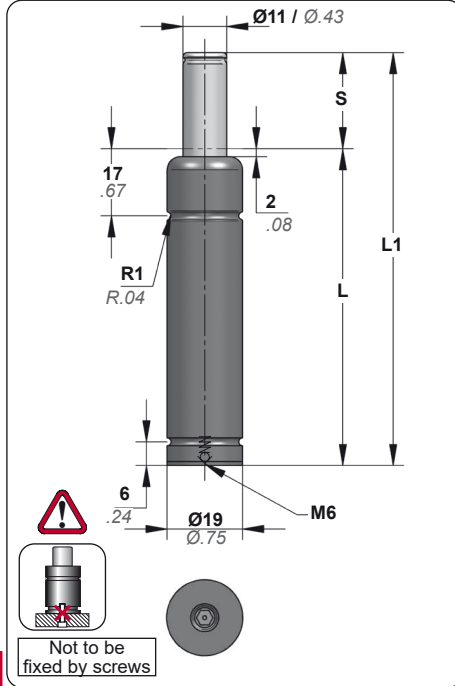
CP HEAVY LOAD LARGE

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CP 150 V1	150 337	Ø19 Ø0.75	10 - 80 0.39 - 3.15	75 - 220 2.95 - 8.66	160 2320	M6	X	X
CP 300 V1	300 674	Ø25 Ø0.98	10 - 80 0.39 - 3.15	75 - 220 2.95 - 8.66	170 2465	M6	X	✓
CP 500 V1	500 1124	Ø32 Ø1.26	10 - 80 0.39 - 3.15	75 - 225 2.95 - 8.86	200 2900	M6	X	✓
CP 1000 V1	1000 2248	Ø38 Ø1.50	10 - 80 0.39 - 3.15	75 - 240 2.95 - 9.45	205 2975	M6	X	✓
CP 2000 V2	2000 4496	Ø50 Ø1.97	10 - 80 0.39 - 3.15	80 - 245 3.15 - 9.65	210 3045	G1/8"	X	✓
CP 3000 V1	3000 6744	Ø63 Ø2.48	10 - 80 0.39 - 3.15	95 - 255 3.74 - 10.04	190 2755	M6	X	✓
CP 5000 V1	5000 11240	Ø75 Ø2.95	10 - 80 0.39 - 3.15	100 - 275 3.94 - 10.83	200 2900	G1/8"	X	✓
CP 8000 V1	8000 17985	Ø95 Ø3.74	10 - 80 0.39 - 3.15	110 - 290 4.33 - 11.42	180 2610	G1/8"	X	✓

MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800						
SERIES	MINI 	COMPACT HEIGHT 	THREADED 	LOW PROFILE 	HEAVY DUTY 	ISO 	HEAVY LOAD 	POWER SHORT STROKE 						

CP 150 V1

Heavy Load



VDI SAFETY







STANDARS


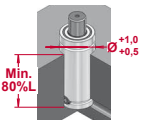




ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP 150 010 V1	10	0.39	75	2.95	65	2.56	150 ±5% 160 bar 2320 psi at 20°C 68°F	337	174	390	7	0.4	0.08	0.18
CP 150 015 V1	15	0.59	85	3.35	70	2.76			182	410	8	0.5	0.09	0.20
CP 150 025 V1	25	0.98	105	4.13	80	3.15			195	439	10	0.6	0.10	0.22
CP 150 038 V1	38	1.50	135	5.31	97	3.82			204	458	14	0.8	0.12	0.26
CP 150 050 V1	50	1.97	160	6.30	110	4.33			211	474	16	1.0	0.14	0.31
CP 150 063 V1	63	2.48	190	7.48	127	5.00			214	482	20	1.2	0.16	0.35
CP 150 080 V1	80	3.15	220	8.66	140	5.51			224	504	23	1.4	0.18	0.40

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 160 bar		20°C / 68°F		290 psi 2320 psi		Charging Adapter	06 CG 2-Q		
	Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F		Connection	X				
	Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	X					



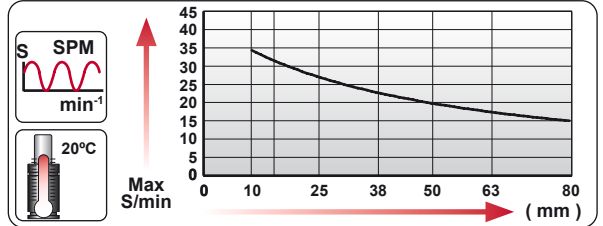
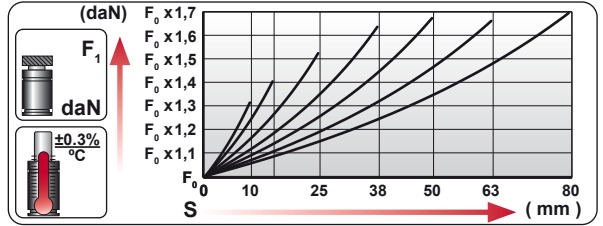
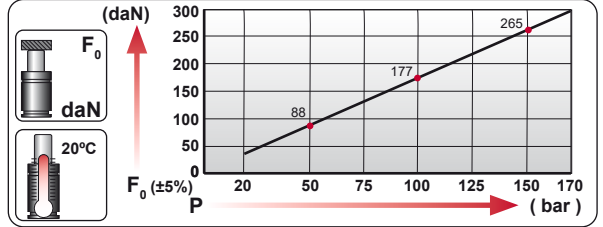
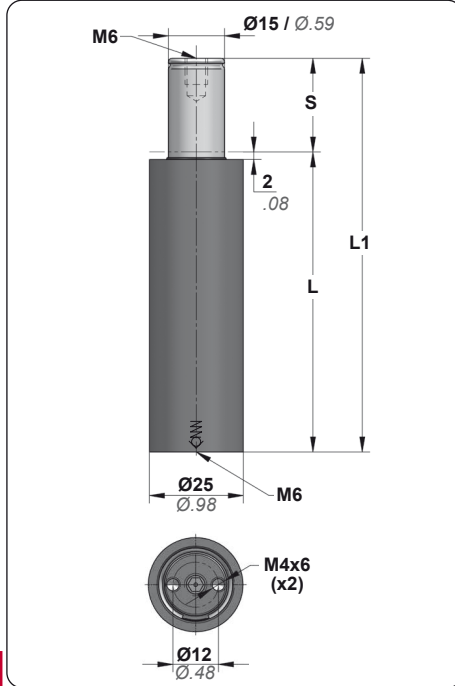
CP 150 V1
Heavy Load

  								
MODEL	AFJ	CW 170					CP 150	

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER					

CP 300 V1

Heavy Load



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP 300 010 V1	10	0.39	75	2.95	65	2.56	300 ±5% 170 bar 2465 psi at 20°C 68°F	674	398	894	7	0.4	0.18	0.40
CP 300 015 V1	15	0.59	85	3.35	70	2.76			425	955	9	0.6	0.19	0.42
CP 300 025 V1	25	0.98	105	4.13	80	3.15			461	1035	13	0.8	0.22	0.49
CP 300 038 V1	38	1.50	130	5.12	92	3.62			494	1111	17	1.0	0.25	0.55
CP 300 050 V1	50	1.97	155	6.10	105	4.13			505	1135	22	1.3	0.28	0.62
CP 300 063 V1	63	2.48	185	7.28	122	4.80			501	1126	28	1.7	0.31	0.68
CP 300 080 V1	80	3.15	220	8.66	140	5.51			511	1148	34	2.1	0.36	0.79

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 170 bar / 2465 psi	Tmin Tmax	20°C / 68°F 80°C / 176°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	X	Seal Kit	S-XXXXXXX
Vmax	0,5 m/s						



CP 300 V1

Heavy Load

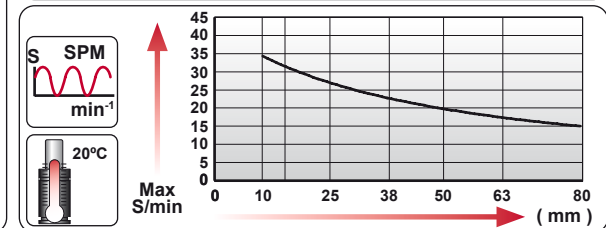
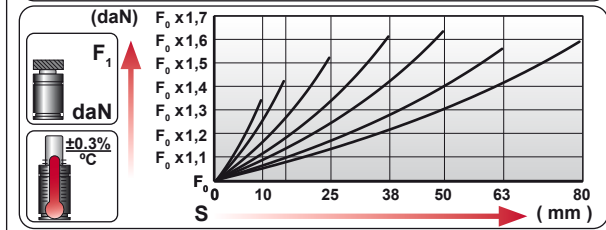
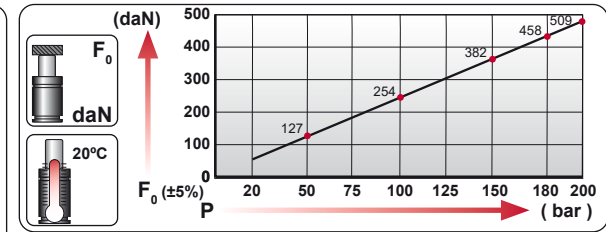
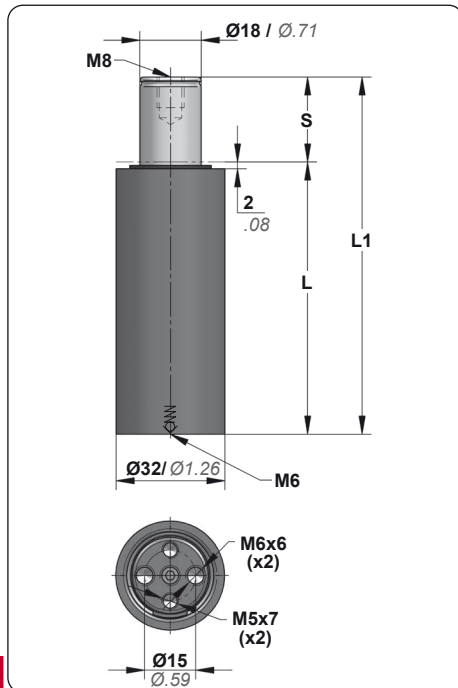
50 mm	50 mm		50 mm	50 mm		50 mm	50 mm	
	L1=130		L1=132	L1=160		L1=160	L1=195	
L1=142			L1=133					
L1=145								
L1=154								
MODEL	AFC/AFD AFNA AF	CW 320		CK 200 CT 200	CM 200		CP 300	CS 420

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CP 500 V1

Heavy Load



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP 500 010 V1	10	0.39	75	2.95	65	2.56	485 ±5% 190 bar 2755 psi at 20°C 68°F	1090	650	1460	10	0.6	0.30	0.66
CP 500 015 V1	15	0.59	85	3.35	70	2.76			689	1549	13	0.8	0.32	0.71
CP 500 025 V1	25	0.98	105	4.13	80	3.15			737	1658	19	1.1	0.36	0.79
CP 500 038 V1	38	1.50	130	5.12	92	3.62			781	1757	25	1.6	0.41	0.90
CP 500 050 V1	50	1.97	155	6.10	105	4.13			792	1781	33	2.0	0.46	1.01
CP 500 063 V1	63	2.48	190	7.48	127	5.00			757	1701	45	2.7	0.53	1.17
CP 500 080 V1	80	3.15	225	8.86	145	5.71			772	1735	55	3.3	0.60	1.32

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 200 bar / 2900 psi	Tmin Tmax	0 °C / 32 °F 80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	X	Seal Kit	S-XXXXXXX
Vmax	0,5 m/s						



CP 500 V1

Heavy Load

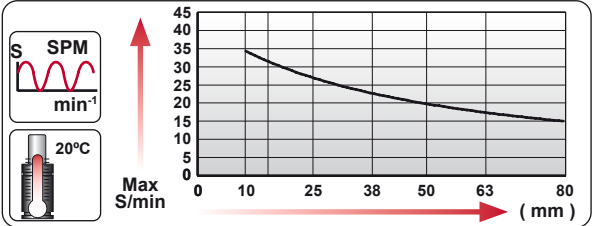
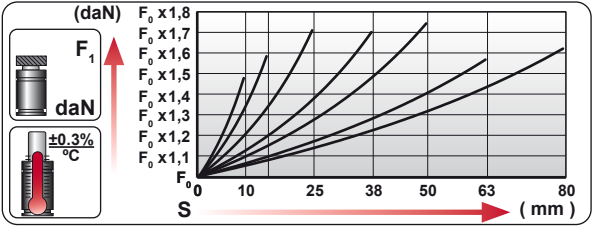
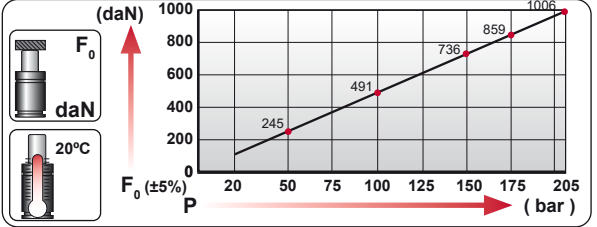
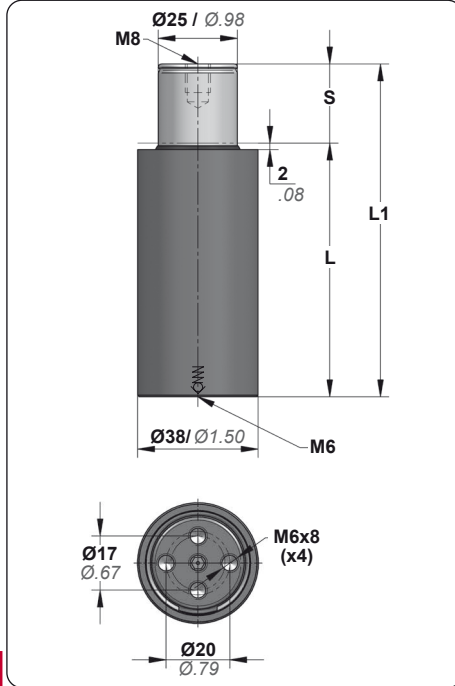
	Ø32	Ø32		Ø32	Ø32	Ø32	Ø32	Ø32
	L1=142	L1=130 L1=140		L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CP 1000 V1

Heavy Load



VDI SAFETY




STANDARS




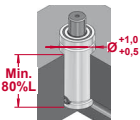




ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP 1000 010 V1	10	0.39	75	2.95	65	2.56	960 ±5% 195 bar 2830 psi at 20°C 68°F	2158	1444	3245	15	0.9	0.43	0.95
CP 1000 015 V1	15	0.59	85	3.35	70	2.76			1545	3473	19	1.2	0.46	1.01
CP 1000 025 V1	25	0.98	105	4.13	80	3.15			1663	3739	29	1.8	0.51	1.12
CP 1000 038 V1	38	1.50	135	5.31	97	3.82			1647	3704	45	2.7	0.59	1.30
CP 1000 050 V1	50	1.97	160	6.30	110	4.33			1686	3790	57	3.5	0.65	1.43
CP 1000 063 V1	63	2.48	205	8.07	142	5.59			1512	3398	85	5.2	0.77	1.70
CP 1000 080 V1	80	3.15	240	9.45	160	6.30			1563	3513	102	6.2	0.86	1.90

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	205 bar / 2975 psi	Tmin Tmax	20°C / 32°F	68°F / 176°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature		±0,3% / °C	Connection	X			
Vmax	0,5 m/s	Seal Kit		S-XXXXXXX					

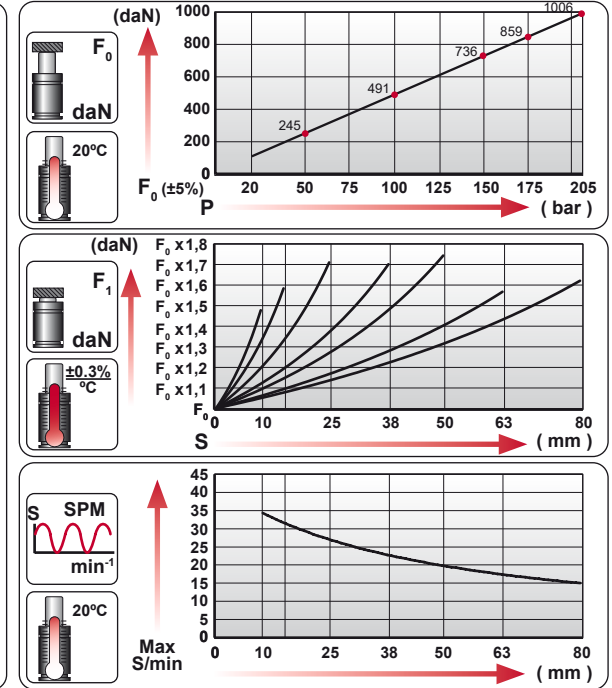
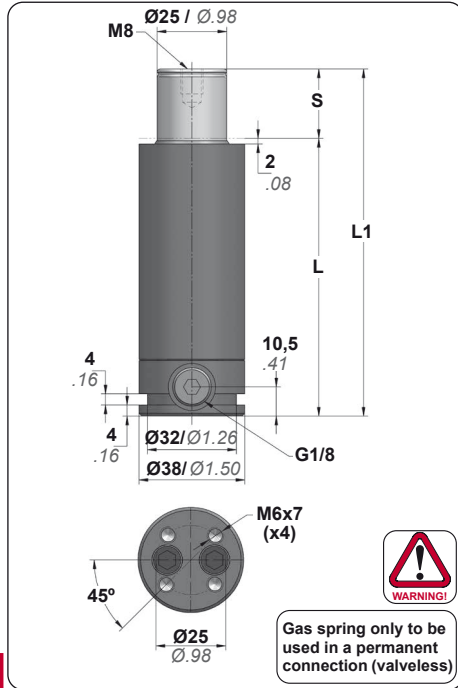
									
			50	50	50	50	50	50	50
			Ø38	Ø38	Ø38	Ø38	Ø38	Ø38	Ø38
			L1=130	L1=150	L1=132	L1=150	L1=150	L1=155	L1=230
			L1=140		L1=137	L1=155		L1=160	
MODEL			CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER					

CP-KC 1000 V1

Heavy Load



VDI SAFETY

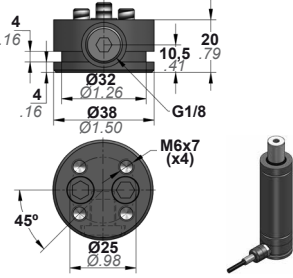
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP-KC 1000 010 V1	10	0.39	95	3.74	85	3.35	±5% 195 bar 2830 psi at 20°C 68°F	2158	1444	3246	15	0.9	0.58	1.28
CP-KC 1000 015 V1	15	0.59	105	4.13	90	3.54			1545	3473	19	1.2	0.61	1.34
CP-KC 1000 025 V1	25	0.98	125	4.92	100	3.94			1663	3739	29	1.8	0.66	1.46
CP-KC 1000 038 V1	38	1.50	155	6.10	117	4.61			1647	3703	45	2.7	0.74	1.63
CP-KC 1000 050 V1	50	1.97	180	7.09	130	5.12			1686	3790	57	3.5	0.80	1.76
CP-KC 1000 063 V1	63	2.48	225	8.86	162	6.38			1512	3399	85	5.2	0.92	2.03
CP-KC 1000 080 V1	80	3.15	260	10.24	180	7.09			1563	3514	102	6.2	1.01	2.23

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 205 bar		290 psi 2975 psi		Charging Adapter	SKK 12R 1/8				
	Sm _{ax}	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F		Connection	CP-KC 1000 XXX V1				
	V _{max}	0,5 m/s		Force variation by temperature	±0,3% / °C				Seal Kit	S-XXXXXXX				

BASE PLATE OPTION

KC 1000



DIN 912 - 12.9	Torque
Thread	Nm
M6	15
M8	38
M10	75

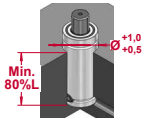
Thread the KC adapter base plate to the CP gas spring by using the adequate screws and torque.

Adapter base-plate has no filling valve, when fitted to a gas spring CP (CP-KC) it only can be pressurised through a hoses system. CP-KC is delivered uncharged.

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount

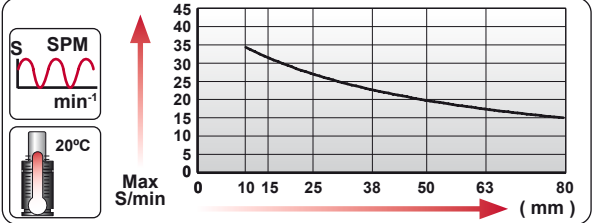
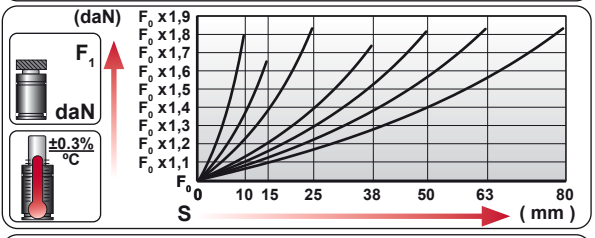
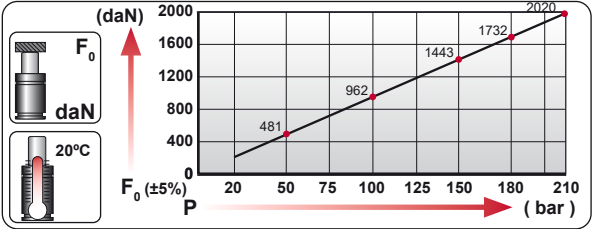
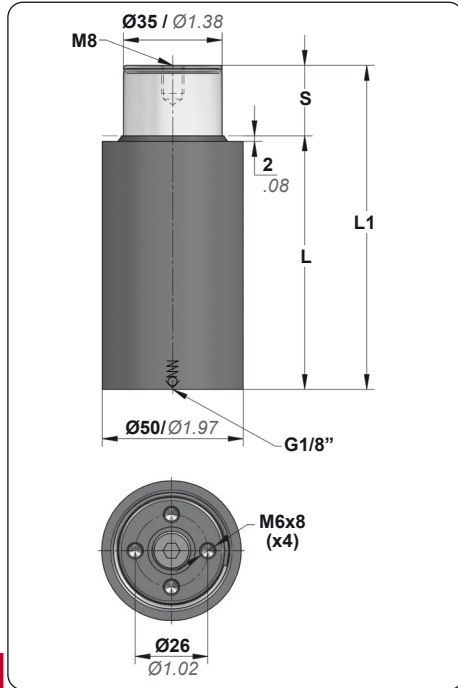


HOW TO ORDER

C20-038 598

CP 2000 V2

Heavy Load



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP 2000 010 V2	10	0.39	80	3.15	70	2.76	1925 ±5% 200 bar 2900 psi at 20°C 68°F	4328	3642	8187	20	1.2	0.87	1.92
CP 2000 015 V2	15	0.59	95	3.74	80	3.15			3264	7337	35	2.1	0.95	2.09
CP 2000 025 V2	25	0.98	115	4.53	90	3.54			3610	8116	52	3.1	1.05	2.31
CP 2000 038 V2	38	1.50	150	5.91	112	4.41			3388	7617	85	5.2	1.23	2.71
CP 2000 050 V2	50	1.97	175	6.89	125	4.92			3536	7949	106	6.4	1.35	2.98
CP 2000 063 V2	63	2.48	205	8.07	142	5.59			3557	7996	132	8.1	1.50	3.31
CP 2000 080 V2	80	3.15	245	9.65	165	6.50			3556	7994	168	10.2	1.71	3.77

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar 210 bar		Pmin Pmax	20°C / 68°F	20 bar 210 bar	290 psi 3045 psi		Charging Adapter	18 CG 1-Q		
	Smax	< 90%		Tmin Tmax	0 °C 32 °F		Tmin Tmax	80 °C 176 °F		Connection	X				
	Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX							



CP 2000 V2

Heavy Load

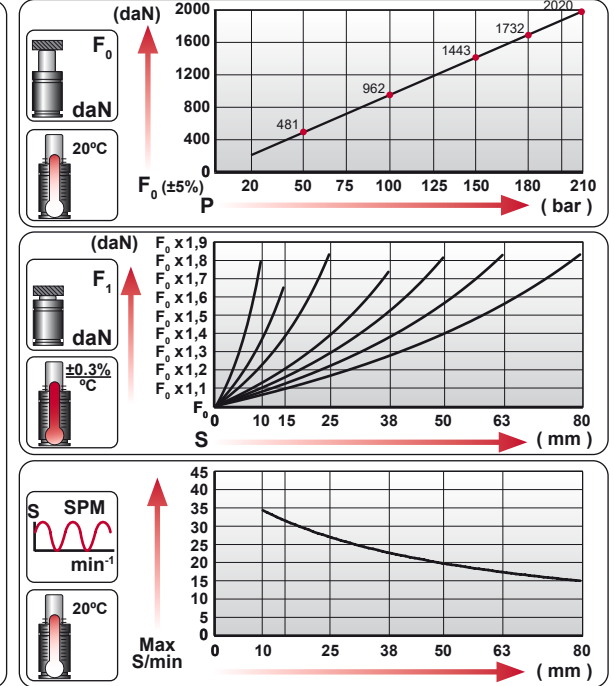
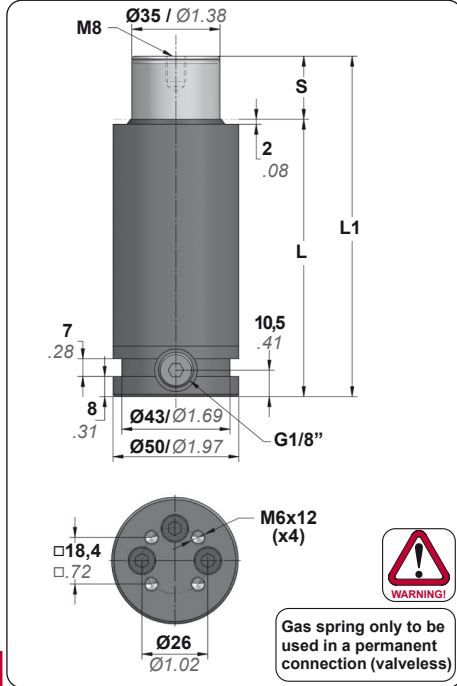
 mm mm mm	 Ø50 L1=138 L1=148 L1=152	 Ø50 L1=138 L1=150 L1=150	 Ø50 L1=170 L1=185 L1=195	 Ø50 L1=195	 Ø50 L1=165 L1=175	 Ø50 L1=220	
	MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800

MOUNTING OPTIONS

	<p>Drop-in</p>	<p>Top Mount</p>	<p>Base Mount</p>	<p>Foot Mount</p>	<p>Support Mount</p>
HOW TO ORDER					

CP-KC 2000 V2

Heavy Load



VDI SAFETY

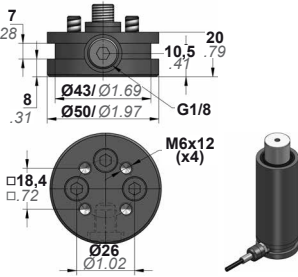
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP-KC 2000 010 V2	10	0.39	100	3.94	90	3.54	1925 ±5% 200 bar 2900 psi at 20°C 68°F	4328	3642	8187	20	1.2	1.13	2.49
CP-KC 2000 015 V2	15	0.59	115	4.53	100	3.94			3264	7337	35	2.1	1.20	2.65
CP-KC 2000 025 V2	25	0.98	135	5.31	110	4.33			3610	8116	52	3.1	1.31	2.89
CP-KC 2000 038 V2	38	1.50	170	6.69	132	5.20			3388	7617	85	5.2	1.48	3.26
CP-KC 2000 050 V2	50	1.97	195	7.68	145	5.71			3536	7949	106	6.4	1.61	3.55
CP-KC 2000 063 V2	63	2.48	225	8.86	162	6.38			3557	7996	132	8.1	1.76	3.88
CP-KC 2000 080 V2	80	3.15	265	10.43	185	7.28			3556	7994	168	10.2	1.96	4.32

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 210 bar		20°C / 68°F	290 psi 3045 psi	Charging Adapter	SKK 12R 1/8					
Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F	Connection	CP-KC 2000 XXX V2						
Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX						

BASE PLATE OPTION

KC 1800



DIN 912 - 12.9	Torque
Thread	Nm
M6	15
M8	38
M10	75

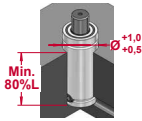
Thread the KC adapter base plate to the CP gas spring by using the adequate screws and torque.

Adapter base-plate has no filling valve, when fitted to a gas spring CP (CP-KC) it only can be pressurised through a hoses system. CP-KC is delivered uncharged.

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount

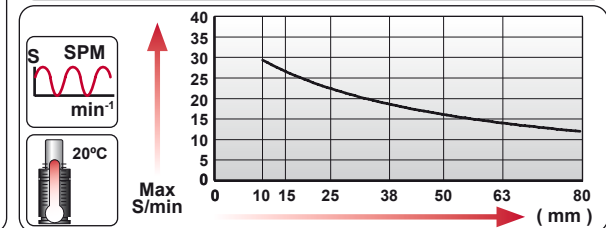
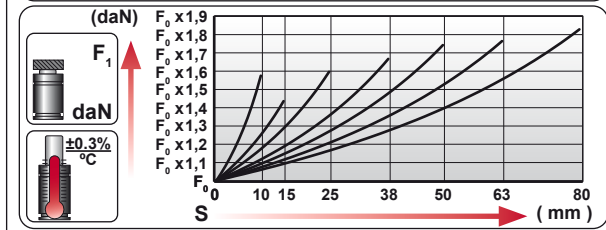
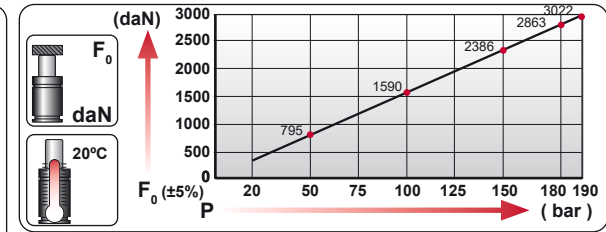
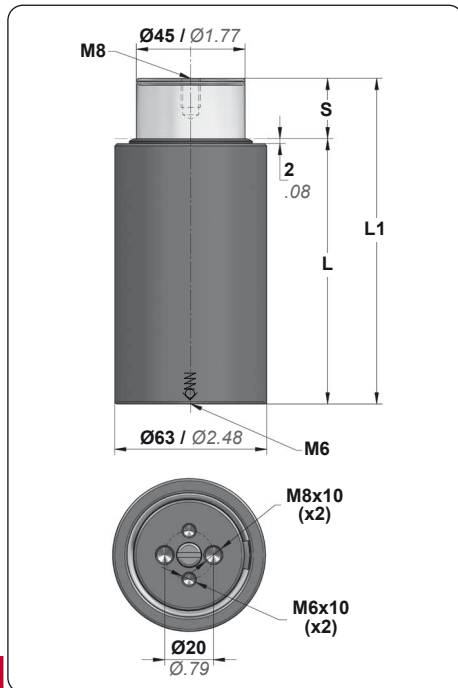


HOW TO ORDER

C20-050 598

CP 3000 V1

Heavy Load



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CP 3000 010 V1	10	0.39	95	3.74	85	3.35	2860 6430 ±5% 180 bar 2610 psi at 20°C 68°F		4492	10097	44	2.7	1.66	3.66
CP 3000 015 V1	15	0.59	115	4.53	100	3.94		4107	9233	79	4.8	1.82	4.01	
CP 3000 025 V1	25	0.98	135	5.31	110	4.33		4565	10262	106	6.5	1.97	4.34	
CP 3000 038 V1	38	1.50	165	6.50	127	5.00		4767	10717	151	9.2	2.20	4.85	
CP 3000 050 V1	50	1.97	190	7.48	140	5.51		4983	11203	187	11.4	2.39	5.27	
CP 3000 063 V1	63	2.48	220	8.66	157	6.18		5047	11346	231	14.1	2.62	5.78	
CP 3000 080 V1	80	3.15	255	10.04	175	6.89		5231	11759	281	17.1	2.88	6.35	

TECHNICAL DATA													
Fluid	N ₂		Pmin	Pmax	20 bar	190 bar	Charging Adapter	06 CG 2-Q					
Smax	< 90%		20°C / 68°F		290 psi	2755 psi	Connection	X					
Vmax	0,5 m/s		Tmin Tmax		0 °C	80 °C	Seal Kit	S-XXXXXXX					
			Force variation by temperature		32 °F	176 °F		±0,3% / °C					



CP 3000 V1

Heavy Load

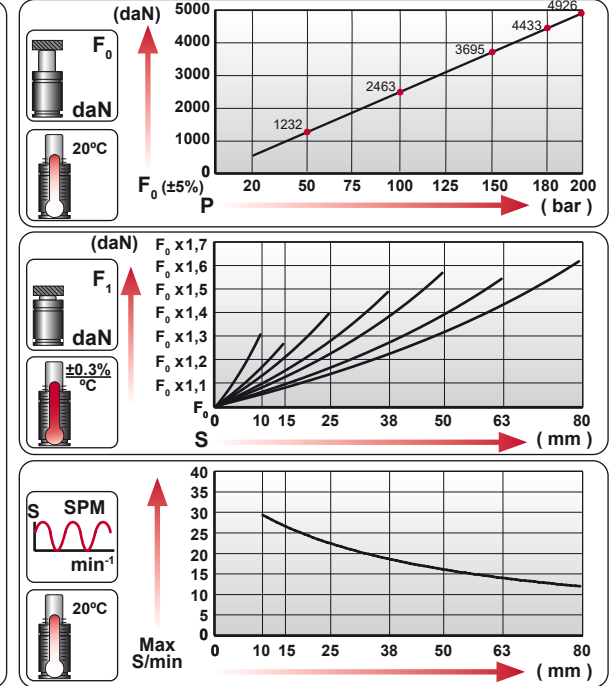
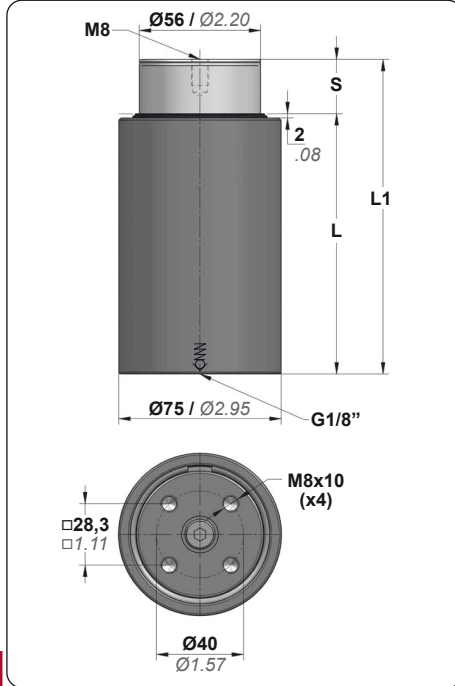
mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CP 5000 V1

Heavy Load



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CP 5000 010 V1	10	0.39	100	3.94	90	3.54	4925 ±5% 200 bar 2900 psi at 20°C 68°F	11072	6450	14501	104	6.4	2.30	5.07
CP 5000 015 V1	15	0.59	125	4.92	110	4.33			6250	14050	174	10.6	2.54	5.60
CP 5000 025 V1	25	0.98	145	5.71	120	4.72			6881	15469	217	13.2	2.75	6.06
CP 5000 038 V1	38	1.50	175	6.89	137	5.39			7338	16495	285	17.4	3.05	6.72
CP 5000 050 V1	50	1.97	200	7.87	150	5.91			7739	17398	339	20.7	3.31	7.30
CP 5000 063 V1	63	2.48	240	9.45	177	6.97			7614	17116	439	26.8	3.71	8.18
CP 5000 080 V1	80	3.15	275	10.83	195	7.68			7981	17942	515	31.4	4.07	8.97

TECHNICAL DATA													
	Fluid	N ₂		Pmin Pmax	20 bar 290 psi	200 bar 2900 psi		Charging Adapter	18 CG 1-Q				
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	X				
	Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX				



CP 5000 V1
Heavy Load

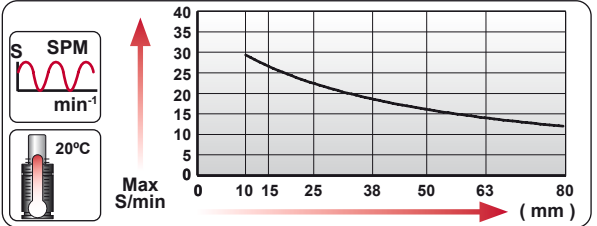
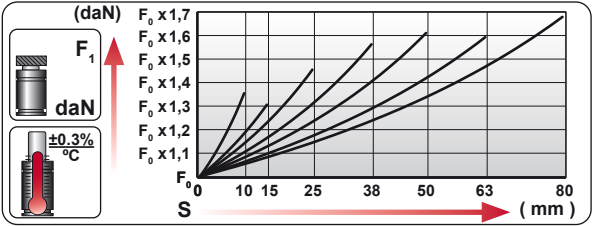
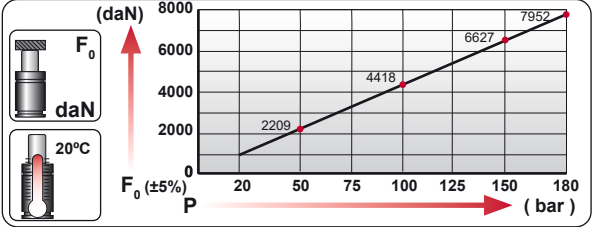
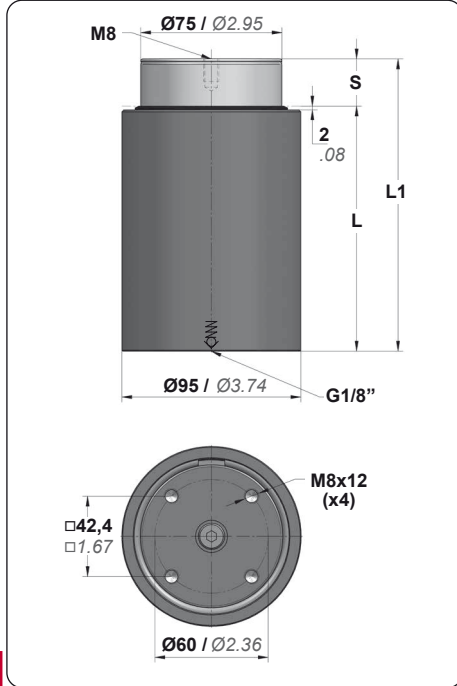
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	MODEL CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CP 8000 V1

Heavy Load



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CP 8000 010 V1	10	0.39	110	4.33	100	3.94	7950 ±5% 180 bar 2610 psi at 20°C 68°F	17872	10793	24263	168	10.2	4.25	9.37
CP 8000 015 V1	15	0.59	135	5.31	120	4.72			10408	23398	281	17.1	4.65	10.25
CP 8000 025 V1	25	0.98	155	6.10	130	5.12			11588	26052	352	21.5	4.99	11.00
CP 8000 038 V1	38	1.50	185	7.28	147	5.79			12443	27974	465	28.4	5.50	12.13
CP 8000 050 V1	50	1.97	215	8.46	165	6.50			12824	28829	581	35.5	6.00	13.23
CP 8000 063 V1	63	2.48	255	10.04	192	7.56			12683	28512	746	45.5	6.66	14.68
CP 8000 080 V1	80	3.15	290	11.42	210	8.27			13368	30053	872	53.2	7.26	16.01

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar 180 bar	290 psi 2610 psi		Tmin Tmax	0 °C 80 °C	32 °F 176 °F		Charging Adapter	18 CG 1-Q		
	Smax	< 90%		Force variation by temperature	±0,3% / °C			Connection	X						
	Vmax	0,5 m/s						Seal Kit	S-XXXXXXX						



CP 8000 V1

Heavy Load

 mm mm mm	 Ø95 L1=158 L1=162 L1=162	 Ø95 L1=170 L1=170	 Ø95 L1=195 L1=205 L1=220	 Ø95 L1=220	 Ø95 L1=215	 Ø95 L1=255	
	MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500

MOUNTING OPTIONS

	<p>Drop-in</p>	<p>Top Mount</p>	<p>Base Mount</p>	<p>Foot Mount</p>	<p>Support Mount</p>
<p>HOW TO ORDER</p>					



GAS SPRINGS



AZOL 
GAS



HEAVY LOAD CPH

- Full height size gas springs
- The highest contact force (850-4300 daN)
- Limited strokes (up to 80 mm)
- Used for extra heavy duty work



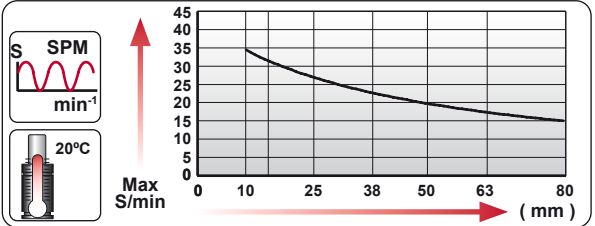
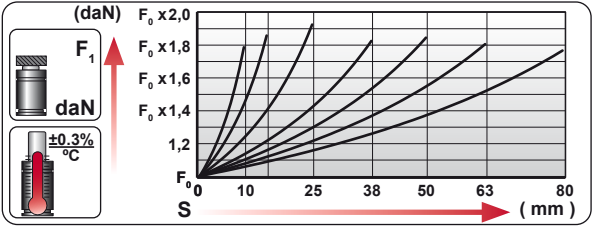
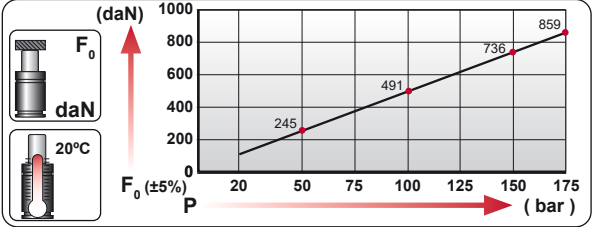
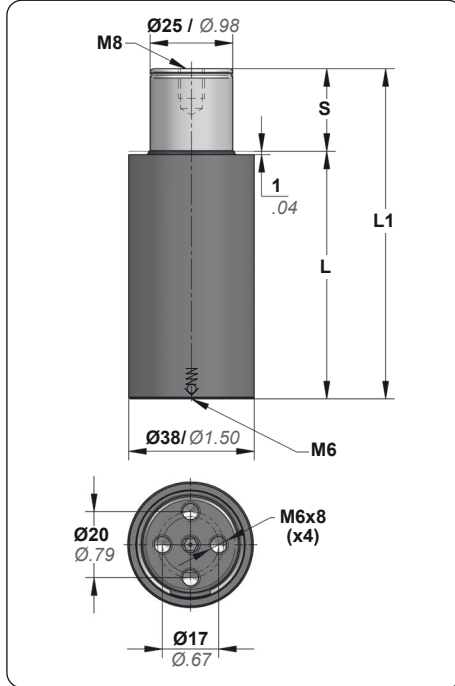
CPH HEAVY LOAD MEDIUM

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CPH 850 V1	850 1911	Ø38 Ø1.50	10 - 80 0.39 - 3.15	70 - 225 2.76 - 8.86	175 2540	M6	X	✓
CPH 1250 V1	1250 2810	Ø45 Ø1.77	12 - 80 0.47 - 3.15	79 - 230 3.11 - 9.06	175 2540	M6	X	✓
CPH 1700 V2	1700 3822	Ø50 Ø1.97	10 - 80 0.39 - 3.15	80 - 235 3.15 - 9.25	175 2540	G1/8"	X	✓
CPH 2800 V2	2800 6295	Ø63 Ø2.48	10 - 80 0.39 - 3.15	90 - 250 3.54 - 9.84	175 2540	G1/8"	X	✓
CPH 4300 V1	4300 9667	Ø75 Ø2.95	10 - 80 0.39 - 3.15	90 - 250 3.54 - 9.84	175 2540	G1/8"	X	✓

MODEL	X	CW 1000 CWC 1000 KZ/KT 1000	X	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800
SERIES	MINI 	COMPACT HEIGHT 	THREADED 	LOW PROFILE 	HEAVY DUTY 	ISO 	HEAVY LOAD 	POWER SHORT STROKE

CPH 850 V1

Heavy Load



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CPH 850 010 V1	10	0.39	70	2.76	60	2.36	810 ±5% 165 bar 2395 psi at 20°C 68°F	1821	1505	3383	11	0.6	0.42	0.93
CPH 850 015 V1	15	0.59	80	3.15	65	2.56			1550	3484	15	0.9	0.45	0.99
CPH 850 025 V1	25	0.98	100	3.94	75	2.95			1591	3576	25	1.5	0.50	1.10
CPH 850 038 V1	38	1.50	130	5.12	92	3.62			1496	3363	41	2.5	0.58	1.28
CPH 850 050 V1	50	1.97	155	6.10	105	4.13			1509	3393	53	3.2	0.64	1.41
CPH 850 063 V1	63	2.48	185	7.28	122	4.80			1474	3313	69	4.2	0.72	1.59
CPH 850 080 V1	80	3.15	225	8.86	145	5.71			1440	3237	90	5.5	0.83	1.83

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi / 20°C / 68°F	175 bar / 2540 psi / 68°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX



CPH 850 V1
Heavy Load

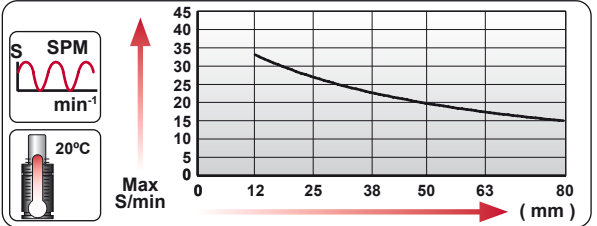
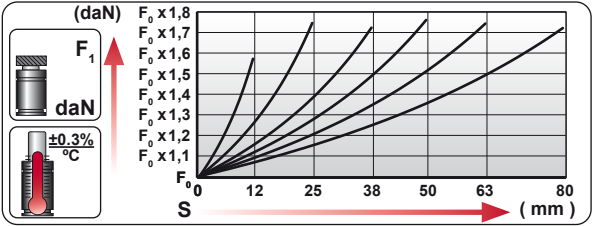
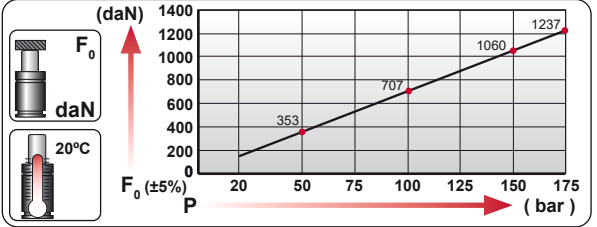
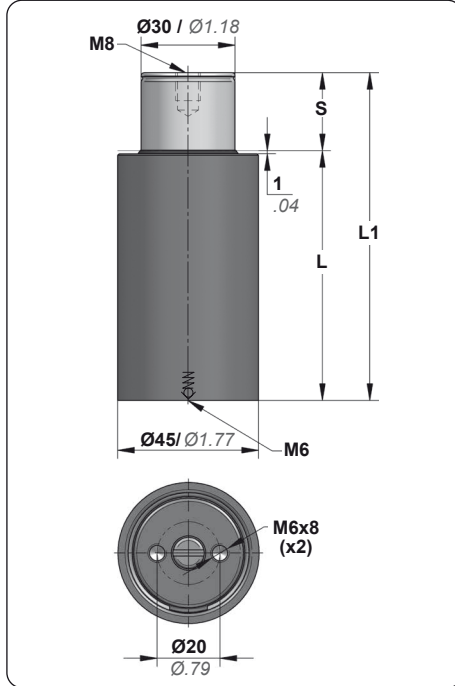
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	Ø38	Ø38	Ø38	Ø38	Ø38	Ø38	Ø38
	L1=130 L1=140	L1=150	L1=132 L1=137 L1=150	L1=150 L1=155	L1=150	L1=155 L1=160	L1=230
MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CPH 1250 V1

Heavy Load



VDI SAFETY

STANDARS



ORDER	S		L1 ± 0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CPH 1250 012 V1	12	0.47	79	3.11	67	2.64	1200	2698	1934	4348	22	1.4	0.64	1.41
CPH 1250 025 V1	25	0.98	105	4.13	80	3.15	±5% 170 bar 2465 psi at 20°C 68°F	2133	4795	40	2.5	0.74	1.63	
CPH 1250 038 V1	38	1.50	135	5.31	97	3.82		2092	4703	63	3.8	0.84	1.85	
CPH 1250 050 V1	50	1.97	160	6.30	110	4.33		2133	4796	81	4.9	0.93	2.05	
CPH 1250 063 V1	63	2.48	190	7.48	127	5.00		2108	4739	103	6.3	1.04	2.29	
CPH 1250 080 V1	80	3.15	230	9.06	150	5.91		2079	4673	134	8.2	1.18	2.60	

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	175 bar / 2540 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax			Force variation by temperature	±0,3% / °C		Connection	X
Vmax	0,5 m/s							Seal Kit	S-XXXXXXX



CPH 1250 V1

Heavy Load

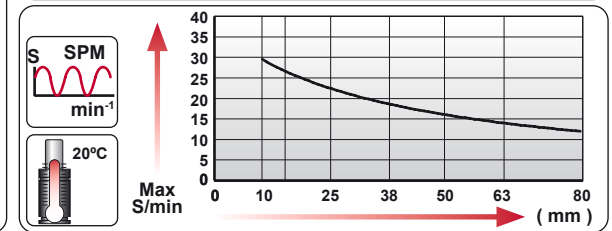
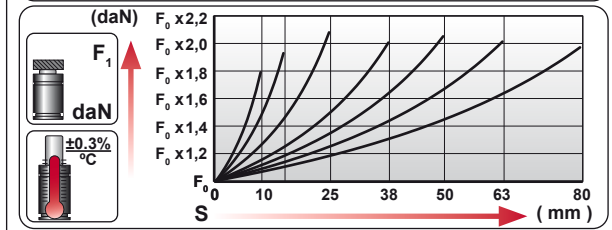
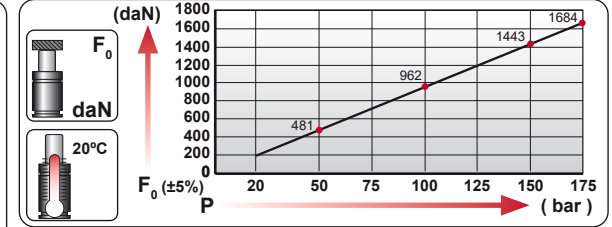
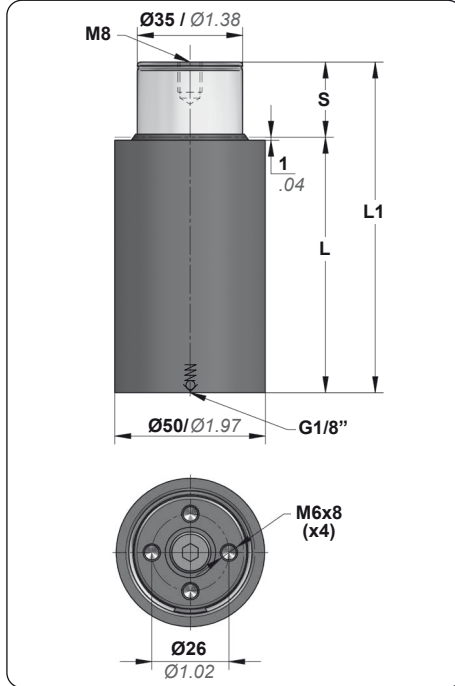
 mm mm mm	 L1=132 L1=142 L1=147	 L1=138 L1=150 L1=150	 L1=160 L1=185	 L1=185	 L1=160
	CW 750 CWC 750 KZ 750	CT 700 CK 750 FD 500	CM 600 CD 700	AG 500	CPH 1250
	MODEL				

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CPH 1700 V2

Heavy Load



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CPH 1700 010 V2	10	0.39	80	3.15	70	2.76	1635 ±5% 170 bar 2465 psi at 20°C 68°F	3676	3093	6953	20	1.2	0.88	1.94
CPH 1700 015 V2	15	0.59	90	3.54	75	2.95			3302	7424	29	1.7	0.93	2.05
CPH 1700 025 V2	25	0.98	110	4.33	85	3.35			3519	7911	45	2.7	1.03	2.27
CPH 1700 038 V2	38	1.50	140	5.51	102	4.02			3348	7527	71	4.4	1.18	2.60
CPH 1700 050 V2	50	1.97	165	6.50	115	4.53			3411	7669	92	5.6	1.31	2.89
CPH 1700 063 V2	63	2.48	195	7.68	132	5.20			3335	7497	119	7.3	1.46	3.22
CPH 1700 080 V2	80	3.15	235	9.25	155	6.10			3256	7319	155	9.4	1.66	3.66

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 175 bar / 2540 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX



CPH 1700 V2

Heavy Load

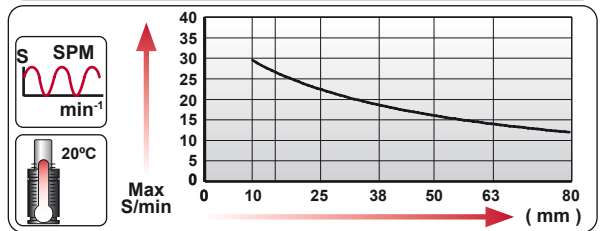
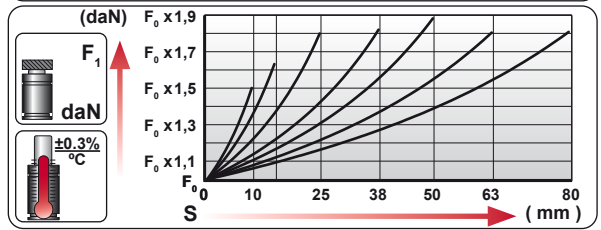
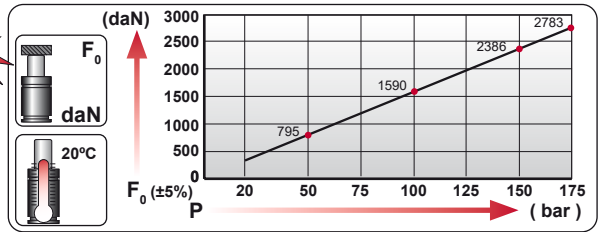
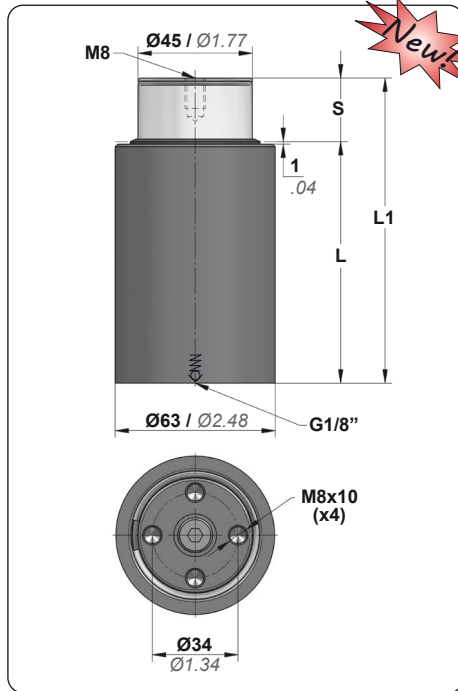
 mm mm mm	 Ø50 L1=138 L1=148 L1=152	 Ø50 L1=138 L1=150 L1=150	 Ø50 L1=170 L1=185 L1=195	 Ø50 L1=195	 Ø50 L1=165 L1=175	 Ø50 L1=220	
	MODEL	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800

MOUNTING OPTIONS

	<p>Drop-in</p>	<p>Top Mount</p>	<p>Base Mount</p>	<p>Foot Mount</p>	<p>Support Mount</p>
<p>HOW TO ORDER</p>					

CPH 2800 V2

Heavy Load



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CPH 2800 010 V2	10	0.39	90	3.54	80	3.15	2700 6070 ±5% 170 bar 2465 psi at 20°C 68°F		4125	9273	46	2.8	1.54	3.40
CPH 2800 015 V2	15	0.59	100	3.94	85	3.35			4483	10077	60	3.7	1.62	3.57
CPH 2800 025 V2	25	0.98	120	4.72	95	3.74			4931	11084	88	5.4	1.77	3.90
CPH 2800 038 V2	38	1.50	150	5.91	112	4.41			4965	11161	132	8.1	2.00	4.41
CPH 2800 050 V2	50	1.97	175	6.89	125	4.92			5125	11522	168	10.3	2.18	4.81
CPH 2800 063 V2	63	2.48	210	8.27	147	5.79			4902	11020	223	13.6	2.45	5.40
CPH 2800 080 V2	80	3.15	250	9.84	170	6.69			4906	11028	283	17.3	2.76	6.08

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar 175 bar		290 psi 2540 psi		20°C / 68°F		Charging Adapter	18 CG 1-Q			
	Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F		Force variation by temperature	±0,3% / °C		Connection	X		
	Vmax	0,5 m/s										Seal Kit	S-XXXXXXX		



CPH 2800 V2

Heavy Load

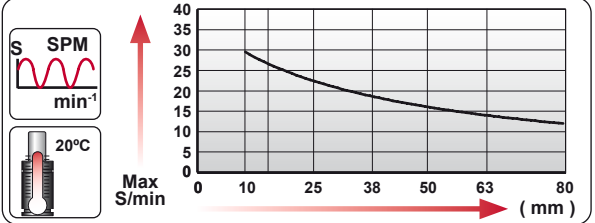
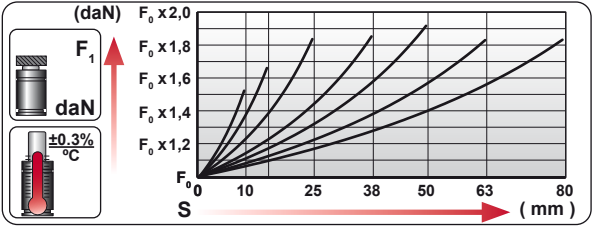
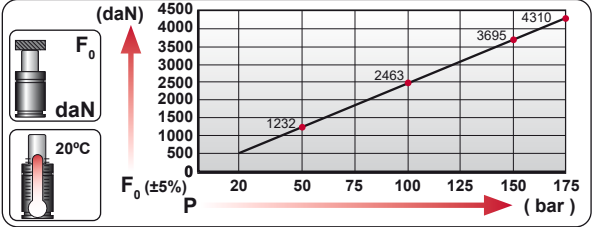
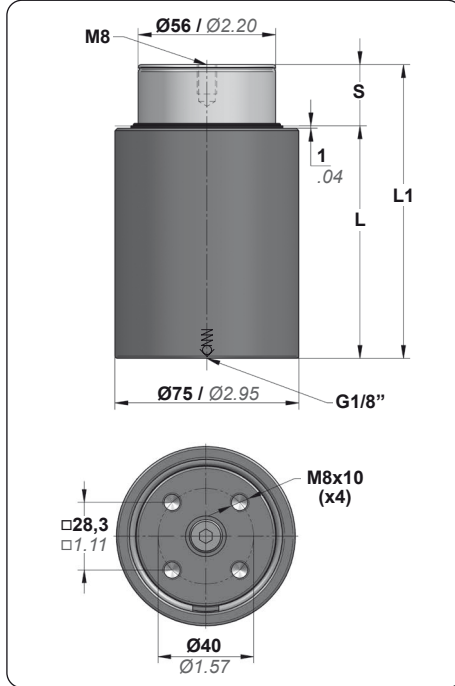
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER					

CPH 4300 V1

Heavy Load








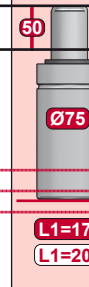
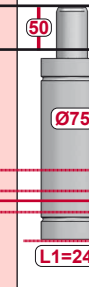


VDI SAFETY


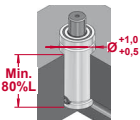




STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
CPH 4300 010 V1	10	0.39	90	3.54	80	3.15	4190 ±5% 170 bar 2465 psi at 20°C 68°F	9419	6393	14372	71	4.4	2.19	4.83
CPH 4300 015 V1	15	0.59	100	3.94	85	3.35			6970	15670	93	5.7	2.30	5.07
CPH 4300 025 V1	25	0.98	120	4.72	95	3.74			7708	17328	135	8.2	2.51	5.53
CPH 4300 038 V1	38	1.50	150	5.91	112	4.41			7775	17480	203	12.4	2.81	6.19
CPH 4300 050 V1	50	1.97	175	6.89	125	4.92			8045	18086	257	15.7	3.07	6.77
CPH 4300 063 V1	63	2.48	210	8.27	147	5.79			7681	17269	341	20.8	3.42	7.54
CPH 4300 080 V1	80	3.15	250	9.84	170	6.69			7690	17289	433	26.4	3.83	8.44

TECHNICAL DATA													
Fluid	N ₂	Pmin	Pmax	20 bar	175 bar	Charging Adapter	18 CG 1-Q						
Smax	< 90%	Tmin	Tmax	290 psi	2540 psi	Connection	X						
Vmax	0,5 m/s	Force variation by temperature		0 °C	80 °C	Seal Kit	S-XXXXXXX						
				32 °F	176 °F								

 mm  mm  mm						
	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700
	MODEL					

MOUNTING OPTIONS

	<p>Drop-in</p> 	<p>Top Mount</p> 	<p>Base Mount</p> 	<p>Foot Mount</p> 	<p>Support Mount</p> 
<p>HOW TO ORDER</p>					



GAS SPRINGS



AZOL GAS



POWER SHORT STROKE CS

- The largest height size gas springs
- The highest contact force (420-18300 daN)
- Limited strokes (up to 65 mm)
- Bore sealed gas springs for extra heavy duty work



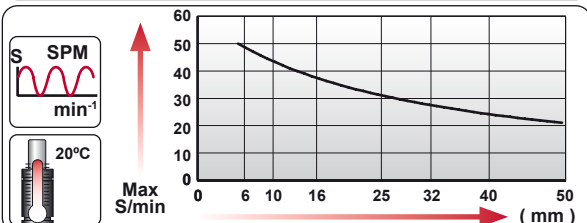
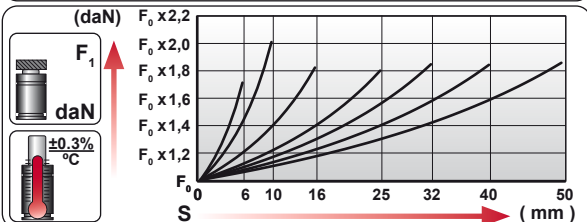
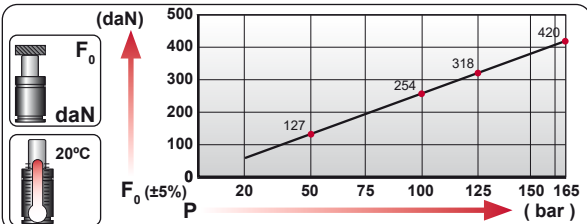
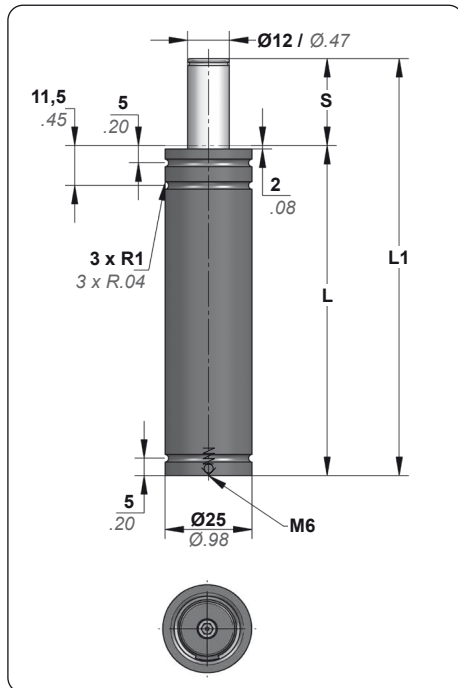
CS POWER SHORT STROKE

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
CS 420 V1	420 944	Ø25 Ø0.98	6 - 50 0.24 - 1.97	56 - 195 2.20 - 7.68	165 2395	M6	X	✓
CS 770 V2	770 1731	Ø32 Ø1.26	6 - 50 0.24 - 1.97	63 - 195 2.48 - 7.68	150 2175	M6	X	✓
CS 1000 V1	1000 2248	Ø38 Ø1.50	6 - 50 0.24 - 1.97	61 - 230 2.40 - 9.06	150 2175	M6	X	✓
CS 1800 V2	1800 4047	Ø50 Ø1.97	6 - 65 0.24 - 2.56	66 - 271 2.60 - 10.67	150 2175	G1/8"	X	✓
CS 3000 V3	3000 6744	Ø63 Ø2.48	10 - 65 0.39 - 2.56	85 - 256 3.35 - 10.08	150 2175	G1/8"	X	✓
CS 4700 V1	4700 10566	Ø75 Ø2.95	10 - 65 0.39 - 2.56	80 - 273 3.15 - 10.75	150 2175	G1/8"	X	✓
CS 7500 V1	7500 16861	Ø95 Ø3.74	10 - 65 0.39 - 2.56	90 - 279 3.54 - 10.98	150 2175	G1/8"	X	✓
CS 11800 V1	11800 26527	Ø120 Ø4.72	10 - 65 0.39 - 2.56	100 - 320 3.94 - 12.60	150 2175	G1/8"	X	✓
CS 18300 V1	18300 41140	Ø150 Ø5.91	10 - 65 0.39 - 2.56	110 - 323 4.33 - 12.72	150 2175	G1/8"	X	✓

		50	Ø50	L1=138 L1=148 L1=152		50	Ø50	L1=138 L1=150 L1=150		50	Ø50	L1=170 L1=185 L1=195
		50	Ø50			50	Ø50	L1=195		50	Ø50	L1=165 L1=175
		50	Ø50			50	Ø50	L1=220				
MODEL	X				X							
	MINI	COMPACT HEIGHT	THREADED	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE				
SERIES												

CS 420 V1

Power Short Stroke



VDI SAFETY










STANDARS




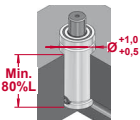





ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS 420 006 V1	6	0.24	56	2.20	50	1.97	420 ±5% 165 bar 2395 psi at 20°C 68°F	944	749	1683	3	0.2	0.14	0.31
CS 420 010 V1	10	0.39	70	2.76	60	2.36			878	1973	5	0.3	0.16	0.35
CS 420 016 V1	16	0.63	91	3.58	75	2.95			781	1755	9	0.5	0.20	0.44
CS 420 025 V1	25	0.98	120	4.72	95	3.74			766	1722	14	0.9	0.24	0.53
CS 420 032 V1	32	1.26	140	5.51	108	4.25			785	1764	18	1.1	0.27	0.60
CS 420 040 V1	40	1.57	165	6.50	125	4.92			781	1757	22	1.3	0.31	0.68
CS 420 050 V1	50	1.97	195	7.68	145	5.71			787	1769	27	1.7	0.35	0.77

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 165 bar 290 psi 2395 psi	Tmin Tmax	20°C 80°C 32°F 176°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	X	Seal Kit	S-XXXXXXX
Vmax	0,5 m/s						

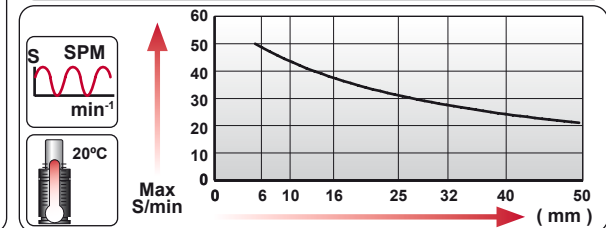
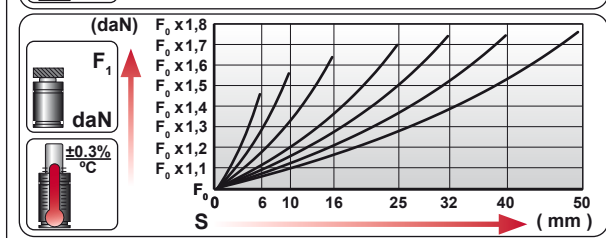
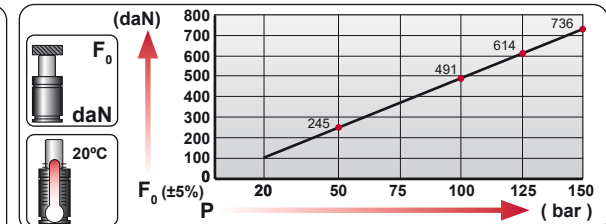
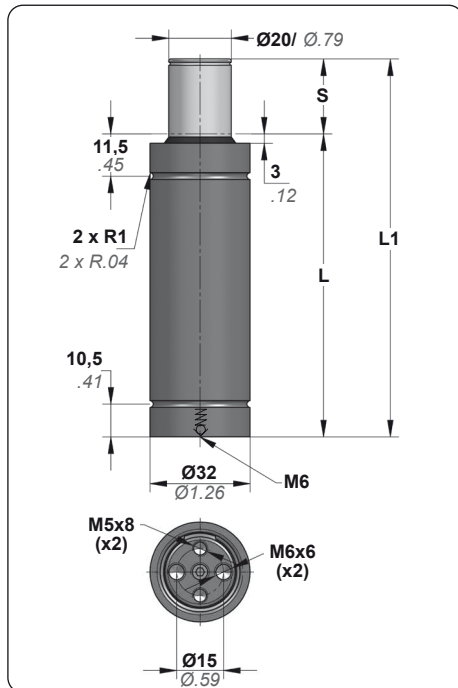
								
								
	L1=142 L1=145 L1=154	L1=130	L1=132 L1=133	L1=160		L1=160	L1=195	
MODEL	AFC/AFD AFNA AF	CW 320	CK 200 CT 200	CM 200		CP 300	CS 420	

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A44-025  584			

CS 770 V2

Power Short Stroke


















VDI SAFETY


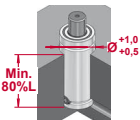





STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS 770 006 V2	6	0.24	63	2.48	57	2.24	735 ±5% 150 bar 2175 psi at 20°C 68°F	1652	1071	2408	9	0.6	0.25	0.55
CS 770 010 V2	10	0.39	75	2.95	65	2.56			1146	2576	14	0.8	0.28	0.62
CS 770 016 V2	16	0.63	93	3.66	77	3.03			1204	2707	20	1.2	0.32	0.71
CS 770 025 V2	25	0.98	120	4.72	95	3.74			1248	2806	30	1.8	0.38	0.84
CS 770 032 V2	32	1.26	140	5.51	108	4.25			1280	2878	37	2.3	0.42	0.93
CS 770 040 V2	40	1.57	165	6.50	125	4.92			1282	2883	46	2.8	0.48	1.06
CS 770 050 V2	50	1.97	195	7.68	145	5.71	1295	2911	57	3.5	0.55	1.21		

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 150 bar		20°C / 68°F		290 psi 2175 psi		Charging Adapter	06 GA 13		
	Smax	< 90%		Tmin Tmax	0 °C 80 °C		32 °F 176 °F				Connection	X		
	Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C				Seal Kit	S-XXXXXXX				

								
50	50			50	50	50	50	50
								
	Ø32			Ø32	Ø32	Ø32	Ø32	Ø32
	L1=142	L1=130 L1=140		L1=137 L1=139	L1=150 L1=150 L1=160	L1=150	L1=155	L1=195
MODEL	AFT	CW 350 KZ 350		CT 300 CK 300	CM 350 CD 300 CM 300	AG 150	CP 500	CS 770

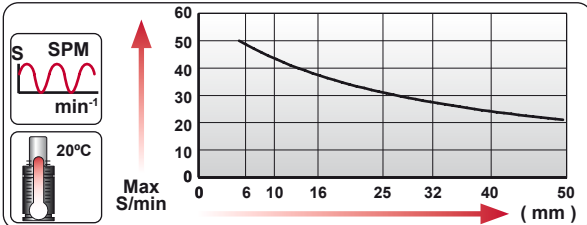
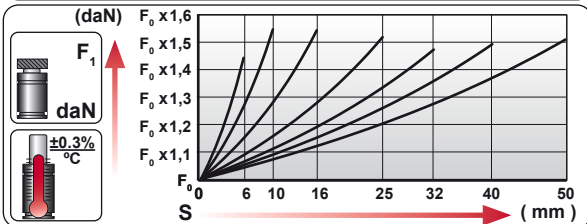
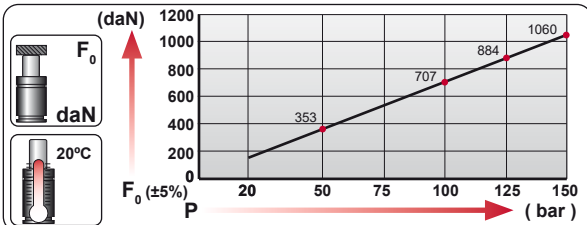
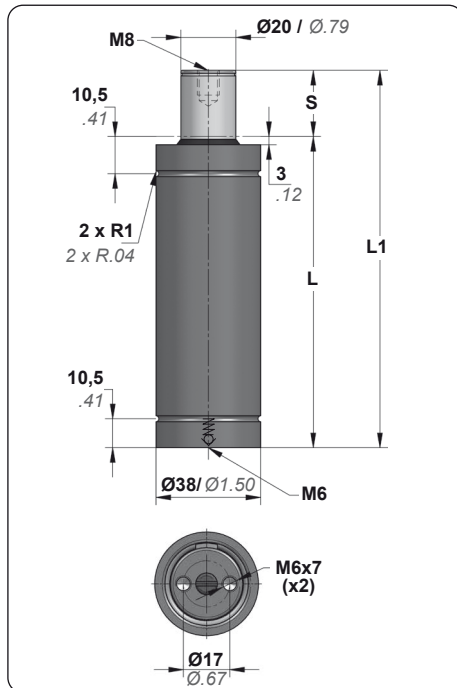
MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A34-032  582			

CS 1000 V1

Power Short Stroke

BMW B2 4006	PSA	E24.54.815.G



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS 1000 006 V1	6	0.24	61	2.40	55	2.17	1060 ±5% 150 bar 2175 psi at 20°C 68°F	2383	1810	4068	10	0.6	0.36	0.79
CS 1000 010 V1	10	0.39	78	3.07	68	2.68			1641	3690	20	1.2	0.41	0.90
CS 1000 016 V1	16	0.63	100	3.94	84	3.31			1638	3682	32	2.0	0.47	1.04
CS 1000 025 V1	25	0.98	135	5.31	110	4.33			1611	3623	52	3.2	0.57	1.26
CS 1000 032 V1	32	1.26	167	6.57	135	5.31			1564	3515	70	4.3	0.66	1.46
CS 1000 040 V1	40	1.57	195	7.68	155	6.10			1584	3562	85	5.2	0.74	1.63
CS 1000 050 V1	50	1.97	230	9.06	180	7.09			1602	3602	104	6.4	0.84	1.85

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

MODEL	CW 500 KZ 500	AS 300	CT 500 CK 500 FD 300	CD 500 CM 500	AG 250	CPH 850 CP 1000	CS 1000	

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A34-038		A19-038	

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover

HOW TO ORDER
CS 1000 050 V1
CS 1000 050 V1 + PC 020 038 050

20 **38** **50**

Protective Cover

Protective Cover

The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile

HOW TO ORDER
CS 1000 050 V1
CS 1000 050 V1 + PT 020 038 050

20 **38** **50**

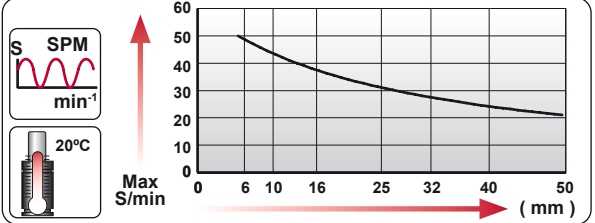
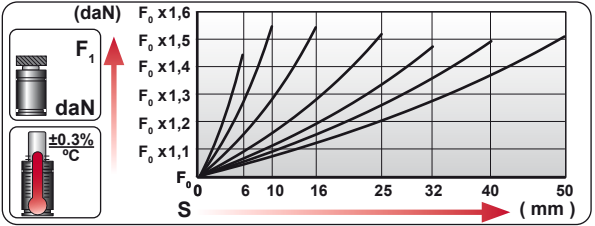
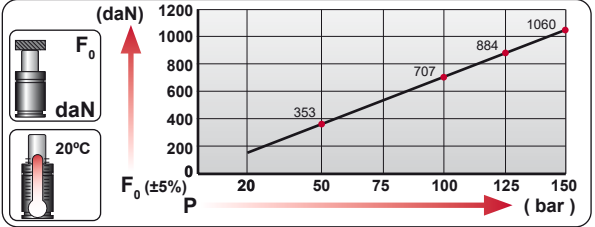
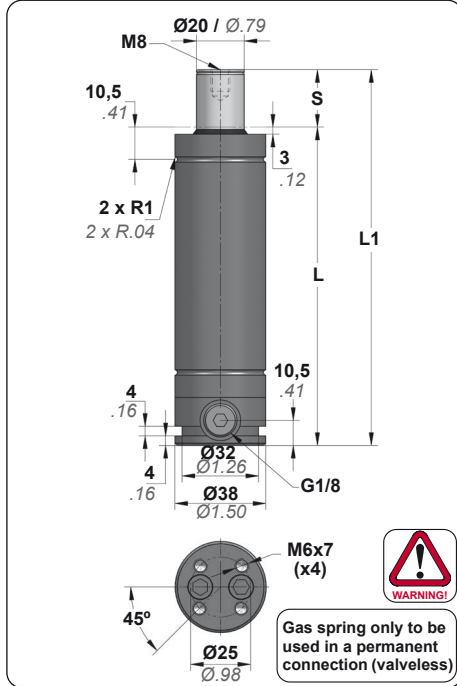
Protective Textile

Protective Textile

The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS-KC 1000 V2

Power Short Stroke



VDI SAFETY

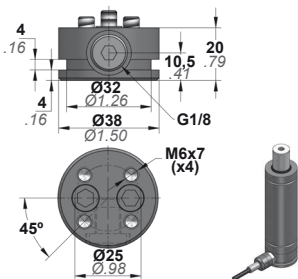
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS-KC 1000 006 V2	6	0.24	81	3.19	75	2.95	1060 ±5% 150 bar 2175 psi at 20°C 68°F	2383	1810	4068	10	0.6	0.51	1.12
CS-KC 1000 010 V2	10	0.39	98	3.86	88	3.46			1641	3690	20	1.2	0.56	1.23
CS-KC 1000 016 V2	16	0.63	120	4.72	104	4.09			1638	3682	32	2.0	0.62	1.37
CS-KC 1000 025 V2	25	0.98	155	6.10	130	5.12			1611	3623	52	3.2	0.72	1.59
CS-KC 1000 032 V2	32	1.26	187	7.36	155	6.10			1564	3515	70	4.3	0.81	1.79
CS-KC 1000 040 V2	40	1.57	215	8.46	175	6.89			1584	3562	85	5.2	0.89	1.96
CS-KC 1000 050 V2	50	1.97	250	9.84	200	7.87			1602	3602	104	6.4	0.99	2.18

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar 290 psi	150 bar 2175 psi		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Charging Adapter	SKK 12R 1/8		
	Smax	< 90%		Force variation by temperature	±0,3% / °C						Connection	CS-KC 1000 XXX V2			
	Vmax	0,5 m/s		Seal Kit	S-XXXXXXX										

BASE PLATE OPTION

KC 1000



DIN 912 - 12.9	Torque
Thread	Nm
M6	15
M8	38
M10	75

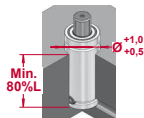
Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate has no filling valve, when fitted to a gas spring CS (CS-KC) it only can be pressurised through a hoses system. CS-KC is delivered uncharged.

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount



HOW TO ORDER

C20-038 598

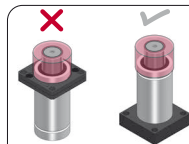
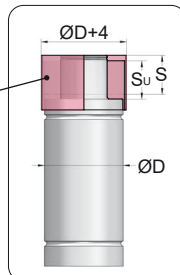
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover



Protective Cover



HOW TO ORDER

CS-KC 1000 050 V2

20

38

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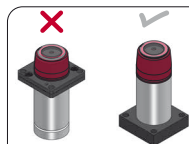
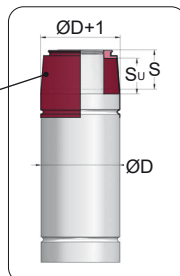
CS-KC 1000 050 V2 + PC 020 038 050

The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



Protective Textile



HOW TO ORDER

CS-KC 1000 050 V2

20

38

50

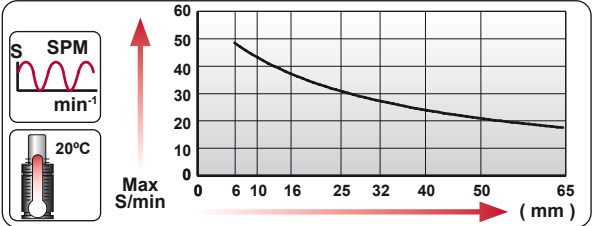
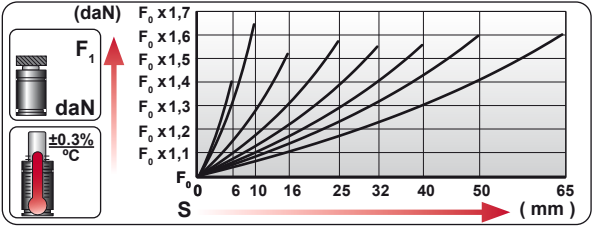
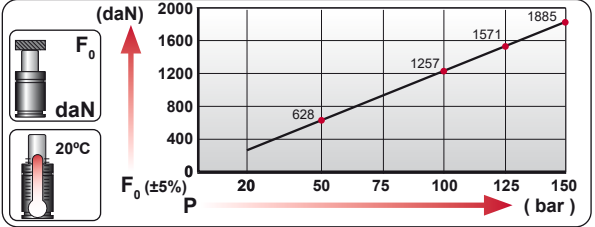
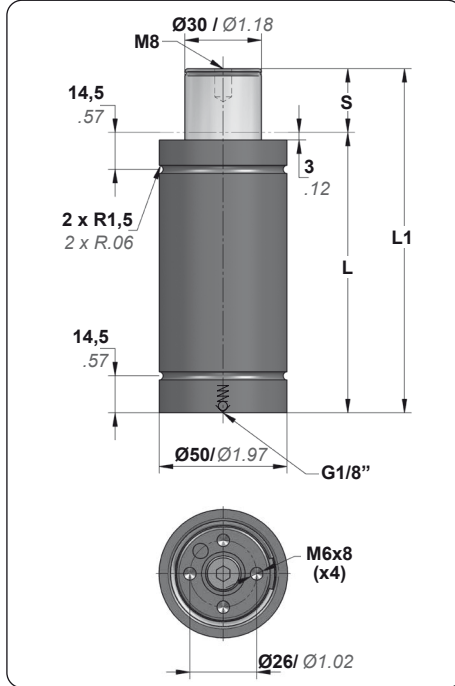
CS-KC 1000 050 V2 + PT 020 038 050

The body diameter (ØD) increases to the size of (ØPT). PT can be used with mounts C, but not with mounts type A.

CS 1800 V2

Power Short Stroke

BMW B2 4006	PSA E24.54.815.G
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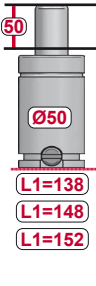



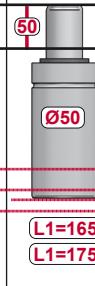
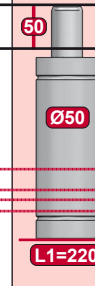
VDI SAFETY

STANDARS


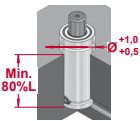






ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS 1800 006 V2	6	0.24	66	2.60	60	2.36	1885	4238	3047	6849	20	1.2	0.69	1.52
CS 1800 010 V2	10	0.39	80	3.15	70	2.76			3024	6799	33	2.0	0.75	1.65
CS 1800 016 V2	16	0.63	106	4.17	90	3.54			2835	6372	60	3.7	0.89	1.96
CS 1800 025 V2	25	0.98	135	5.31	110	4.33			2942	6614	87	5.3	1.03	2.27
CS 1800 032 V2	32	1.26	162	6.38	130	5.12			2907	6536	114	7.0	1.17	2.58
CS 1800 040 V2	40	1.57	190	7.48	150	5.91			2923	6572	142	8.6	1.31	2.89
CS 1800 050 V2	50	1.97	220	8.66	170	6.69			2998	6741	169	10.3	1.45	3.20
CS 1800 065 V2	65	2.56	271	10.67	206	8.11			3012	6772	218	13.3	1.70	3.75

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X	
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX	

								
MODEL			CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A59-050 		A54-050 	

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover



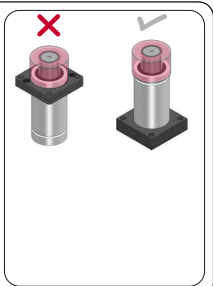
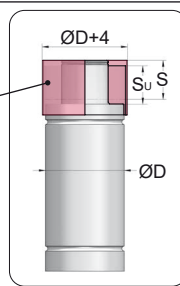
HOW TO ORDER

CS 1800 050 V2 30 50 50

CS 1800 050 V2 + PC 030 050 050




Protective Cover



The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



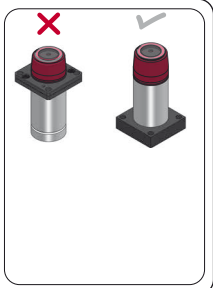
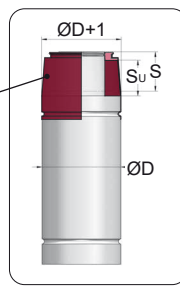
HOW TO ORDER

CS 1800 050 V2 30 50 50

CS 1800 050 V2 + PT 030 050 050



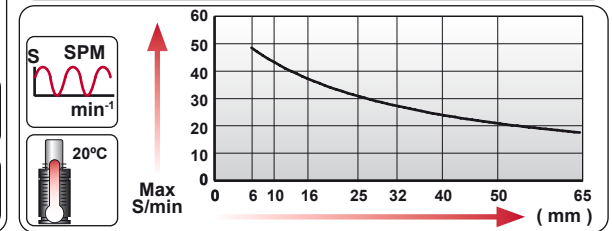
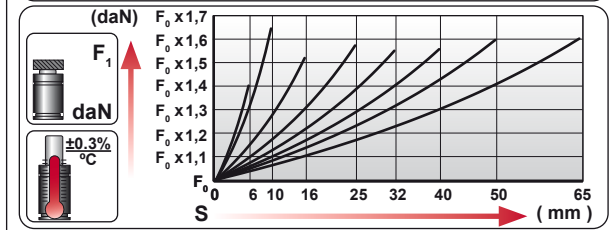
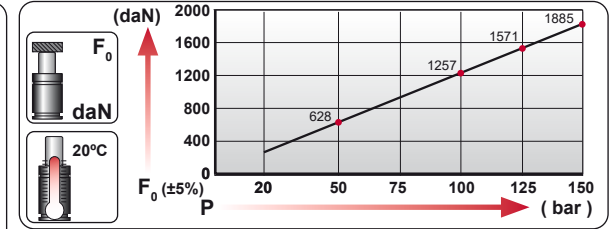
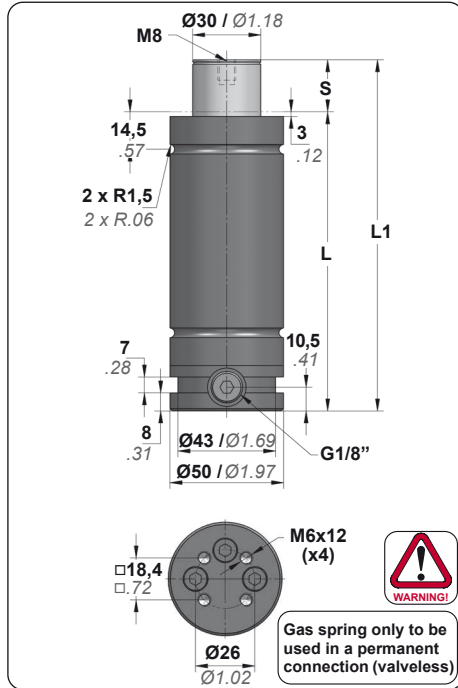
Protective Textile



The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS-KC 1800 V2

Power Short Stroke



VDI SAFETY

Gas spring only to be used in a permanent connection (valveless)

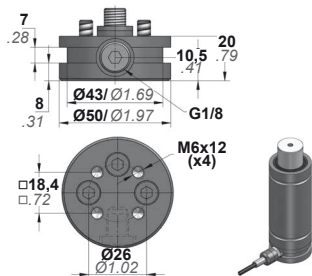
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS-KC 1800 006 V2	6	0.24	86	3.39	80	3.15	1885 4238 ±5% 150 bar 2175 psi at 20°C 68°F	4238	3047	6850	20	1.2	0.94	2.07
CS-KC 1800 010 V2	10	0.39	100	3.94	90	3.54			3024	6798	33	2.0	1.01	2.23
CS-KC 1800 016 V2	16	0.63	126	4.96	110	4.33			2835	6373	60	3.7	1.14	2.51
CS-KC 1800 025 V2	25	0.98	155	6.10	130	5.12			2942	6614	87	5.3	1.28	2.82
CS-KC 1800 032 V2	32	1.26	182	7.17	150	5.91			2907	6535	114	7.0	1.42	3.13
CS-KC 1800 040 V2	40	1.57	210	8.27	170	6.69			2923	6571	142	8.7	1.56	3.44
CS-KC 1800 050 V2	50	1.97	240	9.45	190	7.48			2998	6740	169	10.3	1.70	3.75
CS-KC 1800 065 V2	65	2.56	291	11.46	226	8.90			3012	6771	218	13.3	1.96	4.32

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar	150 bar		Tmin Tmax	20 °C	150 °C		Charging Adapter	SKK 12R 1/8		
	Smax	< 90%		Tmin Tmax	290 psi	2175 psi		Tmin Tmax	0 °C	80 °C		Connection	CS-KC 1800 XXX V2		
	Vmax	0,5 m/s		Force variation by temperature	32 °F	176 °F		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX		

BASE PLATE OPTION

KC 1800



DIN 912 - 12.9	Torque
Thread	Nm
M6	15
M8	38
M10	75

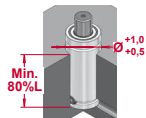
Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate has no filling valve, when fitted to a gas spring CS (CS-KC) it only can be pressurised through a hoses system. CS-KC is delivered uncharged.

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount



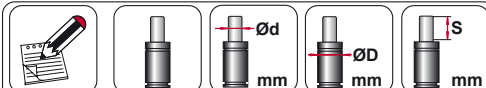
HOW TO ORDER

C20-050 598

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover

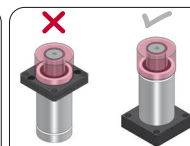
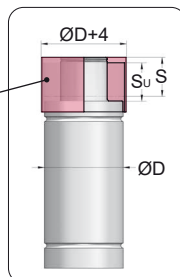


HOW TO ORDER

CS-KC 1800 050 V2 30 50 50
CS-KC 1800 050 V2 + PC 030 050 050

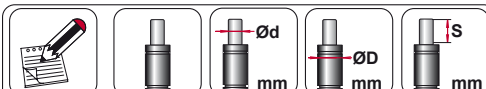


Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts C, but not with mounts type A.

PT Protective Textile

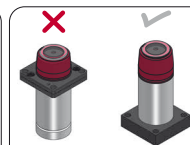
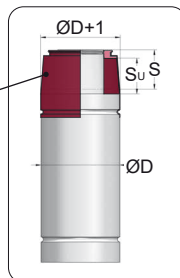


HOW TO ORDER

CS-KC 1800 050 V2 30 50 50
CS-KC 1800 050 V2 + PT 030 050 050



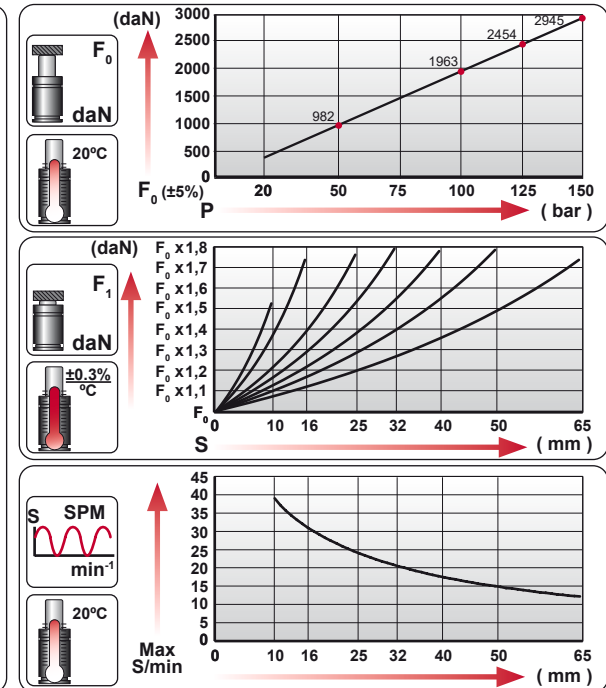
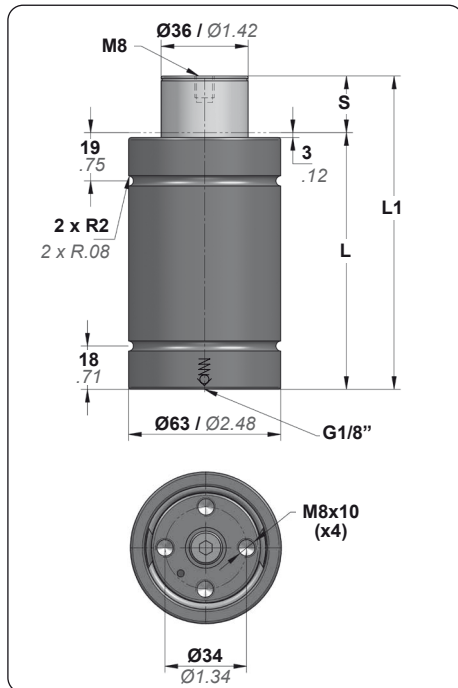
Protective Textile



The body diameter (ØD) increases to the size of (ØPT). PT can be used with mounts C, but not with mounts type A.

CS 3000 V3

Power Short Stroke



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS 3000 010 V3	10	0.39	85	3.35	75	2.95	2945 ±5% 150 bar 2175 psi at 20°C 68°F	6621	5009	11260	48	2.9	1.34	2.95
CS 3000 016 V3	16	0.63	103	4.06	87	3.43			5121	11513	74	4.5	1.48	3.26
CS 3000 025 V3	25	0.98	130	5.12	105	4.13			5195	11678	113	6.9	1.68	3.70
CS 3000 032 V3	32	1.26	150	5.91	118	4.65			5281	11873	142	8.7	1.83	4.03
CS 3000 040 V3	40	1.57	175	6.89	135	5.31			5247	11795	179	10.9	2.02	4.45
CS 3000 050 V3	50	1.97	205	8.07	155	6.10			5264	11835	223	13.6	2.24	4.94
CS 3000 065 V3	65	2.56	256	10.08	191	7.52			5122	11514	300	18.3	2.64	5.82

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX



CS 3000 V3
Power Short Stroke

mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
mm	mm	mm	mm	mm	mm	mm	mm
MODEL	CW 1500 KZ/KT 1500 CWC 1500	CT 1500 CK 1500	CM 1500 CD 1500	CPH 2800 CP 3000	CS 3000		

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A39-063 A69-063			

PROTECTION OPTIONS

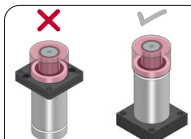
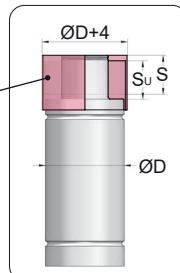
Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover

HOW TO ORDER

CS 3000 050 V3 36 63 50

CS 3000 050 V3 + PC 036 063 050



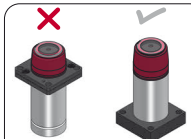
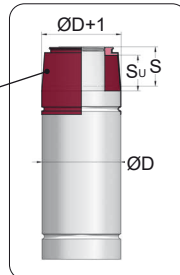
The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile

HOW TO ORDER

CS 3000 050 V3 36 63 50

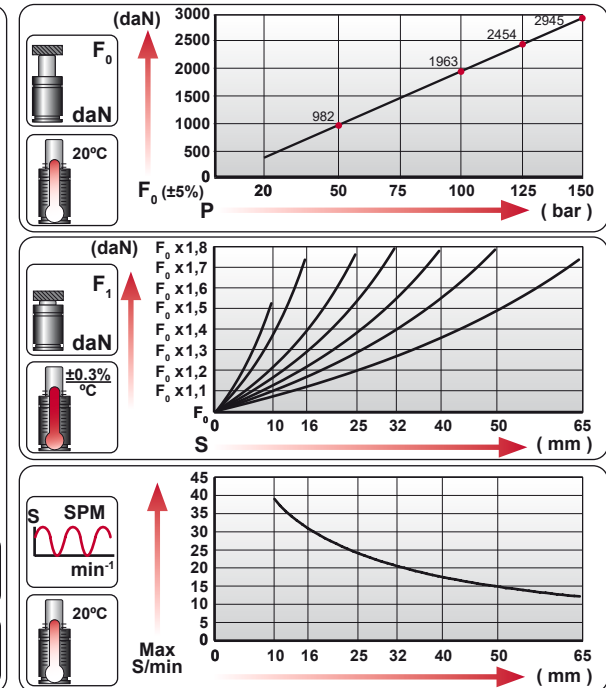
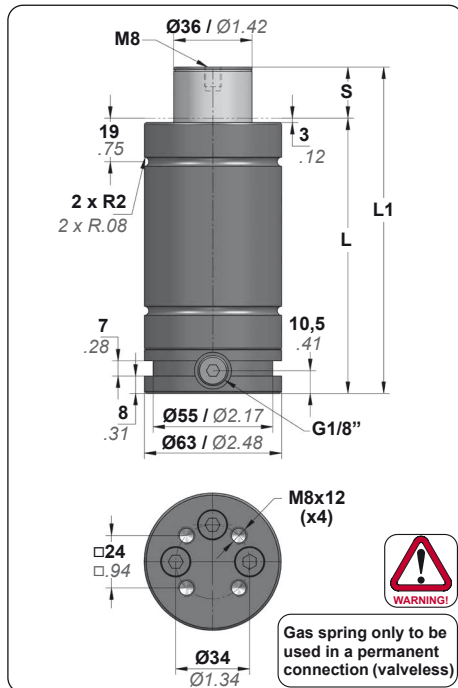
CS 3000 050 V3 + PT 036 063 050



The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS-KC 3000 V3

Power Short Stroke



VDI SAFETY



STANDARS



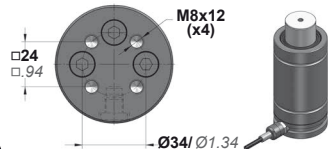
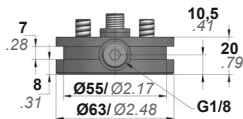
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS-KC 3000 010 V3	10	0.39	105	4.13	95	3.74	2945 ±5% 150 bar 2175 psi at 20°C 68°F	6621	5009	11261	48	2.9	1.76	3.88
CS-KC 3000 016 V3	16	0.63	123	4.84	107	4.21			5121	11512	74	4.5	1.89	4.17
CS-KC 3000 025 V3	25	0.98	150	5.91	125	4.92			5195	11679	113	6.9	2.10	4.63
CS-KC 3000 032 V3	32	1.26	170	6.69	138	5.43			5281	11872	142	8.7	2.24	4.94
CS-KC 3000 040 V3	40	1.57	195	7.68	155	6.10			5247	11796	179	10.9	2.43	5.36
CS-KC 3000 050 V3	50	1.97	225	8.86	175	6.89			5264	11834	223	13.6	2.66	5.86
CS-KC 3000 065 V3	65	2.56	276	10.87	211	8.31			5122	11515	300	18.3	3.05	6.72

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar	Charging Adapter	SKK 12R 1/8
Smax	< 90%	20°C / 68°F	290 psi 2175 psi	Connection	CS-KC 3000 XXX V3
Vmax	0,5 m/s	Tmin Tmax	0 °C 80 °C	Seal Kit	S-XXXXXXX
		Force variation by temperature	32 °F 176 °F		
			±0,3% / °C		

BASE PLATE OPTION

KC 3000



DIN 912 - 12.9	Torque
Thread	Nm
M6	15
M8	38
M10	75

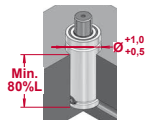
Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate has no filling valve, when fitted to a gas spring CS (CS-KC) it only can be pressurised through a hoses system. CS-KC is delivered uncharged.

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount



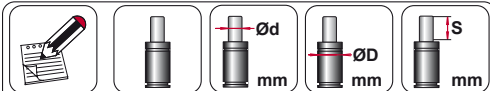
HOW TO ORDER

C35-063 599

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover



HOW TO ORDER

CS-KC 3000 050 V3

36

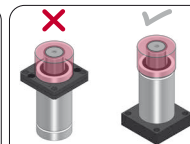
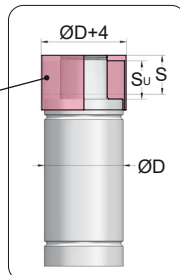
63

50

CS-KC 3000 050 V3 + PC 036 063 050

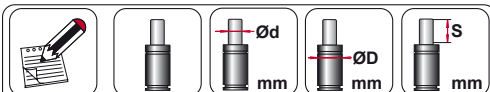


Protective Cover



The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



HOW TO ORDER

CS-KC 3000 050 V3

36

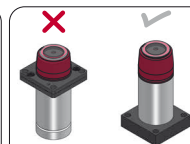
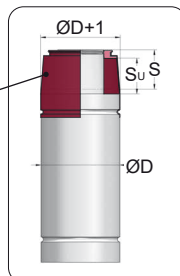
63

50

CS-KC 3000 050 V3 + PT 036 063 050



Protective Textile

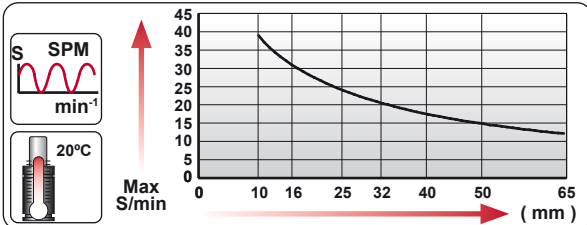
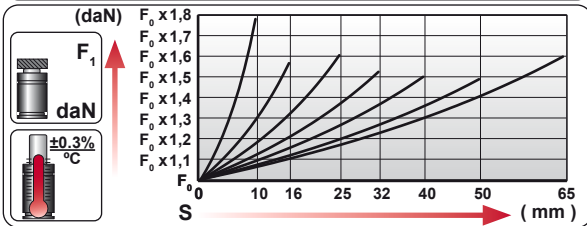
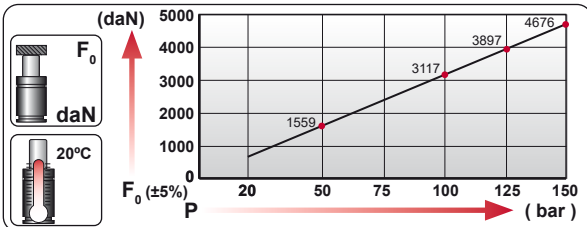
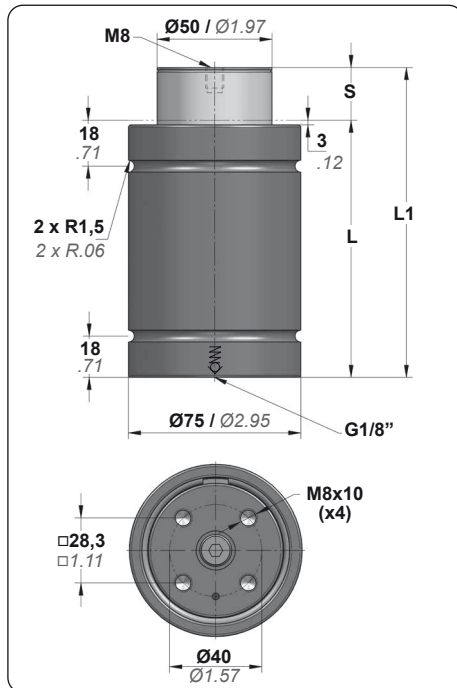


The body diameter (ØD) increases to the size of (ØPT). PT can be used with mounts C, but not with mounts type A.

CS 4700 V1

Power Short Stroke

BMW B2 4006	PSA	E24.54.815.G



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CS 4700 010 V1	10	0.39	80	3.15	70	2.76	4675 ±5% 150 bar 2175 psi at 20°C 68°F	10510	8374	18826	71	4.3	1.74	3.84
CS 4700 016 V1	16	0.63	106	4.17	90	3.54			7347	16516	137	8.4	2.00	4.41
CS 4700 025 V1	25	0.98	135	5.31	110	4.33			7523	16912	206	12.6	2.30	5.07
CS 4700 032 V1	32	1.26	167	6.57	135	5.31			7143	16057	289	17.6	2.62	5.78
CS 4700 040 V1	40	1.57	200	7.87	160	6.30			7029	15802	372	22.7	2.95	6.50
CS 4700 050 V1	50	1.97	240	9.45	190	7.48			6973	15676	473	28.9	3.36	7.41
CS 4700 065 V1	65	2.56	273	10.75	208	8.19			7486	16829	540	32.9	3.69	8.13

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX



CS 4700 V1

Power Short Stroke

MODEL	CW 2400 CWC 2400 KZ/KT 2400	CT 3000 CK 2500 FD 1500	GN 1500 CM 2500 CD 2400	AG 1500	CPH 4300 CP 5000	CS 4700	

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A59-075		A54-075	

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover

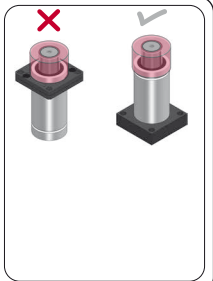
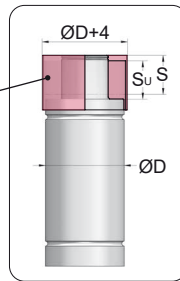
HOW TO ORDER

CS 4700 050 V1 50 75 50

CS 4700 050 V1 + PC 050 075 050



Protective Cover



The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile

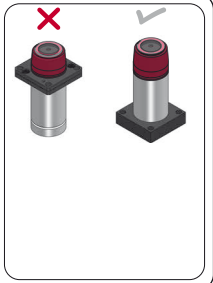
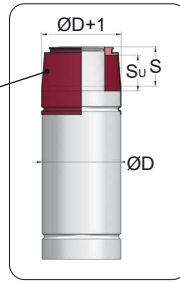
HOW TO ORDER

CS 4700 050 V1 50 75 50

CS 4700 050 V1 + PT 050 075 050



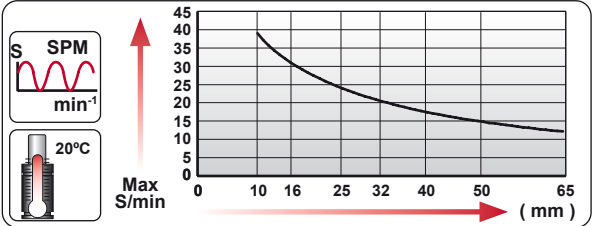
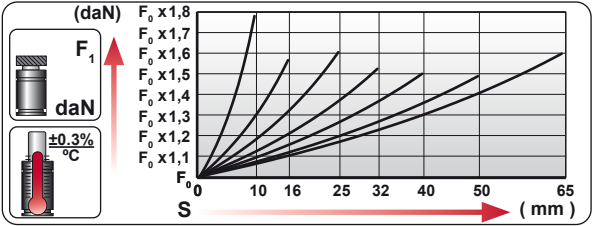
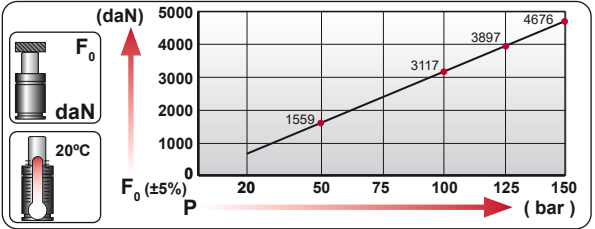
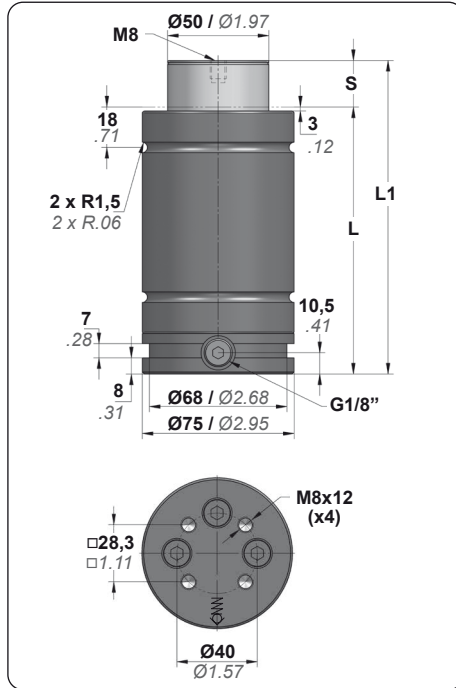
Protective Textile



The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS-KV 4700 V1

Power Short Stroke



VDI SAFETY



STANDARS



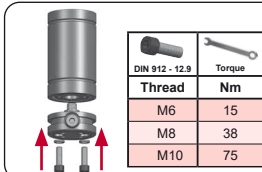
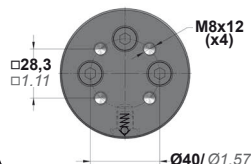
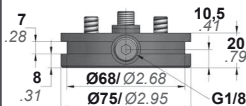
ORDER	S		L1 ± 0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS-KV 4700 010 V1	10	0.39	100	3.94	90	3.54	4675	10510	8374	18826	71	4.3	2.35	5.18
CS-KV 4700 016 V1	16	0.63	126	4.96	110	4.33			7347	16517	137	8.4	2.61	5.75
CS-KV 4700 025 V1	25	0.98	155	6.10	130	5.12			7523	16912	206	12.6	2.91	6.42
CS-KV 4700 032 V1	32	1.26	187	7.36	155	6.10			7143	16058	289	17.6	3.23	7.12
CS-KV 4700 040 V1	40	1.57	220	8.66	180	7.09			7029	15802	372	22.7	3.56	7.85
CS-KV 4700 050 V1	50	1.97	260	10.24	210	8.27			6973	15676	473	28.9	3.97	8.75
CS-KV 4700 065 V1	65	2.56	293	11.54	228	8.98			7486	16829	540	33.0	4.30	9.48

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CS-KV-H 4700 XXX V1
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

BASE PLATE OPTION

KV 4700



Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate can be equipped with filling valve, when fitted to a gas spring CS (CS-KV) remove the filling valve from the gas spring.

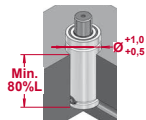
If order CS-KV as a self-contained it is delivered charged (with filling valve).

If order CS-KV-H as ready to be hosed it is delivered unfilled (without filling valve).

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount



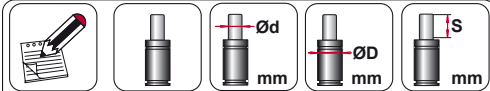
HOW TO ORDER

C20-075 598

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover



HOW TO ORDER

CS-KV 4700 050 V1

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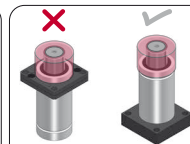
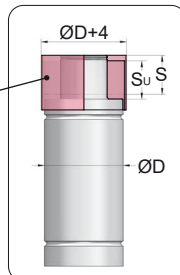
75

50

CS-KV 4700 050 V1 + PC 050 075 050

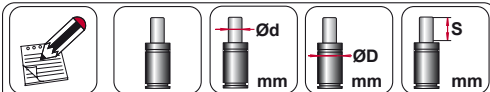


Protective Cover



The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



HOW TO ORDER

CS-KV 4700 050 V1

50

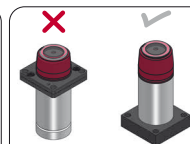
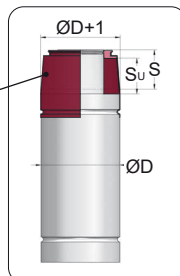
75

50

CS-KV 4700 050 V1 + PT 050 075 050



Protective Textile

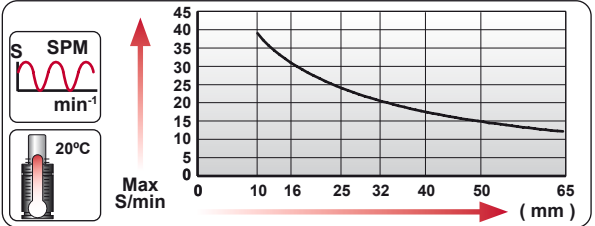
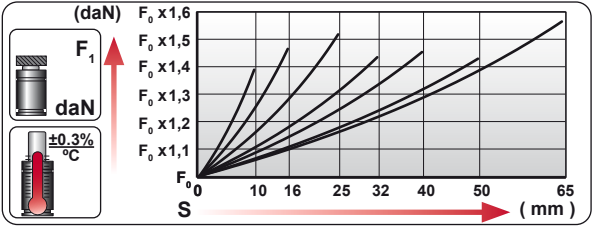
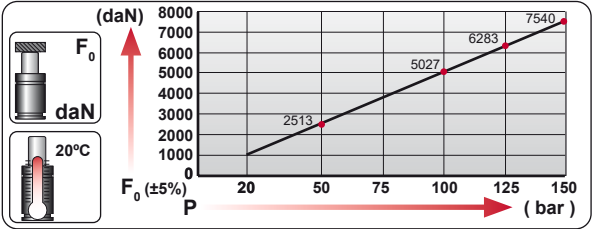
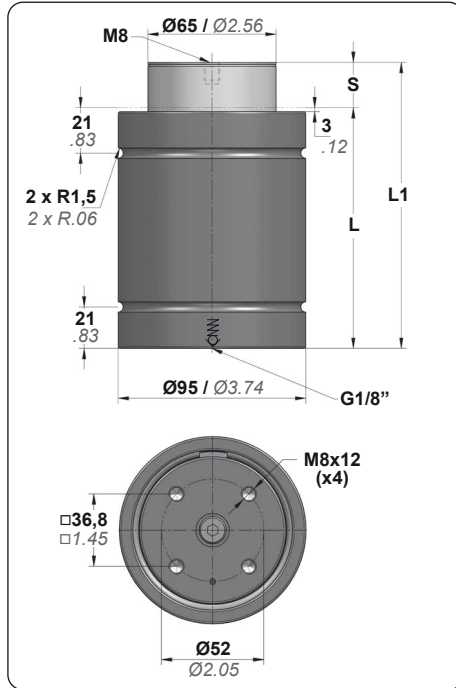


The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS 7500 V1

Power Short Stroke

BMW B2 4006	PSA	E24.54.815.G



VDI SAFETY



STANDARS



ORDER	S		L1 ± 0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CS 7500 010 V1	10	0.39	90	3.54	80	3.15	7540 16951 $\pm 5\%$ 150 bar 2175 psi at 20°C 68°F		11653	26197	142	8.7	3.21	7.08
CS 7500 016 V1	16	0.63	116	4.57	100	3.94			11064	24874	252	15.4	3.61	7.96
CS 7500 025 V1	25	0.98	145	5.71	120	4.72			11461	25765	367	22.4	4.06	8.95
CS 7500 032 V1	32	1.26	182	7.17	150	5.91			10832	24351	529	32.3	4.64	10.23
CS 7500 040 V1	40	1.57	210	8.27	170	6.69			10974	24671	643	39.2	5.07	11.18
CS 7500 050 V1	50	1.97	255	10.04	205	8.07			10790	24258	834	50.9	5.77	12.72
CS 7500 065 V1	65	2.56	279	10.98	214	8.43			11812	26554	903	55.1	6.12	13.49

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	$\pm 0,3\% / ^\circ\text{C}$		Seal Kit	S-XXXXXXX



CS 7500 V1

Power Short Stroke

MODEL	CW 4200 KZ 4200 KT 4200	CK 4000 FD 3000	GN 3000 CM 4000 CD 4200	AG 3000	CP 8000	CS 7500	

MOUNTING OPTIONS					
	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A59-095		A54-095	

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover

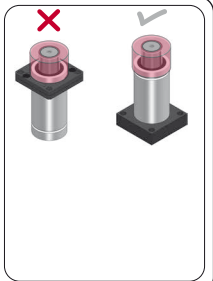
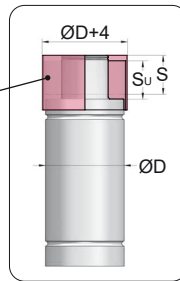
HOW TO ORDER

CS 7500 050 V1 65 95 50

CS 7500 050 V1 + PC 065 095 050



Protective Cover



The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile

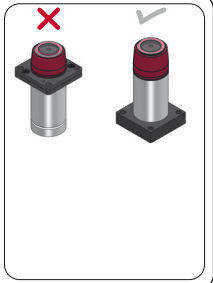
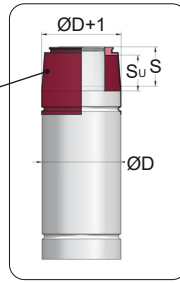
HOW TO ORDER

CS 7500 050 V1 65 95 50

CS 7500 050 V1 + PT 065 095 050



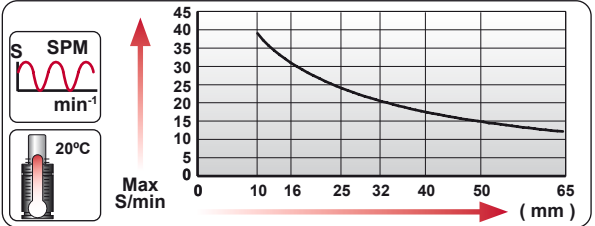
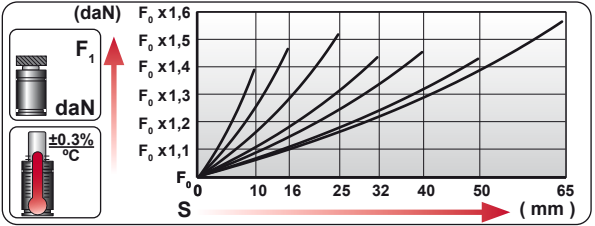
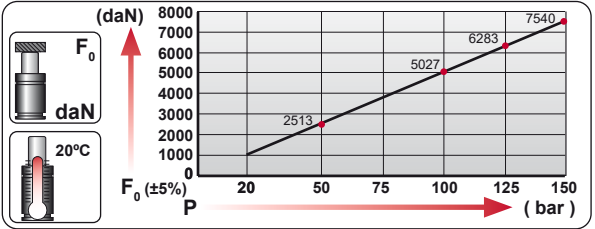
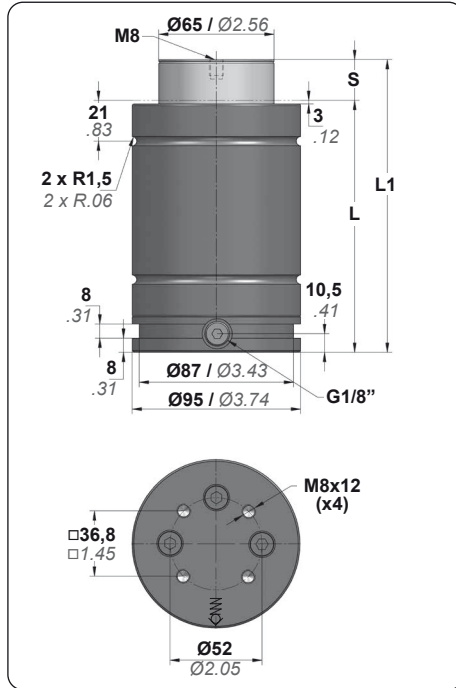
Protective Textile



The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS-KV 7500 V1

Power Short Stroke



VDI SAFETY



STANDARS



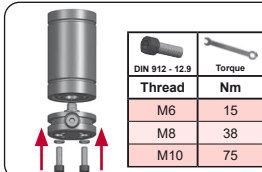
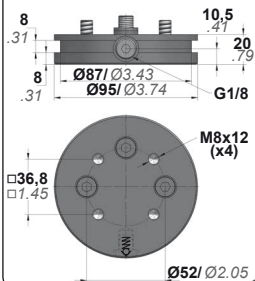
ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS-KV 7500 010 V1	10	0.39	110	4.33	100	3.94	7540 $\pm 5\%$ 150 bar 2175 psi at 20°C 68°F	16951	11653	26197	142	8.7	4.21	9.28
CS-KV 7500 016 V1	16	0.63	136	5.35	120	4.72			11064	24873	252	15.4	4.62	10.19
CS-KV 7500 025 V1	25	0.98	165	6.50	140	5.51			11461	25765	367	22.4	5.06	11.16
CS-KV 7500 032 V1	32	1.26	202	7.95	170	6.69			10832	24351	529	32.3	5.64	12.43
CS-KV 7500 040 V1	40	1.57	230	9.06	190	7.48			10974	24671	643	39.2	6.07	13.38
CS-KV 7500 050 V1	50	1.97	275	10.83	225	8.86			10790	24257	834	50.9	6.78	14.95
CS-KV 7500 065 V1	65	2.56	299	11.77	234	9.21			11812	26554	903	55.1	7.12	15.70

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CS-KV-H 7500 XXX V1	
Vmax	0,5 m/s	Force variation by temperature	$\pm 0,3\% / ^\circ\text{C}$		Seal Kit	S-XXXXXXX	

BASE PLATE OPTION

KV 7500



Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate can be equipped with filling valve, when fitted to a gas spring CS (CS-KV) remove the filling valve from the gas spring.

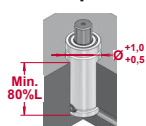
If order CS-KV as a self-contained it is delivered charged (with filling valve).

If order CS-KV-H as ready to be hosed it is delivered unfilled (without filling valve).

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount



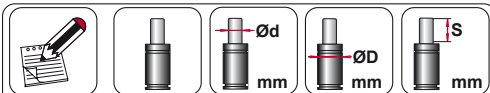
HOW TO ORDER

C20-095 598

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover



HOW TO ORDER

CS-KV 7500 050 V1

65

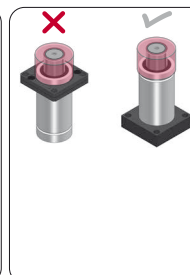
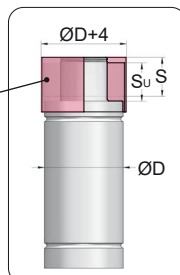
95

50

CS-KV 7500 050 V1 + PC 065 095 050

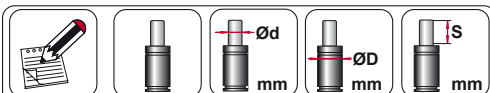


Protective Cover



The body diameter (ØD) increases to the size of (ØPC).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



HOW TO ORDER

CS-KV 7500 050 V1

65

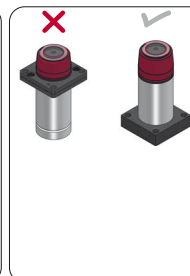
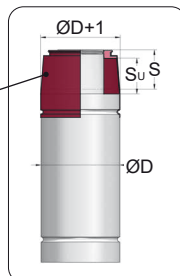
95

50

CS-KV 7500 050 V1 + PT 065 095 050



Protective Textile

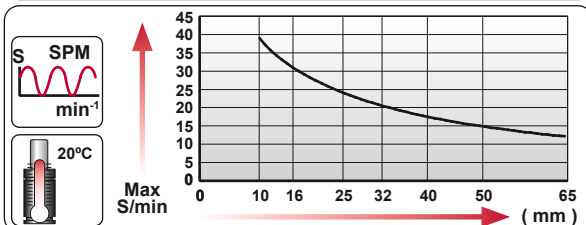
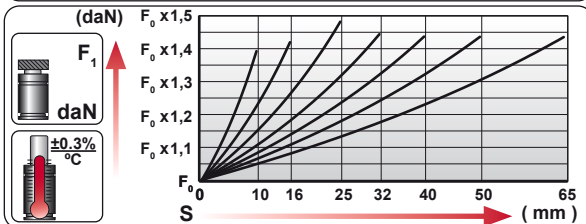
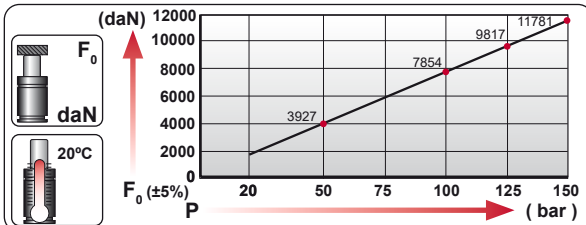
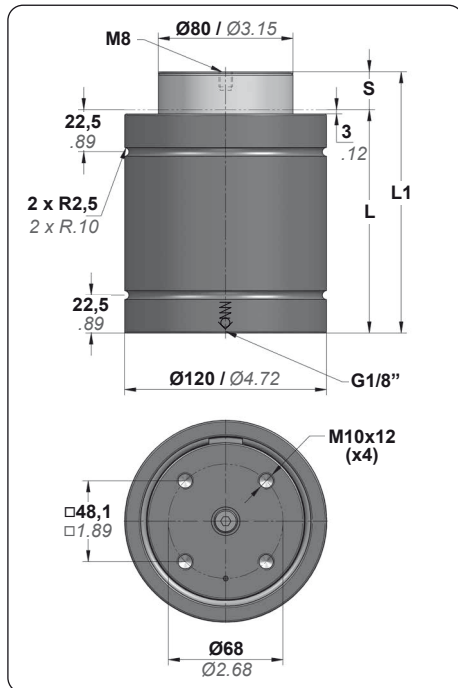


The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.

CS 11800 V1

Power Short Stroke

BMW B2 4006		
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VDI SAFETY











STANDARS




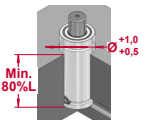






ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CS 11800 010 V1	10	0.39	100	3.94	90	3.54	11780 ±5% 150 bar 2175 psi at 20°C 68°F	26482	17105	38454	252	15.4	5.79	12.76
CS 11800 016 V1	16	0.63	126	4.96	110	4.33			16748	37652	424	25.9	6.46	14.24
CS 11800 025 V1	25	0.98	155	6.10	130	5.12			17481	39298	602	36.7	7.19	15.85
CS 11800 032 V1	32	1.26	187	7.36	155	6.10			17032	38289	815	49.7	8.01	17.66
CS 11800 040 V1	40	1.57	220	8.66	180	7.09			16947	38098	1030	62.9	8.86	19.53
CS 11800 050 V1	50	1.97	260	10.24	210	8.27			16937	38075	1290	78.7	9.88	21.78
CS 11800 065 V1	65	2.56	320	12.60	255	10.04			16927	38054	1679	102.5	11.41	25.15

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

							
mm	mm	mm	mm	mm	mm	mm	mm
	$\varnothing 120$ L1=168 L1=172 L1=172	$\varnothing 120$ L1=190	$\varnothing 120$ L1=202 L1=215 L1=240	$\varnothing 120$ L1=240			$\varnothing 120$ L1=260
MODEL	CW 6600 KZ 6600 KT 6600	FD 5000	GN 5000 CM 6500 CD 6600	AG 5000			CS 11800


MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount 
HOW TO ORDER		A34-120  583		A19-120  586	

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover



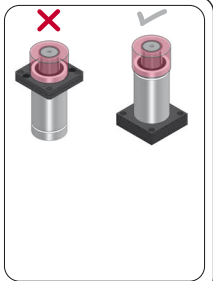
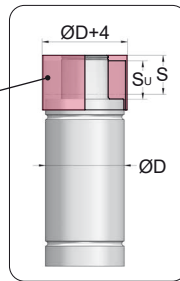
HOW TO ORDER

CS 11800 050 V1 80 120 50

CS 11800 050 V1 + PC 080 120 050




Protective Cover



The body diameter ($\varnothing D$) increases to the size of ($\varnothing PC$).
PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



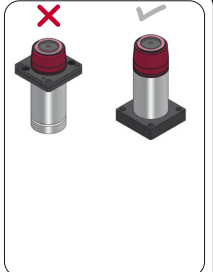
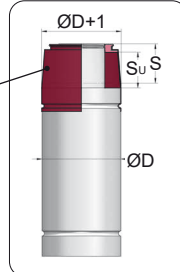
HOW TO ORDER

CS 11800 050 V1 80 120 50

CS 11800 050 V1 + PT 080 120 050



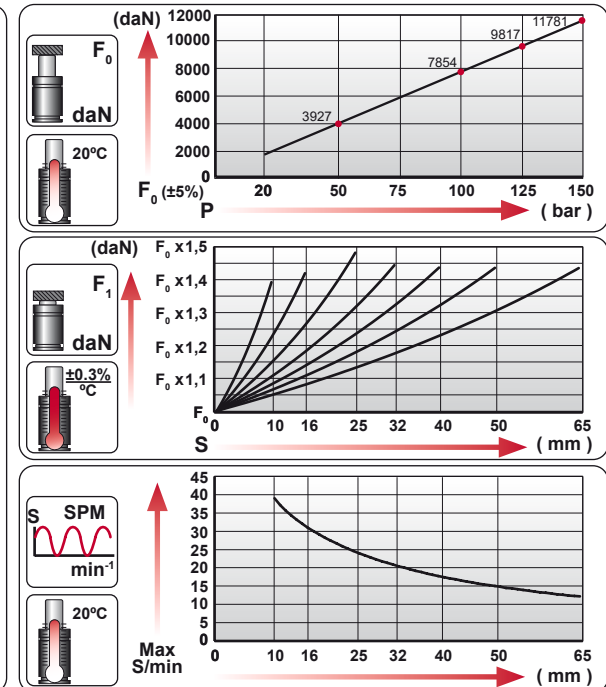
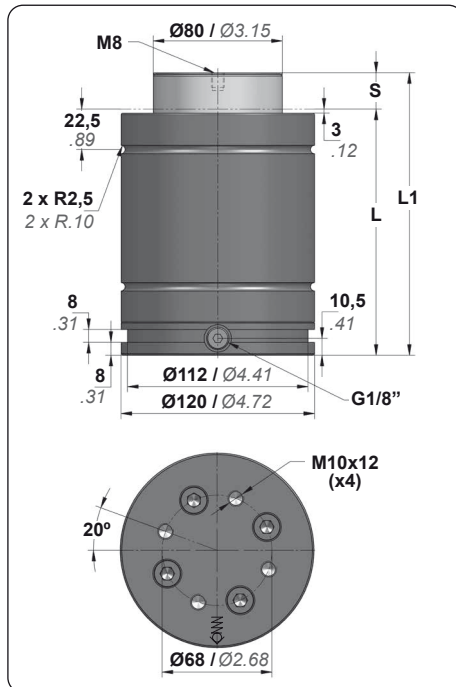
Protective Textile



The body diameter ($\varnothing D$) increases to the size of ($\varnothing PT$).
PT can be used with mounts C, but not with mounts type A.

CS-KV 11800 V1

Power Short Stroke



VDI SAFETY



STANDARS



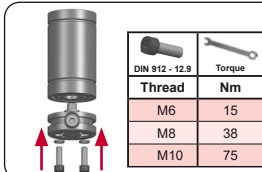
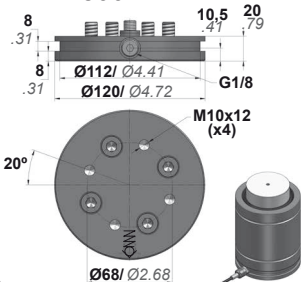
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CS-KV 11800 010 V1	10	0.39	120	4.72	110	4.33	11780 ±5% 150 bar 2175 psi at 20°C 68°F	26482	17105	38454	252	15.4	7.42	16.36
CS-KV 11800 016 V1	16	0.63	146	5.75	130	5.12			16748	37651	424	25.9	8.08	17.81
CS-KV 11800 025 V1	25	0.98	175	6.89	150	5.91			17481	39299	602	36.7	8.81	19.42
CS-KV 11800 032 V1	32	1.26	207	8.15	175	6.89			17032	38289	815	49.7	9.64	21.25
CS-KV 11800 040 V1	40	1.57	240	9.45	200	7.87			16947	38098	1030	62.9	10.48	23.10
CS-KV 11800 050 V1	50	1.97	280	11.02	230	9.06			16937	38076	1290	78.7	11.50	25.35
CS-KV 11800 065 V1	65	2.56	340	13.39	275	10.83			16927	38053	1679	102.5	13.04	28.75

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CS-KV-H 11800 XXX V1
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

BASE PLATE OPTION

KV 11800



Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate can be equipped with filling valve, when fitted to a gas spring CS (CS-KV) remove the filling valve from the gas spring.

If order CS-KV as a self-contained it is delivered charged (with filling valve).

If order CS-KV-H as ready to be hoses it is delivered unfilled (without filling valve).

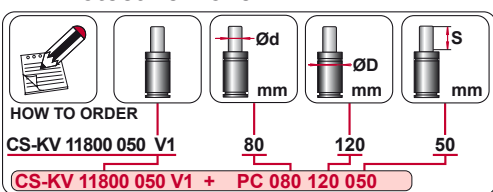
MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER				C20-120	

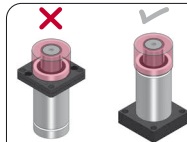
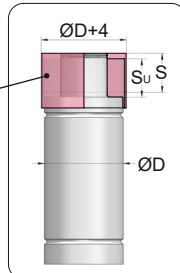
PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PC Protective Cover

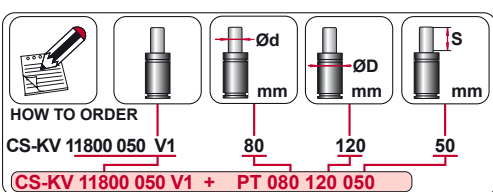


Protective Cover

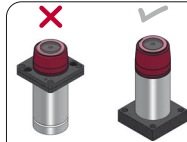
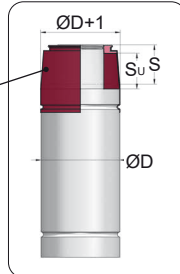


The body diameter (ØD) increases to the size of (ØPC).
 PC can be used with mounts C, but not with mounts type A.

PT Protective Textile



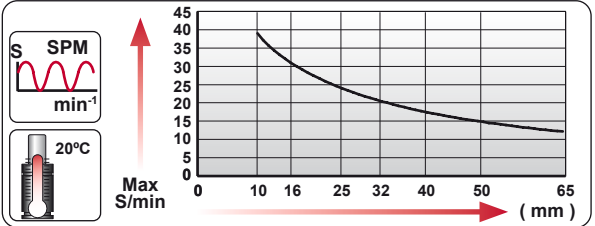
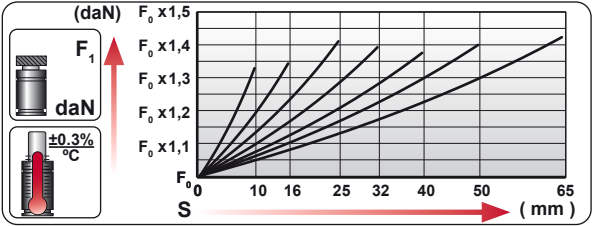
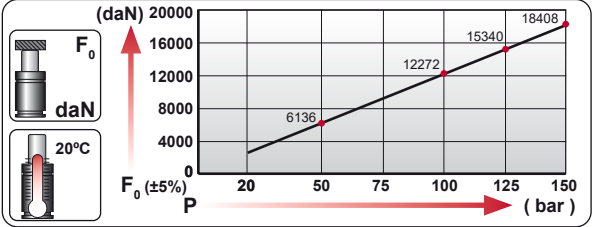
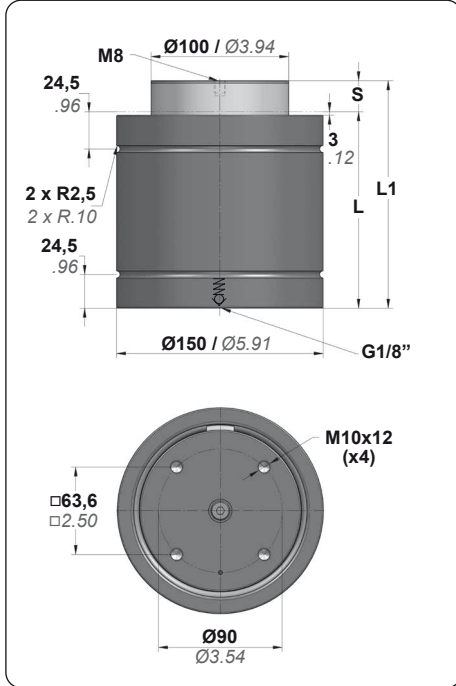
Protective Textile



The body diameter (ØD) increases to the size of (ØPT).
 PT can be used with mounts C, but not with mounts type A.

CS 18300 V1

Power Short Stroke



VDI SAFETY



STANDARS



ORDER	S		L1 $\pm 0,25$		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS 18300 010 V1	10	0.39	110	4.33	100	3.94	18410 ±5% 150 bar 2175 psi at 20°C 68°F	41387	24499	55077	494	30.1	9.69	21.36
CS 18300 016 V1	16	0.63	136	5.35	120	4.72			24759	55661	766	46.7	10.70	23.59
CS 18300 025 V1	25	0.98	165	6.50	140	5.51			26001	58452	1051	64.1	11.79	25.99
CS 18300 032 V1	32	1.26	197	7.76	165	6.50			25669	57707	1389	84.7	13.04	28.75
CS 18300 040 V1	40	1.57	235	9.25	195	7.68			25355	57000	1792	109.4	14.53	32.03
CS 18300 050 V1	50	1.97	270	10.63	220	8.66			25796	57991	2143	130.8	15.86	34.96
CS 18300 065 V1	65	2.56	323	12.72	258	10.16			26230	58966	2676	163.3	17.87	39.40

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 20°C / 68°F	150 bar / 2175 psi / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0°C / 32°F	80°C / 176°F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

MODEL	CW 9500 CW 11800 KT 9500			GN 7500 CM 10000 CD 9600	AG 7500		CS 18300

MOUNTING OPTIONS

	Drop-in 	Top Mount 	Base Mount 	Foot Mount 	Support Mount
HOW TO ORDER		A34-150		A19-150	

PROTECTION OPTIONS

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PT Protective Textile

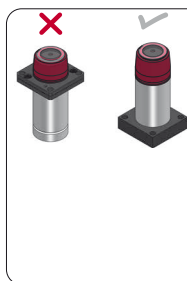
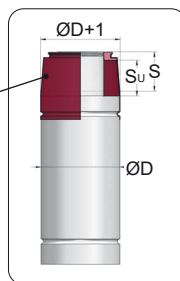
HOW TO ORDER

CS 18300 050 V1 100 150 50

CS 18300 050 V1 + PT 100 150 050



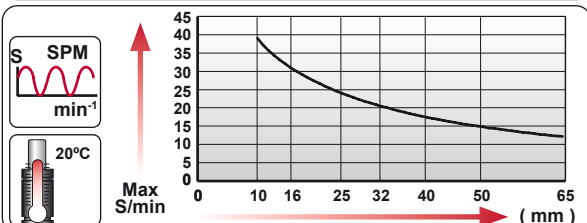
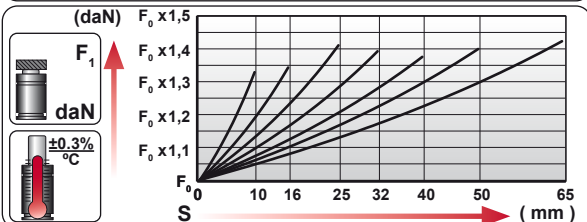
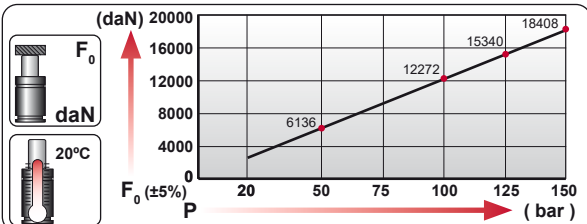
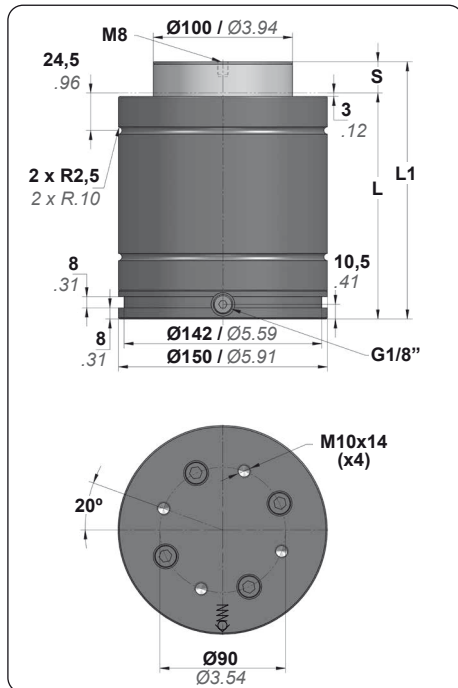
Protective Textile



The body diameter (ØD) increases to the size of (ØPT). PT can be used with mounts C, but not with mounts type A.

CS-KV 18300 V1

Power Short Stroke



VDI SAFETY



STANDARS



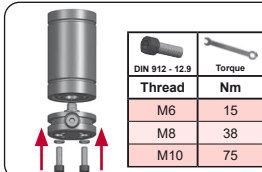
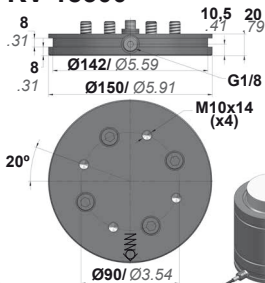
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CS-KV 18300 010 V1	10	0.39	130	5.12	120	4.72	18410 ±5% 150 bar 2175 psi at 20°C 68°F	41387	24499	55076	494	30.1	12.27	27.05
CS-KV 18300 016 V1	16	0.63	156	6.14	140	5.51			24759	55660	766	46.7	13.28	29.28
CS-KV 18300 025 V1	25	0.98	185	7.28	160	6.30			26001	58453	1051	64.1	14.37	31.68
CS-KV 18300 032 V1	32	1.26	217	8.54	185	7.28			25669	57706	1389	84.8	15.61	34.41
CS-KV 18300 040 V1	40	1.57	255	10.04	215	8.46			25355	57000	1792	109.4	17.10	37.70
CS-KV 18300 050 V1	50	1.97	290	11.42	240	9.45			25796	57992	2143	130.8	18.43	40.63
CS-KV 18300 065 V1	65	2.56	343	13.50	278	10.94			26230	58967	2676	163.3	20.45	45.08

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	CS-KV-H 18300 XXX V1
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

BASE PLATE OPTION

KV 18300



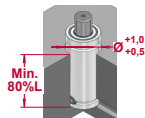
Thread the KC-KV adapter base plate to the CS gas spring by using the adequate screws and torque.

Adapter base-plate can be equipped with filling valve, when fitted to a gas spring CS (CS-KV) remove the filling valve from the gas spring.
If order CS-KV as a self-contained it is delivered charged (with filling valve).
If order CS-KV-H as ready to be holed it is delivered unfilled (without filling valve).

MOUNTING OPTIONS



Drop-in



Top Mount



Base Mount



Foot Mount



Support Mount



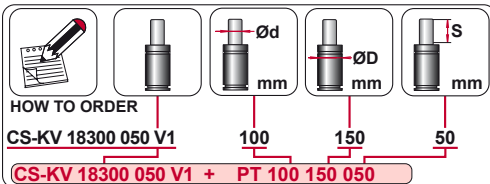
HOW TO ORDER

C20-150 599

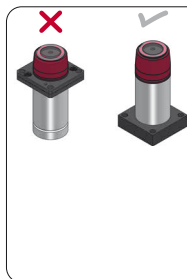
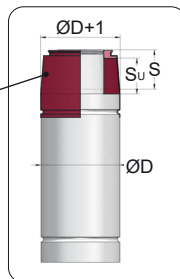
PROTECTION OPTIONS

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PT Protective Textile



Protective Textile



The body diameter (ØD) increases to the size of (ØPT).
PT can be used with mounts C, but not with mounts type A.



GAS SPRINGS



AZOL 
GAS



HIGH FREQUENCY HF

- The shortest height size gas springs
- Most powerful per diameter
- Medium range contact force (300-5000 daN)
- Ideal for high frequency applications



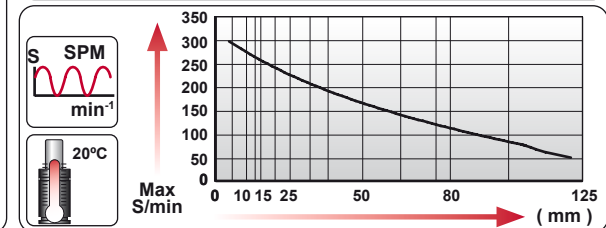
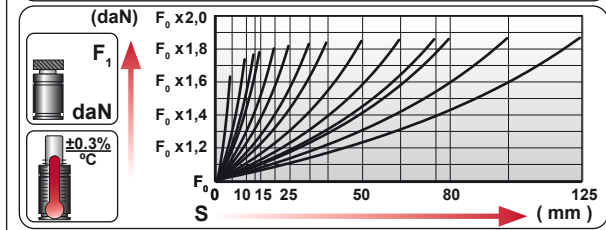
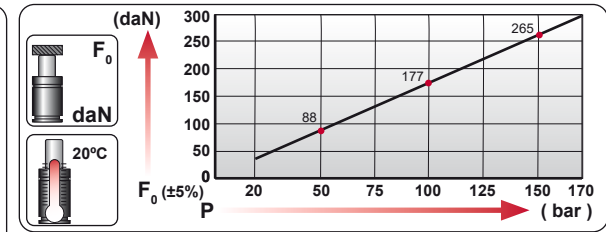
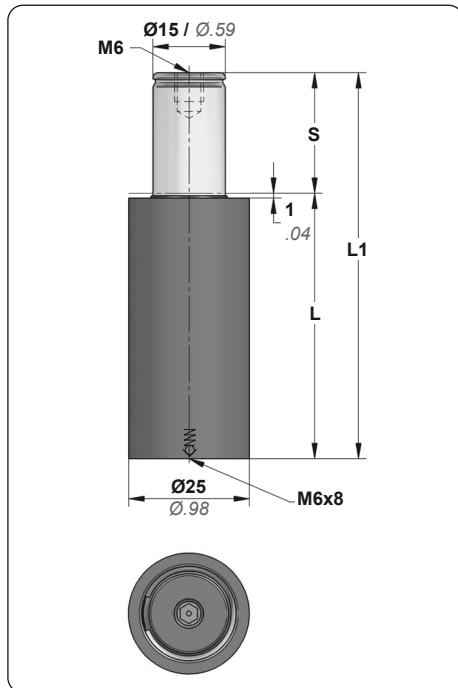
HF HIGH FREQUENCY-FORCE

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
HF 300	300 674	Ø25 Ø0.98	5 - 125 0.20 - 4.92	40 - 280 1.57 - 11.02	170 2466	M6	X	✓
HF 500	500 1124	Ø32 Ø1.26	5 - 125 0.20 - 4.92	40 - 280 1.57 - 11.02	160 2321	M6	X	✓
HF 750	750 1686	Ø38 Ø1.50	5 - 125 0.20 - 4.92	40 - 280 1.57 - 11.02	160 2321	M8	X	✓
HF 1500	1500 3372	Ø50 Ø1.97	5 - 125 0.20 - 4.92	45 - 285 1.77 - 11.22	212 3075	M10	X	✓
HF 3000	3000 6744	Ø75 Ø2.95	5 - 125 0.20 - 4.92	50 - 295 1.97 - 11.61	190 2755	M12	X	✓
HF 5000	5000 11240	Ø95 Ø3.74	5 - 125 0.20 - 4.92	60 - 300 2.36 - 11.81	180 2610	M12	X	✓

MODEL	X	HF 1500	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800	
SERIES	MINI	HIGH FREQUENCY FORCE	COMPACT HEIGHT	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE	

HF 300

High Frequency-Force



VDI SAFETY

STANDARS

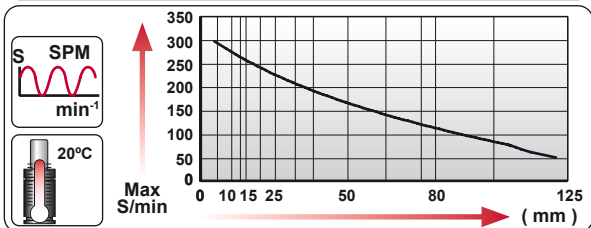
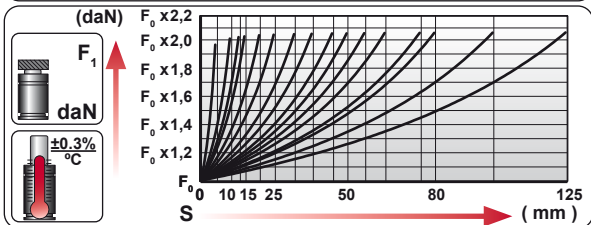
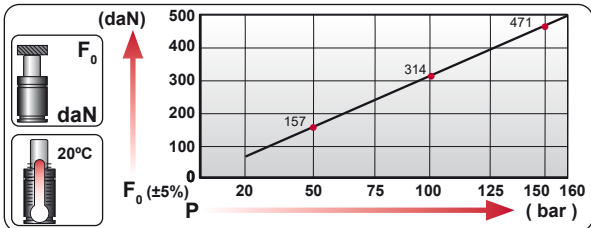
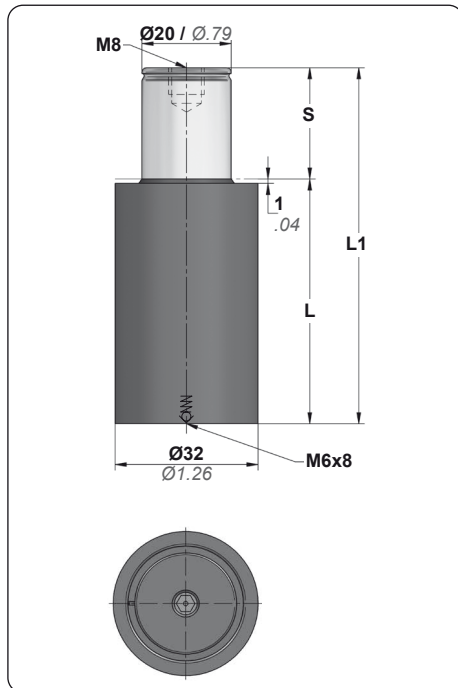
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 300 005	5	0.20	40	1.57	35	1.38	300	674	528	1187	2	0.1	0.11	0.24
HF 300 010	10	0.39	50	1.97	40	1.57			543	1221	4	0.2	0.12	0.26
HF 300 013	13	0.51	56	2.20	43	1.69			547	1230	5	0.3	0.12	0.26
HF 300 015	15	0.59	60	2.36	45	1.77			549	1233	6	0.4	0.13	0.29
HF 300 020	20	0.79	70	2.76	50	1.97			552	1240	8	0.5	0.14	0.31
HF 300 025	25	0.98	80	3.15	55	2.17			553	1244	10	0.6	0.15	0.33
HF 300 032	32	1.26	94	3.70	62	2.44			555	1247	12	0.8	0.17	0.37
HF 300 038	38	1.50	106	4.17	68	2.68			556	1249	15	0.9	0.18	0.40
HF 300 050	50	1.97	130	5.12	80	3.15			557	1252	19	1.2	0.21	0.46
HF 300 063	63	2.48	156	6.14	93	3.66			557	1253	24	1.5	0.24	0.53
HF 300 075	75	2.95	180	7.09	105	4.13			558	1254	29	1.7	0.26	0.57
HF 300 080	80	3.15	190	7.48	110	4.33			558	1255	31	1.9	0.28	0.62
HF 300 100	100	3.94	230	9.06	130	5.12			559	1256	38	2.3	0.32	0.71
HF 300 125	125	4.92	280	11.02	155	6.10			559	1256	48	2.9	0.38	0.84

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar	170 bar		Charging Adapter	06 CG 2-Q					
	Smax	< 90%		20°C / 68°F	290 psi	2466 psi		Connection	X					
	Vmax	0,5 m/s		Tmin Tmax	0 °C	80 °C		Seal Kit	S-XXXXXXX					
				Force variation by temperature	32 °F	176 °F								
					±0,3% / °C									



HF 500

High Frequency-Force



VDI SAFETY

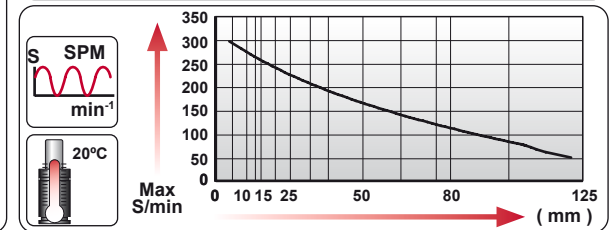
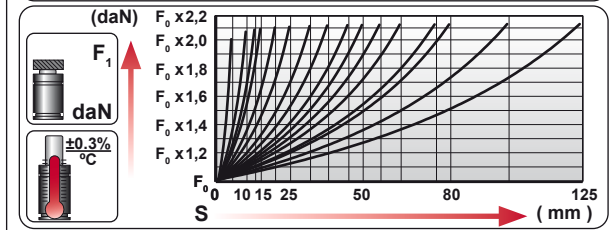
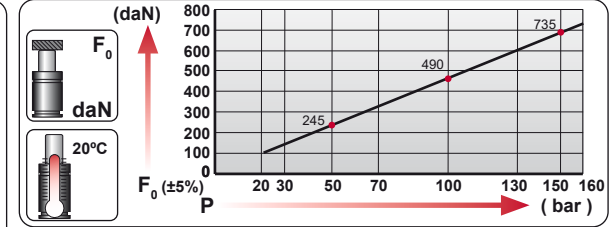
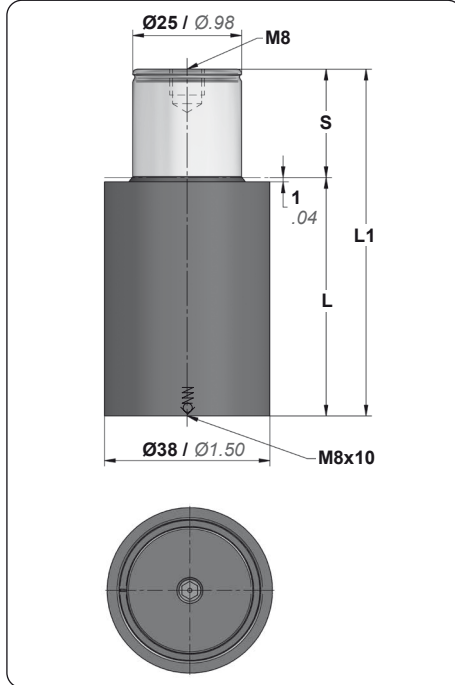
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.				
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb	
HF 500 005	5	0.20	40	1.57	35	1.38	500	1124	±5%	1016	2285	3	0.2	0.18	0.40
HF 500 010	10	0.39	50	1.97	40	1.57				1024	2302	6	0.4	0.20	0.44
HF 500 013	13	0.51	56	2.20	43	1.69				1026	2306	8	0.5	0.21	0.46
HF 500 015	15	0.59	60	2.36	45	1.77				1027	2308	9	0.6	0.22	0.49
HF 500 020	20	0.79	70	2.76	50	1.97				1028	2311	12	0.7	0.24	0.53
HF 500 025	25	0.98	80	3.15	55	2.17				1029	2313	15	0.9	0.26	0.57
HF 500 032	32	1.26	94	3.70	62	2.44				1029	2314	20	1.2	0.29	0.64
HF 500 038	38	1.50	106	4.17	68	2.68				1030	2315	23	1.4	0.31	0.68
HF 500 050	50	1.97	130	5.12	80	3.15				1030	2316	31	1.9	0.36	0.79
HF 500 063	63	2.48	156	6.14	93	3.66				1031	2317	38	2.3	0.41	0.90
HF 500 075	75	2.95	180	7.09	105	4.13				1031	2317	46	2.8	0.46	1.01
HF 500 080	80	3.15	190	7.48	110	4.33				1031	2318	49	3.0	0.48	1.06
HF 500 100	100	3.94	230	9.06	130	5.12				1031	2318	61	3.7	0.56	1.23
HF 500 125	125	4.92	280	11.02	155	6.10				1031	2318	76	4.7	0.66	1.46

TECHNICAL DATA															
Fluid	N ₂	Smax	< 90%	Vmax	0,5 m/s	Pmin Pmax 20°C / 68°F	20 bar 290 psi	Tmin Tmax	0 °C 32 °F	Pmin Pmax 160 bar 2321 psi	160 bar 2321 psi	Tmin Tmax	80 °C 176 °F	Charging Adapter	06 CG 2-Q
Force variation by temperature	±0,3% / °C	Connection	X	Seal Kit	S-XXXXXXX										

HF 750

High Frequency-Force



VDI SAFETY

STANDARS

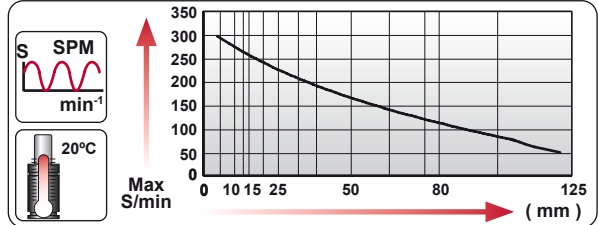
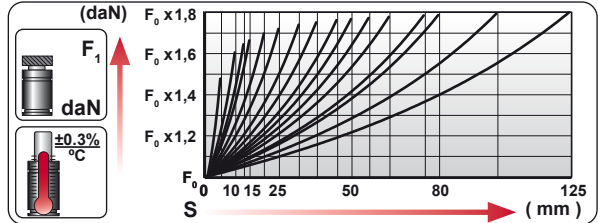
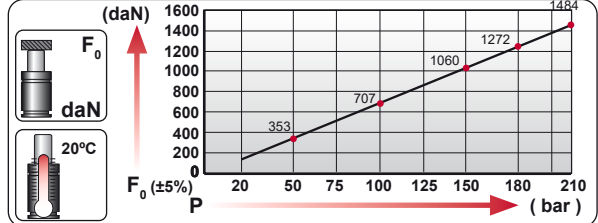
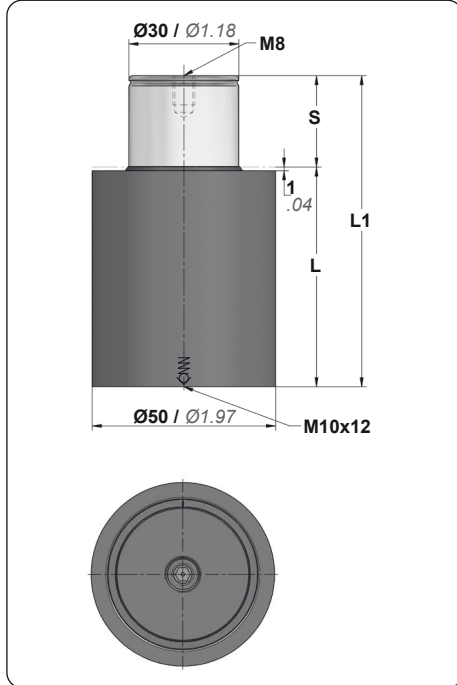
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 750 005	5	0.20	40	1.57	35	1.38	785	1765	1619	3640	5	0.3	0.25	0.55
HF 750 010	10	0.39	50	1.97	40	1.57			1614	3629	10	0.6	0.28	0.62
HF 750 013	13	0.51	56	2.20	43	1.69			1613	3627	12	0.8	0.30	0.66
HF 750 015	15	0.59	60	2.36	45	1.77			1613	3625	14	0.9	0.31	0.68
HF 750 020	20	0.79	70	2.76	50	1.97			1612	3624	19	1.2	0.33	0.73
HF 750 025	25	0.98	80	3.15	55	2.17			1611	3623	24	1.5	0.36	0.79
HF 750 032	32	1.26	94	3.70	62	2.44			1611	3622	31	1.9	0.40	0.88
HF 750 038	38	1.50	106	4.17	68	2.68			1611	3621	36	2.2	0.43	0.95
HF 750 050	50	1.97	130	5.12	80	3.15			1611	3621	48	2.9	0.49	1.08
HF 750 063	63	2.48	156	6.14	93	3.66			1610	3620	60	3.7	0.56	1.23
HF 750 075	75	2.95	180	7.09	105	4.13			1610	3620	72	4.4	0.62	1.37
HF 750 080	80	3.15	190	7.48	110	4.33			1610	3620	77	4.7	0.65	1.43
HF 750 100	100	3.94	230	9.06	130	5.12	1610	3620	96	5.8	0.75	1.65		
HF 750 125	125	4.92	280	11.02	155	6.10	1610	3619	120	7.3	0.88	1.94		

TECHNICAL DATA													
	Fluid	N ₂		Pmin Pmax	20 bar 160 bar	290 psi 2321 psi		Tmin Tmax	0 °C 80 °C	32 °F 176 °F		Charging Adapter	08 GA 2
	Smax	< 90%		Force variation by temperature	±0,3% / °C		Connection	X		Seal Kit	S-XXXXXXX		



HF 1500

High Frequency-Force



VDI SAFETY

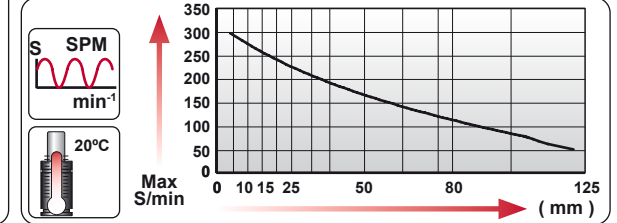
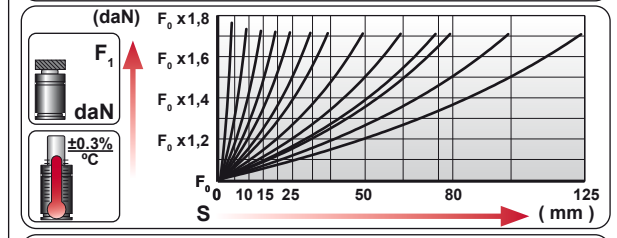
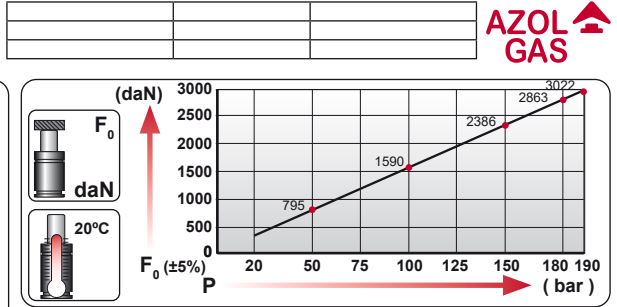
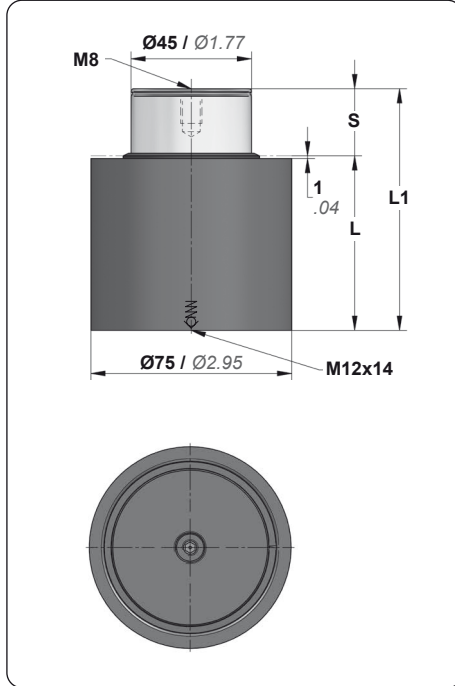
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 1500 005	5	0.20	45	1.77	40	1.57	1500	3372	2847	6400	7	0.5	0.52	1.15
HF 1500 010	10	0.39	55	2.17	45	1.77			2791	6274	15	0.9	0.56	1.23
HF 1500 013	13	0.51	61	2.40	48	1.89			2779	6247	20	1.2	0.58	1.28
HF 1500 015	15	0.59	65	2.56	50	1.97			2773	6235	23	1.4	0.60	1.32
HF 1500 020	20	0.79	75	2.95	55	2.17			2765	6216	31	1.9	0.64	1.41
HF 1500 025	25	0.98	85	3.35	60	2.36			2760	6204	39	2.4	0.69	1.52
HF 1500 032	32	1.26	99	3.90	67	2.64			2755	6194	50	3.0	0.75	1.65
HF 1500 038	38	1.50	111	4.37	73	2.87			2753	6188	59	3.6	0.80	1.76
HF 1500 050	50	1.97	135	5.31	85	3.35			2750	6181	78	4.7	0.91	2.01
HF 1500 063	63	2.48	161	6.34	98	3.86			2748	6177	98	6.0	1.02	2.25
HF 1500 075	75	2.95	185	7.28	110	4.33			2746	6174	117	7.1	1.12	2.47
HF 1500 080	80	3.15	200	7.87	120	4.72			2746	6173	125	7.6	1.19	2.62
HF 1500 100	100	3.94	235	9.25	135	5.31	2745	6170	156	9.5	1.34	2.95		
HF 1500 125	125	4.92	285	11.22	160	6.30	2744	6168	195	11.9	1.56	3.44		

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 212 bar	290 psi 3075 psi		Tmin Tmax	0 °C 80 °C	32 °F 176 °F		Charging Adapter	10 GA 1	
	Smax	< 90%		Force variation by temperature	±0,3% / °C			Connection	X			Seal Kit	S-XXXXXXX	
	Vmax	0,5 m/s												

HF 3000

High Frequency-Force



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 3000 005	5	0.20	50	1.97	45	1.77	3020	6789	5342	12010	18	1.1	1.30	2.87
HF 3000 010	10	0.39	60	2.36	50	1.97			5253	11809	37	2.3	1.39	3.06
HF 3000 015	15	0.59	70	2.76	55	2.17			5225	11746	57	3.4	1.48	3.26
HF 3000 020	20	0.79	80	3.15	60	2.36			5211	11715	76	4.6	1.57	3.46
HF 3000 025	25	0.98	90	3.54	65	2.56			5203	11696	95	5.8	1.65	3.64
HF 3000 032	32	1.26	104	4.09	72	2.83			5195	11680	122	7.4	1.77	3.90
HF 3000 038	38	1.50	115	4.53	77	3.03			5191	11671	144	8.8	1.86	4.10
HF 3000 050	50	1.97	140	5.51	90	3.54			5186	11659	190	11.6	2.08	4.59
HF 3000 063	63	2.48	166	6.54	103	4.06			5183	11652	240	14.7	2.30	5.07
HF 3000 075	75	2.95	190	7.48	115	4.53			5181	11647	286	17.5	2.51	5.53
HF 3000 080	80	3.15	205	8.07	125	4.92			5180	11646	305	18.6	2.65	5.84
HF 3000 100	100	3.94	245	9.65	145	5.71			5178	11641	382	23.3	2.99	6.59
HF 3000 125	125	4.92	295	11.61	170	6.69			5177	11638	477	29.1	3.42	7.54

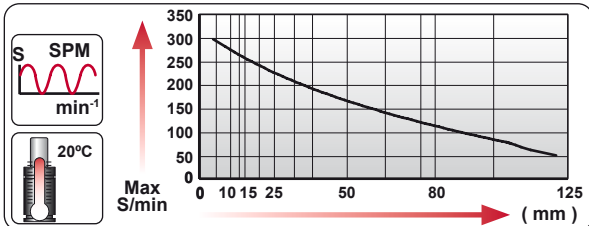
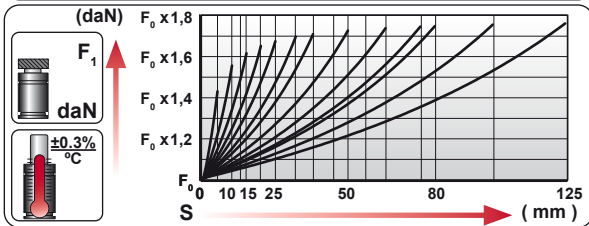
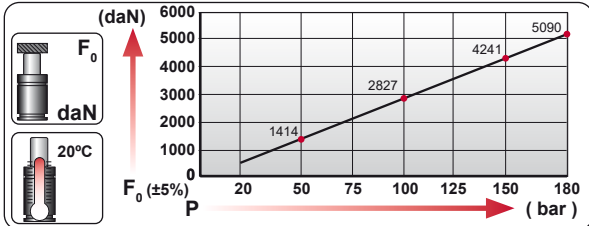
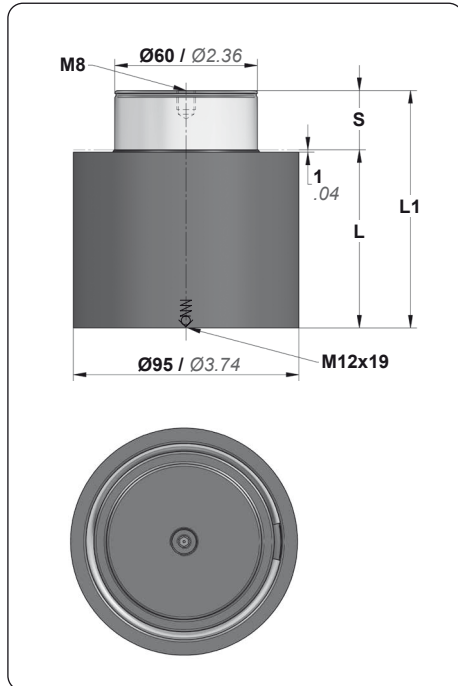
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	190 bar / 2755 psi	Charging Adapter	12 GA 1
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX



HF 5000

High Frequency-Force



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 5000 005	5	0.20	60	2.36	55	2.17	5090 ±5% 180 bar 2610 psi at 20°C 68°F	11443	7273	16351	47	2.9	2.45	5.40
HF 5000 010	10	0.39	70	2.76	60	2.36			7919	17803	79	4.8	2.66	5.86
HF 5000 015	15	0.59	80	3.15	65	2.56			8229	18498	111	6.8	2.80	6.17
HF 5000 020	20	0.79	90	3.54	70	2.76			8410	18907	143	8.7	2.93	6.46
HF 5000 025	25	0.98	100	3.94	75	2.95			8530	19175	175	10.7	3.07	6.77
HF 5000 032	32	1.26	114	4.49	82	3.23			8641	19426	220	13.4	3.26	7.19
HF 5000 038	38	1.50	126	4.96	88	3.46			8708	19575	259	15.8	3.43	7.56
HF 5000 050	50	1.97	150	5.91	100	3.94			8796	19775	336	20.5	3.76	8.29
HF 5000 063	63	2.48	176	6.93	113	4.45			8856	19910	419	25.6	4.12	9.08
HF 5000 075	75	2.95	200	7.87	125	4.92			8894	19995	496	30.3	4.45	9.81
HF 5000 080	80	3.15	210	8.27	130	5.12			8907	20024	528	32.2	4.58	10.10
HF 5000 100	100	3.94	250	9.84	150	5.91			8946	20110	656	40.0	5.14	11.33
HF 5000 125	125	4.92	300	11.81	175	6.89			8977	20181	816	49.8	5.82	12.83

TECHNICAL DATA															
Fluid	N ₂	Smax	< 90%	Vmax	0,5 m/s	Pmin Pmax 20°C / 68°F	20 bar 290 psi	Tmin Tmax	0°C 32°F	Pmin Pmax 180 bar 2610 psi	180 bar 2610 psi	Tmin Tmax	80°C 176°F	Charging Adapter	12 GA 1
Force variation by temperature	±0,3% / °C	Connection	X	Seal Kit	S-XXXXXXX										



GAS SPRINGS



AZOL 
GAS



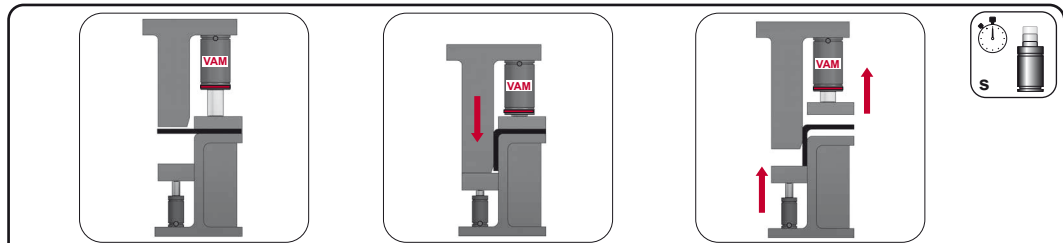
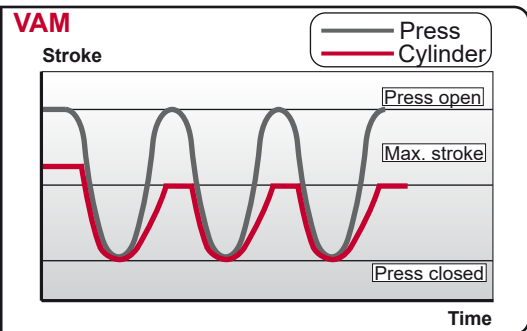
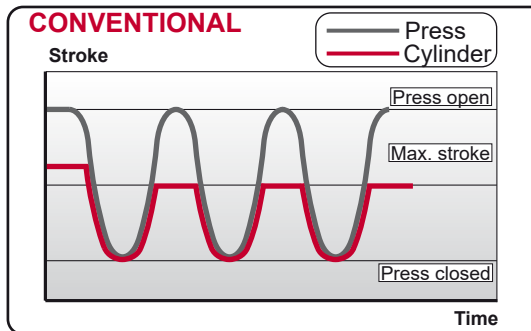
SLOWED RETURN VAM

- Return stroke at a constant slowed speed
- Prevents blank holder bounce
- Compatible with ISO dimensions
- Increases productivity improving part transfer
- Cost saving compared to alternatives



VAM SLOWED RETURN

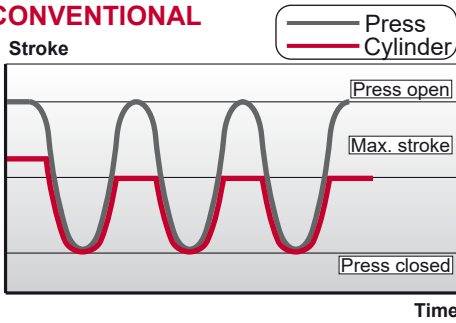
MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	Pmax bar psi	Charge Port		
VAM 300 V1	300 674	Ø45 Ø1.77	25 - 100 0.98 - 3.94	135 - 285 5.31 - 11.22	150 2175	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VAM 750	750 1686	Ø75 Ø2.95	25 - 125 0.98 - 4.92	160 - 360 6.30 - 14.17	75 1088	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VAM 1500	1500 3372	Ø95 Ø3.74	25 - 125 0.98 - 4.92	170 - 370 6.69 - 14.57	75 1088	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VAM 3000	3000 6744	Ø120 Ø4.72	25 - 125 0.98 - 4.92	190 - 390 7.48 - 15.35	90 1305	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VAM 5000	5000 11240	Ø150 Ø5.91	25 - 125 0.98 - 4.92	205 - 405 8.07 - 15.94	100 1450	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VAM 7500	7500 16861	Ø195 Ø7.68	25 - 125 0.98 - 4.92	210 - 410 8.27 - 16.14	105 1523	G1/8"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



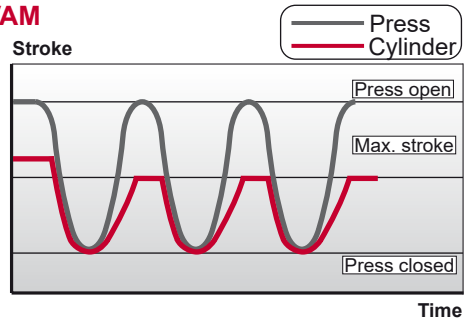
VAM gas spring meets the needs of applications requiring a **delayed return** of the rammer about the matrix. **VAM** gas spring when returns to its initial position, the first mm backs at the same speed as a conventional gas spring, and subsequently slowed.

VAM SLOWED RETURN

CONVENTIONAL



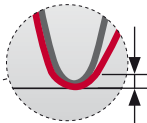
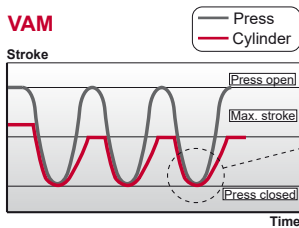
VAM



VAM gas springs are designed to return stroke at a constant slowed speed.

HOW IT WORKS

VAM



NOMINAL FORCE (daN)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t_{max})
300	0.015	$t_{max} = k \times S_U$

EXAMPLE: VAM 300 080 (300 daN)

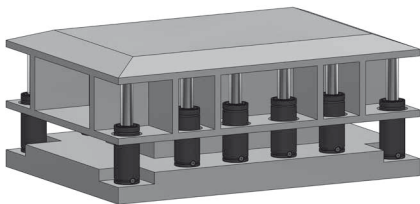
$$t_{max} = k \times S_U = 0.015 \times 80 = 1,2 \text{ seconds}$$

Stroke used (S_U)

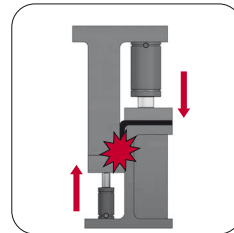
VAM gas spring when return to its initial position, the first mm backs at the same speed as a conventional gas spring and subsequently slowed.

Maximum slowed return stroke is defined to every model depending on used stroke.

APPLICATIONS



BLANK HOLDER BOUNCE



RAMMER RISE & MATRIX REMOVE

A) Increasing return speed in high speed presses (e.g. link drive presses) cause blank holder bounce back.

B) The ejector part starts working when the rammer is still holding it.

CHALLENGE AND SOLUTION

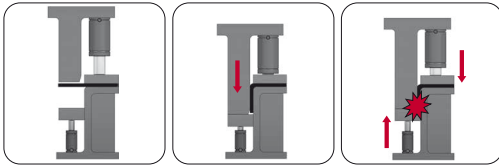


CHALLENGE: Blank holder bounce, difficult part transfer.

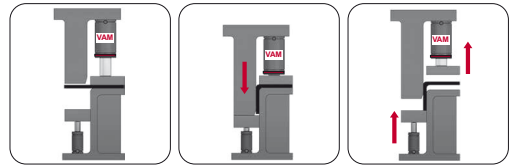
SOLUTION: VAM slow return piston rod eliminates blank holder bounce.

CHALLENGE AND SOLUTION

CHALLENGE



SOLUTION



CHALLENGE: Synchronized movement of rammer rise and removal of matrix causes deformation of metal part.

SOLUTION: VAM slowed return piston rod makes possible the removal of metal part without being deformed.

ADVANTAGES



• Prevents blank holder **bounce**.



• Increases **productivity**.



• **Easy** implementation.



• Use **self-contained** or **hosed**.



• Compatible with **ISO** dimensions.



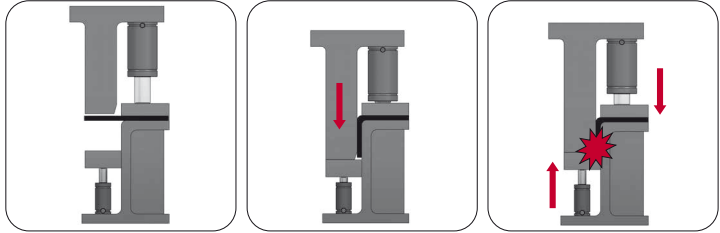
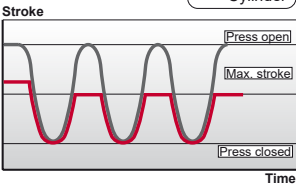
• **Cost savings** to alternatives.

VAM SLOWED RETURN



CHALLENGE

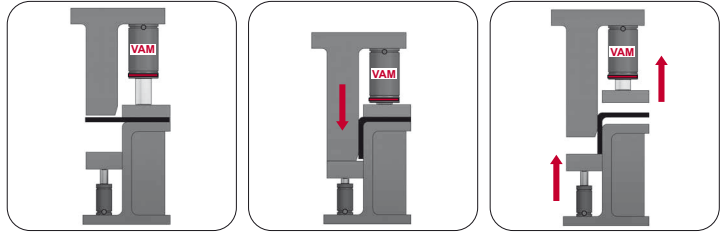
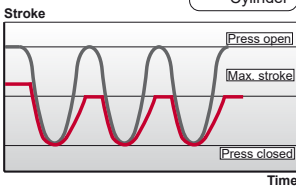
CONVENTIONAL



Certain operations involve the ejector piece begins to work when the rammer is still holding it. The use of conventional gas springs in these operations causes the **deformation of the metalsheet piece**.

SOLUTION

VAM



VAM when returns to its initial position, the first mm backs at the same speed as a conventional gas spring, and subsequently slowed, what makes possible the **removal of the metalsheet piece without deforming**.

REQUIRED DATA



• Do piston rod have to keep locked down? (yes / no).....



• Desired force (daN).....



• Total stroke (mm).....



• Stroke used (mm).....



• Number of cycles per minute.....

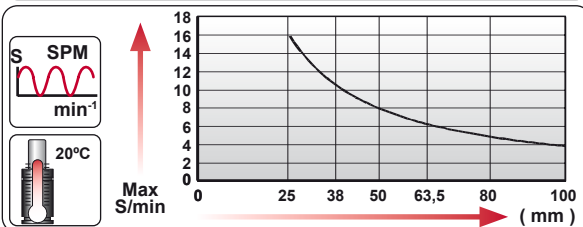
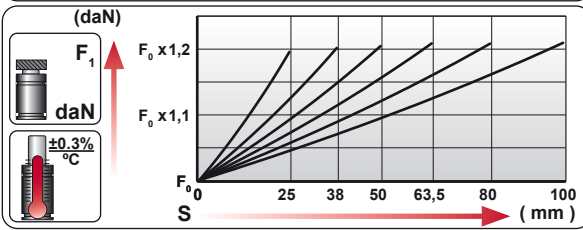
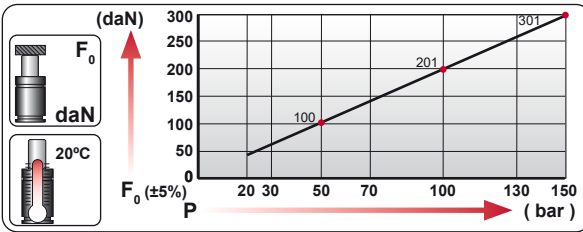
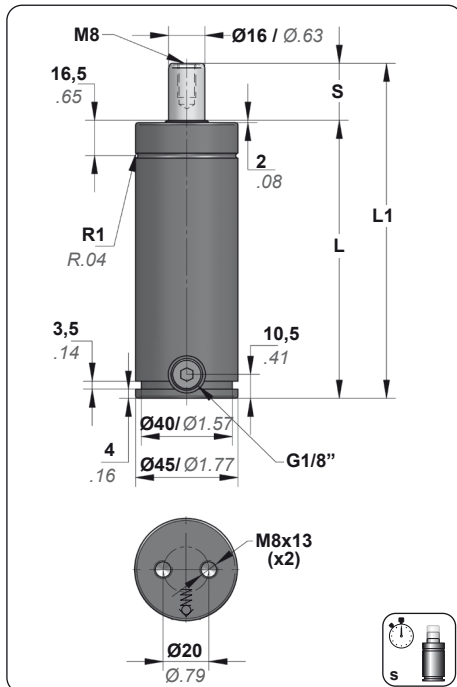


• Desired delay time (eg. 1 second).....

• Stamping plant.....

VAM 300 V1

Slowed Return



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
VAM 300 025 V1	25	0.98	135	5.31	110	4.33	300	674	359	807	31	1.9	1.04	2.29
VAM 300 038 V1	38	1.50	161	6.34	123	4.84	±5% 150 bar 2175 psi at 20°C 68°F		361	811	45	2.8	1.11	2.45
VAM 300 050 V1	50	1.97	185	7.28	135	5.31			362	813	59	3.6	1.17	2.58
VAM 300 063 V1	63.5	2.50	212	8.35	148.5	5.85			362	814	74	4.5	1.24	2.73
VAM 300 080 V1	80	3.15	245	9.65	165	6.50			363	815	93	5.7	1.33	2.93
VAM 300 100 V1	100	3.94	285	11.22	185	7.28			363	816	116	7.1	1.43	3.15

- Spring-back depending on used stroke.
- Return stroke at constant slowed speed.
- Prevent over-heating by limiting SPM.

MOUNTING OPTIONS

Drop-in	Top Mount	A14-045 581 A34-045 582	Base Mount	B21-045 590 B76-045 594	Foot Mount	C05-045 596 C20-045 598	Support Mount	D02-045 600 D67-045 602
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TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Charging Adapter	18 CG 1-Q
Smix	< 90%	Force variation by temperature	±0,3% / °C	Connection	VAM-H 300 XXX V1	Cartridge Kit	1638E380N

MAXIMUM SLOWED RETURN

VAM gas springs are designed to return at a constant slowed speed. Maximum slowed return is defined to every model as per stroke used.

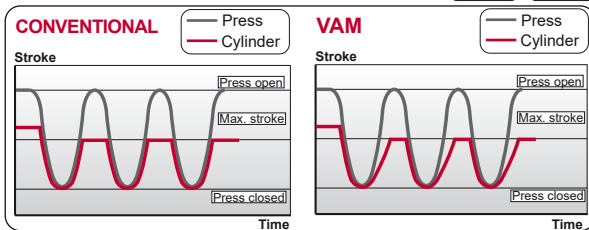


NOMINAL FORCE (daN / lb)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t _{max})
300 674	0.015	t _{max} = k x S _U

EXAMPLE: VAM 300 080 V1 (300 daN)

$$t_{max} = k \times S_U = 0.015 \times 80 = 1,2 \text{ seconds}$$

Stroke used in mm (S_U)



The energy provided by the press to the gas spring to compress it in every press cycle is greater than the energy used by the gas spring to return to its extended position. The difference in energy (transmitted from press and used by gas spring) is transformed into heat inside the gas spring. Consequently, to avoid overheating in slowed return gas springs, heat generation must be limited (SPM strokes per minute).

HOW TO INCREASE WORKING FREQUENCY

EXAMPLE: VAM 300 063 V1 (Used Stroke 55)



NOMINAL FORCE (daN / lb)	MAXIMUM WORKING FREQUENCY (f _{max})
300 674	f _{max} = $\frac{191952}{S_U \times F_U}$

$$f_{max} = \frac{191952}{S_U \times F_U} = \frac{191952}{55 \times 300} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Force used in daN (F_U)

NOMINAL PRESSURE (bar / ps)	MAXIMUM WORKING FREQUENCY (f _{max})
150 2175	f _{max} = $\frac{95976}{S_U \times P_U}$

$$f_{max} = \frac{95976}{S_U \times P_U} = \frac{95976}{55 \times 150} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Pressure used in bar (P_U)

F (daN / lb)	P (bar / ps)	SPM
300 674	150 2175	11
201 452	100 1450	17
161 362	80 870	21

The working frequency (SPM) of VAM gas springs can be increased by reducing the charging pressure.

For example: VAM 300 063 V1 (stroke used 55 mm)

Lower pressure 100 bar Force 201 daN Max. SPM 17

Additional information available in the application AZOLGAS VAM SIMULATOR where different parameters (force-pressure-temperature) can be simulated.

A. ADD MORE VAM

Frequency required 14 cycles x minute

Pressure P = 150 bar

Force F = 300 x 4 = 1200 daN

Stroke used S_U = 55 mm

VAM 300 063 (x4)



$$f_{max} = \frac{191952}{S_U \times F_U} = \frac{191952}{55 \times 300} = 11 \text{ cycles/minute}$$



Frequency required 14 cycles x minute

Pressure P = 120 bar

Force F = 240 x 5 = 1200 daN

Stroke used S_U = 55 mm

VAM 300 063 (x5)



$$f_{max} = \frac{191952}{S_U \times F_U} = \frac{191952}{55 \times 240} = 14 \text{ cycles/minute}$$



B. USE LARGER VAM

Frequency required 14 cycles x minute

Pressure P = 150 bar

Force F = 300 x 4 = 1200 daN

Stroke used S_U = 55 mm

VAM 300 063 (x4)



$$f_{max} = \frac{191952}{S_U \times F_U} = \frac{191952}{55 \times 300} = 11 \text{ cycles/minute}$$



Frequency required 14 cycles x minute

Pressure P = 30 bar

Force F = 305 x 4 = 1220 daN

Stroke used S_U = 55 mm

VAM 750 063 (x4)

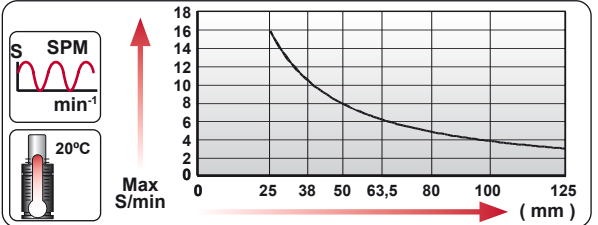
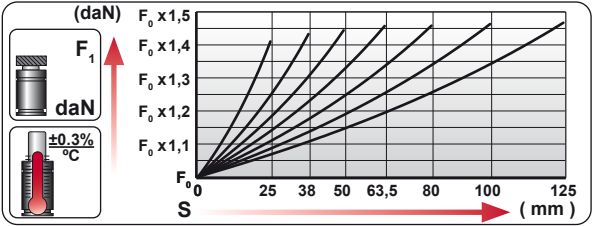
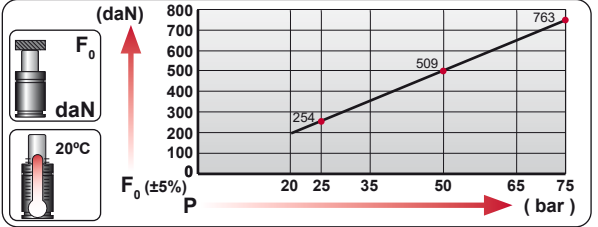
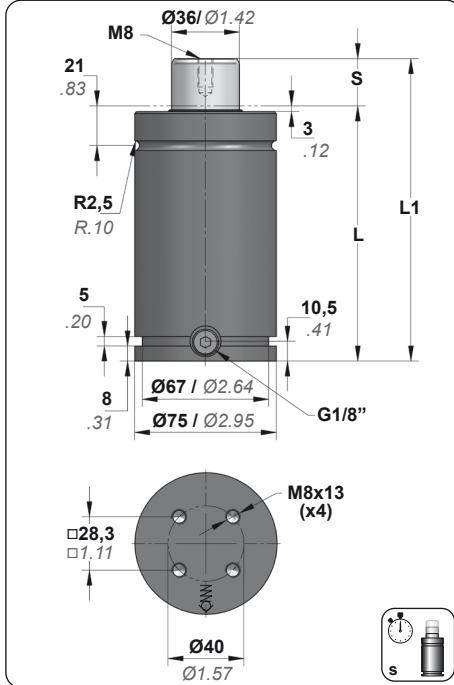


$$f_{max} = \frac{479880}{S_U \times F_U} = \frac{479880}{55 \times 305} = 28 \text{ cycles/minute}$$



VAM 750

Slowed Return



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		Kg.
VAM 750 025	25	0.98	160	6.30	135	5.31	760	1709	1073	2412	87	5.3	3.75	8.27
VAM 750 038	38	1.50	186	7.32	148	5.83	±5% bar 75 bar 1088 psi at 20°C 68°F		1090	2450	128	7.8	3.99	8.80
VAM 750 050	50	1.97	210	8.27	160	6.30			1098	2469	165	10.1	4.21	9.28
VAM 750 063	63.5	2.50	237	9.33	173.5	6.83			1104	2483	207	12.7	4.45	9.81
VAM 750 080	80	3.15	270	10.63	190	7.48			1109	2493	259	15.8	4.75	10.47
VAM 750 100	100	3.94	310	12.20	210	8.27			1113	2502	321	19.6	5.12	11.29
VAM 750 125	125	4.92	360	14.17	235	9.25			1116	2508	399	24.3	5.57	12.28

- Spring-back depending on used stroke.
- Return stroke at constant slowed speed.
- Prevent over-heating by limiting SPM.

MOUNTING OPTIONS

Drop-in	Top Mount	A14-075 581 A34-075 582	Base Mount	B21-075 590 B76-075 594	Foot Mount	C05-075 596 C20-075 598	Support Mount	D02-075 600 D67-075 602
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TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi	75 bar 1088 psi	Tmin Tmax	20 °C 32 °F	75 bar 1088 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	20 °C 32 °F	80 °C 176 °F	Force variation by temperature	±0,3% / °C	Connection	VAM-H 750 XXX	
Vmax	0,5 m/s						Cartridge Kit	3663R440M	



VAM 750
Slowed Return

MAXIMUM SLOWED RETURN

VAM gas springs are designed to return at a constant slowed speed. Maximum slowed return is defined to every model as per stroke used.

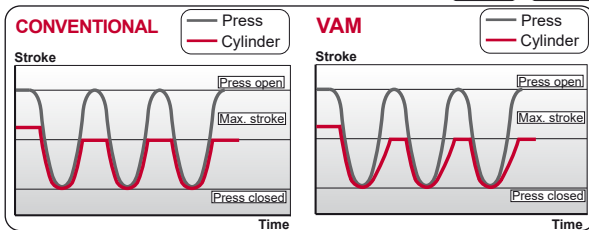


NOMINAL FORCE (daN / lb)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t _{max})
760 1709	0,062	t _{max} = k x S _U

EXAMPLE: VAM 750 080 (760 daN)

$$t_{max} = k \times S_U = 0,062 \times 80 = 5 \text{ seconds}$$

Stroke used in mm (S_U)



The energy provided by the press to the gas spring to compress it in every press cycle is greater than the energy used by the gas spring to return to its extended position. The difference in energy (transmitted from press and used by gas spring) is transformed into heat inside the gas spring. Consequently, to avoid overheating in slowed return gas springs, heat generation must be limited (SPM strokes per minute).

HOW TO INCREASE WORKING FREQUENCY

EXAMPLE: VAM 750 063 (Used Stroke 55)



NOMINAL FORCE (daN / lb)	MAXIMUM WORKING FREQUENCY (f _{max})
760 1709	f _{max} = $\frac{479880}{S_U \times F_U}$

$$f_{max} = \frac{479880}{S_U \times F_U} = \frac{479880}{55 \times 760} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Force used in daN (F_U)

NOMINAL PRESSURE (bar / ps)	MAXIMUM WORKING FREQUENCY (f _{max})
75 1088	f _{max} = $\frac{47357}{S_U \times P_U}$

$$f_{max} = \frac{47357}{S_U \times P_U} = \frac{47357}{55 \times 75} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Pressure used in bar (P_U)

F (daN / lb)	P (bar / ps)	SPM
760 1709	75 1088	11
509 1144	50 725	17
254 571	25 363	34

The working frequency (SPM) of VAM gas springs can be increased by reducing the charging pressure.

For example: VAM 750 063 (stroke used 55 mm)

Lower pressure 50 bar Force 509 daN Max. SPM 17

Additional information available in the application AZOLGAS VAM SIMULATOR where different parameters (force-pressure-temperature) can be simulated.

A. ADD MORE VAM

Frequency required 14 cycles x minute

Pressure P = 60 bar

Force F = 760 x 4 = 3040 daN

Stroke used S_U = 55 mm

VAM 750 063 (x4)



$$f_{max} = \frac{479880}{S_U \times F_U} = \frac{479880}{55 \times 760} = 11 \text{ cycles/minute}$$



Frequency required 14 cycles x minute

Pressure P = 60 bar

Force F = 610 x 5 = 3050 daN

Stroke used S_U = 55 mm

VAM 750 063 (x5)



$$f_{max} = \frac{479880}{S_U \times F_U} = \frac{479880}{55 \times 610} = 14 \text{ cycles/minute}$$



B. USE LARGER VAM

Frequency required 14 cycles x minute

Pressure P = 75 bar

Force F = 760 x 4 = 3040 daN

Stroke used S_U = 55 mm

VAM 750 063 (x4)



$$f_{max} = \frac{479880}{S_U \times F_U} = \frac{479880}{55 \times 760} = 11 \text{ cycles/minute}$$



Frequency required 14 cycles x minute

Pressure P = 39 bar

Force F = 766 x 4 = 3064 daN

Stroke used S_U = 55 mm

VAM 1500 063 (x4)

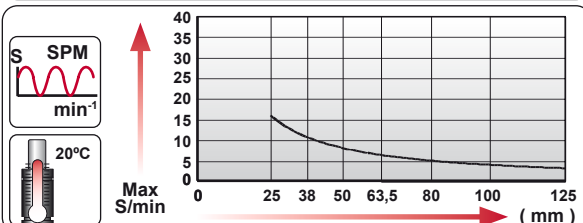
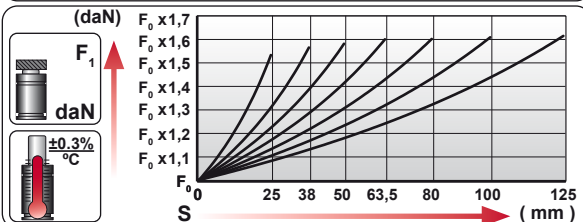
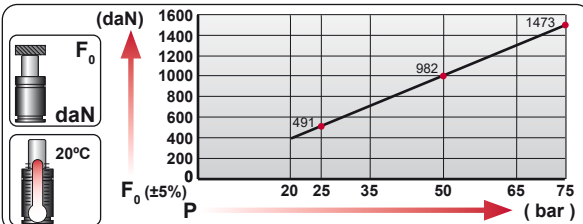
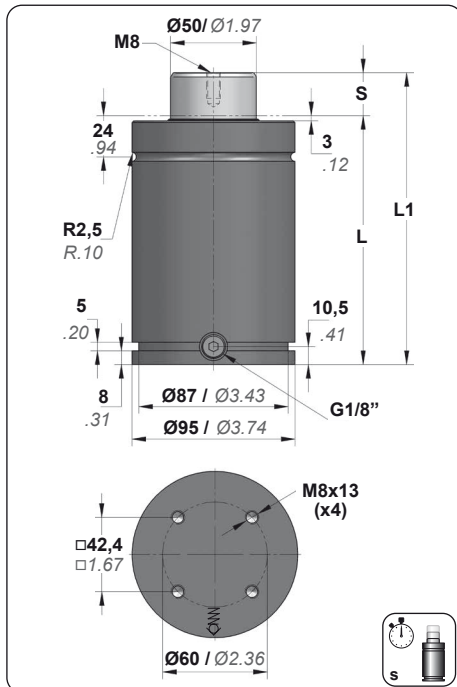


$$f_{max} = \frac{959760}{S_U \times F_U} = \frac{959760}{55 \times 766} = 22 \text{ cycles/minute}$$



VAM 1500

Slowed Return



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
VAM 1500 025	25	0.98	170	6.69	145	5.71	1470	3305	2257	5075	141	8.6	6.67	14.70
VAM 1500 038	38	1.50	196	7.72	158	6.22	±5% bar 75 bar 1088 psi at 20°C 68°F		2304	5180	206	12.6	7.08	15.61
VAM 1500 050	50	1.97	220	8.66	170	6.69			2328	5233	266	16.3	7.46	16.45
VAM 1500 063	63.5	2.50	247	9.72	183.5	7.22			2345	5271	334	20.4	7.89	17.39
VAM 1500 080	80	3.15	280	11.02	200	7.87			2358	5300	417	25.5	8.41	18.54
VAM 1500 100	100	3.94	320	12.60	220	8.66			2368	5324	518	31.6	9.04	19.93
VAM 1500 125	125	4.92	370	14.57	245	9.65			2377	5343	643	39.3	9.83	21.67

- ⚠ Spring-back depending on used stroke.
- Return stroke at constant slowed speed.
- Prevent over-heating by limiting SPM.

MOUNTING OPTIONS

		A14-095 581 A34-095 582		B21-095 590 B76-095 594		C05-095 597 C20-095 598		D02-095 601 D67-095 603
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TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 75 bar 290 psi 1088 psi	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	VAM-H 1500 XXX	Cartridge Kit	5080U460M

MAXIMUM SLOWED RETURN

VAM gas springs are designed to return at a constant slowed speed. Maximum slowed return is defined to every model as per stroke used.

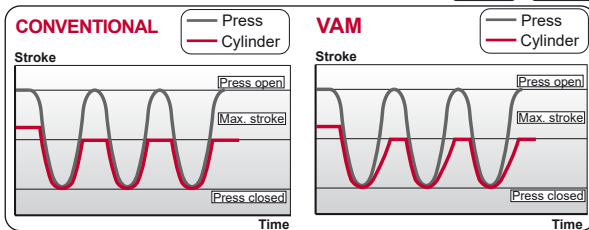


NOMINAL FORCE (daN / lb)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t _{max})
1470 3305	0,09	t _{max} = k x S _U

EXAMPLE: VAM 1500 080 (1470 daN)

$$t_{max} = k \times S_U = 0,09 \times 80 = 7 \text{ seconds}$$

Stroke used in mm (S_U)



The energy provided by the press to the gas spring to compress it in every press cycle is greater than the energy used by the gas spring to return to its extended position. The difference in energy (transmitted from press and used by gas spring) is transformed into heat inside the gas spring. Consequently, to avoid overheating in slowed return gas springs, heat generation must be limited (SPM strokes per minute).

HOW TO INCREASE WORKING FREQUENCY

EXAMPLE: VAM 1500 063 (Used Stroke 55)



NOMINAL FORCE (daN / lb)	MAXIMUM WORKING FREQUENCY (f _{max})
1470 3305	f _{max} = $\frac{959760}{S_U \times F_U}$

$$f_{max} = \frac{959760}{S_U \times F_U} = \frac{959760}{55 \times 1470} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Force used in daN (F_U)

NOMINAL PRESSURE (bar / psi)	MAXIMUM WORKING FREQUENCY (f _{max})
75 1088	f _{max} = $\frac{48967}{S_U \times P_U}$

$$f_{max} = \frac{48967}{S_U \times P_U} = \frac{48967}{55 \times 75} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Pressure used in bar (P_U)

F (daN / lb)	P (bar / psi)	SPM
1470 3305	75 1088	11
982 2208	50 725	17
491 1104	25 363	35

The working frequency (SPM) of VAM gas springs can be increased by reducing the charging pressure.

For example: VAM 1500 063 (stroke used 55 mm)

Lower pressure 50 bar Force 982 daN Max. SPM 17

Additional information available in the application AZOLGAS VAM SIMULATOR where different parameters (force-pressure-temperature) can be simulated.

A. ADD MORE VAM

Frequency required 14 cycles x minute
Pressure P = 75 bar
Force F = 1470 x 4 = 5880 daN
Stroke used S_U = 55 mm

VAM 1500 063 (x4)



$$f_{max} = \frac{959760}{S_U \times F_U} = \frac{959760}{55 \times 1470} = 11 \text{ cycles/minute}$$



Frequency required 14 cycles x minute
Pressure P = 60 bar
Force F = 1178 x 5 = 5890 daN
Stroke used S_U = 55 mm

VAM 1500 063 (x5)



$$f_{max} = \frac{959760}{S_U \times F_U} = \frac{959760}{55 \times 1178} = 14 \text{ cycles/minute}$$



B. USE LARGER VAM

Frequency required 14 cycles x minute
Pressure P = 75 bar
Force F = 1470 x 4 = 5880 daN
Stroke used S_U = 55 mm

VAM 1500 063 (x4)



$$f_{max} = \frac{959760}{S_U \times F_U} = \frac{959760}{55 \times 1470} = 11 \text{ cycles/minute}$$



Frequency required 14 cycles x minute
Pressure P = 45 bar
Force F = 1493 x 4 = 5972 daN
Stroke used S_U = 55 mm

VAM 3000 063 (x4)

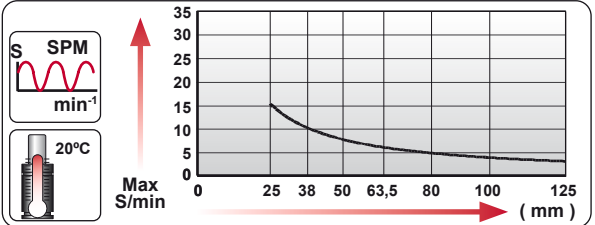
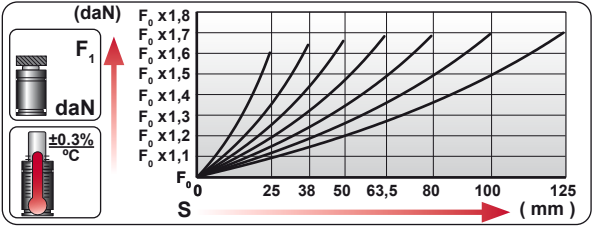
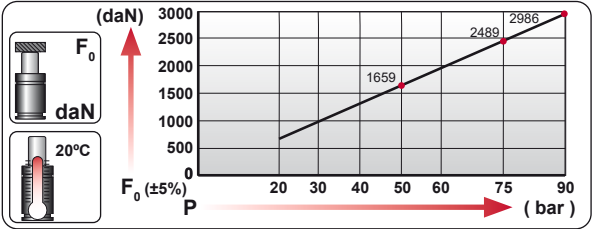
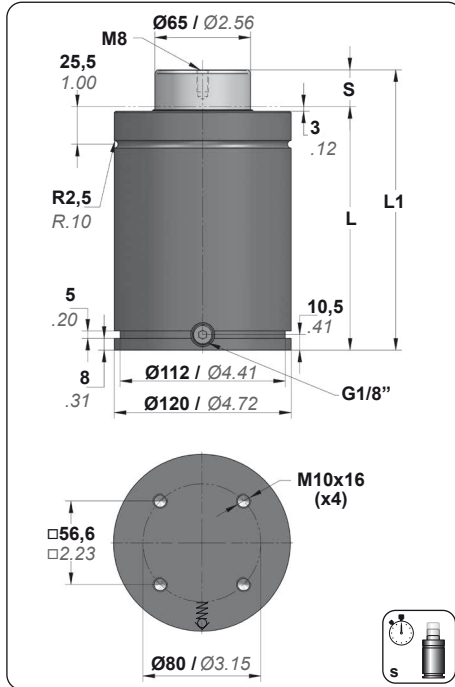


$$f_{max} = \frac{1823544}{S_U \times F_U} = \frac{1823544}{55 \times 1493} = 22 \text{ cycles/minute}$$



VAM 3000

Slowed Return



VDI SAFETY

STANDARS

ORDER	S		L1 ± 0.25		L		F_0 Initial Force		F_1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
VAM 3000 025	25	0.98	190	7.48	165	6.50	2985	6711	4793	10775	220	13.4	12.60	27.78
VAM 3000 038	38	1.50	216	8.50	178	7.01	±5% 90 bar 1305 psi at 20°C 68°F	4963	11158	416	25.4	13.93	30.71	
VAM 3000 050	50	1.97	240	9.45	190	7.48								
VAM 3000 063	63.5	2.50	267	10.51	203.5	8.01								
VAM 3000 080	80	3.15	300	11.81	220	8.66								
VAM 3000 100	100	3.94	340	13.39	240	9.45								
VAM 3000 115	115	4.53	370	14.57	255	10.43								
VAM 3000 125	125	4.92	390	15.35	265	10.43								5082

- Spring-back depending on used stroke.
- Return stroke at constant slowed speed.
- Prevent over-heating by limiting SPM.

MOUNTING OPTIONS

Drop-in	Top Mount	A14-120 581	Base Mount	B21-120 591	Foot Mount	C05-120 597	Support Mount	D02-120 601
Drop-in	Top Mount	A34-120 583	Base Mount	B76-120 595	Foot Mount	C20-120 599	Support Mount	D67-120 603

HOW TO ORDER

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 90 bar	Charging Adapter	18 CG 1-Q
Smax	< 90%	20°C / 68°F	290 psi 1305 psi	Connection	VAM-H 3000 XXX
Vmax	0,5 m/s	Tmin Tmax	0°C 80°C	Cartridge Kit	65A0W560M
		Force variation by temperature	±0,3% / °C		



VAM 3000

Slowed Return

MAXIMUM SLOWED RETURN

VAM gas springs are designed to return at a constant slowed speed. Maximum slowed return is defined to every model as per stroke used.

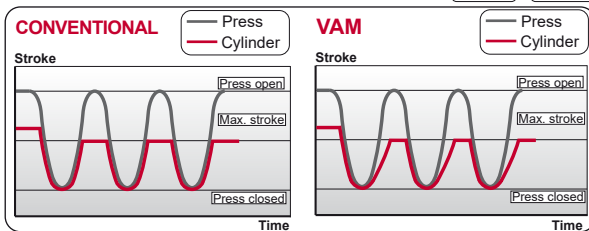


NOMINAL FORCE (daN / lb)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t _{max})
2985 6711	0,131	t _{max} = k x S _U

EXAMPLE: VAM 3000 080 (2985 daN)

$$t_{max} = k \times S_U = 0,131 \times 80 = 10 \text{ seconds}$$

Stroke used in mm (S_U)



The energy provided by the press to the gas spring to compress it in every press cycle is greater than the energy used by the gas spring to return to its extended position. The difference in energy (transmitted from press and used by gas spring) is transformed into heat inside the gas spring. Consequently, to avoid overheating in slowed return gas springs, heat generation must be limited (SPM strokes per minute).

HOW TO INCREASE WORKING FREQUENCY

EXAMPLE: VAM 3000 063 (Used Stroke 55)



NOMINAL FORCE (daN / lb)	MAXIMUM WORKING FREQUENCY (f _{max})
2985 6711	f _{max} = $\frac{1823544}{S_U \times F_U}$

$$f_{max} = \frac{1823544}{S_U \times F_U} = \frac{1823544}{55 \times 2985} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Force used in daN (F_U)

NOMINAL PRESSURE (bar / psi)	MAXIMUM WORKING FREQUENCY (f _{max})
90 1305	f _{max} = $\frac{54981}{S_U \times P_U}$

$$f_{max} = \frac{54981}{S_U \times P_U} = \frac{54981}{55 \times 90} = 11 \text{ cycles/minute}$$

Stroke used in mm (S_U) Pressure used in bar (P_U)

F (daN / lb)	P (bar / psi)	SPM
2985 6711	90 1305	11
2489 5595	75 1088	13
1659 3730	50 725	20

The working frequency (SPM) of VAM gas springs can be increased by reducing the charging pressure.

For example: VAM 3000 063 (stroke used 55 mm)

Lower pressure 75 bar Force 2489 daN Max. SPM 13

Additional information available in the application AZOLGAS VAM SIMULATOR where different parameters (force-pressure-temperature) can be simulated.

A. ADD MORE VAM

Frequency required 13 cycles x minute
Pressure P = 90 bar
Force F = 2985 x 4 = 11940 daN
Stroke used S_U = 55 mm

VAM 3000 063 (x4)



$$f_{max} = \frac{1823544}{S_U \times F_U} = \frac{1823544}{55 \times 2985} = 11 \text{ cycles/minute}$$



Frequency required 13 cycles x minute
Pressure P = 72 bar
Force F = 2389 x 5 = 11945 daN
Stroke used S_U = 55 mm

VAM 3000 063 (x5)



$$f_{max} = \frac{1823544}{S_U \times F_U} = \frac{1823544}{55 \times 2389} = 13 \text{ cycles/minute}$$



B. USE LARGER VAM

Frequency required 13 cycles x minute
Pressure P = 90 bar
Force F = 2985 x 4 = 11940 daN
Stroke used S_U = 55 mm

VAM 3000 063 (x4)



$$f_{max} = \frac{1823544}{S_U \times F_U} = \frac{1823544}{55 \times 2985} = 11 \text{ cycles/minute}$$



Frequency required 13 cycles x minute
Pressure P = 60 bar
Force F = 3016 x 4 = 12064 daN
Stroke used S_U = 55 mm

VAM 5000 063 (x4)

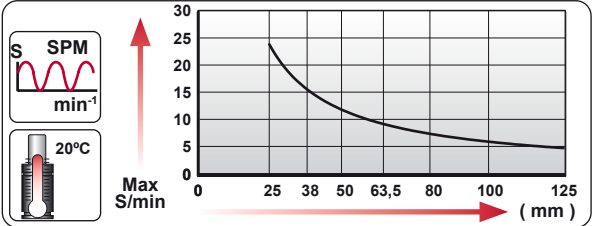
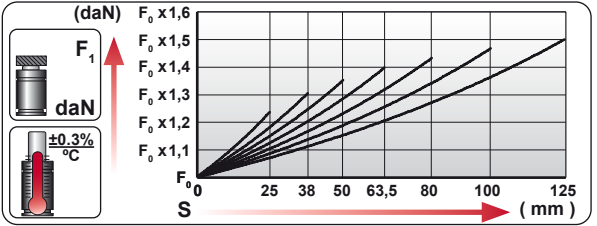
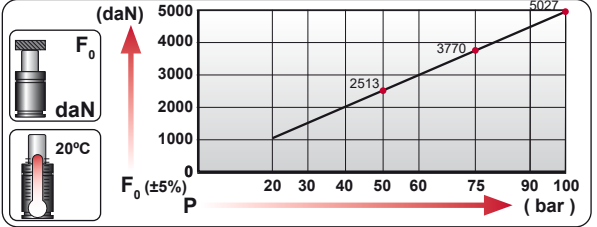
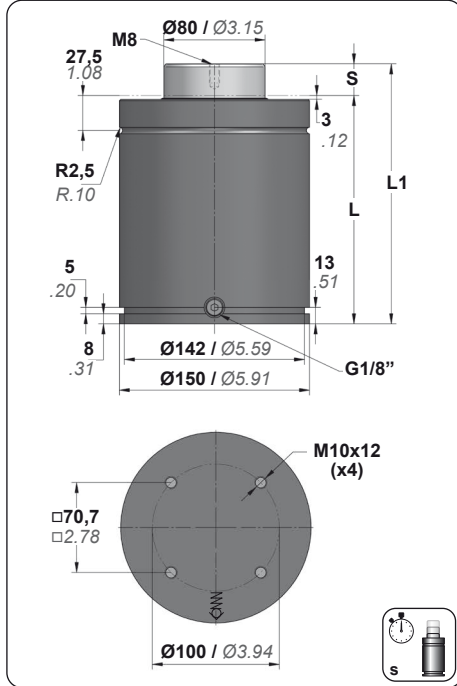


$$f_{max} = \frac{2879280}{S_U \times F_U} = \frac{2879280}{55 \times 3016} = 17 \text{ cycles/minute}$$



VAM 5000

Slowed Return



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
VAM 5000 025	25	0.98	205	8.07	180	7.09	5025	11297	7922	17810	344	21.0	19.22	42.37
VAM 5000 038	38	1.50	231	9.09	193	7.60	±5% 100 bar 1450 psi at 20°C 68°F		8100	18210	503	30.7	20.27	44.69
VAM 5000 050	50	1.97	255	10.04	205	8.07			8190	18411	650	39.7	21.25	46.85
VAM 5000 063	63.5	2.50	282	11.10	218.5	8.60			8253	18553	816	49.8	22.34	49.25
VAM 5000 080	80	3.15	315	12.40	235	9.25			8303	18666	1019	62.2	23.68	52.20
VAM 5000 100	100	3.94	355	13.98	255	10.04			8343	18755	1264	77.1	25.30	55.78
VAM 5000 125	125	4.92	405	15.94	280	11.02			8375	18828	1571	95.9	27.32	60.23

- Spring-back depending on used stroke.
- Return stroke at constant slowed speed.
- Prevent over-heating by limiting SPM.

MOUNTING OPTIONS

Drop-in HOW TO ORDER	Top Mount A14-150 581 A34-150 583	Base Mount B21-150 591 B76-150 595	Foot Mount C05-150 597 C20-150 599	Support Mount D02-150 601 D67-150 603
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TECHNICAL DATA

Fluid N ₂	Smax < 90%	Vmax 0,5 m/s	Pmin Pmax 20°C / 68°F 20 bar 100 bar 290 psi 1450 psi	Tmin Tmax 32 °F 80 °C 176 °F	Force variation by temperature ±0,3% / °C	Charging Adapter 18 CG 1-Q	Connection VAM-H 5000 XXX	Cartridge Kit 80C5X700M
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VAM 5000

Slowed Return

MAXIMUM SLOWED RETURN

VAM gas springs are designed to return at a constant slowed speed. Maximum slowed return is defined to every model as per stroke used.

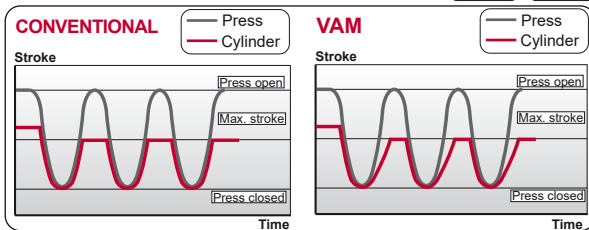


NOMINAL FORCE (daN / lb)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t _{max})
5025 11297	0.214	t _{max} = k x S _U

EXAMPLE: VAM 5000 080 (5025 daN)

$$t_{max} = k \times S_U = 0.214 \times 80 = 17 \text{ seconds}$$

Stroke used in mm (S_U)



The energy provided by the press to the gas spring to compress it in every press cycle is greater than the energy used by the gas spring to return to its extended position. The difference in energy (transmitted from press and used by gas spring) is transformed into heat inside the gas spring. Consequently, to avoid overheating in slowed return gas springs, heat generation must be limited (SPM strokes per minute).

HOW TO INCREASE WORKING FREQUENCY

EXAMPLE: VAM 5000 063 (Used Stroke 55)



NOMINAL FORCE (daN / lb)	MAXIMUM WORKING FREQUENCY (f _{max})
5025 11297	f _{max} = $\frac{2879280}{S_U \times F_U}$

$$f_{max} = \frac{2879280}{S_U \times F_U} = \frac{2879280}{55 \times 5025} = 10 \text{ cycles/minute}$$

Stroke used in mm (S_U) Force used in daN (F_U)

NOMINAL PRESSURE (bar / ps)	MAXIMUM WORKING FREQUENCY (f _{max})
100 1450	f _{max} = $\frac{57299}{S_U \times P_U}$

$$f_{max} = \frac{57299}{S_U \times P_U} = \frac{57299}{55 \times 100} = 10 \text{ cycles/minute}$$

Stroke used in mm (S_U) Pressure used in bar (P_U)

F (daN / lb)	P (bar / ps)	SPM
5025 11297	100 1450	10
4021 9040	80 1160	13
3016 6780	60 870	17

The working frequency (SPM) of VAM gas springs can be increased by reducing the charging pressure.

For example: VAM 5000 063 (stroke used 55 mm)

Lower pressure 80 bar Force 4021 daN Max. SPM 13

Additional information available in the application AZOLGAS VAM SIMULATOR where different parameters (force-pressure-temperature) can be simulated.

A. ADD MORE VAM

Frequency required 13 cycles x minute
Pressure P = 100 bar
Force F = 5025 x 4 = 20100 daN
Stroke used S_U = 55 mm

VAM 5000 063 (x4)



$$f_{max} = \frac{2879280}{S_U \times F_U} = \frac{2879280}{55 \times 5025} = 10 \text{ cycles/minute}$$



Frequency required 13 cycles x minute
Pressure P = 78 bar
Force F = 3920 x 5 = 19600 daN
Stroke used S_U = 55 mm

VAM 5000 063 (x5)



$$f_{max} = \frac{2879280}{S_U \times F_U} = \frac{2879280}{55 \times 3920} = 13 \text{ cycles/minute}$$



B. USE LARGER VAM

Frequency required 13 cycles x minute
Pressure P = 100 bar
Force F = 5025 x 4 = 20100 daN
Stroke used S_U = 55 mm

VAM 5000 063 (x4)



$$f_{max} = \frac{2879280}{S_U \times F_U} = \frac{2879280}{55 \times 5025} = 10 \text{ cycles/minute}$$



Frequency required 13 cycles x minute
Pressure P = 70 bar
Force F = 4962 x 4 = 19848 daN
Stroke used S_U = 55 mm

VAM 7500 063 (x4)

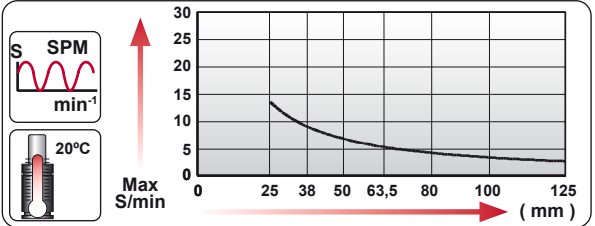
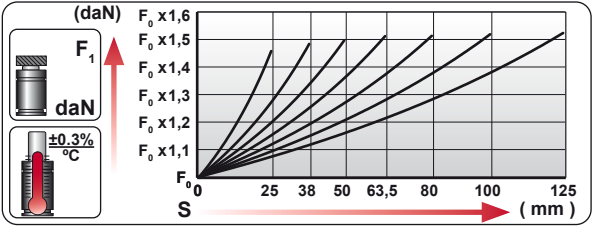
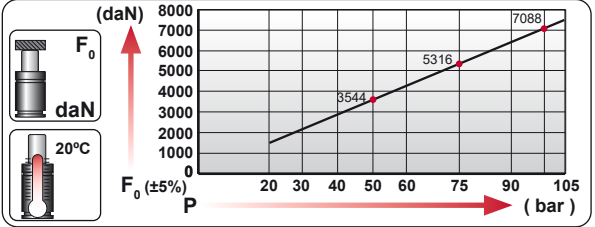
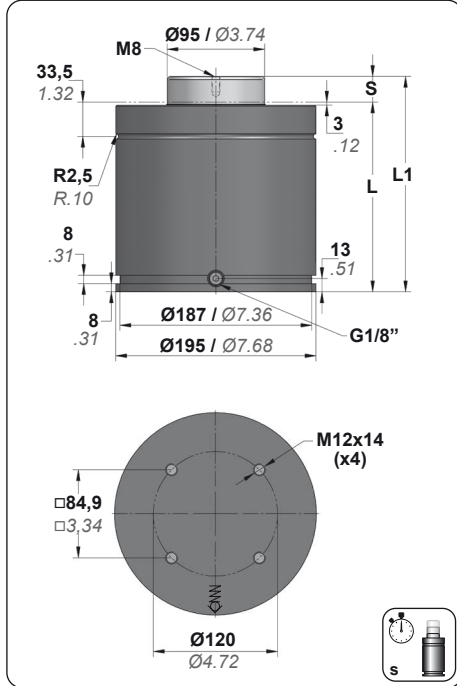


$$f_{max} = \frac{4078980}{S_U \times F_U} = \frac{4078980}{55 \times 4962} = 14 \text{ cycles/minute}$$



VAM 7500

Slowed Return



VDI SAFETY



STANDARS



ORDER	S		L1 ± 0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
VAM 7500 025	25	0.98	210	8.27	185	7.28	7440	16726	10858	24409	563	34.4	37.02	81.61
VAM 7500 038	38	1.50	236	9.29	198	7.80	±5% 105 bar 1520 psi at 20°C 68°F	11051	24843	824	50.3	38.74	85.41	
VAM 7500 050	50	1.97	260	10.24	210	8.27		11147	25061	1066	65.0	40.33	88.91	
VAM 7500 063	63.5	2.50	287	11.30	223.5	8.80		11216	25214	1337	81.6	42.12	92.86	
VAM 7500 080	80	3.15	320	12.60	240	9.45		11269	25334	1669	101.8	44.30	97.66	
VAM 7500 100	100	3.94	360	14.17	260	10.24		11312	25430	2071	126.4	46.94	103.48	
VAM 7500 125	125	4.92	410	16.14	285	11.22		11346	25507	2574	157.1	50.25	110.78	

- Spring-back depending on used stroke.
- Return stroke at constant slowed speed.
- Prevent over-heating by limiting SPM.

MOUNTING OPTIONS

<p>Drop-in</p>	<p>Top Mount</p>	<p>A14-195 581 A34-195 583</p>	<p>Base Mount</p>	<p>B21-195 591 B76-195 595</p>	<p>Foot Mount</p>	<p>C05-195 597 C20-195 599</p>	<p>Support Mount</p>	<p>D02-195 601</p>
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TECHNICAL DATA

<p>Fluid</p>	N ₂	<p>Pmin Pmax 20°C / 68°F</p>	20 bar 290 psi	105 bar 1520 psi	<p>Charging Adapter</p>	18 CG 1-Q
<p>Smix</p>	< 90%	<p>Tmin Tmax</p>	0 °C 32 °F	80 °C 176 °F	<p>Connection</p>	VAM-H 7500 XXX
<p>Vmax</p>	0,5 m/s	<p>Force variation by temperature</p>	±0,3% / °C		<p>Cartridge Kit</p>	95G0Y840M



VAM 7500

Slowed Return

MAXIMUM SLOWED RETURN

VAM gas springs are designed to return at a constant slowed speed. Maximum slowed return is defined to every model as per stroke used.

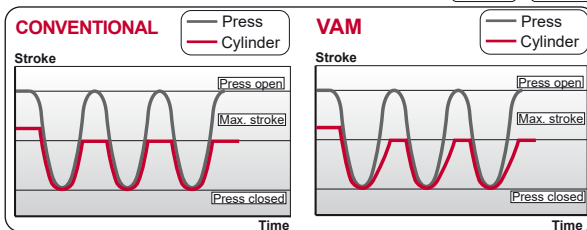


NOMINAL FORCE (daN / lb)	CONSTANT (k)	MAXIMUM SLOWED RETURN (t _{max})
7440 16726	0,289	t _{max} = k x S _U

EXAMPLE: VAM 7500 080 (7440 daN)

$$t_{max} = k \times S_U = 0,289 \times 80 = 23 \text{ seconds}$$

Stroke used in mm (S_U)



The energy provided by the press to the gas spring to compress it in every press cycle is greater than the energy used by the gas spring to return to its extended position. The difference in energy (transmitted from press and used by gas spring) is transformed into heat inside the gas spring. Consequently, to avoid overheating in slowed return gas springs, heat generation must be limited (SPM strokes per minute).

HOW TO INCREASE WORKING FREQUENCY

EXAMPLE: VAM 7500 063 (Used Stroke 55)



NOMINAL FORCE (daN / lb)	MAXIMUM WORKING FREQUENCY (f _{max})
7440 16726	f _{max} = $\frac{4078980}{S_U \times F_U}$

$$f_{max} = \frac{4078980}{S_U \times F_U} = \frac{4078980}{55 \times 7440} = 10 \text{ cycles/minute}$$

Stroke used in mm (S_U) Force used in daN (F_U)

NOMINAL PRESSURE (bar / psi)	MAXIMUM WORKING FREQUENCY (f _{max})
105 1520	f _{max} = $\frac{57566}{S_U \times P_U}$

$$f_{max} = \frac{57566}{S_U \times P_U} = \frac{57566}{55 \times 105} = 10 \text{ cycles/minute}$$

Stroke used in mm (S_U) Pressure used in bar (P_U)

F (daN / lb)	P (bar / psi)	SPM
7440 16726	105 XXX	10
5671 12749	80 1160	13
4253 9561	60 870	17

The working frequency (SPM) of VAM gas springs can be increased by reducing the charging pressure.

For example: VAM 7500 063 (stroke used 55 mm)

Lower pressure 80 bar Force 5671 daN Max. SPM 13

Additional information available in the application AZOLGAS VAM SIMULATOR where different parameters (force-pressure-temperature) can be simulated.

A. ADD MORE VAM

Frequency required 12 cycles x minute

Pressure P = 105 bar

Force F = 7440 x 4 = 29760 daN

Stroke used S_U = 55 mm

VAM 7500 063 (x4)

Frequency required 12 cycles x minute

Pressure P = 84 bar

Force F = 5954 x 5 = 29770 daN

Stroke used S_U = 55 mm

VAM 7500 063 (x5)



$$f_{max} = \frac{4078980}{S_U \times F_U} = \frac{4078980}{55 \times 7440} = 10 \text{ cycles/minute}$$



$$f_{max} = \frac{4078980}{S_U \times F_U} = \frac{4078980}{55 \times 5954} = 12 \text{ cycles/minute}$$





GAS SPRINGS



AZOL 
GAS



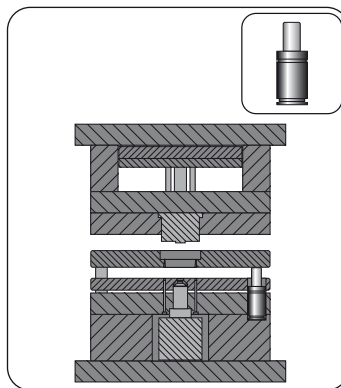
HIGH TEMPERATURE HT

- Suit higher temperatures up to 120°C
- Ideal for plastic mould injection
- Replacing coil springs
- Greater force in a more compact size
- Extended life and cost-effective solution
- VDI-safety devices included



HT SERIES

- To be used in the injection and ejector unit.
- Same functions as a latch lock.
- Higher reproductibility and productivity.
- Lower tools repair.
- Cost-effective solution, saving costs.



TECHNICAL FEATURES

MODEL	F ₀ daN lb	Ø mm inch	S mm inch	L1 mm inch	P _{max} bar psi	Charge Port		
CW-HT 300 V1	300 674	Ø32 Ø1.26	10 - 125 0.39 - 4.92	50 - 280 1.97 - 11.02	115-150 1668-2175	M6	✓	✓
CW-HT 500 V1	500 1124	Ø38 Ø1.50	10 - 125 0.39 - 4.92	50 - 280 1.97 - 11.02	115-150 1668-2175	M6	✓	✓
CW-HT 750 V1	750 1686	Ø45 Ø1.77	10 - 125 0.39 - 4.92	52 - 282 2.05 - 11.10	115-150 1668-2175	M6	✓	✓
CW-HT 1000 V2	1000 2248	Ø50 Ø1.97	10 - 125 0.39 - 4.92	58 - 288 2.28 - 11.34	115-150 1668-2175	M6	✓	✓

Max. working temperature interval °C °F	Max strokes per minute spm	Max. charge pressure at 20°C bar psi	Spring temperature		Initial force							
					CW-HT 300 V1		CW-HT 500 V1		CW-HT 750 V1		CW-HT 1000 V2	
			°C	°F	daN	lb	daN	lb	daN	lb	daN	lb
0 - 80 0 - 176	20	150 2175	80	176	363	816	568	1277	887	1994	1113	2502
			20	68	300	674	470	1057	740	1664	920	2068
80 - 100 176 - 212	15	125 1813	100	212	320	719	500	1124	781	1756	980	2203
			20	68	251	564	393	883	614	1380	770	1731
100 - 120 212 - 248	10	115 1668	120	248	310	697	485	1090	757	1702	950	2136
			20	68	231	519	361	812	565	1270	708	1592

Compact size gas springs with a wide range of forces and strokes for applications where temperature will exceed the standard operating temperature.

HT gas spring series are linkable in a hoses systems and also repairable.

HT gas spring forces and maximum stroke frequencies depending on the working operating temperature.

CW-HT HIGH TEMPERATURE



AZOLGAS HT SERIES

Azolgas is one of the world's leading gas spring manufacturer for metal stamping components, a **reliable and competitive partner** and pioneer company being Certified ISO 9001, 14001, Penal Compliance 19601.

We are pleased to offer you a selection of HT gas springs specially designed for applications where **temperature** will **exceed** the **standard** range of operating temperature (0°-80°C), such as plastic mould injection.

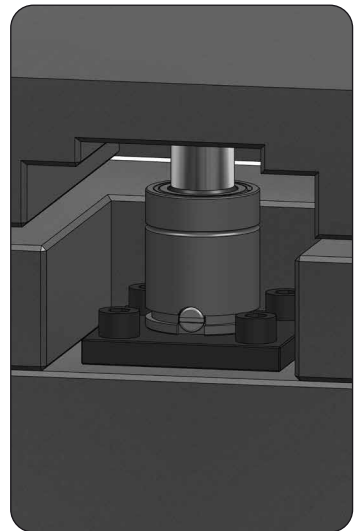
The experience of manufacturing gas springs in metal forming applications, compared to a lower stress in plastic mould field, involves a significant **long life** of HT gas springs.

By using HT gas springs you can achieve significant **advantages** compared to alternatives in terms of material fatigue (vs coil springs), no air-energy requirement (vs air springs), no oil leaks and cleaning (vs hydraulic springs).

Product available in stock for immediate delivery.

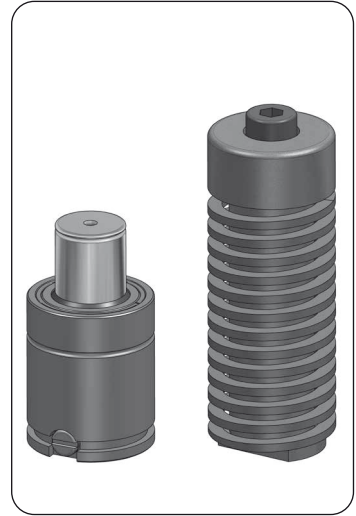
APPLICATIONS

- Specially suited for plastic mould injection.
- When require lifting movements additionally to tool opening.
- Can be used in the injection and the ejector unit.
- Provide the same functions as a latch lock.
- Replacement for coil springs, pneumatic springs and hydraulic springs.
- For both new moulds design and retrofit existing ones.



TECHNICAL FEATURES

- Greater forces in smaller size.
- Wide range of forces 100 - 1000 daN, and strokes 10-125 mm.
- Specially designed for mould applications, operating temperature up to 120°C.
- Fluid N₂: commercially available, non reactive and environment friendly.
- Constant force.
- PED 2014/68/EU compliance and equipped with VDI safety devices.



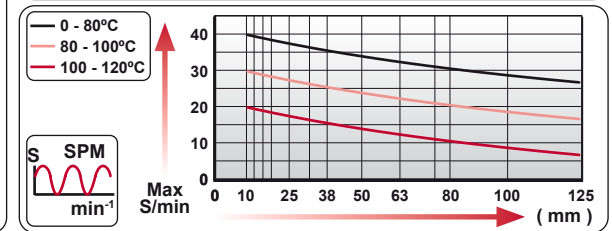
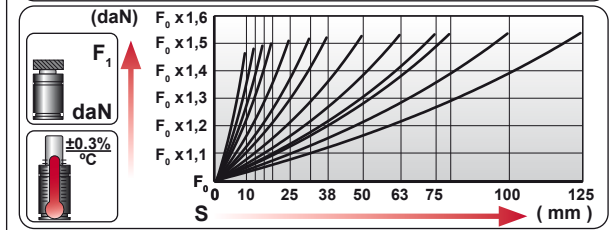
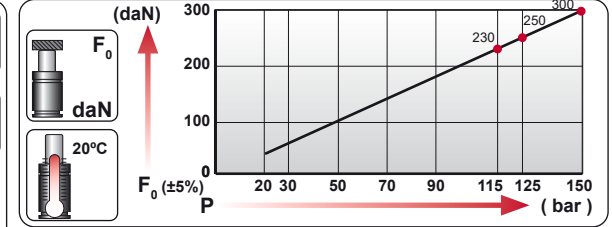
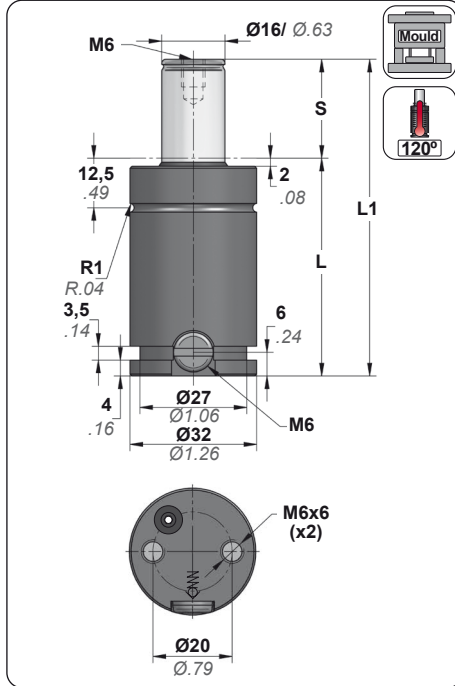
ADVANTAGES

- Longer life-time in comparison to alternatives.
- Higher reproductibility and productivity.
- Lower tools repair.
- No damage of die set parts.
- Easier installation.
- Cost-effective solution, saving costs.
- Less scrap and production downtime.
- Adjustable filling pressure.
- Pressure monitoring for early detection- prediction of potential pressure drops.



CW-HT 300 V1

High Temperature



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW-HT 300 010 V1	10	0.39	50	1.97	40	1.57	300 674 ±5% 150 bar 2175 psi at 20°C 68°F		527	1185	6	0.4	0.18	0.40
CW-HT 300 013 V1	13	0.51	56	2.20	43	1.69			533	1199	8	0.5	0.19	0.42
CW-HT 300 016 V1	16	0.63	62	2.44	46	1.81			537	1208	10	0.6	0.20	0.44
CW-HT 300 019 V1	19	0.75	68	2.68	49	1.93			540	1214	11	0.7	0.21	0.46
CW-HT 300 025 V1	25	0.98	80	3.15	55	2.17			544	1222	15	0.9	0.23	0.51
CW-HT 300 032 V1	32	1.26	94	3.70	62	2.44			546	1228	19	1.2	0.25	0.55
CW-HT 300 038 V1	38	1.50	106	4.17	68	2.68			548	1232	22	1.4	0.28	0.62
CW-HT 300 050 V1	50	1.97	130	5.12	80	3.15			550	1236	29	1.8	0.32	0.71
CW-HT 300 063 V1	63	2.48	156	6.14	93	3.66			551	1239	37	2.2	0.36	0.79
CW-HT 300 075 V1	75	2.95	180	7.09	105	4.13			552	1241	43	2.6	0.40	0.88
CW-HT 300 080 V1	80	3.15	190	7.48	110	4.33			552	1242	46	2.8	0.42	0.93
CW-HT 300 100 V1	100	3.94	230	9.06	130	5.12			553	1243	58	3.5	0.49	1.08
CW-HT 300 125 V1	125	4.92	280	11.02	155	6.10			554	1245	72	4.4	0.57	1.26

High force and compact size gas spring specially suited for higher temperatures up to 120°C, such as plastic moulds.

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi / 150 bar / 2175 psi	Tmin Tmax	20°C / 68°F / 120°C / 248°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	CW-HT-H 300 XXX V1	Cartridge Kit	1625A135G



CW-HT 300 V1

High Temperature

HOW TO ORDER	Max. working temperature interval °C °F	Max strokes per minute spm	Max. charge pressure at 20°C bar psi	Force per temperature					
				Spring temperature		Initial force		End force at full stroke	
				°C	°F	daN	lb	daN	lb
CW-HT 300 V1 (150 bar)	0 - 80 0 - 176	20	150 2175	80	176	363	816	555	1248
				20	68	300	674	460	1034
CW-HT 300 V1 (125 bar)	80 - 100 176 - 212	15	125 1813	100	212	320	719	490	1102
				20	68	251	564	385	866
CW-HT 300 V1 (115 bar)	100 - 120 212 - 248	10	115 1668	120	248	310	697	475	1068
				20	68	231	519	354	796

Due to increase of operating temperature, the charging pressure must be reduced from the usual range of charging pressure. The maximum stroke frequency and charging pressure will depend on the operating temperature, as showed in the table.

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-032 580 A34-032 582		C20-032 598	D02-032 600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

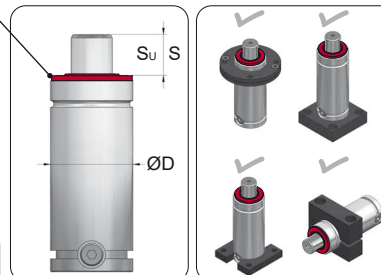
HOW TO ORDER

CW-HT 300 050 V1 150 16 32

CW-HT 300 050 V1 150 bar + PW 016 032

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

Protective Wiper



PC Protective Cover

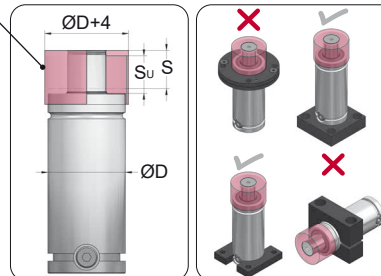
HOW TO ORDER

CW-HT 300 050 V1 150 16 32 50

CW-HT 300 050 V1 150 bar + PC 016 032 050

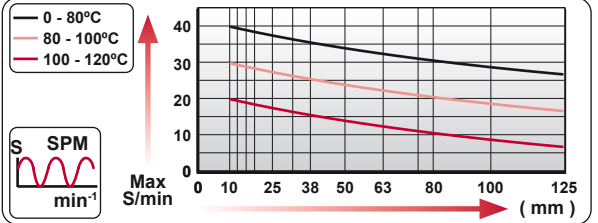
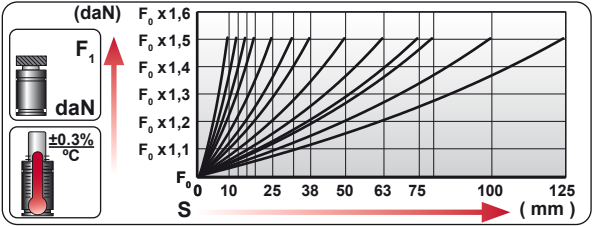
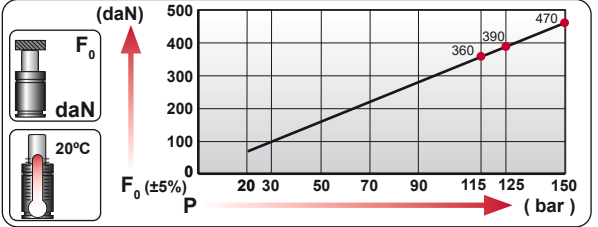
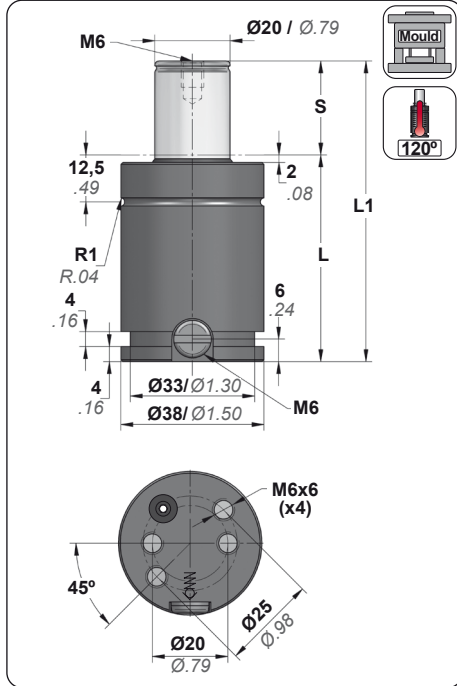
The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

Protective Cover



CW-HT 500 V1

High Temperature



VDI SAFETY

- >S
- >Vmax
- >Pmax

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW-HT 500 010 V1	10	0.39	50	1.97	40	1.57	470 1057 ±5% 150 bar 2175 psi at 20°C 68°F		672	1511	10	0.6	0.24	0.53
CW-HT 500 013 V1	13	0.51	56	2.20	43	1.69			679	1527	13	0.8	0.26	0.57
CW-HT 500 016 V1	16	0.63	62	2.44	46	1.81			684	1538	16	1.0	0.27	0.60
CW-HT 500 019 V1	19	0.75	68	2.68	49	1.93			687	1545	19	1.2	0.28	0.62
CW-HT 500 025 V1	25	0.98	80	3.15	55	2.17			692	1555	25	1.5	0.31	0.68
CW-HT 500 032 V1	32	1.26	94	3.70	62	2.44			695	1562	31	1.9	0.33	0.73
CW-HT 500 038 V1	38	1.50	106	4.17	68	2.68			697	1566	37	2.2	0.36	0.79
CW-HT 500 050 V1	50	1.97	130	5.12	80	3.15			699	1572	48	2.9	0.41	0.90
CW-HT 500 063 V1	63	2.48	156	6.14	93	3.66			701	1575	60	3.7	0.46	1.01
CW-HT 500 075 V1	75	2.95	180	7.09	105	4.13			702	1578	71	4.4	0.51	1.12
CW-HT 500 080 V1	80	3.15	190	7.48	110	4.33			702	1578	76	4.6	0.53	1.17
CW-HT 500 100 V1	100	3.94	230	9.06	130	5.12			703	1581	95	5.8	0.61	1.34
CW-HT 500 125 V1	125	4.92	280	11.02	155	6.10			704	1582	118	7.2	0.71	1.57

High force and compact size gas spring specially suited for higher temperatures up to 120°C, such as plastic moulds.

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi / 150 bar / 2175 psi	20°C / 68°F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0°C / 32°F	120°C / 248°F	Connection	CW-HT-H 500 XXX V1
Vmax	1,0 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2032D125G

MODEL	Max. working temperature interval °C °F	Max strokes per minute spm	Max. charge pressure at 20°C bar psi	Force per temperature					
				Spring temperature		Initial force		End force at full stroke	
				°C	°F	daN	lb	daN	lb
CW-HT 500 V1 (150 bar)	0 - 80 0 - 176	20	150 2175	80	176	568	1277	869	1954
				20	68	470	1057	720	1619
CW-HT 500 V1 (125 bar)	80 - 100 176 - 212	15	125 1813	100	212	500	1124	765	1720
				20	68	393	883	601	1351
CW-HT 500 V1 (115 bar)	100 - 120 212 - 248	10	115 1668	120	248	485	1090	742	1668
				20	68	361	812	552	1241

Due to increase of operating temperature, the charging pressure must be reduced from the usual range of charging pressure. The maximum stroke frequency and charging pressure will depend on the operating temperature, as showed in the table.

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-038 580 A34-038 582		C20-038 598	D02-038 600

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

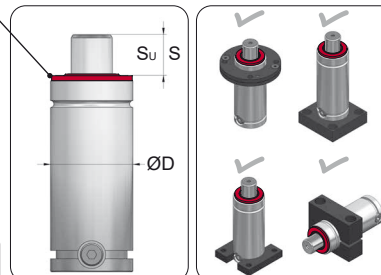
HOW TO ORDER

CW-HT 500 050 V1 150 20 38

CW-HT 500 050 V1 150 bar + PW 020 038

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

Protective Wiper



PC Protective Cover

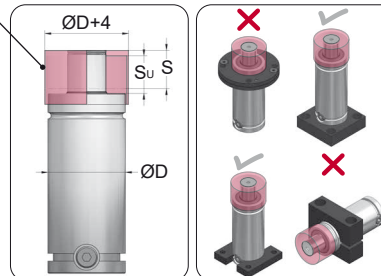
HOW TO ORDER

CW-HT 500 050 V1 150 20 38 50

CW-HT 500 050 V1 150 bar + PC 020 038 050

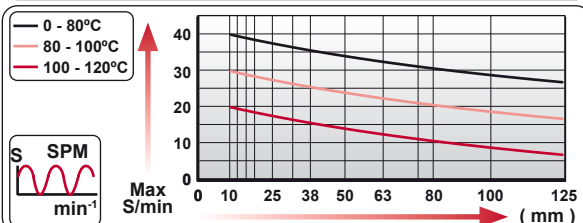
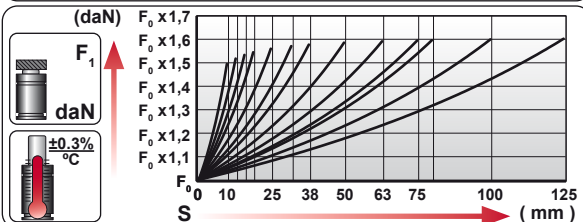
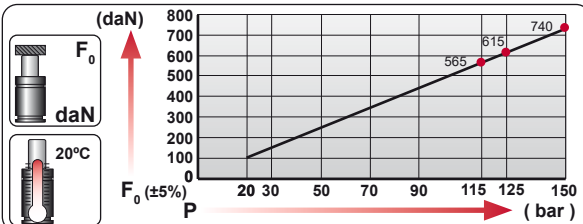
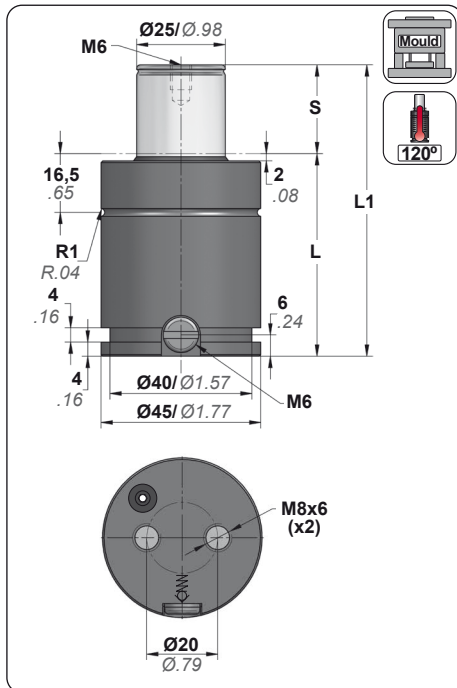
The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

Protective Cover



CW-HT 750 V1

High Temperature



VDI SAFETY

- > S
- > Vmax
- > Pmax

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
CW-HT 750 010 V1	10	0.39	52	2.05	42	1.65	740 1664 ±5% 150 bar 2175 psi at 20°C 68°F		1106	2486	15	0.9	0.38	0.84
CW-HT 750 013 V1	13	0.51	58	2.28	45	1.77			1123	2525	19	1.1	0.40	0.88
CW-HT 750 016 V1	16	0.63	64	2.52	48	1.89			1135	2551	23	1.4	0.42	0.93
CW-HT 750 019 V1	19	0.75	70	2.76	51	2.01			1143	2571	26	1.6	0.44	0.97
CW-HT 750 025 V1	25	0.98	82	3.23	57	2.24			1155	2596	34	2.1	0.47	1.04
CW-HT 750 032 V1	32	1.26	96	3.78	64	2.52			1163	2615	43	2.6	0.52	1.15
CW-HT 750 038 V1	38	1.50	108	4.25	70	2.76			1168	2626	51	3.1	0.55	1.21
CW-HT 750 050 V1	50	1.97	132	5.20	82	3.23			1174	2640	66	4.0	0.63	1.39
CW-HT 750 063 V1	63	2.48	158	6.22	95	3.74			1179	2649	83	5.1	0.71	1.57
CW-HT 750 075 V1	75	2.95	182	7.17	107	4.21			1181	2655	99	6.0	0.78	1.72
CW-HT 750 080 V1	80	3.15	192	7.56	112	4.41			1182	2657	105	6.4	0.82	1.81
CW-HT 750 100 V1	100	3.94	232	9.13	132	5.20			1185	2663	131	8.0	0.94	2.07
CW-HT 750 125 V1	125	4.92	282	11.10	157	6.18			1187	2668	163	9.9	1.10	2.43

High force and compact size gas spring specially suited for higher temperatures up to 120°C, such as plastic moulds.

TECHNICAL DATA														
Fluid	N ₂		Pmin Pmax	20 bar 150 bar		Charging Adapter	06 CG 2-Q							
Smax	< 90%		Tmin Tmax	20°C / 68°F		Connection	CW-HT-H 750 XXX V1							
Vmax	1,0 m/s		Force variation by temperature	±0,3% / °C		Cartridge Kit	2538E150G							
Smax	< 90%		Tmin Tmax	120 °C										
Vmax	1,0 m/s		Tmin Tmax	32 °F										
Force variation by temperature	±0,3% / °C		Tmin Tmax	248 °F										

MODEL	Max. working temperature interval °C °F	Max strokes per minute spm	Max. charge pressure at 20°C bar psi	Force per temperature					
				Spring temperature		Initial force		End force at full stroke	
				°C	°F	daN	lb	daN	lb
CW-HT 750 V1 (150 bar)	0 - 80 0 - 176	20	150 2175	80	176	887	1994	1410	3170
				20	68	740	1664	1176	2644
CW-HT 750 V1 (125 bar)	80 - 100 176 - 212	15	125 1813	100	212	781	1756	1242	2792
				20	68	614	1380	975	2192
CW-HT 750 V1 (115 bar)	100 - 120 212 - 248	10	115 1668	120	248	757	1702	1205	2709
				20	68	565	1270	900	2023

Due to increase of operating temperature, the charging pressure must be reduced from the usual range of charging pressure. The maximum stroke frequency and charging pressure will depend on the operating temperature, as showed in the table.

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-045 581 A34-045 582	B21-045 590 B76-045 594	C05-045 596 C20-045 598	D02-045 600 D67-045 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

HOW TO ORDER

CW-HT 750 050 V1 150 25 45

CW-HT 750 050 V1 150 bar + PW 025 045

Protective Wiper

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

PC Protective Cover

HOW TO ORDER

CW-HT 750 050 V1 150 25 45 50

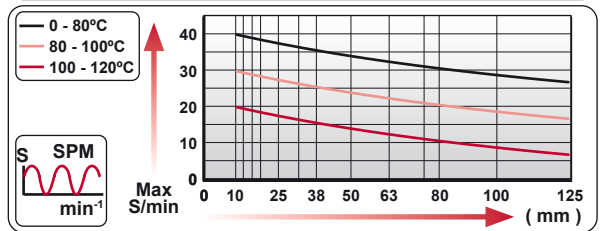
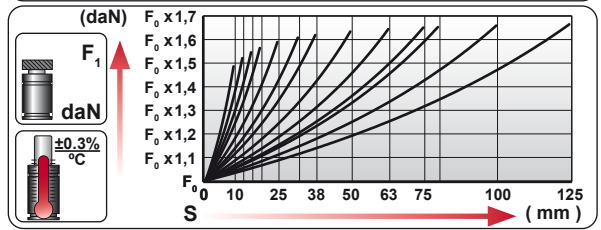
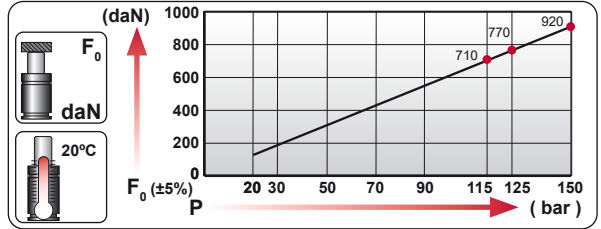
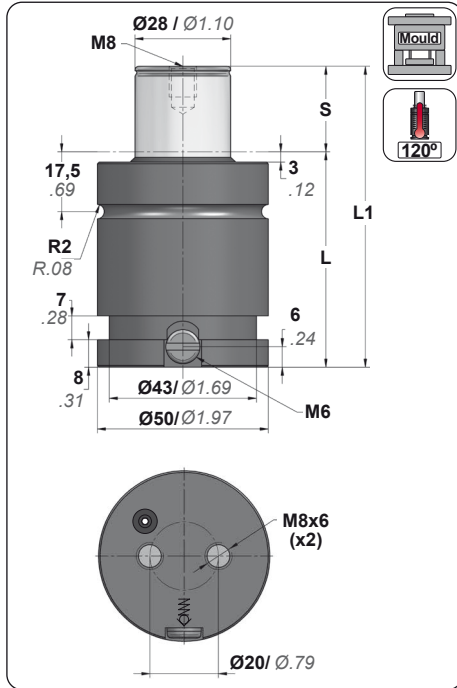
CW-HT 750 050 V1 150 bar + PC 025 045 050

Protective Cover

The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

CW-HT 1000 V2

High Temperature



VDI SAFETY icons:

STANDARDS icon:

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
CW-HT 1000 010 V2	10	0.39	58	2.28	48	1.89	920 2068 ±5% 150 bar 2175 psi at 20°C 68°F		1404	3156	18	1.1	0.53	1.17
CW-HT 1000 013 V2	13	0.51	64	2.52	51	2.01			1432	3219	22	1.4	0.56	1.23
CW-HT 1000 016 V2	16	0.63	70	2.76	54	2.13			1451	3261	27	1.6	0.58	1.28
CW-HT 1000 019 V2	19	0.75	76	2.99	57	2.24			1465	3293	31	1.9	0.61	1.34
CW-HT 1000 025 V2	25	0.98	88	3.46	63	2.48			1483	3335	41	2.5	0.66	1.46
CW-HT 1000 032 V2	32	1.26	102	4.02	70	2.76			1497	3366	51	3.1	0.72	1.59
CW-HT 1000 038 V2	38	1.50	114	4.49	76	2.99			1505	3384	60	3.7	0.77	1.70
CW-HT 1000 050 V2	50	1.97	138	5.43	88	3.46			1516	3408	78	4.8	0.87	1.92
CW-HT 1000 063 V2	63	2.48	164	6.46	101	3.98			1523	3424	98	6.0	0.98	2.16
CW-HT 1000 075 V2	75	2.95	188	7.40	113	4.45			1528	3435	116	7.1	1.08	2.38
CW-HT 1000 080 V2	80	3.15	198	7.80	118	4.65			1529	3438	124	7.5	1.12	2.47
CW-HT 1000 100 V2	100	3.94	238	9.37	138	5.43			1534	3448	154	9.4	1.29	2.84
CW-HT 1000 125 V2	125	4.92	288	11.34	163	6.42	1538	3456	192	11.7	1.50	3.31		

High force and compact size gas spring specially suited for higher temperatures up to 120°C, such as plastic moulds.

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20 bar 290 psi	150 bar 2175 psi	Charging Adapter	06 CG 2-Q							
Smax	< 90%	Tmin Tmax	0 °C 32 °F	120 °C 248 °F	Connection	CW-HT-H 1000 XXX V2							
Vmax	1,0 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2840K169G							

MODEL	Max. working temperature interval °C °F	Max strokes per minute spm	Max. charge pressure at 20°C bar psi	Force per temperature					
				Spring temperature		Initial force		End force at full stroke	
				°C	°F	daN	lb	daN	lb
CW-HT 1000 V2 (150 bar)	0 - 80 0 - 176	20	150 2175	80	176	1113	2502	1750	3934
				20	68	920	2068	1450	3260
CW-HT 1000 V2 (125 bar)	80 - 100 176 - 212	15	125 1813	100	212	980	2203	1540	3462
				20	68	770	1731	1210	2720
CW-HT 1000 V2 (115 bar)	100 - 120 212 - 248	10	115 1668	120	248	950	2136	1490	3350
				20	68	708	1592	1110	2495

Due to increase of operating temperature, the charging pressure must be reduced from the usual range of charging pressure. The maximum stroke frequency and charging pressure will depend on the operating temperature, as showed in the table.

MOUNTING OPTIONS

	Drop-in	Top Mount	Base Mount	Foot Mount	Support Mount
HOW TO ORDER		A14-050 581 A34-050 582	B21-050 590 B76-050 594	C05-050 596 C20-050 598	D02-050 600 D67-050 602

PROTECTION OPTIONS

Longer life to your gas springs by using protective solutions from harsh working environment (i.e. hot stamping), specially designed to minimize the impact of solid or liquid contaminants and extending the useful life of gas springs.

PW Protective Wiper

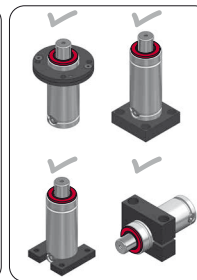
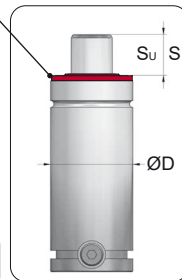
HOW TO ORDER

CW-HT 1000 050 V2 150 28 50

CW-HT 1000 050 V2 150 bar + PW 028 050

PW does not involve any variation of the dimensions of the gas spring. The useful stroke keeps the same as nominal stroke.

Protective Wiper



PC Protective Cover

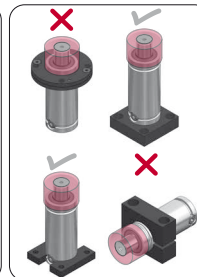
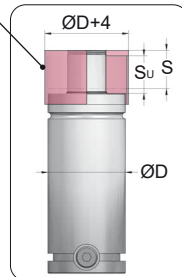
HOW TO ORDER

CW-HT 1000 050 V2 150 28 50 50

CW-HT 1000 050 V2 150 bar + PC 028 050 050

The body diameter (ØD) increases to the size of (ØPC). PC can be used with mounts B and C, but not with mounts type A and D.

Protective Cover





GAS SPRINGS



AZOL 
GAS



SPECIAL APPLICATIONS

No matter if standard solutions does not fit your needs, we supply customized multi-technology for your applications

- Counter balance gas springs
- Hollow rod gas springs
- Traction gas springs

Contact us to define best solution to your requirements

ROB / ROT

Counter Balance Gas Springs



VH

Hollow Rod Gas Springs



ART

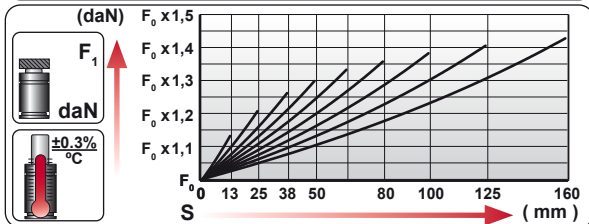
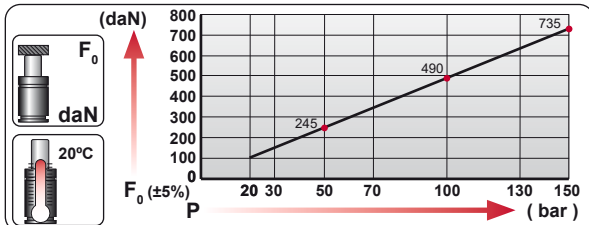
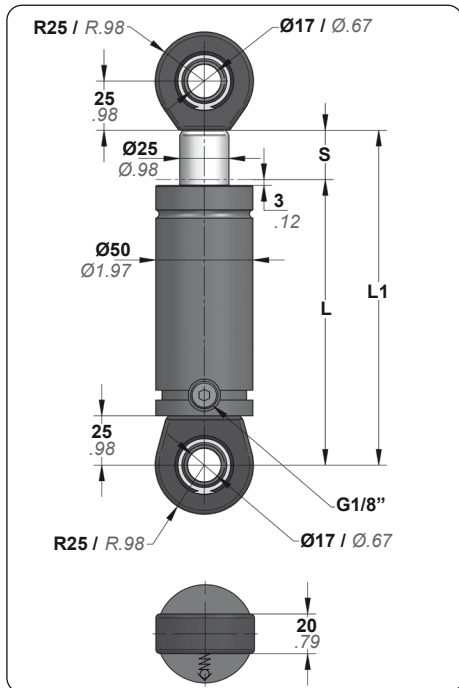
Traction Gas Springs



ROB 750

Special Applications





VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROB 750 013	13	0.51	146	5.75	133	5.24	740 ±5% 150 bar 2175 psi at 20°C 68°F	1664	842	1892	53	3.2	1.65	3.64
ROB 750 025	25	0.98	170	6.69	145	5.71			897	2017	70	4.3	1.75	3.86
ROB 750 038	38	1.50	196	7.72	158	6.22			938	2108	88	5.4	1.85	4.08
ROB 750 050	50	1.97	220	8.66	170	6.69			965	2169	105	6.4	1.95	4.30
ROB 750 063	63.5	2.50	247	9.72	183.5	7.22			987	2220	124	7.6	2.06	4.54
ROB 750 080	80	3.15	280	11.02	200	7.87			1008	2266	148	9.0	2.20	4.85
ROB 750 100	100	3.94	320	12.60	220	8.66			1027	2308	176	10.7	2.36	5.20
ROB 750 125	125	4.92	370	14.57	245	9.65			1043	2345	211	12.9	2.57	5.67
ROB 750 160	160	6.30	440	17.32	280	11.02	1059	2382	260	15.9	2.85	6.28		

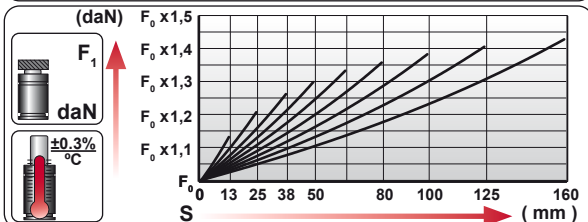
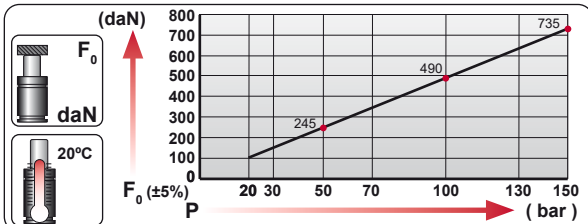
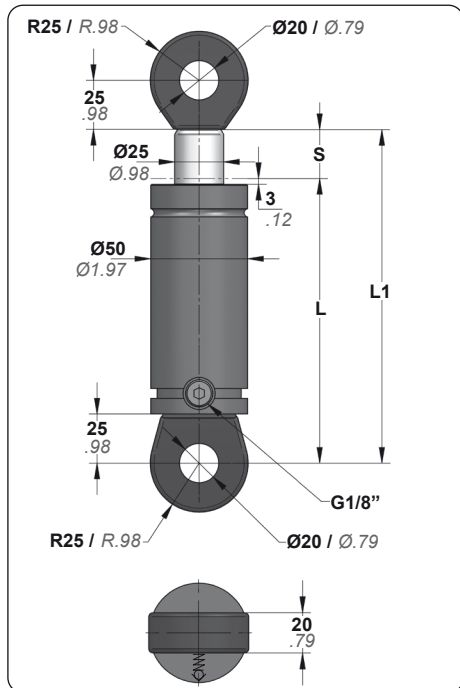
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	ROB-H 750 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	2540T340A	



ROT 750

Special Applications



VDI SAFETY

STANDARS

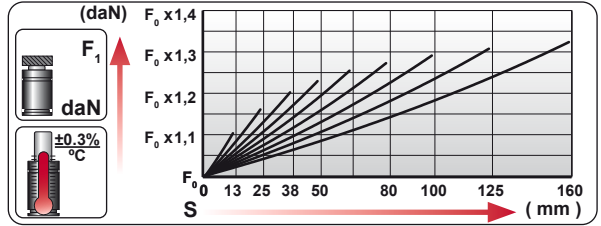
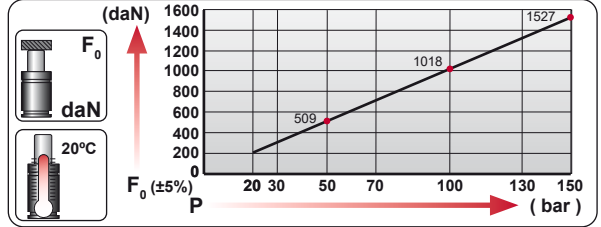
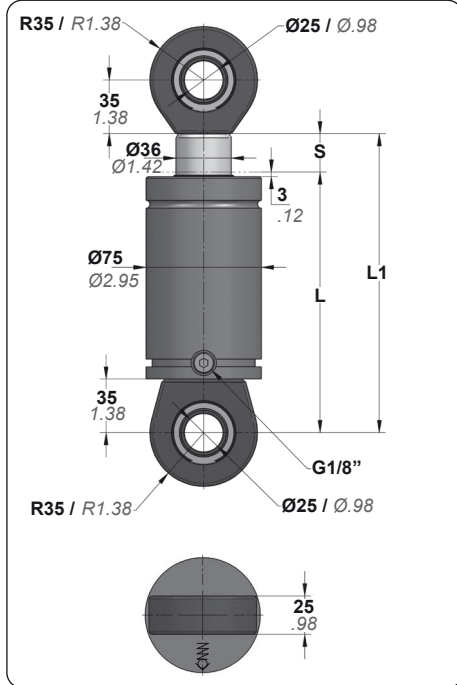
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROT 750 013	13	0.51	146	5.75	133	5.24	740 ±5% 150 bar 2175 psi at 20°C 68°F	1664	842	1892	53	3.2	1.69	3.73
ROT 750 025	25	0.98	170	6.69	145	5.71			897	2017	70	4.3	1.79	3.95
ROT 750 038	38	1.50	196	7.72	158	6.22			938	2108	88	5.4	1.89	4.17
ROT 750 050	50	1.97	220	8.66	170	6.69			965	2169	105	6.4	1.99	4.39
ROT 750 063	63.5	2.50	247	9.72	183.5	7.22			987	2220	124	7.6	2.10	4.63
ROT 750 080	80	3.15	280	11.02	200	7.87			1008	2266	148	9.0	2.24	4.94
ROT 750 100	100	3.94	320	12.60	220	8.66			1027	2308	176	10.7	2.40	5.29
ROT 750 125	125	4.92	370	14.57	245	9.65			1043	2345	211	12.9	2.61	5.75
ROT 750 160	160	6.30	440	17.32	280	11.02	1059	2382	260	15.9	2.89	6.37		

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	ROT-H 750 XXX	Cartridge Kit	2540T340A

ROB 1500

Special Applications



VDI SAFETY



STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROB 1500 013	13	0.51	171	6.73	158	6.22	1530 3440 ±5% 150 bar 2175 psi at 20°C 68°F		1704	3830	130	7.9	4.18	9.22
ROB 1500 025	25	0.98	195	7.68	170	6.69			1793	4030	174	10.6	4.36	9.61
ROB 1500 038	38	1.50	221	8.70	183	7.20			1856	4173	220	13.4	4.55	10.03
ROB 1500 050	50	1.97	245	9.65	195	7.68			1897	4265	263	16.0	4.72	10.41
ROB 1500 063	63.5	2.50	272	10.71	208.5	8.21			1931	4342	311	19.0	4.92	10.85
ROB 1500 080	80	3.15	305	12.01	225	8.86			1962	4410	370	22.6	5.16	11.38
ROB 1500 100	100	3.94	345	13.58	245	9.65			1989	4470	441	26.9	5.46	12.04
ROB 1500 125	125	4.92	395	15.55	270	10.63			2013	4524	531	32.4	5.82	12.83
ROB 1500 160	160	6.30	465	18.31	305	12.01	2036	4576	656	40.0	6.33	13.96		

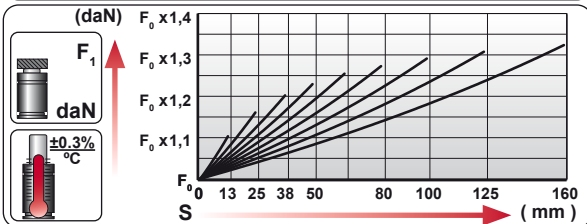
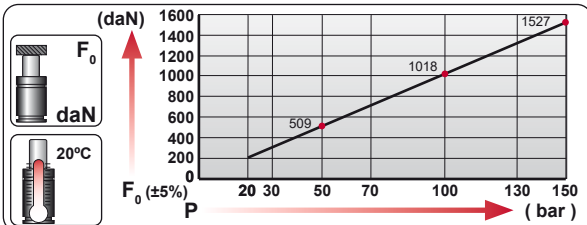
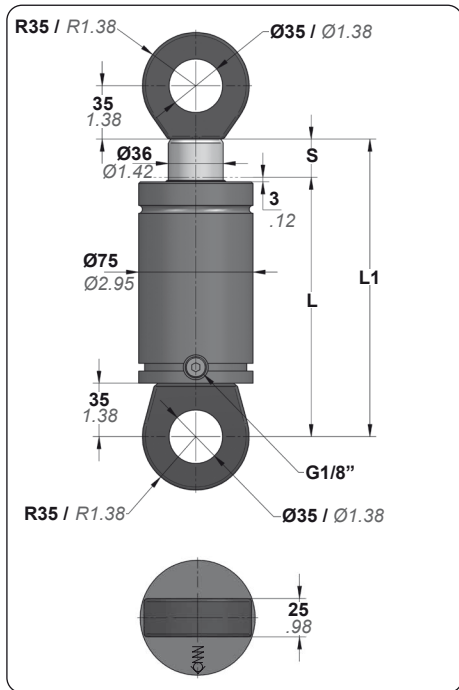
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi 150 bar 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smox	< 90%	Tmin Tmax	0 °C 32 °F 80 °C 176 °F	Connection	ROB-H 1500 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	3663R440A	



ROT 1500

Special Applications



VDI SAFETY



STANDARS



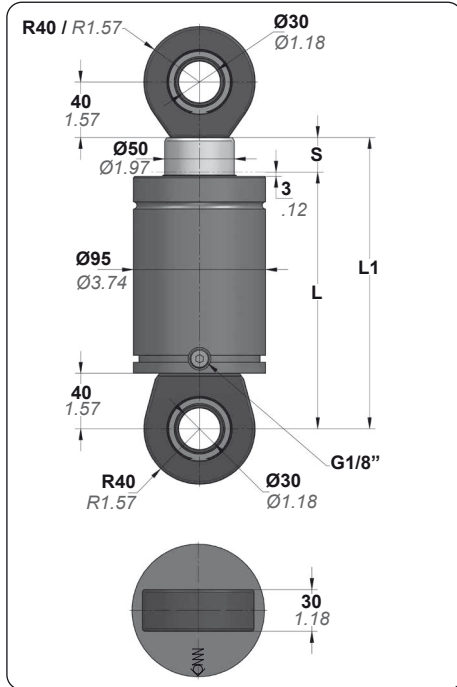
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROT 1500 013	13	0.51	171	6.73	158	6.22	1530 ±5% 150 bar 2175 psi at 20°C 68°F	3440	1704	3831	130	7.9	4.12	9.08
ROT 1500 025	25	0.98	195	7.68	170	6.69			1793	4031	174	10.6	4.29	9.46
ROT 1500 038	38	1.50	221	8.70	183	7.20			1856	4172	220	13.4	4.48	9.88
ROT 1500 050	50	1.97	245	9.65	195	7.68			1897	4265	263	16.0	4.66	10.27
ROT 1500 063	63.5	2.50	272	10.71	208.5	8.21			1931	4341	311	19.0	4.86	10.71
ROT 1500 080	80	3.15	305	12.01	225	8.86			1962	4411	370	22.6	5.10	11.24
ROT 1500 100	100	3.94	345	13.58	245	9.65			1989	4471	441	26.9	5.39	11.88
ROT 1500 125	125	4.92	395	15.55	270	10.63			2013	4525	531	32.4	5.76	12.70
ROT 1500 160	160	6.30	465	18.31	305	12.01	2036	4577	656	40.0	6.27	13.82		

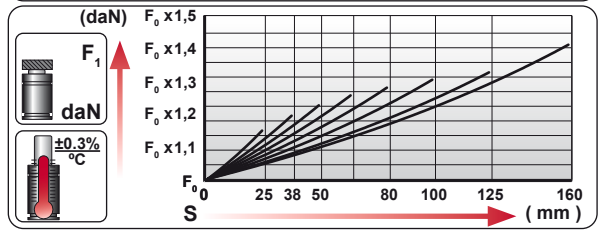
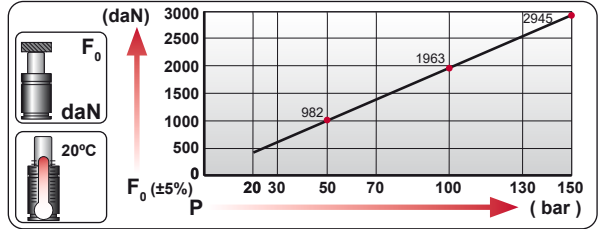
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	ROT-H 1500 XXX	Cartridge Kit	3663R440A

ROB 3000

Special Applications





VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROB 3000 025	25	0.98	210	8.27	185	7.28	2945	6621	3481	7825	319	19.5	7.31	16.12
ROB 3000 038	38	1.50	236	9.29	198	7.80								
ROB 3000 050	50	1.97	260	10.24	210	8.27								
ROB 3000 063	63.5	2.50	287	11.30	223.5	8.80								
ROB 3000 080	80	3.15	320	12.60	240	9.45								
ROB 3000 100	100	3.94	360	14.17	260	10.24								
ROB 3000 125	125	4.92	410	16.14	285	11.22								
ROB 3000 160	160	6.30	480	18.90	320	12.60								

±5%
150 bar
2175 psi
at
20°C
68°F

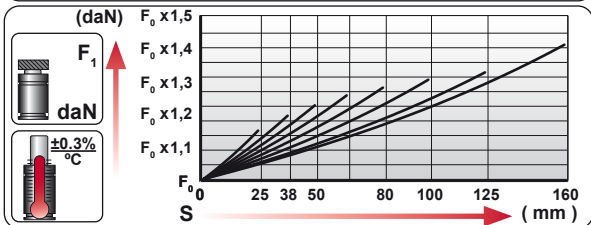
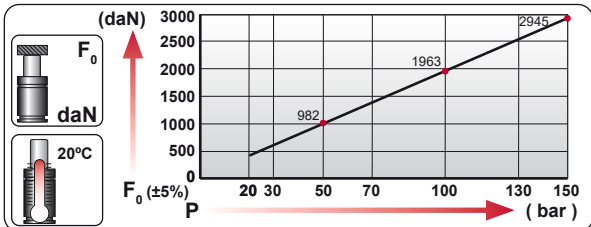
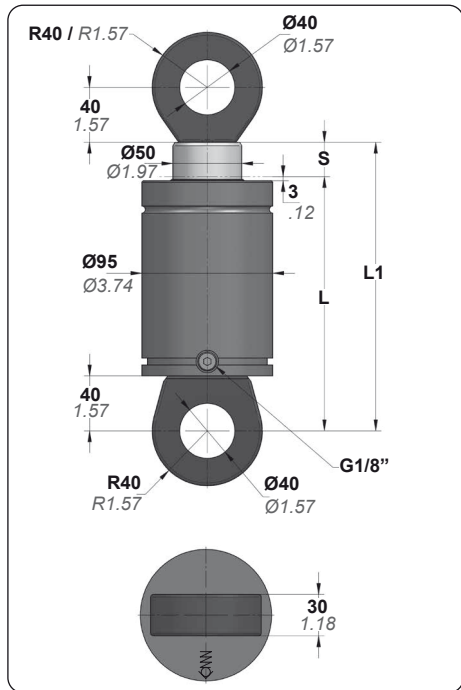
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	20°C / 68°F	80°C / 176°F	Connection	ROB-H 3000 XXX
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	S ≤ 125mm 5080U460A S ≥ 160mm 5080U710A



ROT 3000

Special Applications



VDI SAFETY



STANDARS



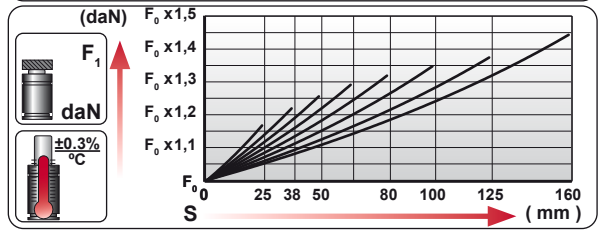
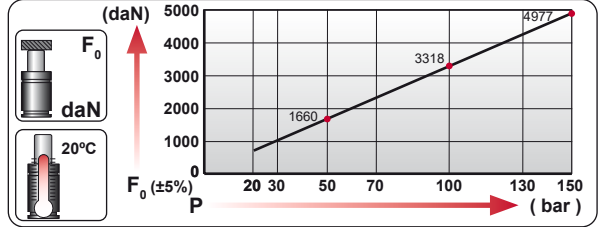
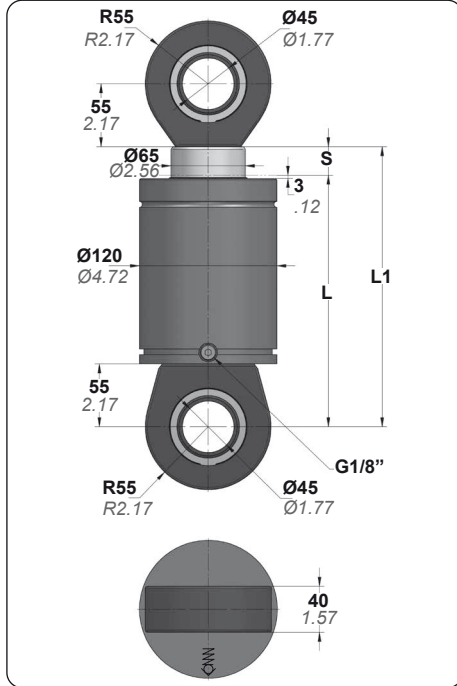
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		⚠	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROT 3000 025	25	0.98	210	8.27	185	7.28	2945 ±5% 150 bar 2175 psi at 20°C 68°F	6621	3481	7825	319	19.5	7.24	15.96
ROT 3000 038	38	1.50	236	9.29	198	7.80			3634	8170	394	24.0	7.58	16.71
ROT 3000 050	50	1.97	260	10.24	210	8.27			3739	8406	462	28.2	7.89	17.39
ROT 3000 063	63.5	2.50	287	11.30	223.5	8.80			3830	8610	540	32.9	8.24	18.17
ROT 3000 080	80	3.15	320	12.60	240	9.45			3914	8800	634	38.7	8.67	19.11
ROT 3000 100	100	3.94	360	14.17	260	10.24			3991	8973	749	45.7	9.19	20.26
ROT 3000 125	125	4.92	410	16.14	285	11.22			4062	9133	892	54.5	9.84	21.69
ROT 3000 160	160	6.30	480	18.90	320	12.60			4306	9680	994	60.7	10.75	23.70

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	Tmin Tmax	20°C 80°C 32°F 176°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	ROT-H 3000 XXX	Cartridge Kit	S ≤ 125mm 5080U460A S ≥ 160mm 5080U710A

ROB 5000

Special Applications



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROB 5000 025	25	0.98	245	9.65	220	8.66	4980 ±5% 150 bar 2175 psi at 20°C 68°F	11195	5911	13289	527	32.1	14.89	32.83
ROB 5000 038	38	1.50	271	10.67	233	9.17			6180	13893	649	39.6	15.42	33.99
ROB 5000 050	50	1.97	295	11.61	245	9.65			6365	14308	763	46.5	15.91	35.08
ROB 5000 063	63.5	2.50	322	12.68	258.5	10.18			6524	14667	890	54.3	16.45	36.27
ROB 5000 080	80	3.15	355	13.98	275	10.83			6674	15003	1046	63.8	17.13	37.76
ROB 5000 100	100	3.94	395	15.55	295	11.61			6810	15309	1235	75.4	17.94	39.55
ROB 5000 125	125	4.92	445	17.52	320	12.60			6936	15592	1471	89.8	18.96	41.80
ROB 5000 160	160	6.30	515	20.28	355	13.98			7226	16246	1708	104.2	20.38	44.93

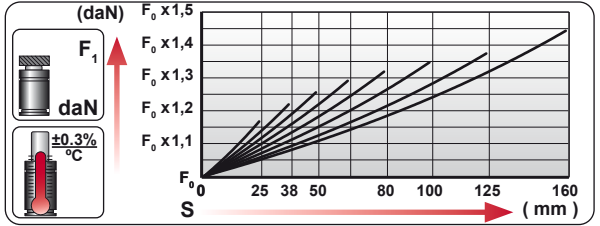
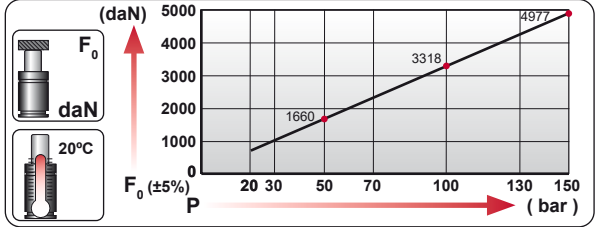
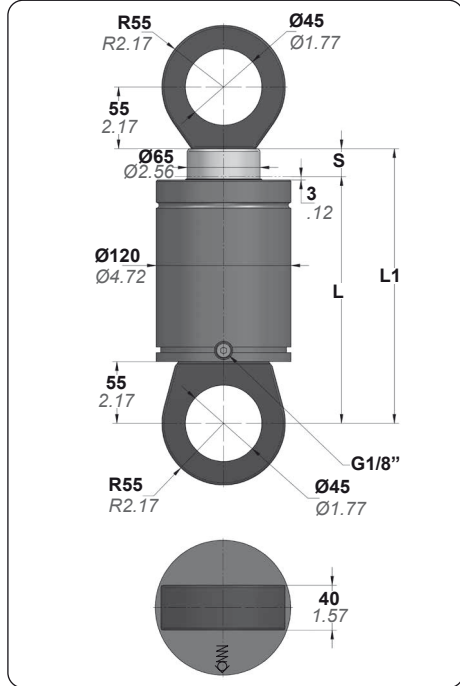
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smox	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	ROB-H 5000 XXX	
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	S ≤ 125mm 65A0W560A S ≥ 160mm 65A0W750A	



ROT 5000

Special Applications



VDI SAFETY



STANDARS



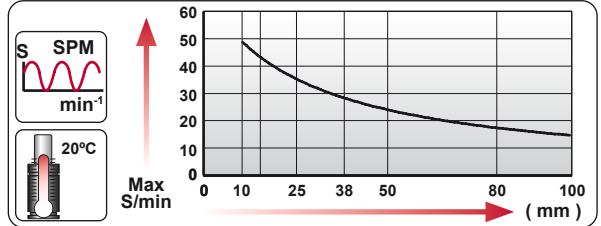
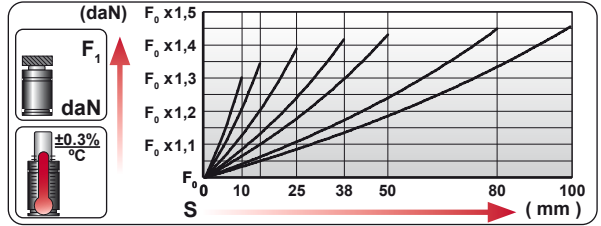
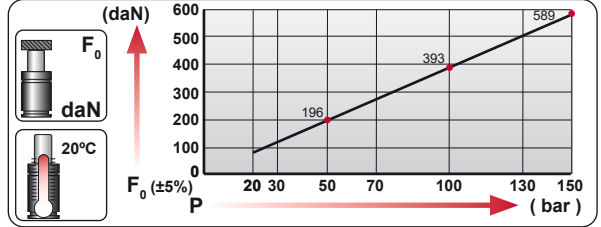
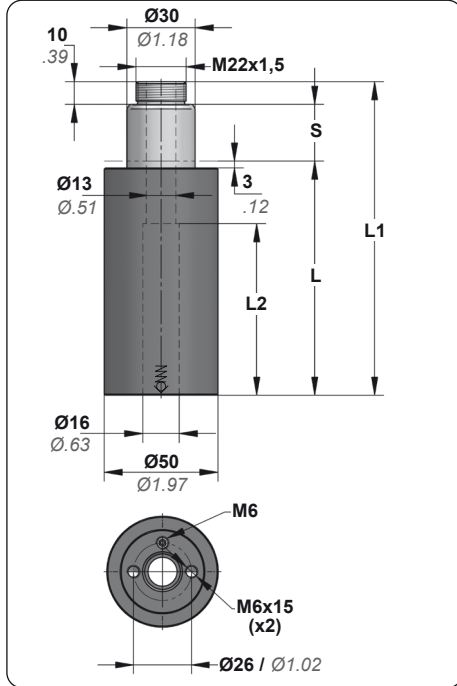
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Weight	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ROT 5000 025	25	0.98	245	9.65	220	8.66	4980 ±5% 150 bar 2175 psi at 20°C 68°F	11195	5911	13289	527	32.1	15.33	33.80
ROT 5000 038	38	1.50	271	10.67	233	9.17			6180	13893	649	39.6	15.86	34.96
ROT 5000 050	50	1.97	295	11.61	245	9.65			6365	14308	763	46.5	16.35	36.05
ROT 5000 063	63.5	2.50	322	12.68	258.5	10.18			6524	14667	890	54.3	16.90	37.26
ROT 5000 080	80	3.15	355	13.98	275	10.83			6674	15003	1046	63.8	17.57	38.73
ROT 5000 100	100	3.94	395	15.55	295	11.61			6810	15309	1235	75.4	18.38	40.52
ROT 5000 125	125	4.92	445	17.52	320	12.60			6936	15592	1471	89.8	19.40	42.77
ROT 5000 160	160	6.30	515	20.28	355	13.98			7226	16246	1708	104.2	20.83	45.92

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 290 psi / 150 bar 2175 psi	Tmin Tmax	0 °C 32 °F / 80 °C 176 °F	Charging Adapter	18 CG 1-Q
Smox	< 90%	Force variation by temperature	±0,3% / °C	Connection	ROT-H 5000 XXX	Cartridge Kit	S ≤ 125mm 65A0W560A S ≥ 160mm 65A0W750A
Vmax	1,6 m/s						

VH 500

Special Applications



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		L2		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force			
	mm	inch	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
VH 500 010	10	0.39	108	4.25	88	3.46	45.5	1.79	510	1147	901	2026	0.98	2.16
VH 500 015	15	0.59	118	4.65	93	3.66	55.5	2.19	±5% 130 bar 1885 psi at 20°C 68°F	972	2184	1.01	2.23	
VH 500 025	25	0.98	138	5.43	103	4.06	75.5	2.97		1049	2359	1.09	2.40	
VH 500 038	38	1.50	164	6.46	116	4.57	85.5	3.37		1100	2474	1.18	2.60	
VH 500 050	50	1.97	188	7.40	128	5.04	97.5	3.84		1127	2534	1.27	2.80	
VH 500 080	80	3.15	248	9.76	158	6.22	127.5	5.02		1163	2614	1.50	3.31	
VH 500 100	100	3.94	288	11.34	178	7.01	147.5	5.81		1175	2643	1.65	3.64	

MOUNTING OPTIONS

	Base Mount	B31-050 607		Rod Mount	E33-050 606
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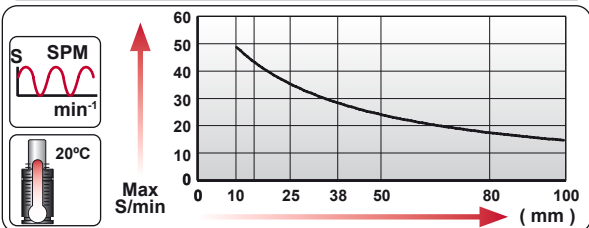
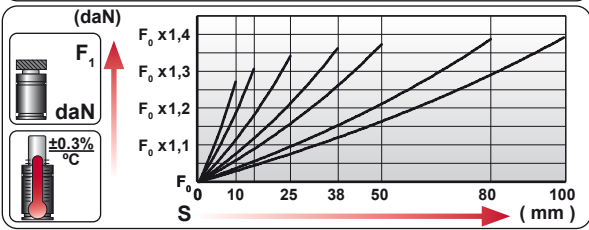
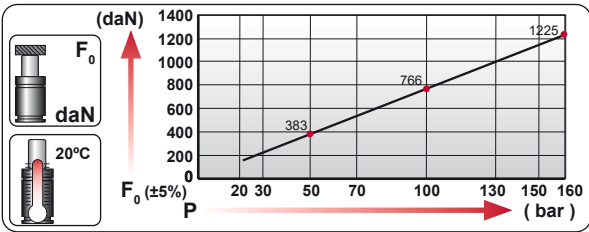
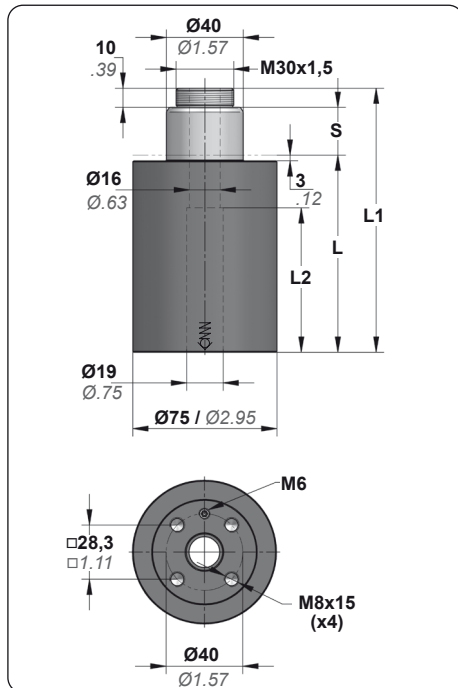
HOW TO ORDER

TECHNICAL DATA		Fluid		Pmin Pmax		20 bar 150 bar		Charging Adapter		06 CG 2-Q	
	N ₂		20°C / 68°F	290 psi	2175 psi						
	Smax < 90%		Tmin Tmax	0 °C	80 °C						X
	Vmax 0,5 m/s		Force variation by temperature	32 °F	176 °F						3044D250A
			±0,3% / °C								



VH 1200

Special Applications



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		L2		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force			
	mm	inch	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
VH 1200 010	10	0.39	108	4.25	88	3.46	45.5	1.79	1225	2754	1898	4266	2.37	5.22
VH 1200 015	15	0.59	118	4.65	93	3.66	55.5	2.19	±5% 160 bar 2320 psi at 20°C 68°F	2001	4499	2.45	5.40	
VH 1200 025	25	0.98	138	5.43	103	4.06	75.5	2.97		2111	4746	2.63	5.80	
VH 1200 038	38	1.50	164	6.46	116	4.57	85.5	3.37		2180	4901	2.86	6.31	
VH 1200 050	50	1.97	188	7.40	128	5.04	97.5	3.84		2216	4981	3.08	6.79	
VH 1200 080	80	3.15	248	9.76	158	6.22	127.5	5.02		2262	5085	3.61	7.96	
VH 1200 100	100	3.94	288	11.34	178	7.01	147.5	5.81		2278	5122	3.97	8.75	

MOUNTING OPTIONS

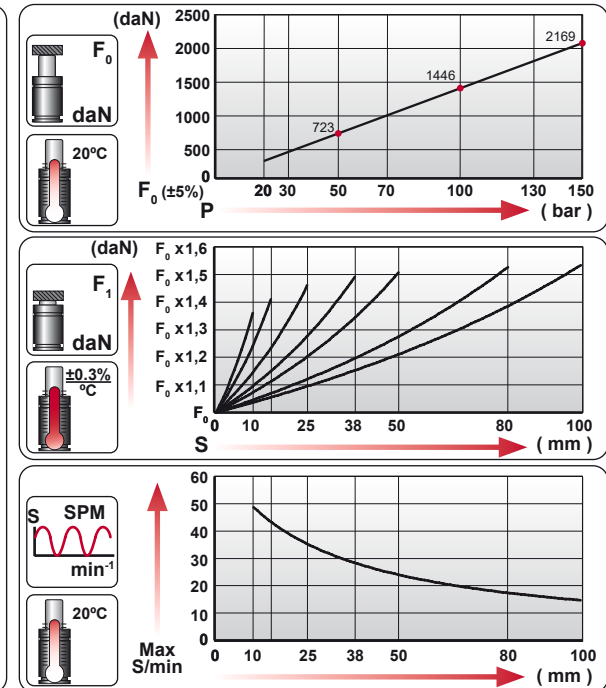
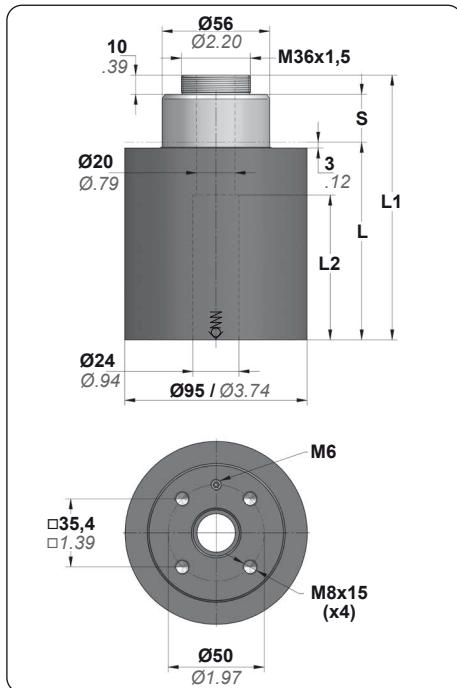
	Base Mount	B31-075	607		E33-075	606
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HOW TO ORDER

TECHNICAL DATA		Fluid		Pmin Pmax		20 bar 160 bar		Charging Adapter		06 CG 2-Q	
	N ₂		20°C / 68°F	290 psi	2320 psi						
	< 90%		Tmin Tmax	0 °C	80 °C						X
	0,5 m/s		Force variation by temperature	32 °C	176 °F						40633250A
				±0,3% / °C							

VH 2200

Special Applications



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		L2		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force			
	mm	inch	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
VH 2200 010	10	0.39	108	4.25	88	3.46	45.5	1.79	2168	4874	3979	8945	3.88	8.55
VH 2200 015	15	0.59	118	4.65	93	3.66	55.5	2.19	±5% 150 bar 2175 psi at 20°C 68°F	4320	9712	4.04	8.91	
VH 2200 025	25	0.98	138	5.43	103	4.06	75.5	2.97		4702	10572	4.36	9.61	
VH 2200 038	38	1.50	164	6.46	116	4.57	85.5	3.37		4957	11143	4.77	10.52	
VH 2200 050	50	1.97	188	7.40	128	5.04	97.5	3.84		5092	11447	5.16	11.38	
VH 2200 080	80	3.15	248	9.76	158	6.22	127.5	5.02		5271	11849	6.12	13.49	
VH 2200 100	100	3.94	288	11.34	178	7.01	147.5	5.81		5335	11994	6.76	14.90	

MOUNTING OPTIONS

	Base Mount	B31-095 607		Rod Mount	E33-095 606
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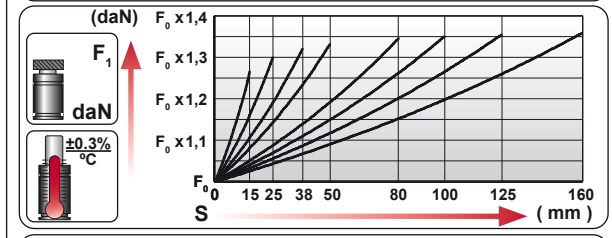
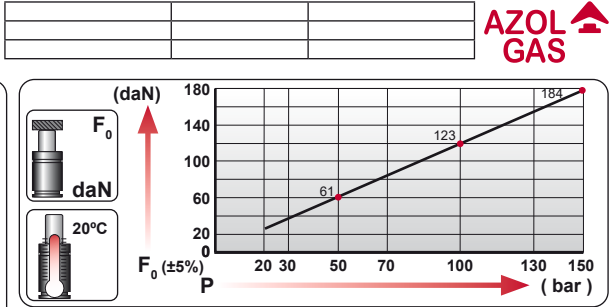
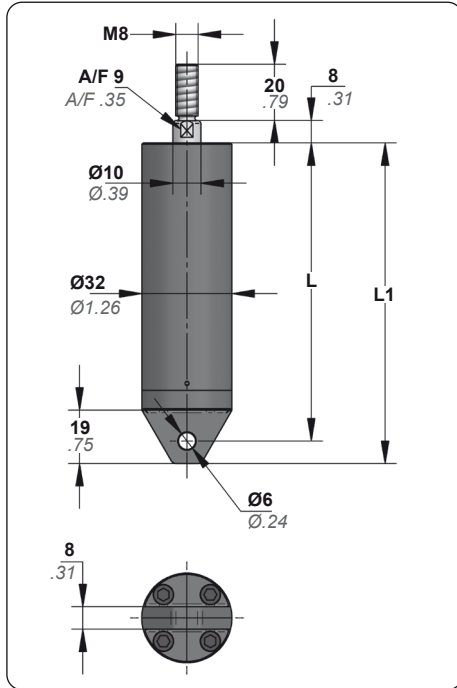
HOW TO ORDER

TECHNICAL DATA		Fluid		Pmin Pmax		20 bar 150 bar		Charging Adapter		06 CG 2-Q	
	N ₂		20°C / 68°F	290 psi	2175 psi						
	Smax < 90%		Tmin Tmax	0°C	80°C						X
	Vmax 0,5 m/s		Force variation by temperature	32°F	176°F						56803250A
			±0,3% / °C								



ART 180

Special Applications



VDI SAFETY

STANDARS

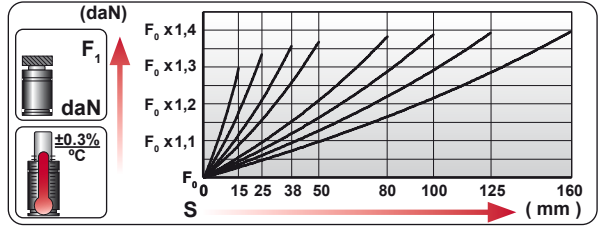
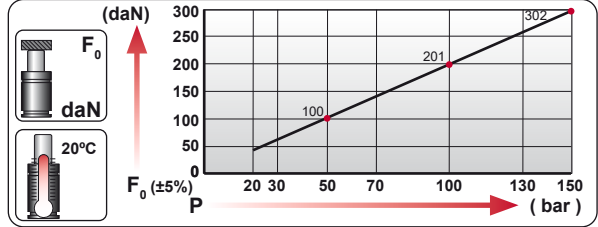
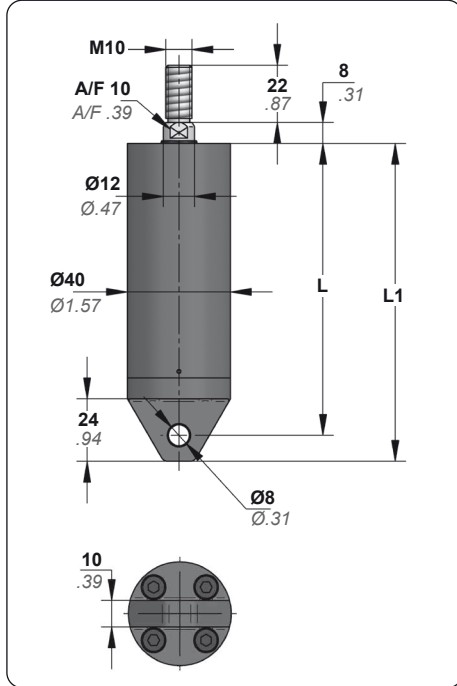
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ART 180 015	15	0.59	114	4.49	106	4.17	180	405	286	643	8	0.5	0.52	1.15
ART 180 025	25	0.98	134	5.28	126	4.96	±5% 150 bar 2175 psi at 20°C 68°F	254	572	17	1.0	0.59	1.30	
ART 180 038	38	1.50	160	6.30	152	5.98		245	550	29	1.8	0.67	1.48	
ART 180 050	50	1.97	184	7.24	176	6.93		241	541	40	2.4	0.74	1.63	
ART 180 080	80	3.15	244	9.61	236	9.29		237	533	67	4.1	0.93	2.05	
ART 180 100	100	3.94	284	11.18	276	10.87		236	530	85	5.2	1.06	2.34	
ART 180 125	125	4.92	334	13.15	326	12.83		235	528	108	6.6	1.21	2.67	
ART 180 160	160	6.30	404	15.91	396	15.59		234	526	139	8.5	1.43	3.15	

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax	20 bar 290 psi	150 bar 2175 psi		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Charging Adapter	18 CG 1-Q		
	Smax	< 90%		Force variation by temperature	±0,3% / °C			Connection	X						
	Vmax	0,5 m/s		Cartridge Kit	1026B265P										



ART 300

Special Applications



VDI SAFETY

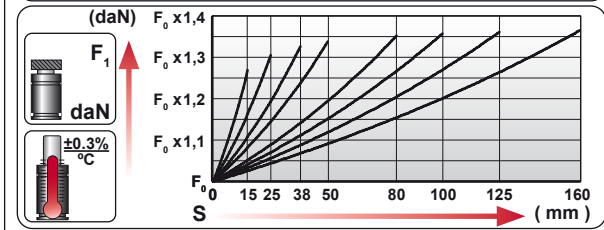
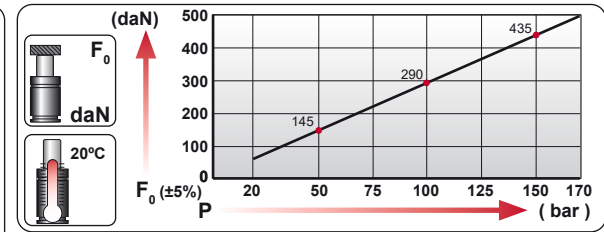
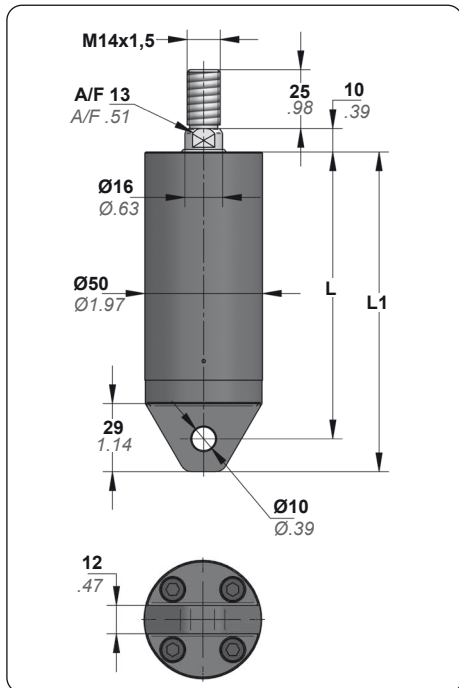
STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ART 300 015	15	0.59	122	4.80	112	4.41	300	674	347	781	12	0.8	0.83	1.83
ART 300 025	25	0.98	142	5.59	132	5.20	±5% 150 bar 2175 psi at 20°C 68°F		336	756	26	1.6	0.93	2.05
ART 300 038	38	1.50	168	6.61	158	6.22			332	747	44	2.7	1.05	2.31
ART 300 050	50	1.97	192	7.56	182	7.17			331	744	61	3.7	1.17	2.58
ART 300 080	80	3.15	252	9.92	242	9.53			329	740	102	6.2	1.46	3.22
ART 300 100	100	3.94	292	11.50	282	11.10			329	739	130	7.9	1.65	3.64
ART 300 125	125	4.92	342	13.46	332	13.07			328	738	164	10.0	1.89	4.17
ART 300 160	160	6.30	412	16.22	402	15.83			328	737	213	13.0	2.23	4.92

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 150 bar		Tmin Tmax	20°C 80°C		Smax	< 90%		Charging Adapter	18 CG 1-Q
	Tmin Tmax	32°F 176°F		Force variation by temperature	±0,3% / °C		Connection	X		Cartridge Kit	1232E270P			

ART 500

Special Applications



VDI SAFETY

STANDARS

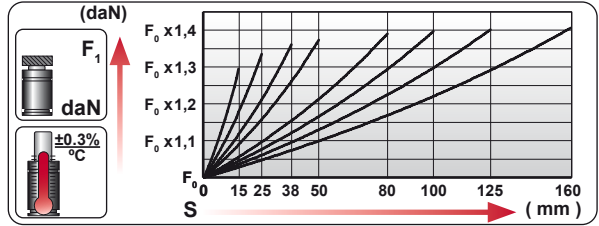
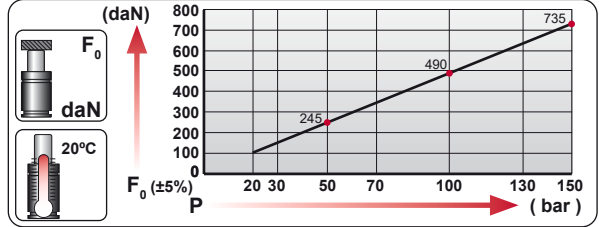
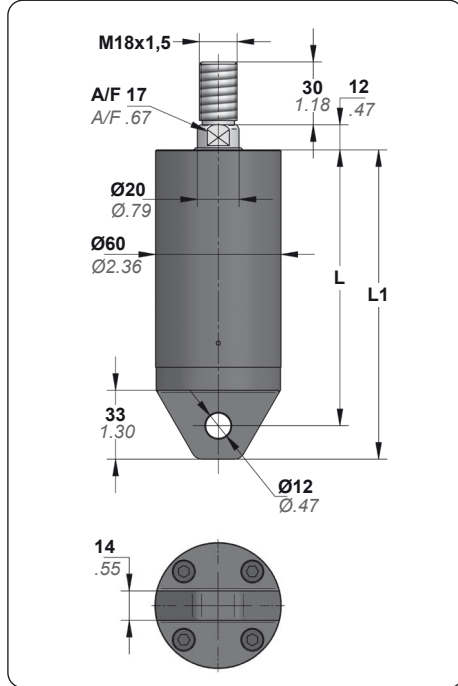
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ART 500 015	15	0.59	136	5.35	122	4.80	500 170 bar 2465 psi at 20°C 68°F	1124	594	1336	19	1.2	1.50	3.31
ART 500 025	25	0.98	156	6.14	142	5.59		572	1285	40	2.4	1.64	3.62	
ART 500 038	38	1.50	182	7.17	168	6.61		564	1267	68	4.1	1.82	4.01	
ART 500 050	50	1.97	206	8.11	192	7.56		561	1260	93	5.7	1.99	4.39	
ART 500 080	80	3.15	266	10.47	252	9.92		557	1253	156	9.5	2.41	5.31	
ART 500 100	100	3.94	306	12.05	292	11.50		556	1251	198	12.1	2.69	5.93	
ART 500 125	125	4.92	356	14.02	342	13.46		556	1249	251	15.3	3.05	6.72	
ART 500 160	160	6.30	426	16.77	412	16.22	555	1247	325	19.8	3.54	7.80		

TECHNICAL DATA														
	Fluid	N ₂		Pmin Pmax	20 bar 170 bar	290 psi 2465 psi		Tmin Tmax	0 °C 80 °C	32 °F 176 °F		Charging Adapter	18 CG 1-Q	
	Smax	< 90%		Force variation by temperature	±0,3% / °C			Connection	X			Cartridge Kit	1640N230P	
	Vmax	0,5 m/s												



ART 750

Special Applications



VDI SAFETY

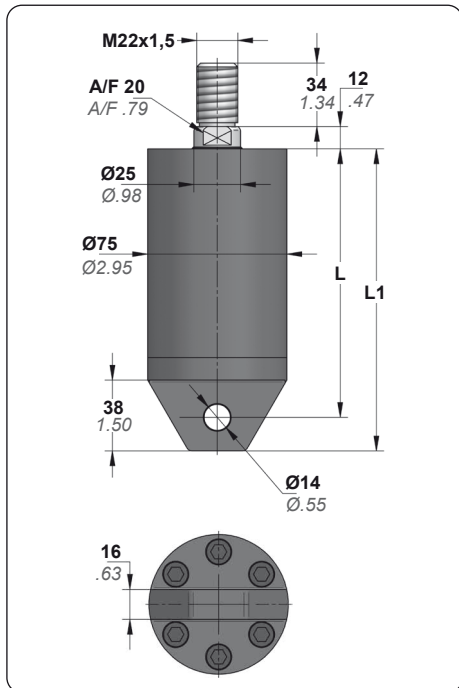
STANDARS

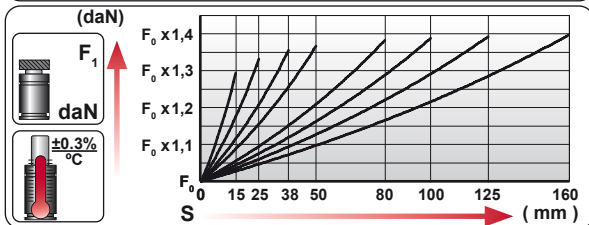
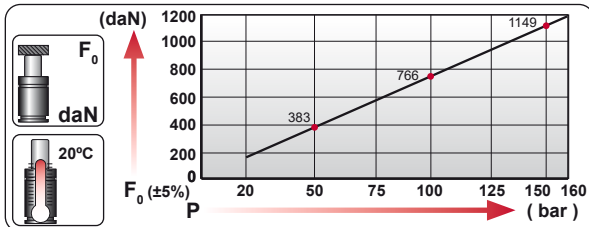
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ART 750 015	15	0.59	148	5.83	132	5.20	735	1652	874	1964	30	1.8	2.32	5.11
ART 750 025	25	0.98	168	6.61	152	5.98	±5% 150 bar 2175 psi at 20°C 68°F		840	1889	63	3.8	2.52	5.56
ART 750 038	38	1.50	194	7.64	178	7.01			829	1863	106	6.4	2.77	6.11
ART 750 050	50	1.97	218	8.58	202	7.95			824	1853	145	8.9	3.00	6.61
ART 750 080	80	3.15	278	10.94	262	10.31			819	1842	244	14.9	3.59	7.91
ART 750 100	100	3.94	318	12.52	302	11.89			818	1839	310	18.9	3.98	8.77
ART 750 125	125	4.92	368	14.49	352	13.86			817	1836	393	24.0	4.47	9.85
ART 750 160	160	6.30	438	17.24	422	16.61			816	1834	508	31.0	5.16	11.38

TECHNICAL DATA															
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Tmin Tmax 32 °F / 176 °F	80 °C		Charging Adapter	18 CG 1-Q			
	Smax	< 90%		Force variation by temperature	±0,3% / °C			Connection	X						
	Vmax	0,5 m/s		Cartridge Kit	2050N240P										

ART 1200

Special Applications





VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
ART 1200 015	15	0.59	162	6.38	144	5.67	1200	2698	1421	3195	47	2.9	4.01	8.84
ART 1200 025	25	0.98	182	7.17	164	6.46	±5% 160 bar 2320 psi at 20°C 68°F		1368	3076	100	6.1	4.33	9.55
ART 1200 038	38	1.50	208	8.19	190	7.48			1350	3034	168	10.3	4.74	10.45
ART 1200 050	50	1.97	232	9.13	214	8.43			1343	3018	231	14.1	5.12	11.29
ART 1200 080	80	3.15	292	11.50	274	10.79			1335	3001	389	23.7	6.06	13.36
ART 1200 100	100	3.94	332	13.07	314	12.36			1332	2996	494	30.1	6.69	14.75
ART 1200 125	125	4.92	382	15.04	364	14.33			1331	2991	625	38.1	7.48	16.49
ART 1200 160	160	6.30	452	17.80	434	17.09			1329	2988	809	49.4	8.58	18.92

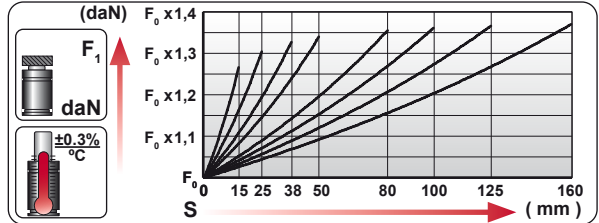
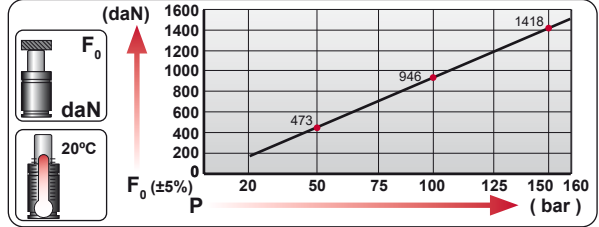
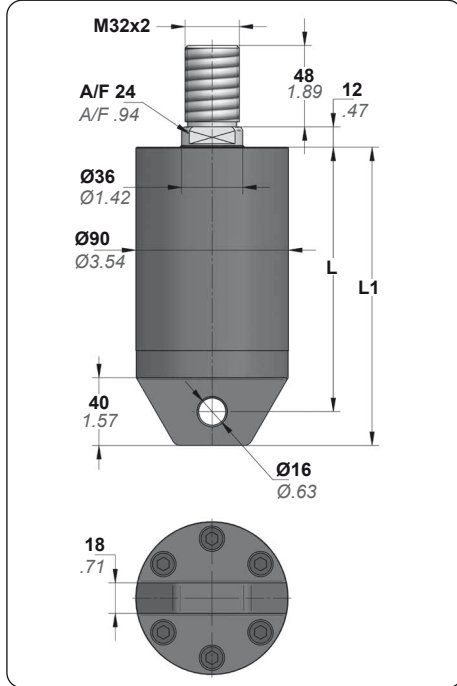
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar 160 bar 290 psi 2320 psi	20°C / 68°F	Charging Adapter	18 CG 1-Q
Smax	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Force variation by temperature	Connection	X
Vmax	0,5 m/s		±0,3% / °C		Cartridge Kit	25638320P



ART 1500

Special Applications



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.		Kg.	lb
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³		
ART 1500 015	15	0.59	176	6.93	156	6.14	1500 ±5% 160 bar 2320 psi at 20°C 68°F	3372	1999	4493	61	3.7	6.56	14.46
ART 1500 025	25	0.98	196	7.72	176	6.93		1868	4199	129	7.9	7.02	15.48	
ART 1500 038	38	1.50	222	8.74	202	7.95		1824	4101	218	13.3	7.63	16.82	
ART 1500 050	50	1.97	246	9.69	226	8.90		1807	4063	299	18.3	8.19	18.06	
ART 1500 080	80	3.15	306	12.05	286	11.26		1790	4023	503	30.7	9.58	21.12	
ART 1500 100	100	3.94	346	13.62	326	12.83		1784	4011	639	39.0	10.51	23.17	
ART 1500 125	125	4.92	396	15.59	376	14.80		1780	4001	809	49.4	11.68	25.75	
ART 1500 160	160	6.30	466	18.35	446	17.56		1776	3993	1047	63.9	13.30	29.32	

TECHNICAL DATA													
Fluid	N ₂	Pmin Pmax	20°C / 68°F	20 bar / 290 psi	160 bar / 2320 psi	Charging Adapter	18 CG 1-Q						
Smax	< 90%	Tmin Tmax	0°C / 32°F	80°C / 176°F	Connection	X							
Vmax	0,5 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	36758290P							



GAS SPRINGS

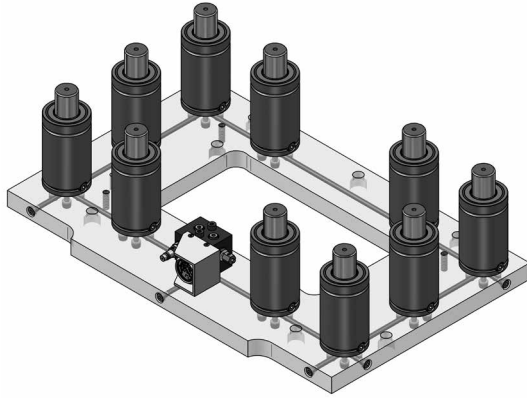


AZOL GAS



EASY & READY MANIFOLD (-ER)

- Consistent force and reduced pressure increase
- More compact: higher force in less space
- More simple: hose-free die design
- Quicker delivery and easier installation
- Cost effective alternative to manifold
- Leak-free tested and ready to be installed



TECHNICAL DATA

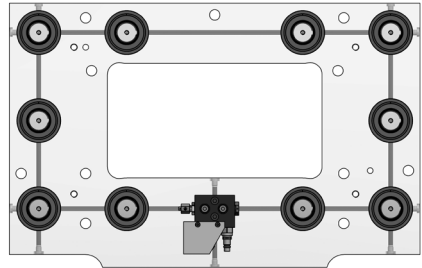
- All benefits of self-contained gas springs into a linked system.
- Gas springs mounted to a customer specified plate.
- Valveless gas springs fixed by screws on a low thickness plate.
- Bottom port gas springs attached to the plate with sealing washers.
- Connecting holes are drilled within the plate (uniform pressure).
- Filling, draining and monitoring from control panel.

ADVANTAGES

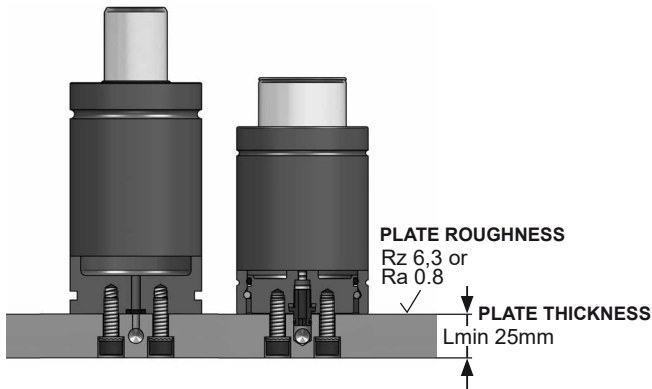
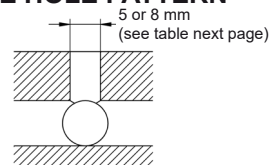
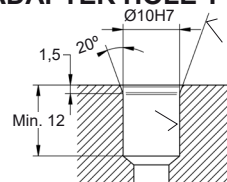
- Conforms VW 39D 22100 Standards.
- Cost effective alternative to manifold.
- More compact: higher force in less space.
- More simple: hose-free die design.
- Easier installation and maintenance.
- Quicker delivery.
- Possibility to keep consistent force and reduce pressure increase.
- Leak-free tested and ready to be installed.

EASY & READY MANIFOLD**-ER MANIFOLD PLATE**

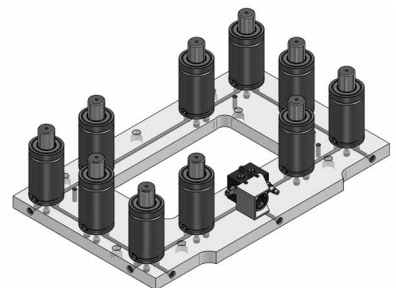
- Avoid blind holes.
- Align gas springs as much as possible.
- Use existing port to mount control panel.
- Avoid interference between cylinder fixing holes and gas ports.



Design guidelines recommended to achieve the best performing solution and the most efficient machining.

HOLE PATTERN**PLATE HOLE PATTERN****ADAPTER HOLE TYPE****-ER MANIFOLD PLATE TECHNICAL DATA**

Pressure Medium:	N2
Min charging pressure:	20 bar / 290 psi
Max charging pressure:	150 bar / 2175 psi
Operating temperature:	0 - 80 °C / 32 - 176 °F
Plate thickness:	Min. 25 mm / 0,98"
Plate wall thickness:	Min. 2,5 mm / 0,098"
Plate fasteners:	Metric High grade bolts
Plate edges:	Burned out
Plate drilled holes:	5 mm / 8 mm



When quoting -ER manifold plate, please provide with CAD files and detailed plate information.

-ER GAS SPRINGS

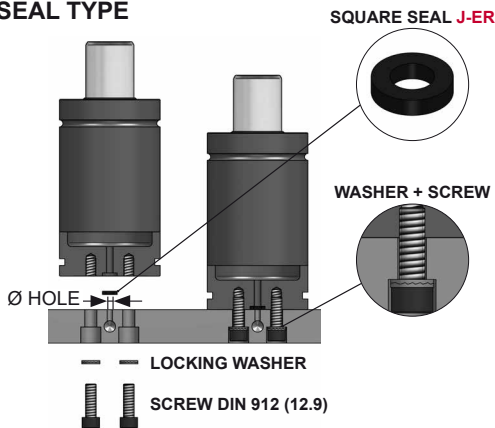
MODEL	THREAD	Ø HOLE	SEAL / ADAPTER	TORQUE (Nm)
AG-ER 1500	M8	8	J-ER-9	38
AG-ER 3000	M8	8	J-ER-9	38
AG-ER 5000	M10	8	J-ER-9	75
AG-ER 7500	M10	8	J-ER-9	75
AG-ER 10000	M12	8	J-ER-9	128
CD-ER 1500 V2	M8	5	J-ER-6	38
CD-ER 2400	M8	8	J-ER-9	38
CD-ER 4200	M8	8	J-ER-9	38
CD-ER 6600	M10	8	J-ER-9	75
CD-ER 9600	M10	8	J-ER-9	75
CD-ER 18500	M12	8	J-ER-9	128
KZ-ER 1500 V1	M8	5	J-ER-6	38
KZ-ER 2400	M8	8	J-ER-9	38
KZ-ER 4200	M8	8	J-ER-9	38
KZ-ER 6600	M10	8	J-ER-9	75

MODEL	THREAD	Ø HOLE	SEAL / ADAPTER	TORQUE (Nm)
CW-ER 1500 V1	M8	5	J-ER-6	38
CW-ER 2400 V1	M8	8	J-ER-9	38
CW-ER 4200 V1	M8	8	J-ER-9	38
CW-ER 6600	M10	8	J-ER-9	75
CW-ER 9500	M10	8	J-ER-9	75
CW-ER 11800	M10	8	J-ER-9	75
CW-ER 20000	M12	8	J-ER-9	128
CS-ER 1800 V1	M6	10	T-ER	15
CS-ER 3000 V2	M8	10	T-ER	38
CS-ER 4700 V1	M8	10	T-ER	38
CS-ER 7500 V1	M8	10	T-ER	38
CS-ER 11800 V1	M10	10	T-ER	75
CS-ER 18300 V1	M10	10	T-ER	75

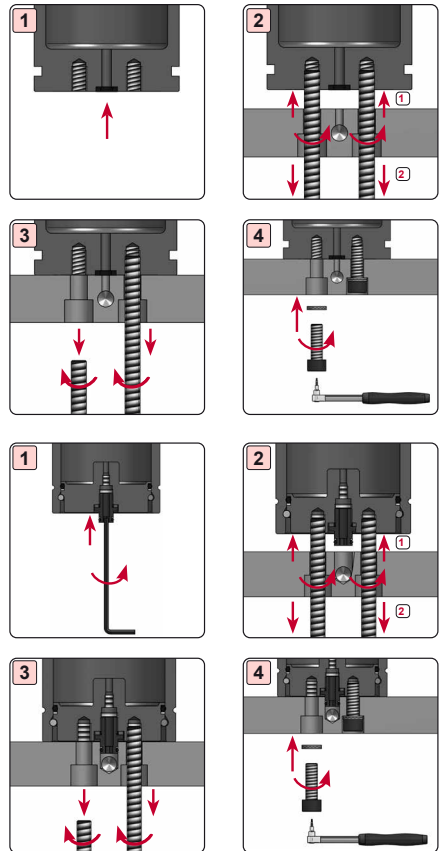
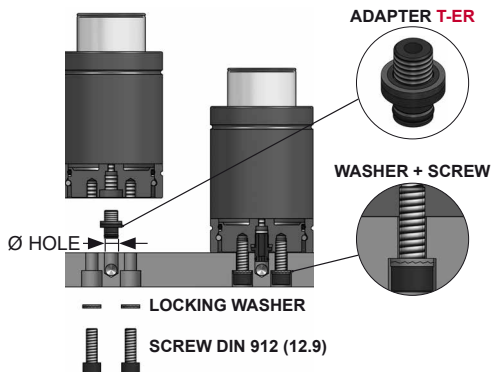
Recommended gas springs to be used in ER manifold plates, other gas springs under request.
-ER gas springs are supplied with the corresponding seal J-ER / adapter T-ER

-ER GAS SPRINGS SEALING AND MOUNTING

SEAL TYPE



ADAPTER TYPE

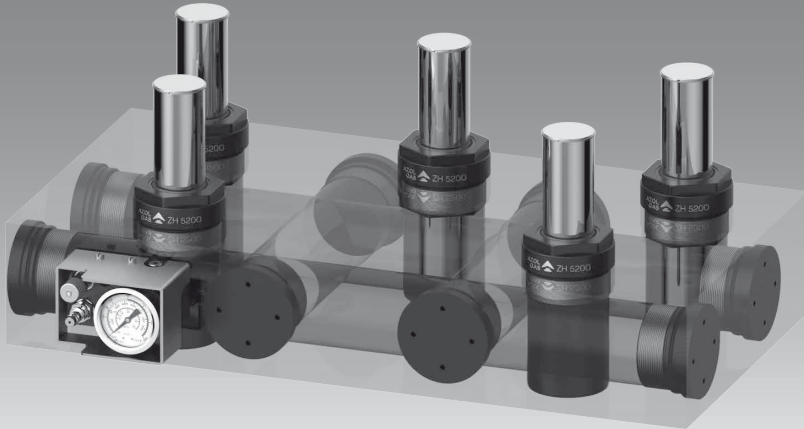




GAS SPRINGS



AZOL 
GAS



MANIFOLD (SERIES Z)

- High initial force in a limited space
- Lower compression rate
- Hose-free system
- Higher performance and lifetime
- High precision and complex tooling
- High efficiency and low maintenance



ADVANTAGES OF MANIFOLD SYSTEMS

AZOLGAS manifold systems are **suitable for tools** demanding:

- High initial **force** in limited space
- High **performance** and lifetime
- High **precision** and complex tooling
- High **efficiency** and low maintenance

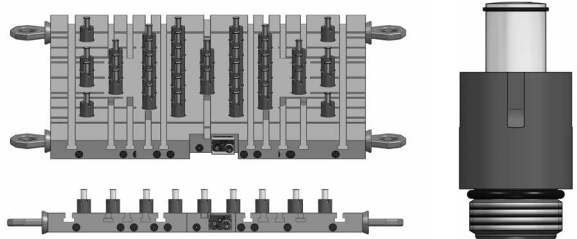
Feature

- Consistent force
- Lower pressure rise
- Higher forces in less space
- Lower compression rate
- Balanced force
- Hose-free system
- Easy adjustable force
- Distribution of pressure points

Advantage

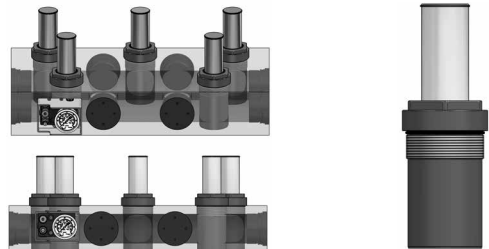
- for long-term performance to improve metal part forming
- to improve metal part forming for a cost-effective die construction
- to reduce press wearing
- to increase productivity
- to minimize leaking points
- to reduce maintenance timing
- for press versatility

ZP / ZR / ZB / ZC / ZF



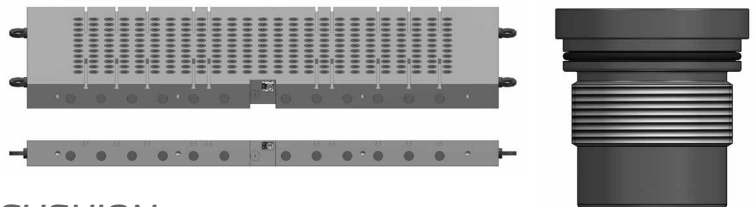
MANIFOLD

ZH



MANIFOLD HIGH FORCE

ZT







MANIFOLD DIE CUSHION



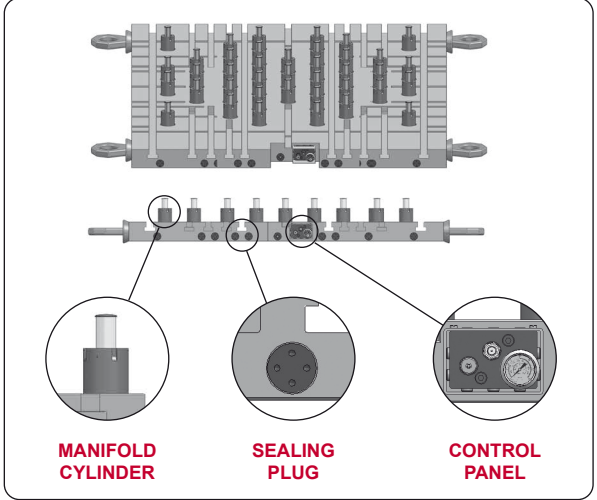
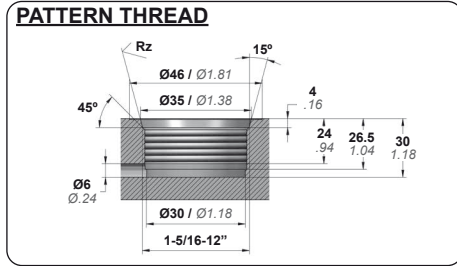
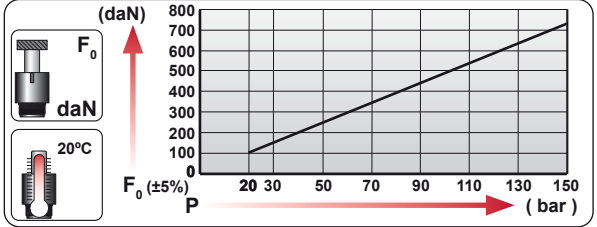
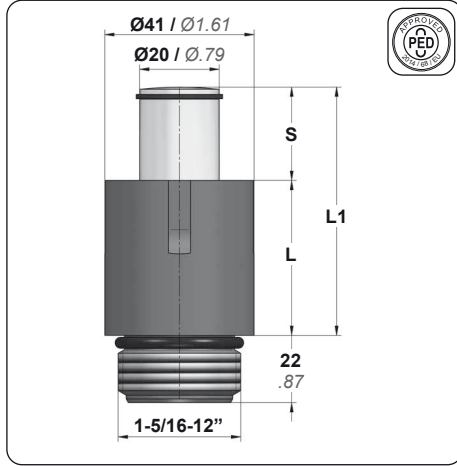
MODEL	F ₀ daN lb	Thread	S mm inch	L1 mm inch	Pmax bar psi	Sealing Area mm ² inch ²
ZP 750	750 1686	1 - 5/16 - 12"	6.3 - 101.6 0.25 - 4.00	29.5 - 220.0 1.16 - 8.66	150 2175	4.91 0.76
ZP 1500	1500 3372	1 - 7/8 - 12"	12.7 - 127 0.5 - 5.00	48.5 - 277.1 1.91 - 10.91	150 2175	9.62 1.49
ZP 3000	3500 7868	2 - 1/2 - 12"	12.7 - 152.4 0.5 - 6.00	48.5 - 327.9 1.91 - 12.91	150 2175	22.9 3.55
ZP 5000	5000 11240	M82x2	12.7 - 177.8 0.5 - 7.00	48.5 - 378.7 1.91 - 14.91	150 2175	33.18 5.14
ZP 8000	8000 17985	M100x2	12.7 - 203.2 0.5 - 8.00	48.5 - 429.5 1.91 - 16.91	150 2175	50.27 7.79

- Large cylinder used where space is not an issue
- Threads available in inch/metric size
- Wide range of strokes available (6-203 mm)
- Extended range of forces (750-8000 daN)

	6.3 - 101.6 12.7 - 127 12.7 - 152.4 12.7 - 177.8 12.7 - 203.2	6.3 - 101.6 25.4 - 127 25.4 - 152.4 25.4 - 177.8 25.4 - 203.2	100 - 200 100 - 250 100 - 250	25 - 100 25 - 100 25 - 100	20 100 - 200
	1-5/16-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	1-5/8-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	M82x2 M100x2 M120x2	M36x2 M48x2 M64x2	M64x2 M82x2
	29.5 - 220.0 48.5 - 277.1 48.5 - 327.9 48.5 - 378.7 48.5 - 429.5	48.5 - 143.8 67.6 - 169.2 67.6 - 194.6 67.6 - 220 67.6 - 245.4	135 - 335 135 - 435 135 - 435	70.5 - 220.5 73.5 - 223.5 73.5 - 223.5	80 175 - 275
	750 1500 3000 5000 8000	750 1500 3000 5000 8000	5200 7700 10700	750 1500 3000	3000 5800
MODEL	ZP 750 ZP 1500 ZP 3000 ZP 5000 ZP 8000	ZR 750 ZR 1500 ZR 3000 ZR 5000 ZR 8000	ZH 5200 ZH 7700 ZH 10700	ZB 750 ZC 1500 ZF 3500	ZT 3000 ZT 5800
SERIES	ZP	ZR	ZH	ZB / ZC / ZF	ZT

ZP 750

Manifold Large



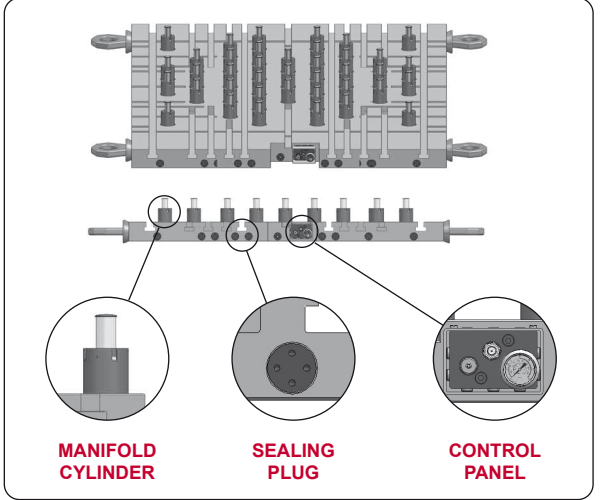
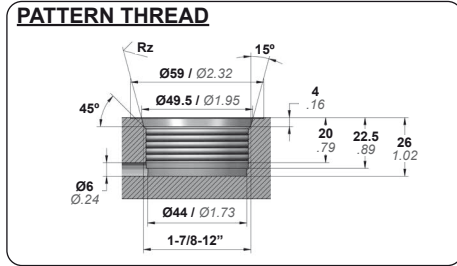
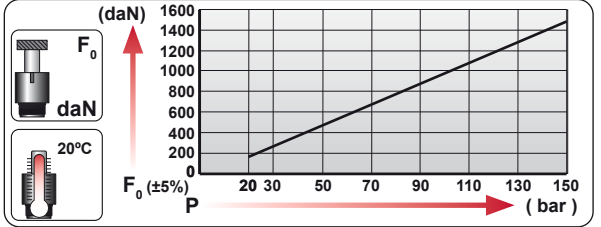
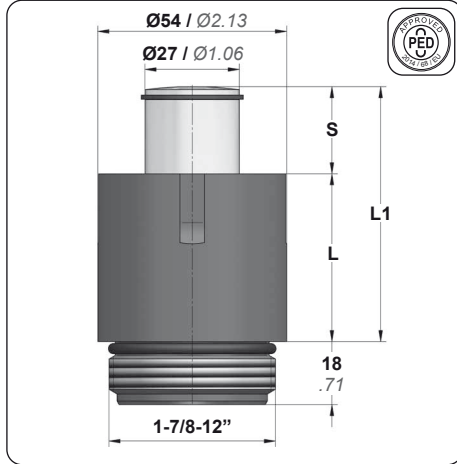
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg.	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb		
ZP 750 006	6.3	0.25	29.5	1.16	23.1	0.91	540	1214	736	1655	0.29	0.64
ZP 750 013	12.7	0.50	42.2	1.66	29.5	1.16					0.35	0.77
ZP 750 019	19.1	0.75	54.9	2.16	35.9	1.41	±5%		±5%		0.40	0.88
ZP 750 025	25.4	1.00	67.6	2.66	42.2	1.66					0.46	1.01
ZP 750 038	38.1	1.50	93.0	3.66	54.9	2.16	110 bar 1595 psi at 20°C 68°F		150 bar 2175 psi at 20°C 68°F		0.58	1.28
ZP 750 051	50.8	2.00	118.4	4.66	67.6	2.66					0.70	1.54
ZP 750 064	63.5	2.50	143.8	5.66	80.3	3.16					0.82	1.81
ZP 750 076	76.2	3.00	169.2	6.66	93.0	3.66					0.93	2.05
ZP 750 089	88.9	3.50	194.6	7.66	105.7	4.16					1.05	2.31
ZP 750 102	101.6	4.00	220.0	8.66	118.4	4.66					1.17	2.58

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	20°C / 68°F	Assembly Tool	LGM 40-42
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Sealing Effective Area	4,91 cm ² 0,76 in ²	
Vmax	0,8 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX	



ZP 1500
Manifold Large



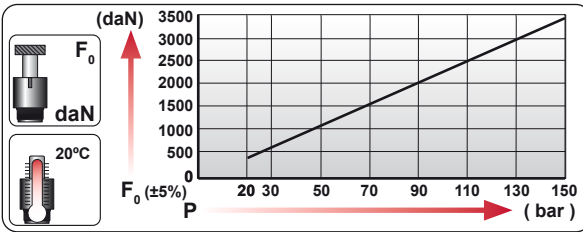
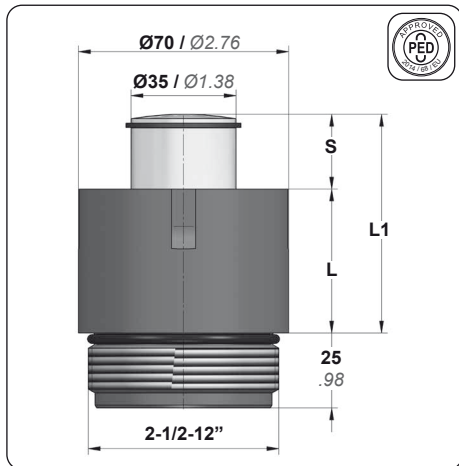
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb		
ZP 1500 013	12.7	0.50	48.5	1.91	35.8	1.41	1060 2383 ±5% 110 bar 1595 psi at 20°C 68°F	2383	1443	3244	0.74	1.63		
ZP 1500 019	19.1	0.75	61.2	2.41	42.2	1.66							0.83	1.83
ZP 1500 025	25.4	1.00	73.9	2.91	48.5	1.91							0.92	2.03
ZP 1500 038	38.1	1.50	99.3	3.91	61.2	2.41							1.11	2.45
ZP 1500 051	50.8	2.00	124.7	4.91	73.9	2.91							1.30	2.87
ZP 1500 064	63.5	2.50	150.1	5.91	86.6	3.41							1.49	3.28
ZP 1500 076	76.2	3.00	175.5	6.91	99.3	3.91							1.67	3.68
ZP 1500 089	88.9	3.50	200.9	7.91	112.0	4.41							1.86	4.10
ZP 1500 102	101.6	4.00	226.3	8.91	124.7	4.91							2.05	4.52
ZP 1500 114	114.3	4.50	251.7	9.91	137.4	5.41							2.23	4.92
ZP 1500 127	127	5.00	277.1	10.91	150.1	5.91							2.42	5.34

TECHNICAL DATA

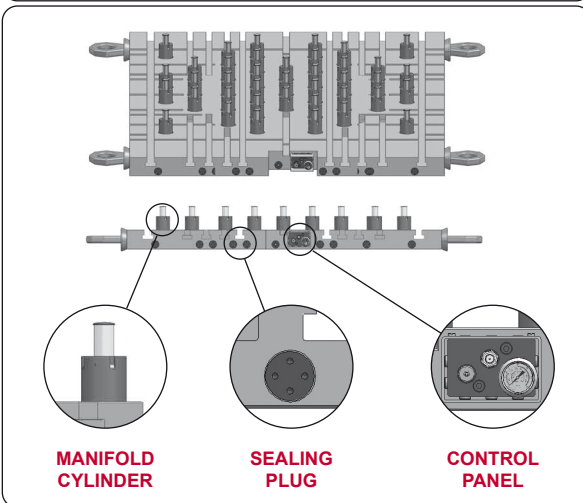
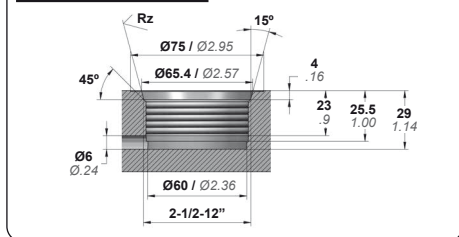
Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F 80 °C / 176 °F	Assembly Tool	LGM 52-55
Smax	< 90%	Force variation by temperature	±0,3% / °C	Sealing Effective Area	9,62 cm ² 1,49 in ²	Seal Kit	S-XXXXXXX
Vmax	0,8 m/s						

ZP 3000

Manifold Large



PATTERN THREAD



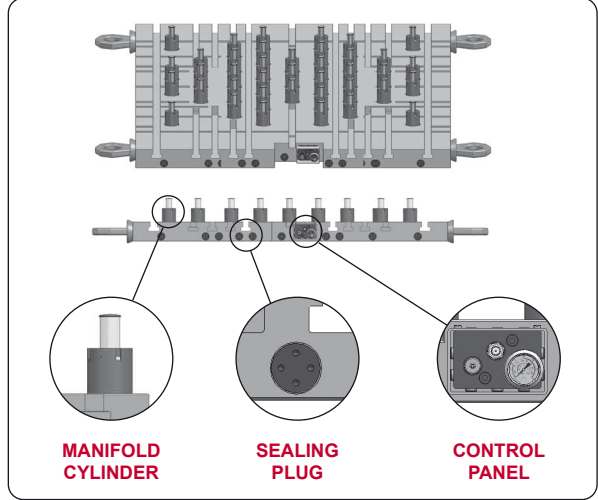
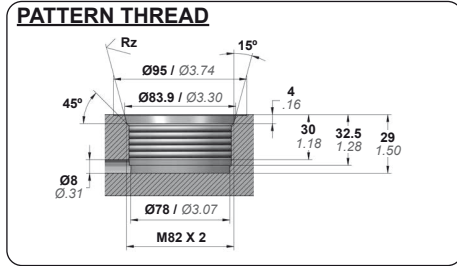
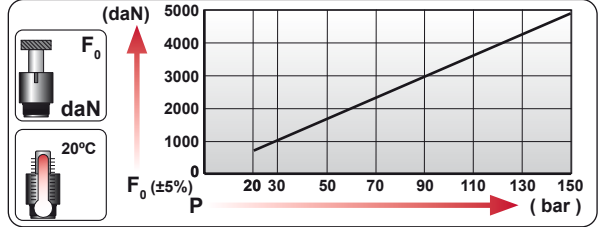
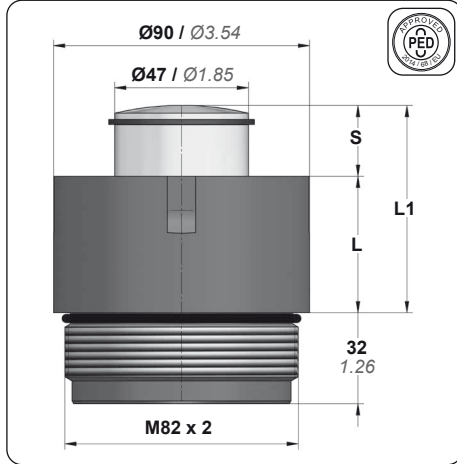
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg.																	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb																		
ZP 3000 013	12.7	0.50	48.5	1.91	35.8	1.41	2520 5665	5665	3435	7722	1.34	2.95																
ZP 3000 019	19.1	0.75	61.2	2.41	42.2	1.66							±5%	±5%														
ZP 3000 025	25.4	1.00	73.9	2.91	48.5	1.91									110 bar 1595 psi at 20°C 68°F	150 bar 2175 psi at 20°C 68°F												
ZP 3000 038	38.1	1.50	99.3	3.91	61.2	2.41											2.34	5.16										
ZP 3000 051	50.8	2.00	124.7	4.91	73.9	2.91													2.58	5.69								
ZP 3000 064	63.5	2.50	150.1	5.91	86.6	3.41															2.83	6.24						
ZP 3000 076	76.2	3.00	175.5	6.91	99.3	3.91																	3.09	6.81				
ZP 3000 089	88.9	3.50	200.9	7.91	112.0	4.41																			3.32	7.32		
ZP 3000 102	101.6	4.00	226.3	8.91	124.7	4.91																					3.57	7.87
ZP 3000 114	114.3	4.50	251.7	9.91	137.4	5.41																						
ZP 3000 127	127	5.00	277.1	10.91	150.1	5.91	4.06	8.95																				
ZP 3000 140	139.7	5.50	302.5	11.91	162.8	6.41																						
ZP 3000 152	152.4	6.00	327.9	12.91	175.5	6.91																						

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Assembly Tool	LGM 68-75
Smax	< 90%	Force variation by temperature	±0,3% / °C		Sealing Effective Area	22,9 cm ² 3,55 in ²		Seal Kit	S-XXXXXXX
Vmax	0,8 m/s								



ZP 5000
Manifold Large



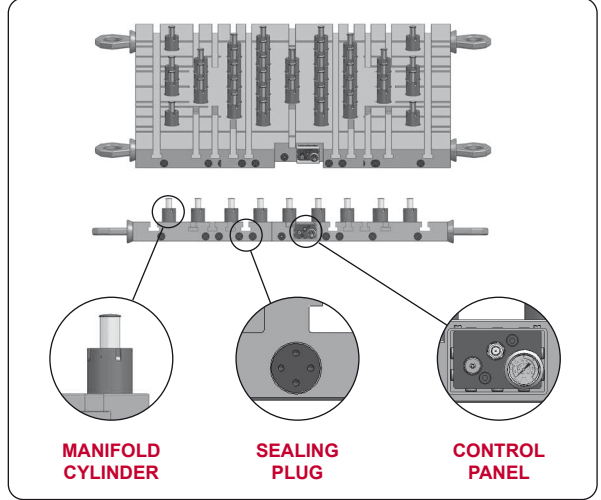
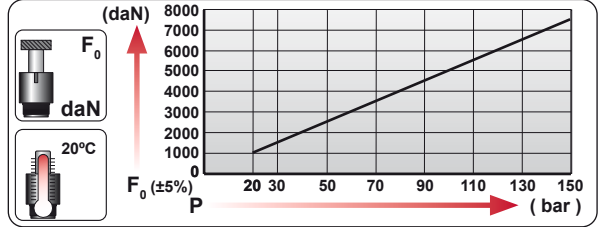
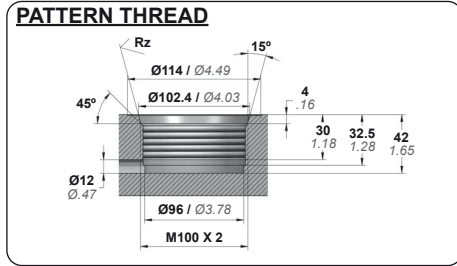
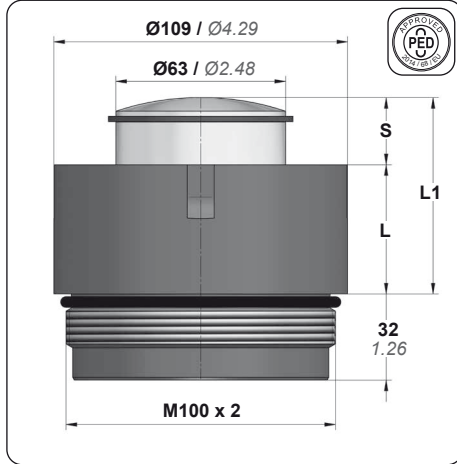
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb		
ZP 5000 013	12.7	0.50	48.5	1.91	35.8	1.41	3650 8206		4977	11189	2.57	5.67
ZP 5000 019	19.1	0.75	61.2	2.41	42.2	1.66					2.79	6.15
ZP 5000 025	25.4	1.00	73.9	2.91	48.5	1.91					3.01	6.64
ZP 5000 038	38.1	1.50	99.3	3.91	61.2	2.41					3.50	7.72
ZP 5000 051	50.8	2.00	124.7	4.91	73.9	2.91					3.98	8.77
ZP 5000 064	63.5	2.50	150.1	5.91	86.6	3.41					4.47	9.85
ZP 5000 076	76.2	3.00	175.5	6.91	99.3	3.91					4.91	10.82
ZP 5000 089	88.9	3.50	200.9	7.91	112.0	4.41					5.40	11.90
ZP 5000 102	101.6	4.00	226.3	8.91	124.7	4.91					5.88	12.96
ZP 5000 114	114.3	4.50	251.7	9.91	137.4	5.41					6.33	13.96
ZP 5000 127	127	5.00	277.1	10.91	150.1	5.91	6.82	15.04				
ZP 5000 140	139.7	5.50	302.5	11.91	162.8	6.41	7.30	16.09				
ZP 5000 152	152.4	6.00	327.9	12.91	175.5	6.91	7.75	17.09				
ZP 5000 165	165.1	6.50	353.3	13.91	188.2	7.41	8.23	18.14				
ZP 5000 178	177.8	7.00	378.7	14.91	200.9	7.91	8.72	19.22				

TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Assembly Tool	LGM 80-90
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Sealing Effective Area	33,18 cm ² 5,14 in ²
Vmax	0,8 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

ZP 8000

Manifold Large



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg.																											
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb																												
ZP 8000 013	12.7	0.50	48.5	1.91	35.8	1.41	5550 12477		7540	16951	3.82	8.42																										
ZP 8000 019	19.1	0.75	61.2	2.41	42.2	1.66							110 bar 1595 psi at 20°C 68°F	150 bar 2175 psi at 20°C 68°F	4.17	9.19																						
ZP 8000 025	25.4	1.00	73.9	2.91	48.5	1.91											6.03	13.29																				
ZP 8000 038	38.1	1.50	99.3	3.91	61.2	2.41													6.78	14.95																		
ZP 8000 051	50.8	2.00	124.7	4.91	73.9	2.91															7.48	16.49																
ZP 8000 064	63.5	2.50	150.1	5.91	86.6	3.41																	8.23	18.14														
ZP 8000 076	76.2	3.00	175.5	6.91	99.3	3.91																			8.99	19.82												
ZP 8000 089	88.9	3.50	200.9	7.91	112.0	4.41																					9.68	21.34										
ZP 8000 102	101.6	4.00	226.3	8.91	124.7	4.91																							10.44	23.02								
ZP 8000 114	114.3	4.50	251.7	9.91	137.4	5.41																									11.19	24.67						
ZP 8000 127	127	5.00	277.1	10.91	150.1	5.91																											11.89	26.21				
ZP 8000 140	139.7	5.50	302.5	11.91	162.8	6.41																													12.64	27.87		
ZP 8000 152	152.4	6.00	327.9	12.91	175.5	6.91																															13.40	29.54
ZP 8000 165	165.1	6.50	353.3	13.91	188.2	7.41																																
ZP 8000 178	177.8	7.00	378.7	14.91	200.9	7.91	14.85	32.74																														
ZP 8000 191	190.5	7.50	404.1	15.91	213.6	8.41																																
ZP 8000 203	203.2	8.00	429.5	16.91	226.3	8.91																																





TECHNICAL DATA											
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Assembly Tool	LGM 110-115		
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Sealing Effective Area	50,27 cm ² 7,79 in ²		
	Vmax	0,8 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX		





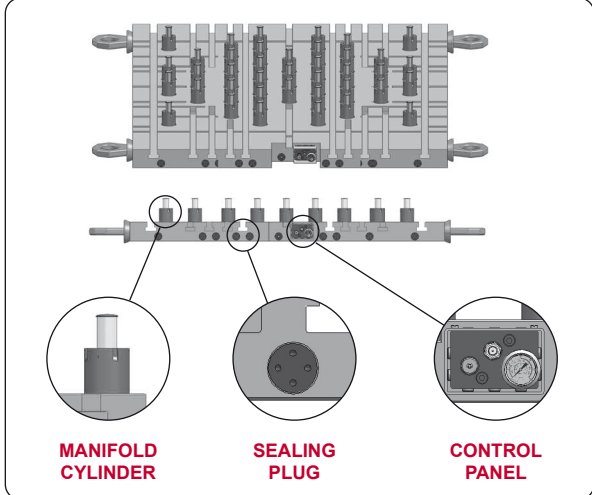
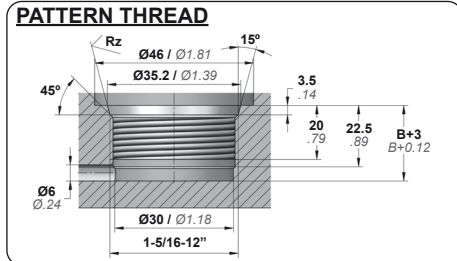
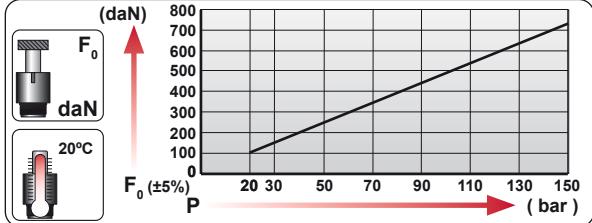
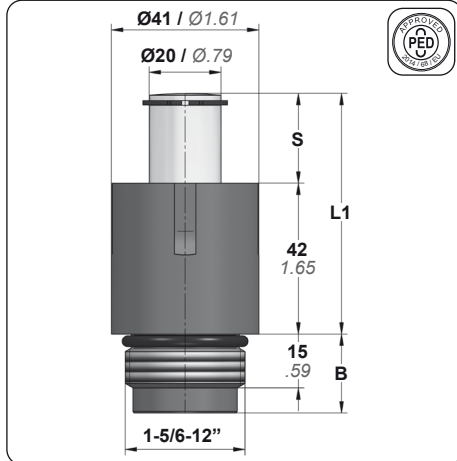
MODEL	F ₀ daN lb	Thread	S mm inch	L1 mm inch	Pmax bar psi	Sealing Area mm ² inch ²
ZR 750	750 1686	1 - 5/16 - 12"	6.3 - 101.6 0.25 - 4.00	48.5 - 143.8 1.91 - 5.66	150 2175	4.91 0.76
ZR 1500	1500 3372	1 - 7/8 - 12"	25.4 - 127 1.00 - 5.00	67.6 - 169.2 2.66 - 6.66	150 2175	9.62 1.49
ZR 3000	3000 6744	2 - 1/2 - 12"	25.4 - 152.4 1.00 - 6.00	67.6 - 194.6 2.66 - 7.66	150 2175	22.9 3.55
ZR 5000	5000 11240	M82x2	25.4 - 177.8 1.00 - 7.00	67.6 - 220 2.66 - 8.66	150 2175	33.18 5.14
ZR 8000	8000 17985	M100x2	25.4 - 203.2 1.00 - 8.00	67.6 - 245.4 2.66 - 9.66	150 2175	50.27 7.79

- Shorter cylinder than ZP used where height is important
- Threads available in inch/metric size
- Wide range of strokes available (6-203 mm)
- Extended range of forces (750-8000 daN)

	6.3 - 101.6 12.7 - 127 12.7 - 152.4 12.7 - 177.8 12.7 - 203.2	6.3 - 101.6 25.4 - 127 25.4 - 152.4 25.4 - 177.8 25.4 - 203.2	100 - 200 100 - 250 100 - 250	25 - 100 25 - 100 25 - 100	20 100 - 200
	1-5/16-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	1-5/8-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	M82x2 M100x2 M120x2	M36x2 M48x2 M64x2	M64x2 M82x2
	29.5 - 220.0 48.5 - 277.1 48.5 - 327.9 48.5 - 378.7 48.5 - 429.5	48.5 - 143.8 67.6 - 169.2 67.6 - 194.6 67.6 - 220 67.6 - 245.4	135 - 335 135 - 435 135 - 435	70.5 - 220.5 73.5 - 223.5 73.5 - 223.5	80 175 - 275
	750 1500 3000 5000 8000	750 1500 3000 5000 8000	5200 7700 10700	750 1500 3000	3000 5800
MODEL	ZP 750 ZP 1500 ZP 3000 ZP 5000 ZP 8000	ZR 750 ZR 1500 ZR 3000 ZR 5000 ZR 8000	ZH 5200 ZH 7700 ZH 10700	ZB 750 ZC 1500 ZF 3500	ZT 3000 ZT 5800
SERIES	ZP	ZR	ZH	ZB / ZC / ZF	ZT

ZR 750

Manifold Short

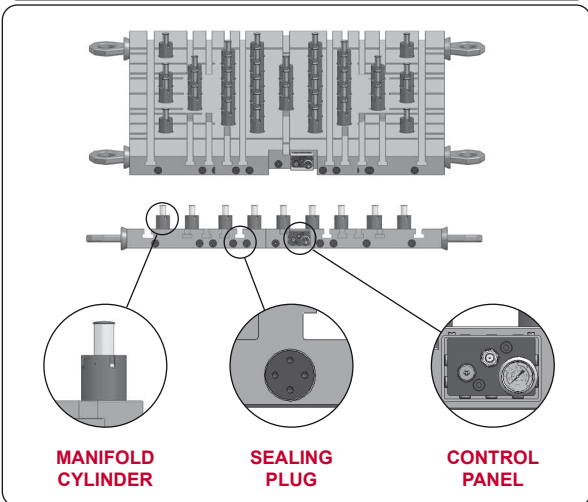
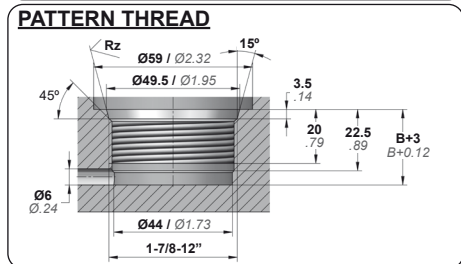
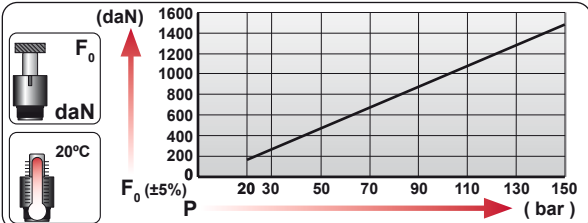
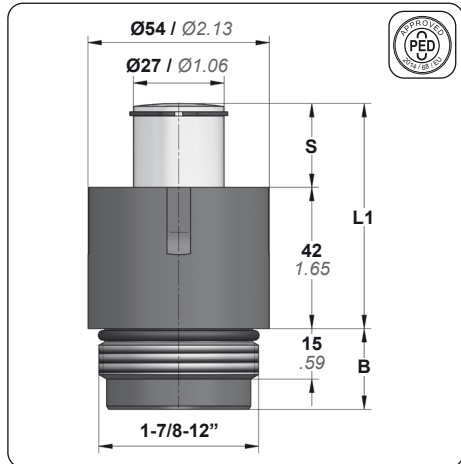


ORDER	S		L1 ±0.25		B		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZR 750 006	6.3	0.25	48.5	1.91	15	0.59	540	1214	736	1655	0.39	0.86
ZR 750 013	12.7	0.50	54.9	2.16	15	0.59	±5%	110 bar 1595 psi	±5%	150 bar 2175 psi	0.41	0.90
ZR 750 019	19.1	0.75	61.2	2.41	16	0.63					0.44	0.97
ZR 750 025	25.4	1.00	67.6	2.66	22.4	0.88	0.46	1.01				
ZR 750 038	38.1	1.50	80.3	3.16	35.1	1.38	0.51	1.12				
ZR 750 051	50.8	2.00	93	3.66	47.8	1.88	0.56	1.23				
ZR 750 064	63.5	2.50	105.7	4.16	60.5	2.38	0.61	1.34				
ZR 750 076	76.2	3.00	118.4	4.66	73.2	2.88	0.65	1.43				
ZR 750 089	88.9	3.50	131.1	5.16	85.9	3.38	0.70	1.54				
ZR 750 102	101.6	4.00	143.8	5.66	98.6	3.88	0.75	1.65				

TECHNICAL DATA											
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Assembly Tool	LGM 40-42		
	Sm _{ax}	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Sealing Effective Area	4,91 cm ² 0,76 in ²		
	V _{max}	0,8 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX		



ZR 1500
Manifold Short

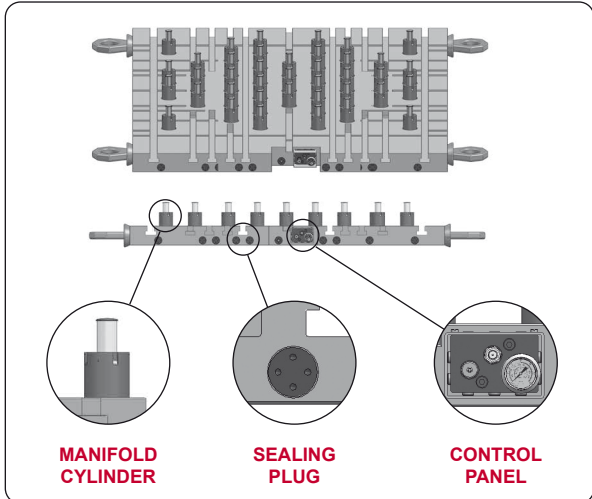
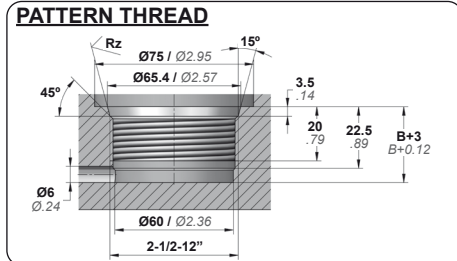
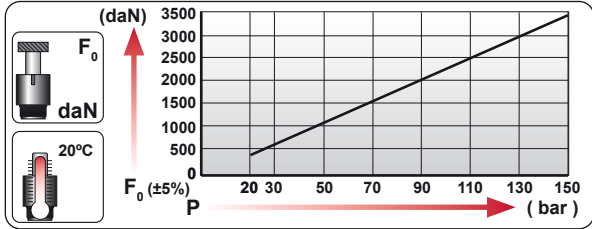
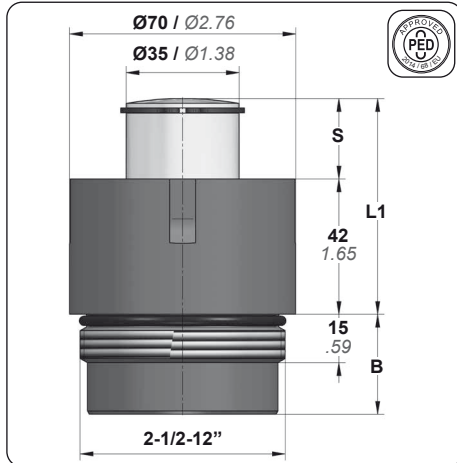


ORDER	S		L1 ±0.25		B		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZR 1500 025	25.4	1.00	67.6	2.66	24.6	0.97	1060	2383	1443	3244	0.88	1.94
ZR 1500 038	38.1	1.50	80.3	3.16	37.3	1.47					0.98	2.16
ZR 1500 051	50.8	2.00	93	3.66	50.0	1.97	±5%		±5%		1.09	2.40
ZR 1500 064	63.5	2.50	105.7	4.16	62.7	2.47					1.20	2.65
ZR 1500 076	76.2	3.00	118.4	4.66	75.4	2.97					1.29	2.84
ZR 1500 089	88.9	3.50	131.1	5.16	88.1	3.47					1.40	3.09
ZR 1500 102	101.6	4.00	143.8	5.66	100.8	3.97					1.50	3.31
ZR 1500 114	114.3	4.50	156.5	6.16	113.5	4.47	110 bar 1595 psi at 20°C		150 bar 2175 psi at 20°C		1.60	3.53
ZR 1500 127	127	5.00	169.2	6.66	126.2	4.97	68°F		68°F		1.71	3.77

TECHNICAL DATA												
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Tmin Tmax 0°C / 32°F	80°C / 176°F		Assembly Tool	LGM 52-55
	Smax	< 90%		Tmin Tmax							Sealing Effective Area	9,62 cm ² 1,49 in ²
	Vmax	0,8 m/s		Force variation by temperature	±0,3% / °C						Seal Kit	S-XXXXXXX

ZR 3000

Manifold Short



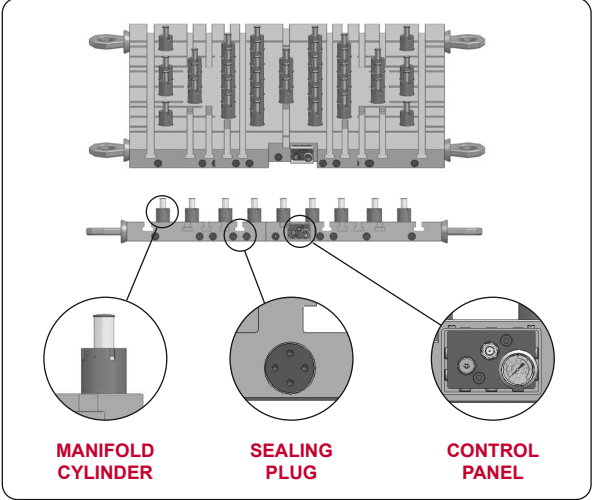
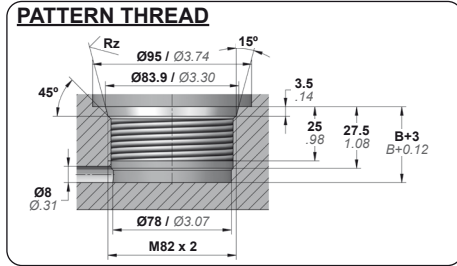
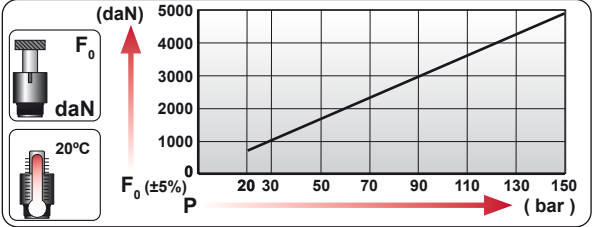
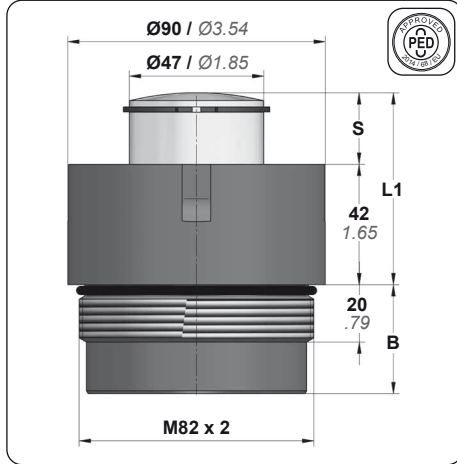
ORDER	S		L1 ±0.25		B		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZR 3000 025	25.4	1.00	67.6	2.66	31.8	1.25	2520	5665	3435	7722	1.51	3.33
ZR 3000 038	38.1	1.50	80.3	3.16	44.5	1.75					1.65	3.64
ZR 3000 051	50.8	2.00	93.0	3.66	57.2	2.25	±5%	±5%	1.79	3.95		
ZR 3000 064	63.5	2.50	105.7	4.16	69.9	2.75			1.93	4.25		
ZR 3000 076	76.2	3.00	118.4	4.66	82.6	3.25	110 bar 1595 psi at 20°C 68°F	150 bar 2175 psi at 20°C 68°F	2.06	4.54		
ZR 3000 089	88.9	3.50	131.1	5.16	95.3	3.75			2.20	4.85		
ZR 3000 102	101.6	4.00	143.8	5.66	108.0	4.25	2.34	5.16	2.34	5.16		
ZR 3000 114	114.3	4.50	156.5	6.16	120.7	4.75			2.47	5.45		
ZR 3000 127	127	5.00	169.2	6.66	133.4	5.25	2.61	5.75				
ZR 3000 140	139.7	5.50	181.9	7.16	146.1	5.75	2.75	6.06				
ZR 3000 152	152.4	6.00	194.6	7.66	158.8	6.25	2.88	6.35				

TECHNICAL DATA											
Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Assembly Tool	LGM 68-75	Sealing Effective Area	22,9 cm ² / 3,55 in ²
Smax	< 90%	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX					
Vmax	0,8 m/s										



ZR 5000

Manifold Short



MANIFOLD CYLINDER

SEALING PLUG

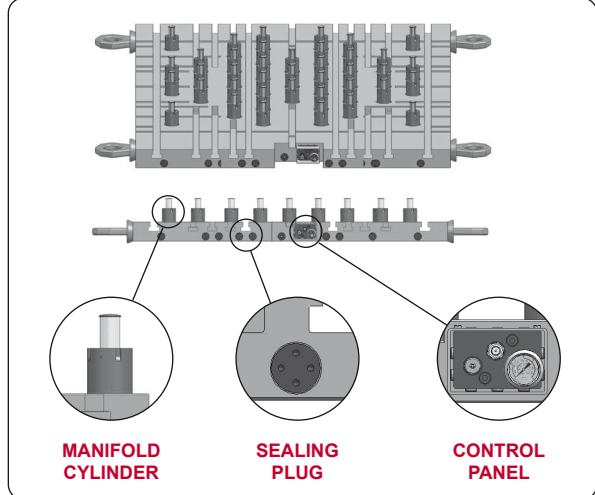
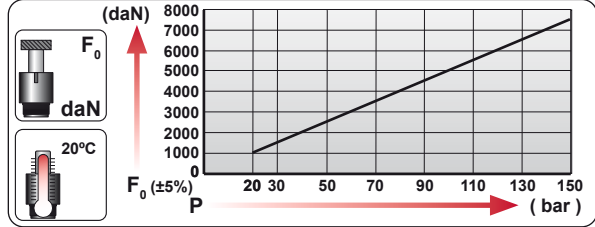
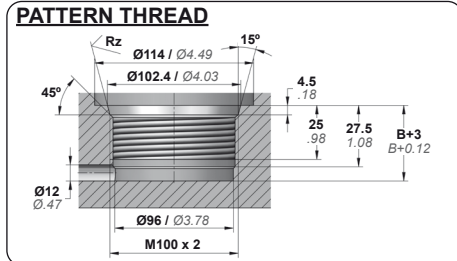
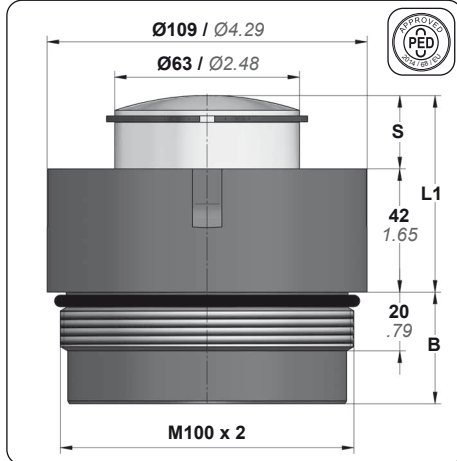
CONTROL PANEL

ORDER	S		L1 ±0.25		B		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZR 5000 025	25.4	1.00	67.6	2.66	38.1	1.50	3650 8206	8206	4977	11189	2.89	6.37
ZR 5000 038	38.1	1.50	80.3	3.16	50.8	2.00					3.20	7.05
ZR 5000 051	50.8	2.00	93.0	3.66	63.5	2.50					3.52	7.76
ZR 5000 064	63.5	2.50	105.7	4.16	76.2	3.00					3.83	8.44
ZR 5000 076	76.2	3.00	118.4	4.66	88.9	3.50					4.11	9.06
ZR 5000 089	88.9	3.50	131.1	5.16	101.6	4.00					4.42	9.74
ZR 5000 102	101.6	4.00	143.8	5.66	114.3	4.50					4.73	10.43
ZR 5000 114	114.3	4.50	156.5	6.16	127.0	5.00					5.02	11.07
ZR 5000 127	127	5.00	169.2	6.66	139.7	5.50					5.33	11.75
ZR 5000 140	139.7	5.50	181.9	7.16	152.4	6.00					5.64	12.43
ZR 5000 152	152.4	6.00	194.6	7.66	165.1	6.50	5.93	13.07				
ZR 5000 165	165.1	6.50	207.3	8.16	177.8	7.00	6.24	13.76				
ZR 5000 178	177.8	7.00	220.0	8.66	190.5	7.50	6.55	14.44				

TECHNICAL DATA											
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Assembly Tool	LGM 80-90		
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Sealing Effective Area	33,18 cm ² 5,14 in ²		
	Vmax	0,8 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX		

ZR 8000

Manifold Short



ORDER	S		L1 ±0.25		B		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZR 8000 025	25.4	1.00	67.6	2.66	38.1	1.50	5550	12477	7540	16951	4.41	9.72
ZR 8000 038	38.1	1.50	80.3	3.16	50.8	2.00					4.94	10.89
ZR 8000 051	50.8	2.00	93.0	3.66	63.5	2.50	±5%	±5%	110 bar 1595 psi at 20°C 68°F	150 bar 2175 psi at 20°C 68°F	5.46	12.04
ZR 8000 064	63.5	2.50	105.7	4.16	76.2	3.00					5.99	13.21
ZR 8000 076	76.2	3.00	118.4	4.66	88.9	3.50	11.61	25.60	11.61	25.60	6.47	14.26
ZR 8000 089	88.9	3.50	131.1	5.16	101.6	4.00					7.00	15.43
ZR 8000 102	101.6	4.00	143.8	5.66	114.3	4.50	11.61	25.60	11.61	25.60	7.53	16.60
ZR 8000 114	114.3	4.50	156.5	6.16	127.0	5.00					8.01	17.66
ZR 8000 127	127	5.00	169.2	6.66	139.7	5.50	11.61	25.60	11.61	25.60	8.54	18.83
ZR 8000 140	139.7	5.50	181.9	7.16	152.4	6.00					9.06	19.97
ZR 8000 152	152.4	6.00	194.6	7.66	165.1	6.50	11.61	25.60	11.61	25.60	9.55	21.05
ZR 8000 165	165.1	6.50	207.3	8.16	177.8	7.00					10.07	22.20
ZR 8000 178	177.8	7.00	220.0	8.66	190.5	7.50	11.61	25.60	11.61	25.60	10.60	23.37
ZR 8000 191	190.5	7.50	232.7	9.16	203.2	8.00					11.12	24.52
ZR 8000 203	203.2	8.00	245.4	9.66	215.9	8.50					11.61	25.60





TECHNICAL DATA												
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Tmin Tmax 0°C / 32°F	80°C / 176°F		Assembly Tool	LGM 110-115
	Sm _{max}	< 90%		Tmin Tmax	0°C / 32°F	80°C / 176°F		Sealing Effective Area	50,27 cm ² 7,79 in ²		Seal Kit	S-XXXXXXX
	V _{max}	0,8 m/s		Force variation by temperature	±0,3% / °C							





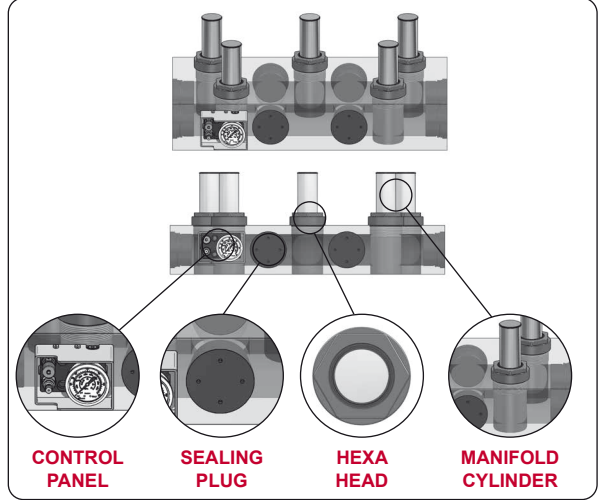
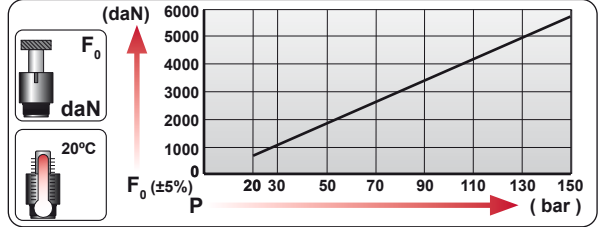
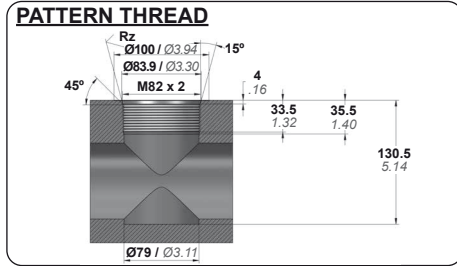
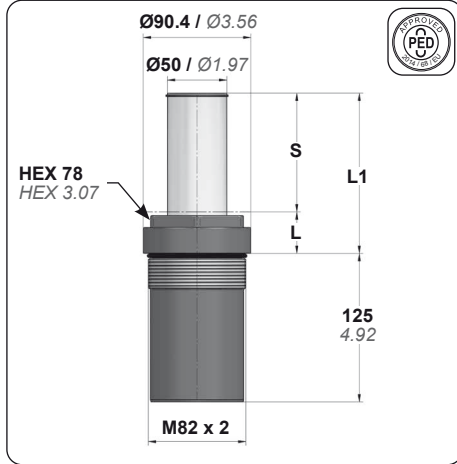
MODEL	F ₀ daN lb	Thread	S mm inch	L1 mm inch	Pmax bar psi	Sealing Area mm ² inch ²
ZH 5200	5200 11690	M82x2	100 - 200 3.94 - 7.87	135 - 335 5.31 - 13.19	150 2175	38.48 5.97
ZH 7700	7700 17310	M100x2	100 - 250 3.94 - 9.84	135 - 435 5.31 - 17.13	150 2175	50.27 7.79
ZH 10700	10700 24055	M120x2	100 - 250 3.94 - 9.84	135 - 435 5.31 - 17.13	150 2175	78.54 12.17

- Large cylinder used where space is not an issue
- Threads available in metric size
- Indicated for long strokes (100-250 mm)
- Specially suited for high forces (5200-10700 daN)

	6.3 - 101.6 12.7 - 127 12.7 - 152.4 12.7 - 177.8 12.7 - 203.2	6.3 - 101.6 25.4 - 127 25.4 - 152.4 25.4 - 177.8 25.4 - 203.2	100 - 200 100 - 250 100 - 250	25 - 100 25 - 100 25 - 100	20 100 - 200
	1-5/16-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	1-5/8-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	M82x2 M100x2 M120x2	M36x2 M48x2 M64x2	M64x2 M82x2
	29.5 - 220.0 48.5 - 277.1 48.5 - 327.9 48.5 - 378.7 48.5 - 429.5	48.5 - 143.8 67.6 - 169.2 67.6 - 194.6 67.6 - 220 67.6 - 245.4	135 - 335 135 - 435 135 - 435	70.5 - 220.5 73.5 - 223.5 73.5 - 223.5	80 175 - 275
	750 1500 3000 5000 8000	750 1500 3000 5000 8000	5200 7700 10700	750 1500 3000	3000 5800
MODEL	ZP 750 ZP 1500 ZP 3000 ZP 5000 ZP 8000	ZR 750 ZR 1500 ZR 3000 ZR 5000 ZR 8000	ZH 5200 ZH 7700 ZH 10700	ZB 750 ZC 1500 ZF 3500	ZT 3000 ZT 5800
SERIES	ZP	ZR	ZH	ZB / ZC / ZF	ZT

ZH 5200

Manifold High Force



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb		
ZH 5200 100	100	3.94	135	5.31	35	1.38	4220	9487	5773	12978	4.67	10.30
ZH 5200 125	125	4.92	185	7.28	60	2.36					5.56	12.26
ZH 5200 160	160	6.30	255	10.04	95	3.74					6.80	14.99
ZH 5200 200	200	7.87	335	13.19	135	5.31					8.22	18.12

±5%

110 bar
1595 psi
at
20°C
68°F

±5%

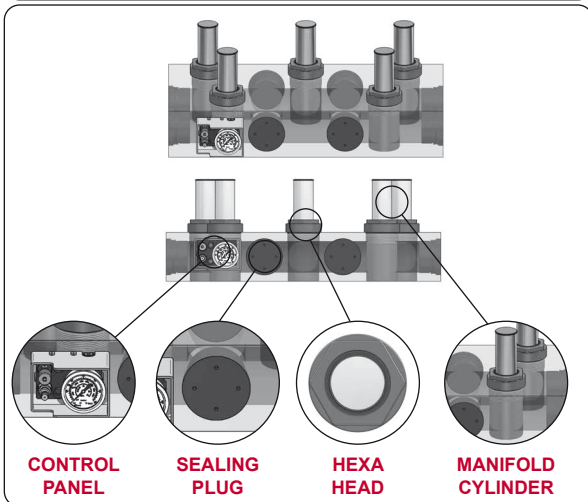
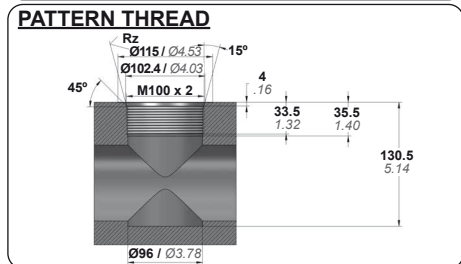
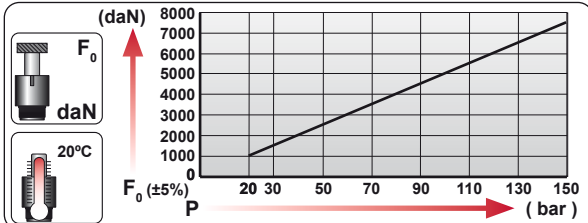
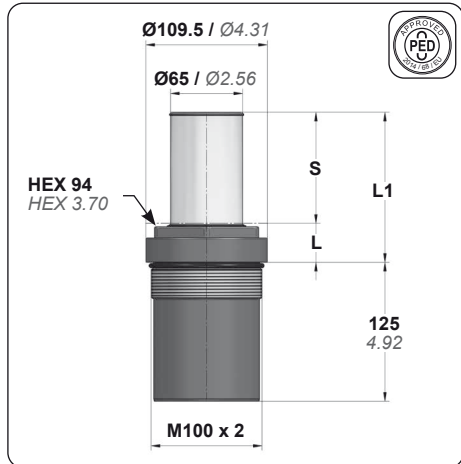
150 bar
2175 psi
at
20°C
68°F

TECHNICAL DATA													
	Fluid	N ₂		Pmin Pmax	20 bar 150 bar	290 psi 2175 psi		Tmin Tmax	0 °C 80 °C	32 °F 176 °F		Assembly Tool	UHM 78
	Smax	< 90%		Tmin Tmax				Force variation by temperature	±0,3% / °C			Sealing Effective Area	38,48 cm ² 5,97 in ²
	Vmax	0,8 m/s										Seal Kit	S-XXXXXXX



ZH 7700

Manifold High Force

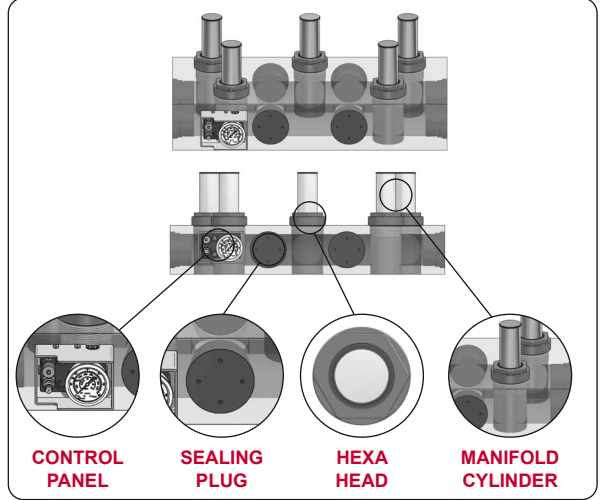
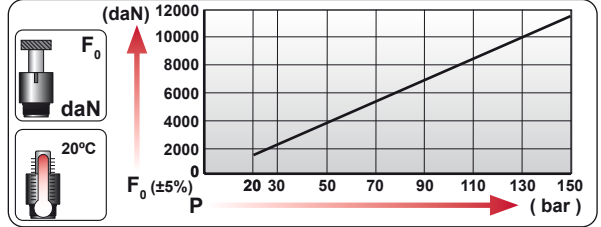
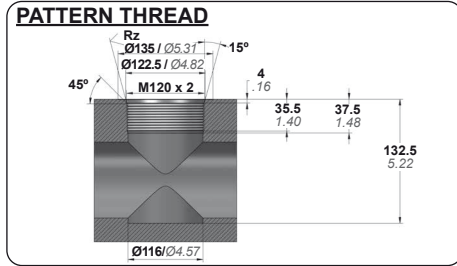
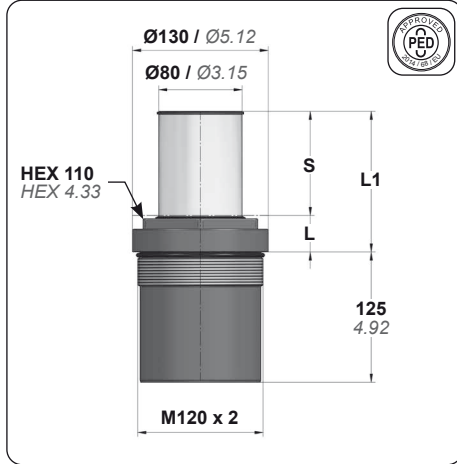


ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZH 7700 100	100	3.94	135	5.31	35	1.38	5550	12477	7540	16951	7.80	17.20
ZH 7700 125	125	4.92	185	7.28	60	2.36	±5% 110 bar 1595 psi at 20°C 68°F		±5% 150 bar 2175 psi at 20°C 68°F		9.31	20.52
ZH 7700 160	160	6.30	255	10.04	95	3.74						
ZH 7700 200	200	7.87	335	13.19	135	5.31						
ZH 7700 250	250	9.84	435	17.13	185	7.28						
											13.85	30.53
											16.87	37.19

TECHNICAL DATA											
	Fluid	N ₂		Pmin Pmax	20 bar 150 bar		Tmin Tmax	290 psi 2175 psi		Assembly Tool	UHM 94
	Smax	< 90%		Tmin Tmax	0 °C 80 °C		Sealing Effective Area	32 °F 176 °F		Seal Kit	50,27 cm ² 7,79 in ²
	Vmax	0,8 m/s		Force variation by temperature	±0,3% / °C						S-XXXXXXX

ZH 10700

Manifold High Force




ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZH 10700 100	100	3.94	135	5.31	35	1.38	8650	19446	11781	26485	11.08	24.43
ZH 10700 125	125	4.92	185	7.28	60	2.36					13.13	28.95
ZH 10700 160	160	6.30	255	10.04	95	3.74	±5%	±5%	110 bar	2175 psi	16.00	35.27
ZH 10700 200	200	7.87	335	13.19	135	5.31					19.28	42.50
ZH 10700 250	250	9.84	435	17.13	185	7.28	23.38	51.54	150 bar	2175 psi	23.38	51.54





TECHNICAL DATA												
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Assembly Tool	UHM 110			
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Sealing Effective Area	78,54 cm ² 12,17 in ²			
	Vmax	0,8 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX			





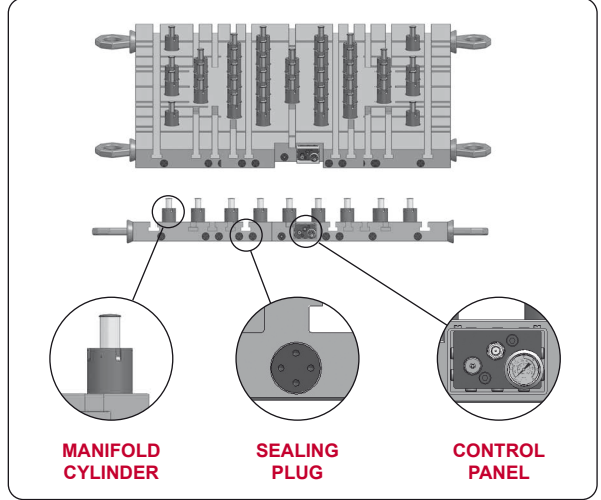
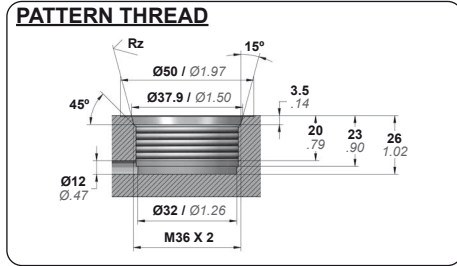
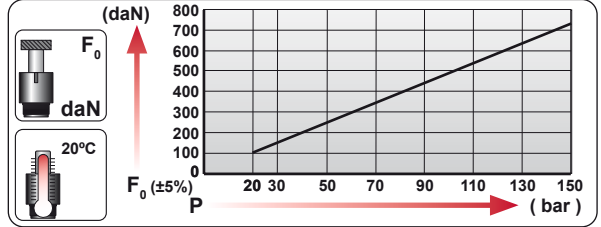
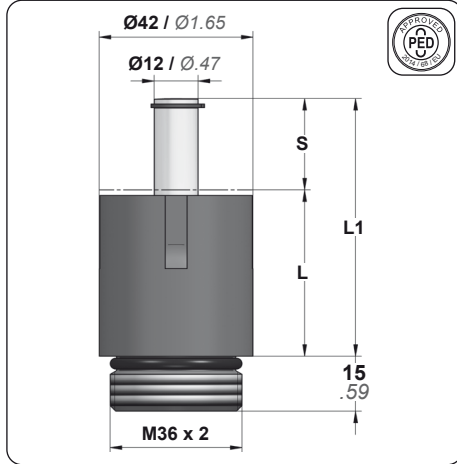
MODEL	F ₀ daN <i>lb</i>	Thread 	S mm <i>inch</i>	L1 mm <i>inch</i>	Pmax bar <i>psi</i>	Sealing Area mm ² <i>inch²</i>
ZB 750	750 1686	M36x2	25 - 100 0.98 - 3.94	70.5 - 220.5 2.78 - 8.68	150 2175	4.91 0.76
ZC 1500	1500 3372	M48x2	25 - 100 0.98 - 3.94	73.5 - 223.5 2.89 - 8.80	150 2175	9.62 1.49
ZF 3500	3500 7868	M64x2	25 - 100 0.98 - 3.94	73.5 - 223.5 2.89 - 8.80	150 2175	22.90 3.55

- Large cylinder used where space is not an issue
- Threads available in metric size
- Indicated for short strokes (25-100 mm)
- Specially suited for smaller-medium range of forces (750-3000 daN)

	6.3 - 101.6 12.7 - 127 12.7 - 152.4 12.7 - 177.8 12.7 - 203.2	6.3 - 101.6 25.4 - 127 25.4 - 152.4 25.4 - 177.8 25.4 - 203.2	100 - 200 100 - 250 100 - 250	25 - 100 25 - 100 25 - 100	20 100 - 200
	1-5/16-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	1-5/8-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	M82x2 M100x2 M120x2	M36x2 M48x2 M64x2	M64x2 M82x2
	29.5 - 220.0 48.5 - 277.1 48.5 - 327.9 48.5 - 378.7 48.5 - 429.5	48.5 - 143.8 67.6 - 169.2 67.6 - 194.6 67.6 - 220 67.6 - 245.4	135 - 335 135 - 435 135 - 435	70.5 - 220.5 73.5 - 223.5 73.5 - 223.5	80 175 - 275
	750 1500 3000 5000 8000	750 1500 3000 5000 8000	5200 7700 10700	750 1500 3000	3000 5800
MODEL	ZP 750 ZP 1500 ZP 3000 ZP 5000 ZP 8000	ZR 750 ZR 1500 ZR 3000 ZR 5000 ZR 8000	ZH 5200 ZH 7700 ZH 10700	ZB 750 ZC 1500 ZF 3500	ZT 3000 ZT 5800
SERIES	ZP	ZR	ZH	ZB / ZC / ZF	ZT

ZB 750

Manifold Medium



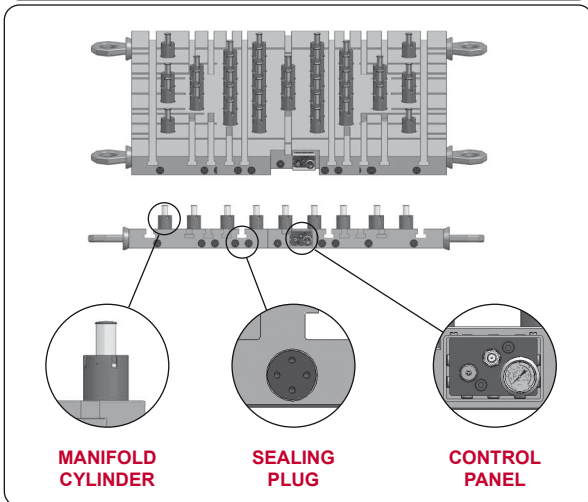
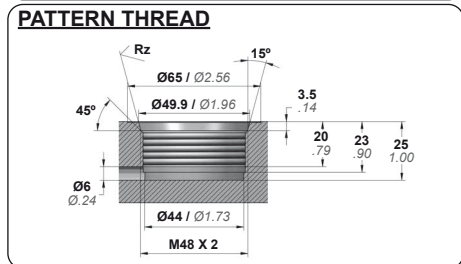
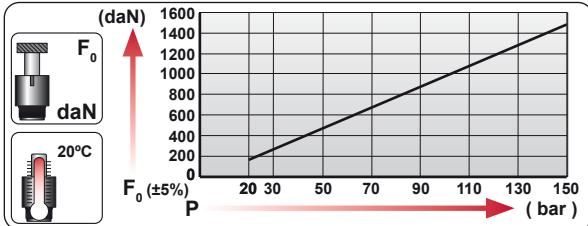
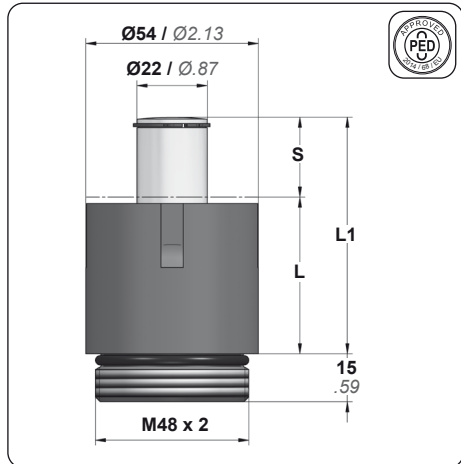
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZB 750 025	25	0.98	70.5	2.78	45.5	1.79	540 ±5% 110 bar 1595 psi at 20°C 68°F	1214	736 ±5% 150 bar 2175 psi at 20°C 68°F	1655	0.47	1.04
ZB 750 038	38	1.50	96.5	3.80	58.5	2.30					0.57	1.26
ZB 750 050	50	1.97	120.5	4.74	70.5	2.78					0.66	1.46
ZB 750 063.5	63.5	2.50	147.5	5.81	84	3.31					0.77	1.70
ZB 750 075	75	2.95	170.5	6.71	95.5	3.76					0.86	1.90
ZB 750 088	88	3.46	196.5	7.74	108.5	4.27					0.96	2.12
ZB 750 100	100	3.94	220.5	8.68	120.5	4.74					1.06	2.34

TECHNICAL DATA			
Fluid	N ₂	Pmin Pmax	20 bar 150 bar 290 psi 2175 psi
Tmin Tmax	< 90%	Sealing Effective Area	4,91 cm ² 0,76 in ²
Vmax	0,8 m/s	Seal Kit	S-XXXXXXX
Force variation by temperature		Assembly Tool	LGM 40-42



ZC 1500

Manifold Medium



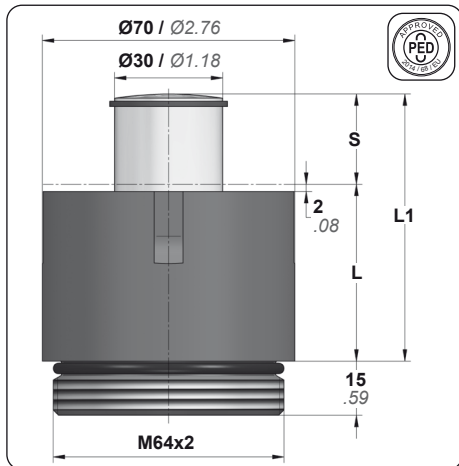
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg.	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZC 1500 025	25	0.98	73.5	2.89	48.5	1.91	1057	2376	1443	3244	0.86	1.90
ZC 1500 038	38	1.50	99.5	3.92	61.5	2.42						
ZC 1500 050	50	1.97	123.5	4.86	73.5	2.89	±5%	110 bar 1595 psi at 20°C 68°F	±5%	150 bar 2175 psi at 20°C 68°F	1.20	2.65
ZC 1500 063	63.5	2.50	151	5.94	87.5	3.44						
ZC 1500 075	75	2.95	173.5	6.83	98.5	3.88	1.38	3.04	1.53	3.37	1.70	3.75
ZC 1500 088	88	3.46	200	7.87	112	4.41						
ZC 1500 100	100	3.94	223.5	8.80	123.5	4.86	1.87	4.12	1.87	4.12	1.87	4.12

TECHNICAL DATA

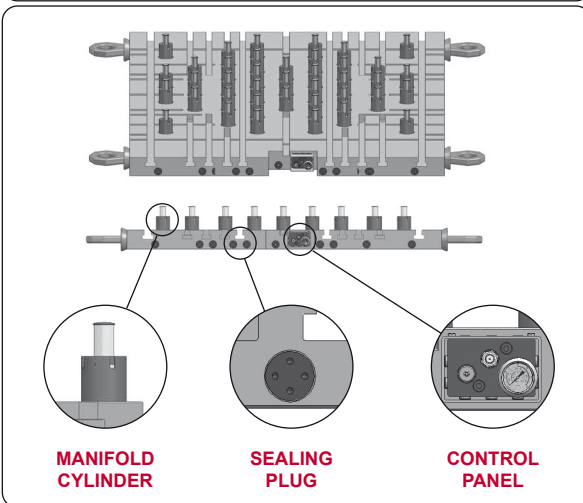
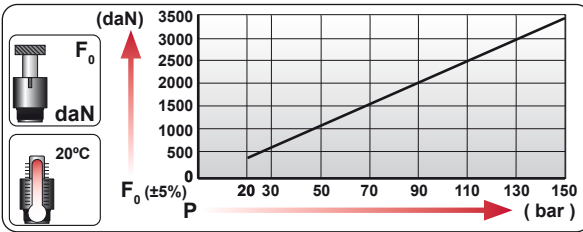
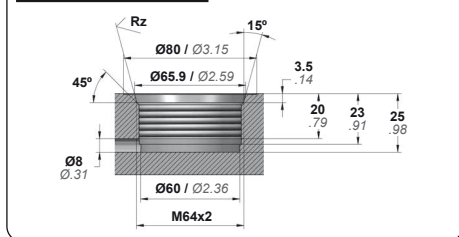
Fluid	N ₂	Pmin Pmax	20 bar / 290 psi 150 bar / 2175 psi	Tmin Tmax	0 °C / 32 °F 80 °C / 176 °F	Assembly Tool	LGM 52-55
Smax	< 90%	Force variation by temperature	±0,3% / °C	Sealing Effective Area	9,62 cm ² 1,49 in ²	Seal Kit	S-XXXXXXX
Vmax	0,8 m/s						

ZF 3500

Manifold Medium



PATTERN THREAD



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZF 3500 025	25	0.98	73.5	2.89	48.5	1.91	2518	5661	3435	7722	1.35	2.98
ZF 3500 038	38	1.50	99.5	3.92	61.5	2.42						
ZF 3500 050	50	1.97	123.5	4.86	73.5	2.89	110 bar 1595 psi at 20°C 68°F	150 bar 2175 psi at 20°C 68°F				
ZF 3500 063	63.5	2.50	151	5.94	87.5	3.44						
ZF 3500 075	75	2.95	173.5	6.83	98.5	3.88						
ZF 3500 088	88	3.46	200	7.87	112	4.41						
ZF 3500 100	100	3.94	223.5	8.80	123.5	4.86						





TECHNICAL DATA													
	Fluid	N ₂		Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi		Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F		Assembly Tool	LGM 68-75
	Sm _{max}	< 90%		Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F		Sealing Effective Area	22,90 cm ² / 3,55 in ²			Seal Kit	S-XXXXXXX
	V _{max}	0,8 m/s		Force variation by temperature	±0,3% / °C								





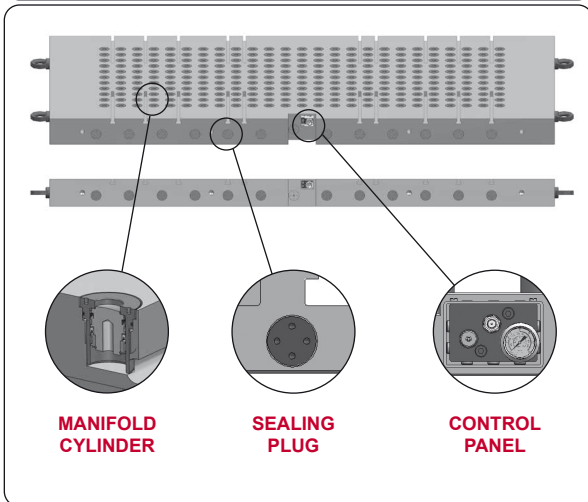
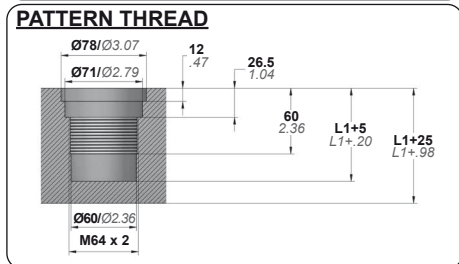
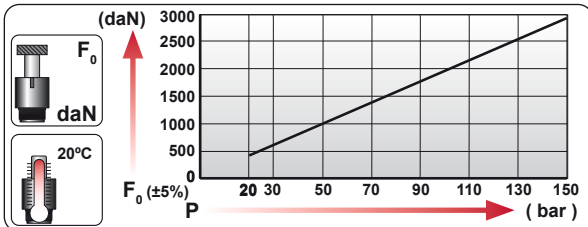
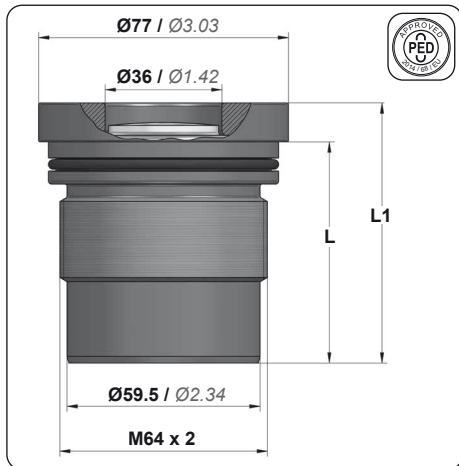
MODEL	F ₀ daN lb	Thread	S mm inch	L1 mm inch	Pmax bar psi	Sealing Area mm ² inch ²
ZT 3000	3000 6744	M64x2	20 0.79	80 3.15	150 2175	19.63 3.04
ZT 5800	5800 13039	M82x2	100 - 200 3.94 - 7.87	175 - 275 6.89 - 10.83	150 2175	38.48 5.97

- Cylinders taylor-made under specification requested
- Specially suitable for die cushions

	6.3 - 101.6 12.7 - 127 12.7 - 152.4 12.7 - 177.8 12.7 - 203.2	6.3 - 101.6 25.4 - 127 25.4 - 152.4 25.4 - 177.8 25.4 - 203.2	100 - 200 100 - 250 100 - 250	25 - 100 25 - 100 25 - 100	20 100 - 200
	1-5/16-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	1-5/8-12" 1-7/8-12" 2-1/2-12" M82x2 M100x2	M82x2 M100x2 M120x2	M36x2 M48x2 M64x2	M64x2 M82x2
	29.5 - 220.0 48.5 - 277.1 48.5 - 327.9 48.5 - 378.7 48.5 - 429.5	48.5 - 143.8 67.6 - 169.2 67.6 - 194.6 67.6 - 220 67.6 - 245.4	135 - 335 135 - 435 135 - 435	70.5 - 220.5 73.5 - 223.5 73.5 - 223.5	80 175 - 275
	750 1500 3000 5000 8000	750 1500 3000 5000 8000	5200 7700 10700	750 1500 3000	3000 5800
MODEL	ZP 750 ZP 1500 ZP 3000 ZP 5000 ZP 8000	ZR 750 ZR 1500 ZR 3000 ZR 5000 ZR 8000	ZH 5200 ZH 7700 ZH 10700	ZB 750 ZC 1500 ZF 3500	ZT 3000 ZT 5800
SERIES	ZP	ZR	ZH	ZB / ZC / ZF	ZT

ZT 3000

Manifold Die Cushion



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZT 3000 020	20	0.79	80	3.15	68	2.68	2160	4856	2945	6621	1.52	3.35

±5%	±5%
110 bar 1595 psi at 20°C 68°F	150 bar 2175 psi at 20°C 68°F

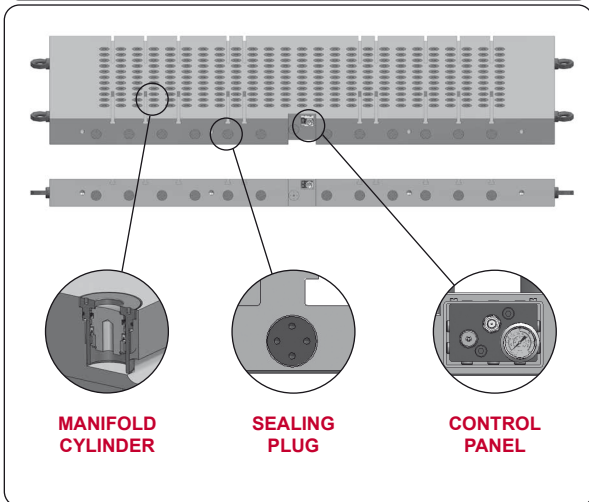
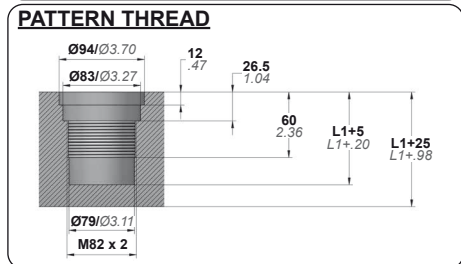
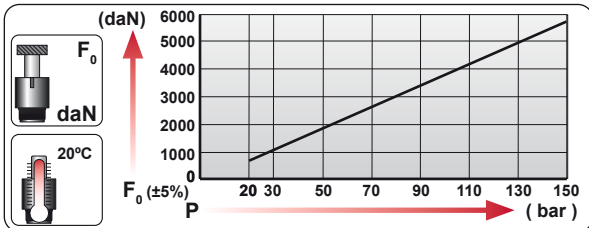
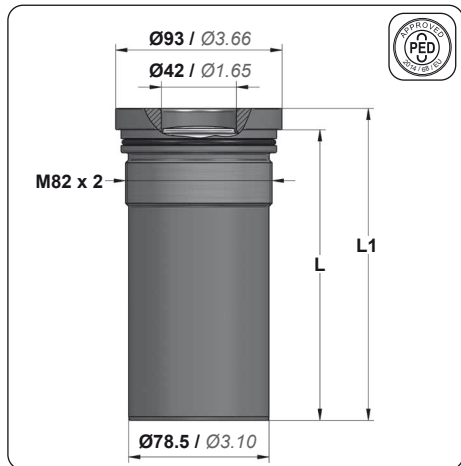
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax	20 bar / 290 psi	150 bar / 2175 psi	Assembly Tool	UAM 60
Smax	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Sealing Effective Area	19,63 cm ² / 3,04 in ²
Vmax	0,8 m/s	Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX



ZT 5800

Manifold Die Cushion



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₀ Initial Force		Kg. / lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb
ZT 5800 100	100	3.94	175	6.89	163	6.42	4225	9498	5773	12978	3.50	7.72
ZT 5800 125	125	4.92	200	7.87	188	7.40	±5%	110 bar 1595 psi at 20°C 68°F	±5%	150 bar 2175 psi at 20°C 68°F	3.70	8.16
ZT 5800 150	150	5.91	225	8.86	213	8.39					3.89	8.58
ZT 5800 200	200	7.87	275	10.83	263	10.35	4.28	9.44				

TECHNICAL DATA												
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	150 bar 2175 psi		Assembly Tool	UAM 70			
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Sealing Effective Area	38,48 cm ² 5,97 in ²			
	Vmax	0,8 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX			

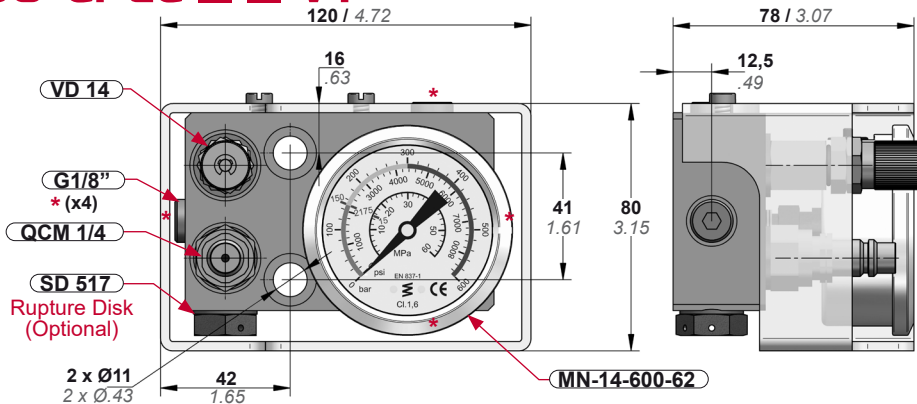
ACCESSORIES

Manifold



600-CPLC __ V1

STANDARD CONTROL PANEL



bar psi
600 8000

bar psi
517 7500

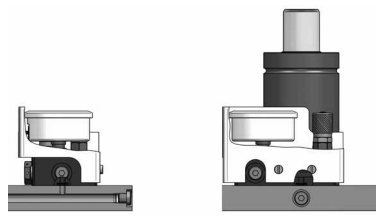
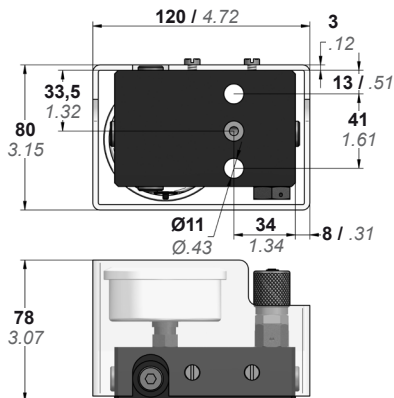
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	DEU BESTELL		
	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

600-CPLC 01 V1

600-CPLC 02 V1

600-CPLC-ER __ V1

DIRECT MOUNTING TO PLATE



bar psi
600 8000

bar psi
517 7500

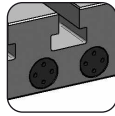
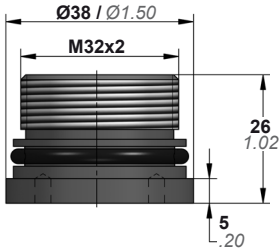
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	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

600-CPLC-ER 01 V1

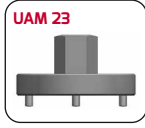
600-CPLC-ER 02 V1

SEALING PLUGS

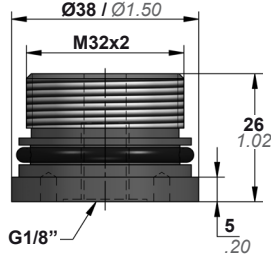
TPM 32



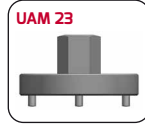
UAM 23



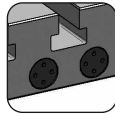
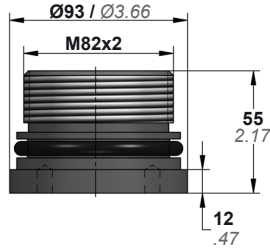
TPM 32 18



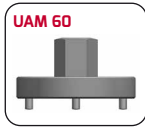
UAM 23



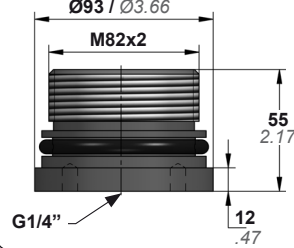
TPM 82



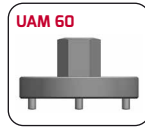
UAM 60










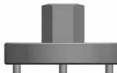

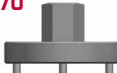
TPM 82 14



UAM 60

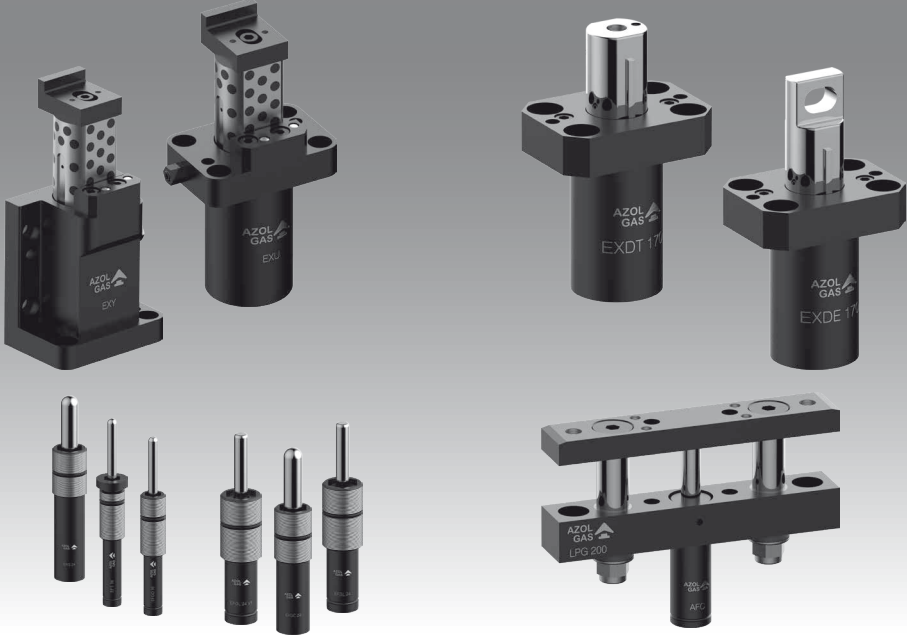


FIXING TOOLS

TOOL	MANIFOLD	TOOL	MANIFOLD
LGM 40-42 	ZP 750 ZR 750 ZB 750	UHM 78 	ZH 5200
LGM 52-55 	ZP 1500 ZR 1500 ZC 1500	UHM 94 	ZH 7700
LGM 68-75 	ZP 3000 ZR 3000 ZC 3500	UHM 110 	ZH 10700
LGM 80-90 	ZP 5000 ZR 5000	UAM 60 	ZT 3000
LGM 110-115 	ZP 8000 ZR 8000	UAM 70 	ZT 5800



LIFTERS & STRIPPERS



SERIES MB/MP - EF - EX - EXD/LPG

Looking for lifting or stripping parts solutions in forming applications?

AZOLGAS provides you stock lifing/flange stripping/part ejection solutions:

- Long service life
- Safety featured
- Cost effective
- Easy installation

EF_

Nitrogen Gas Strippers are intended to be used for part ejection replacing conventional coil springs.

AZOLGAS EF Gas Strippers are designed to meet longer service life, safety and easy installation.



GAS STRIPPERS

M_

Spring Plungers are applied when requested small force part ejection.

Find the right solution to your needs by AZOLGAS wide range of Spring Plungers MB-MP.



SPRING PLUNGERS

EX_

Flange Strippers are widely used for stripping parts on flanging dies operations.

Release the part from the tool in a smooth way.

Make sure the right choice to meet automotive standards by using AZOLGAS EX Flange Strippers.



FLANGE STRIPPERS

EXD_

AZOLGAS EXD nitrogen Stock Lifters are Ideal to be used in progressive dies.

AZOLGAS LPG nitrogen Guided Stock Lifters are recommended to progressive dies for lifting and work holding applications.

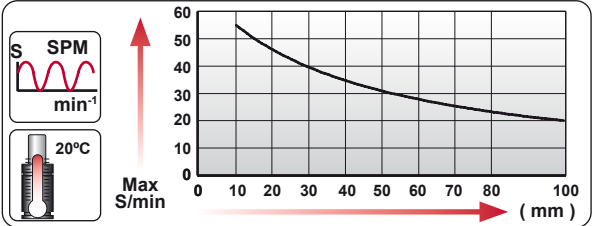
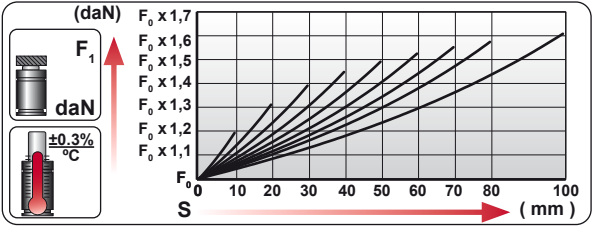
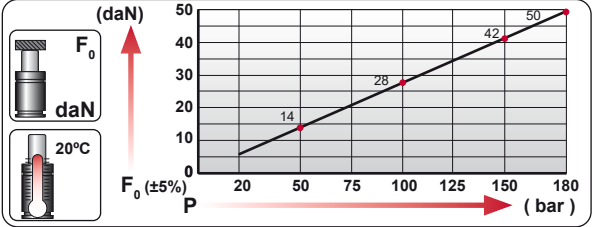
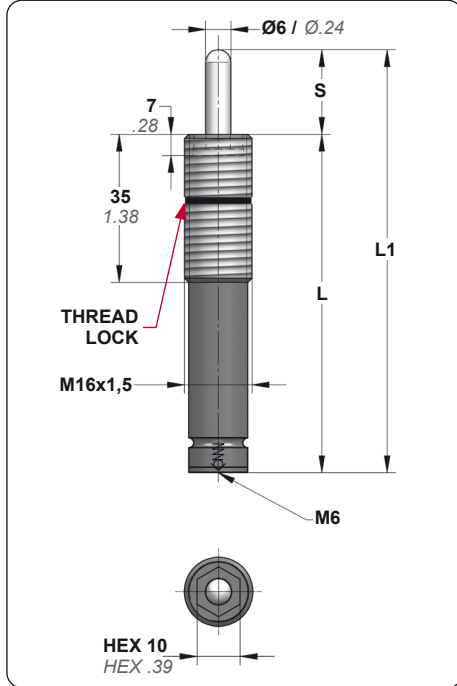


STOCK LIFTERS

EFG 16

Gas Strippers

BMW B2 4036	FORD W-DX35-6030
MB B8 0820 100 000 002	GM 90.25
VW 39D 549	



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L			
	mm	inch	mm	inch	mm	inch	Kg.	lb
EFG 16 ... 010	10	0.39	80	3.15	70	2.76	0.06	0.13
EFG 16 ... 020	20	0.79	100	3.94	80	3.15	0.07	0.15
EFG 16 ... 030	30	1.18	120	4.72	90	3.54	0.08	0.18
EFG 16 ... 040	40	1.57	140	5.51	100	3.94	0.08	0.18
EFG 16 ... 050	50	1.97	160	6.30	110	4.33	0.09	0.20
EFG 16 ... 060	60	2.36	180	7.09	120	4.72	0.09	0.20
EFG 16 ... 070	70	2.76	200	7.87	130	5.12	0.10	0.22
EFG 16 ... 080	80	3.15	220	8.66	140	5.51	0.11	0.24
EFG 16 ... 100	100	3.94	260	10.24	160	6.30	0.12	0.26

ORDER	COLOR	P	
		bar	psi
EFG 16 6 050	Green	20	290
EFG 16 11 050	Blue	40	580
EFG 16 21 050	Red	75	1090
EFG 16 42 050	Yellow	150	2175
EFG 16 XX 050	Black	20-180	290-2610

MOUNTING OPTIONS

Top Mount **E23-016**

ASSEMBLY TOOL OPTION

LPT 10

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
EFG 16 6 050	6	13	9	20
EFG 16 11 050	11	25	16	36
EFG 16 21 050	21	47	31	70
EFG 16 42 050	42	94	62	139
EFG 16 XX 050	6-50	13-112	8-105	18-236

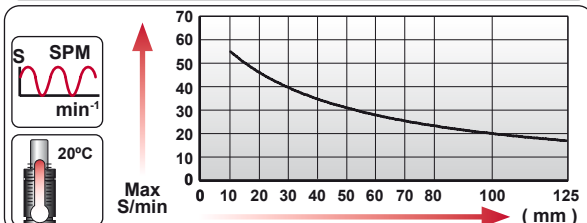
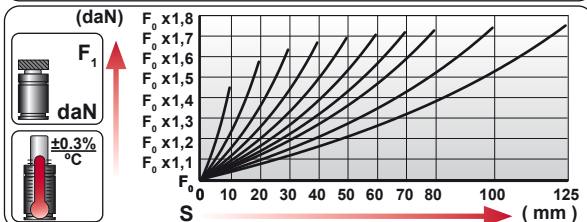
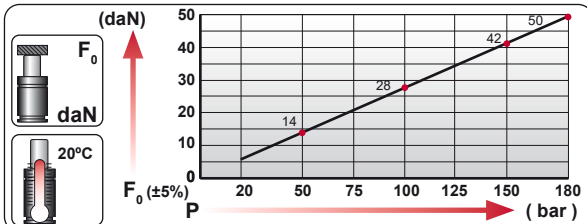
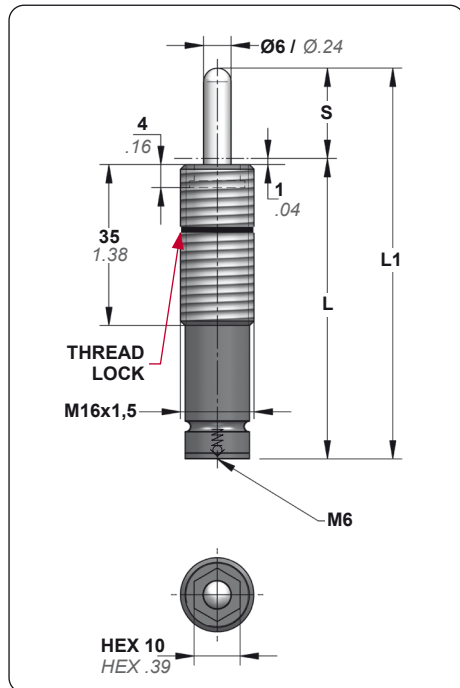
TECHNICAL DATA					
Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X



		RENAULT EM24.54.300
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EFGC 16

Gas Strippers



VDI SAFETY

STANDARS

ORDER	S		L1 ± 0.25		L		Kg.	
	mm	inch	mm	inch	mm	inch		
EFGC 16 ... 010	10	0.39	65	2.56	55	2.17	0.06	0.13
EFGC 16 ... 020	20	0.79	85	3.35	65	2.56	0.06	0.13
EFGC 16 ... 030	30	1.18	105	4.13	75	2.95	0.07	0.15
EFGC 16 ... 040	40	1.57	125	4.92	85	3.35	0.08	0.18
EFGC 16 ... 050	50	1.97	145	5.71	95	3.74	0.08	0.18
EFGC 16 ... 060	60	2.36	165	6.50	105	4.13	0.09	0.20
EFGC 16 ... 070	70	2.76	185	7.28	115	4.53	0.09	0.20
EFGC 16 ... 080	80	3.15	205	8.07	125	4.92	0.10	0.22
EFGC 16 ... 100	100	3.94	245	9.65	145	5.71	0.11	0.24
EFGC 16 ... 125	125	4.92	295	11.61	170	6.69	0.13	0.29

ORDER	COLOR	P	
		bar	psi
EFGC 16 6 050	Green	20	290
EFGC 16 11 050	Blue	40	580
EFGC 16 21 050	Red	75	1090
EFGC 16 42 050	Yellow	150	2175
EFGC 16 XX 050	Black	20-180	290-2610

ORDER	F_0 Initial Force $\pm 5\%$ 20°C 68°F		F_1 (ISOTHERMAL) End Force	
	daN	lb	daN	lb
EFGC 16 6 050	6	13	10	22
EFGC 16 11 050	11	25	20	45
EFGC 16 21 050	21	47	35	79
EFGC 16 42 050	42	94	70	157
EFGC 16 XX 050	6-50	13-112	10-85	22-191

MOUNTING OPTIONS

Top Mount **E23-016** 605

HOW TO ORDER

ASSEMBLY TOOL OPTION

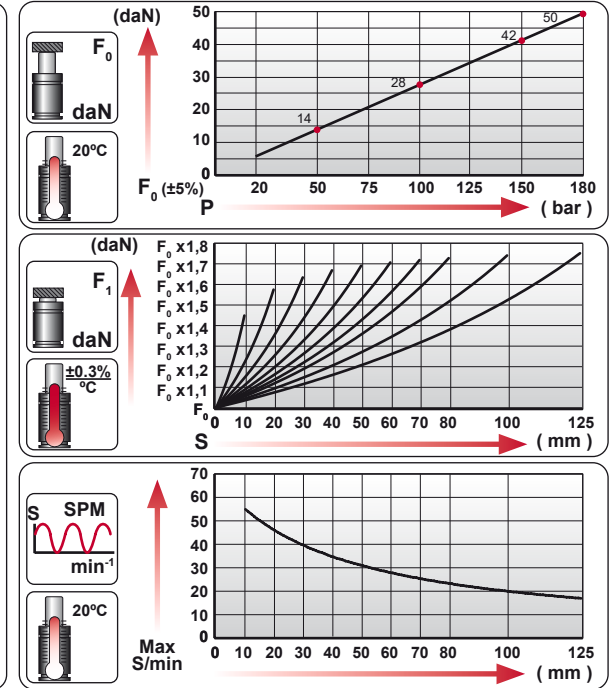
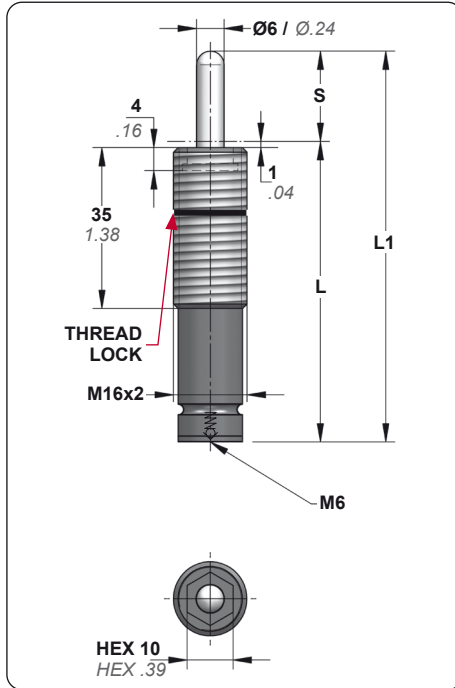
LPT 10

HOW TO ORDER

TECHNICAL DATA	
Fluid: N_2	Pmin Pmax: 20 bar 180 bar / 290 psi 2610 psi
Smax: < 90%	Tmin Tmax: 0°C 80°C / 32°F 176°F
Vmax: 1,6 m/s	Force variation by temperature: $\pm 0,3\% / ^\circ C$
Charging Adapter: 06 CG 2-Q	Connection: X
Cartridge Kit: X	

EFGD 16

Gas Strippers



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		Kg.	
	mm	inch	mm	inch	mm	inch		
EFGD 16 ... 010	10	0.39	65	2.56	55	2.17	0.06	0.13
EFGD 16 ... 020	20	0.79	85	3.35	65	2.56	0.07	0.15
EFGD 16 ... 030	30	1.18	105	4.13	75	2.95	0.07	0.15
EFGD 16 ... 040	40	1.57	125	4.92	85	3.35	0.08	0.18
EFGD 16 ... 050	50	1.97	145	5.71	95	3.74	0.09	0.20
EFGD 16 ... 060	60	2.36	165	6.50	105	4.13	0.09	0.20
EFGD 16 ... 070	70	2.76	185	7.28	115	4.53	0.10	0.22
EFGD 16 ... 080	80	3.15	205	8.07	125	4.92	0.10	0.22
EFGD 16 ... 100	100	3.94	245	9.65	145	5.71	0.12	0.26
EFGD 16 ... 125	125	4.92	295	11.61	170	6.69	0.13	0.29

ORDER	COLOR	P	
		bar	psi
EFGD 16 6 050	Green	20	290
EFGD 16 11 050	Blue	40	580
EFGD 16 21 050	Red	75	1090
EFGD 16 42 050	Yellow	150	2175
EFGD 16 XX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	EFGD 16 6 050	6	13	10
EFGD 16 11 050	11	25	20	45
EFGD 16 21 050	21	47	35	79
EFGD 16 42 050	42	94	70	157
EFGD 16 XX 050	6-50	13-112	10-85	22-191

MOUNTING OPTIONS

Top Mount **E63-016** 605

HOW TO ORDER

ASSEMBLY TOOL OPTION

LPT 10

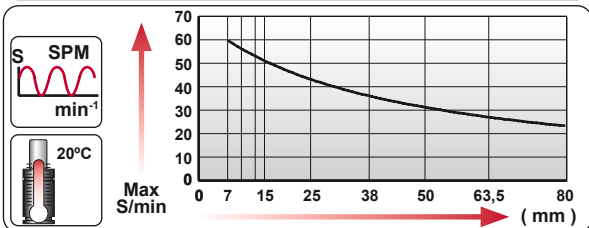
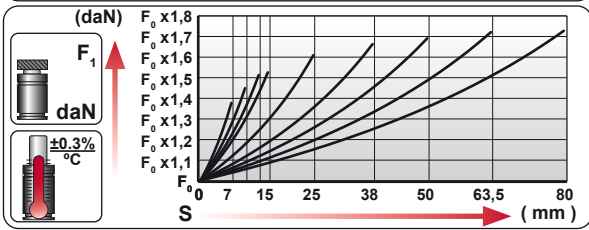
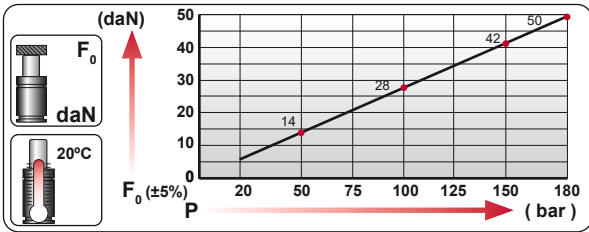
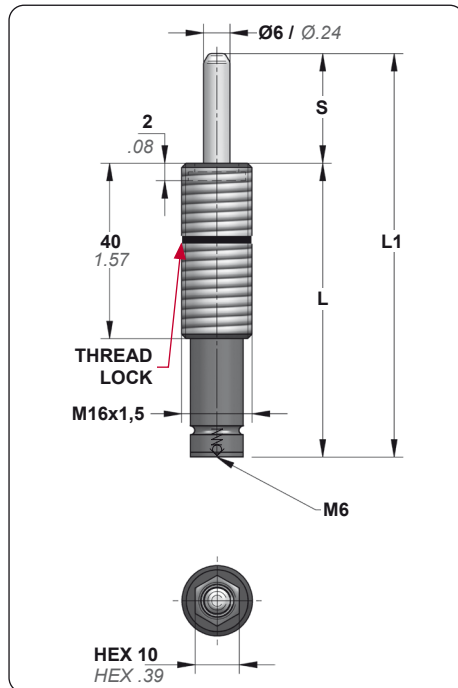
HOW TO ORDER

TECHNICAL DATA				
Fluid	N ₂	Pmin Pmax	20 bar 180 bar	20°C / 68°F
Smax	< 90%	Tmin Tmax	290 psi 2610 psi	0 °C 80 °C
Vmax	1,6 m/s	Force variation by temperature	32 °F 176 °F	±0,3% / °C
Charging Adapter		Connection	06 CG 2-Q	X
Cartridge Kit				X



EFGL 16

Gas Strippers



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
EFGL 16 ... 007	7	0.28	56	2.20	49	1.93	0.06	0.13
EFGL 16 ... 010	10	0.39	62	2.44	52	2.05	0.06	0.13
EFGL 16 ... 012	12.7	0.50	67.4	2.65	54.7	2.15	0.06	0.13
EFGL 16 ... 015	15	0.59	72	2.83	57	2.24	0.06	0.13
EFGL 16 ... 025	25	0.98	92	3.62	67	2.64	0.07	0.15
EFGL 16 ... 038	38	1.50	118	4.65	80	3.15	0.08	0.18
EFGL 16 ... 050	50	1.97	142	5.59	92	3.62	0.09	0.20
EFGL 16 ... 063	63.5	2.50	172	6.77	108.5	4.27	0.09	0.20
EFGL 16 ... 080	80	3.15	205	8.07	125	4.92	0.10	0.22

ORDER	COLOR	P	
		bar	psi
EFGL 16 13 050	Green	45	650
EFGL 16 25 050	Blue	90	1305
EFGL 16 38 050	Red	135	1960
EFGL 16 50 050	Yellow	180	2610
EFGL 16 XX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
EFGL 16 13 050	13	29	22	49
EFGL 16 25 050	25	56	42	94
EFGL 16 38 050	38	85	64	144
EFGL 16 50 050	50	112	85	191
EFGL 16 XX 050	6-50	13-112	10-85	22-191

MOUNTING OPTIONS

Top Mount **E23-016** 605

HOW TO ORDER

ASSEMBLY TOOL OPTION

LPT 10

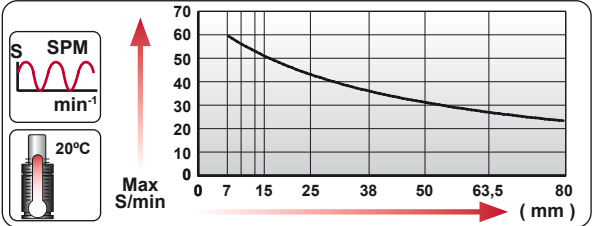
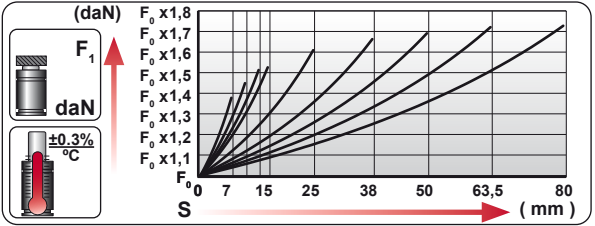
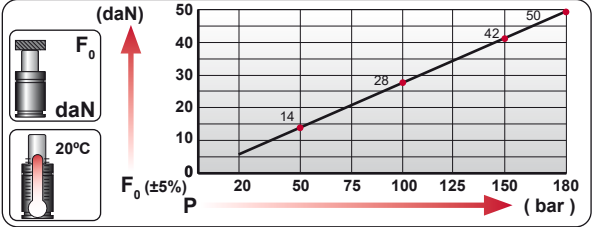
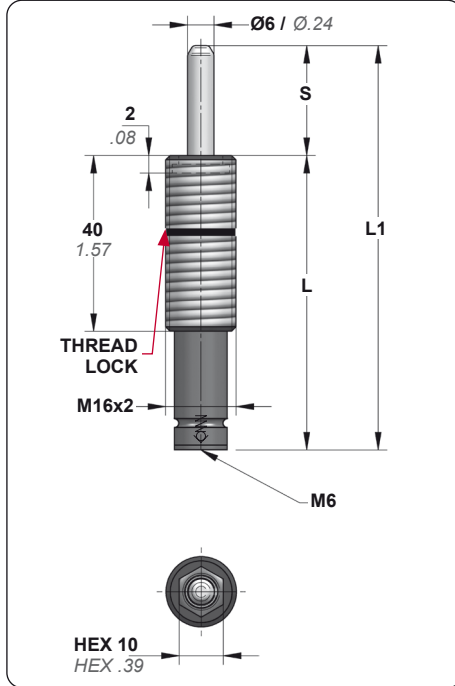
HOW TO ORDER

TECHNICAL DATA			
Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi
Smax	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C
Charging Adapter		Connection	06 CG 2-Q X
Cartridge Kit			X

EFGQ 16

Gas Strippers

	FORD W-DX35-8031	



VDI SAFETY

STANDARS



ORDER	S		L1 ± 0.25		L		Kg.		lb
	mm	inch	mm	inch	mm	inch			
EFGQ 16 ... 007	7	0.28	56	2.20	49	1.93	0.06	0.13	
EFGQ 16 ... 010	10	0.39	62	2.44	52	2.05	0.06	0.13	
EFGQ 16 ... 012	12.7	0.50	67.4	2.65	54.7	2.15	0.06	0.13	
EFGQ 16 ... 015	15	0.59	72	2.83	57	2.24	0.06	0.13	
EFGQ 16 ... 025	25	0.98	92	3.62	67	2.64	0.07	0.15	
EFGQ 16 ... 038	38	1.50	118	4.65	80	3.15	0.08	0.18	
EFGQ 16 ... 050	50	1.97	142	5.59	92	3.62	0.08	0.18	
EFGQ 16 ... 063	63.5	2.50	172	6.77	108.5	4.27	0.09	0.20	
EFGQ 16 ... 080	80	3.15	205	8.07	125	4.92	0.10	0.22	

ORDER	COLOR	P	
		bar	psi
EFGQ 16 13 050	Green	45	650
EFGQ 16 25 050	Blue	90	1305
EFGQ 16 38 050	Red	135	1960
EFGQ 16 50 050	Yellow	180	2610
EFGQ 16 XX 050	Black	20-180	290-2610

ORDER	F_0 Initial Force $\pm 5\%$ $20^\circ C$ / $68^\circ F$		F_1 (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	EFGQ 16 13 050	13	29	22
EFGQ 16 25 050	25	56	42	94
EFGQ 16 38 050	38	85	64	144
EFGQ 16 50 050	50	112	85	191
EFGQ 16 XX 050	6-50	13-112	10-85	22-191

MOUNTING OPTIONS



E63-016 605

ASSEMBLY TOOL OPTION

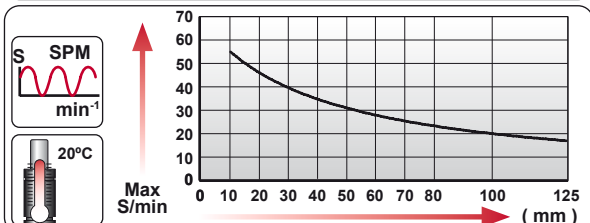
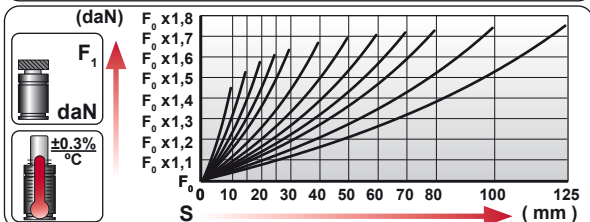
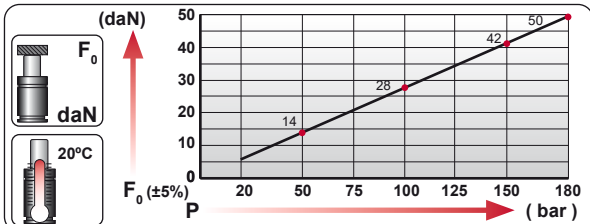
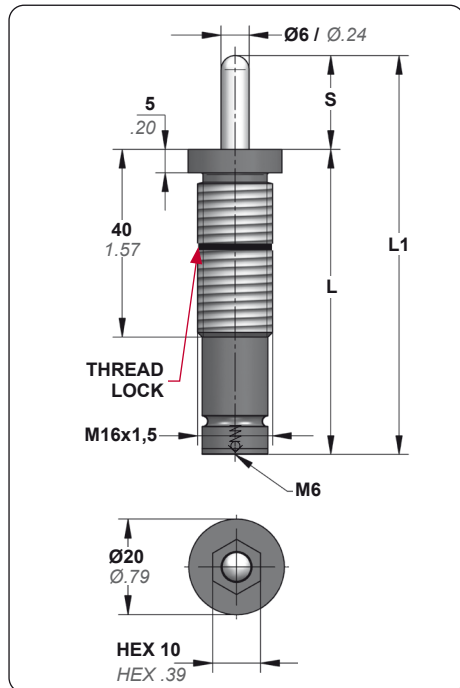


LPT 10

TECHNICAL DATA

Fluid	N_2	Pmin Pmax	20 bar / 290 psi	180 bar / 2610 psi	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Charging Adapter	06 CG 2-Q
Smax	< 90%	Force variation by temperature	$\pm 0,3\% / ^\circ C$		Connection	X			
Vmax	1,6 m/s	Cartridge Kit	X						

	GM	90.80
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VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
EFT 16 ... 010	10	0.39	65	2.56	55	2.17	0.06	0.13
EFT 16 ... 015	15	0.59	75	2.95	60	2.36	0.07	0.15
EFT 16 ... 020	20	0.79	85	3.35	65	2.56	0.07	0.15
EFT 16 ... 025	25	0.98	95	3.74	70	2.76	0.07	0.15
EFT 16 ... 030	30	1.18	105	4.13	75	2.95	0.08	0.18
EFT 16 ... 040	40	1.57	125	4.92	85	3.35	0.08	0.18
EFT 16 ... 050	50	1.97	145	5.71	95	3.74	0.09	0.20
EFT 16 ... 060	60	2.36	165	6.50	105	4.13	0.10	0.22
EFT 16 ... 070	70	2.76	185	7.28	115	4.53	0.10	0.22
EFT 16 ... 080	80	3.15	205	8.07	125	4.92	0.11	0.24
EFT 16 ... 100	100	3.94	245	9.65	145	5.71	0.12	0.26
EFT 16 ... 125	125	4.92	295	11.61	170	6.69	0.14	0.31

ORDER	COLOR	P	
		bar	psi
EFT 16 6 050	Green	20	290
EFT 16 11 050	Blue	40	580
EFT 16 21 050	Red	75	1090
EFT 16 42 050	Yellow	150	2175
EFT 16 XX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5%		F ₁ (ISOTHERMAL) End Force	
	20°C 68°F			
	daN	lb	daN	lb
EFT 16 6 050	6	13	10	22
EFT 16 11 050	11	25	20	45
EFT 16 21 050	21	47	35	79
EFT 16 42 050	42	94	70	157
EFT 16 XX 050	6-50	13-112	10-85	22-191

ASSEMBLY TOOL OPTION

LPT 10

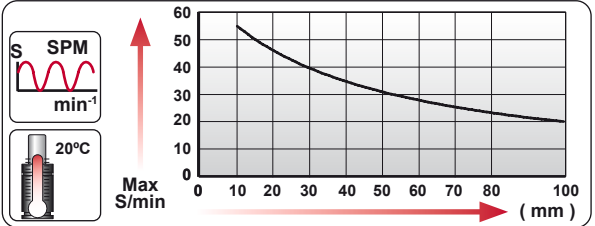
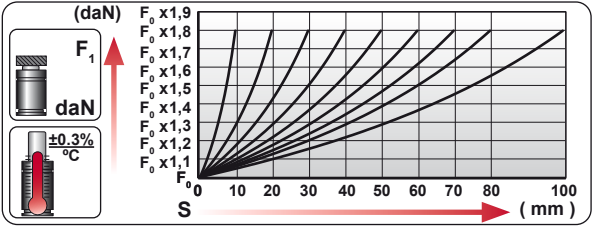
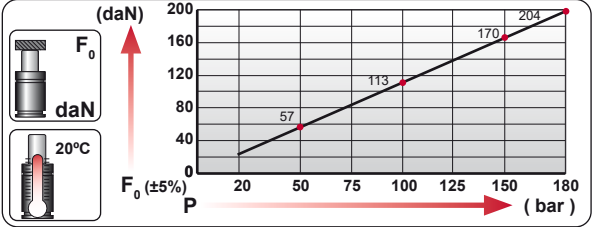
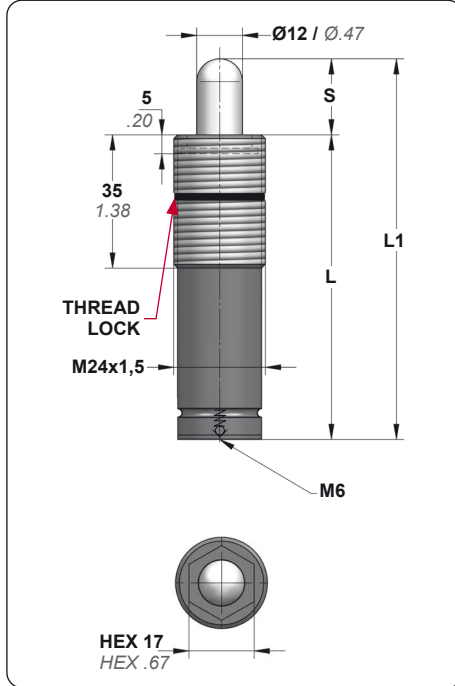
HOW TO ORDER

TECHNICAL DATA	
Fluid: N ₂ Smax: < 90% Vmax: 1,6 m/s	Pmin Pmax 20°C / 68°F: 20 bar / 290 psi, 180 bar / 2610 psi Tmin Tmax: 0 °C / 32 °F, 80 °C / 176 °F Force variation by temperature: ±0,3% / °C
Charging Adapter: 06 CG 2-Q Connection: X Cartridge Kit: X	

EFG 24

Gas Strippers

	FORD	W-DX35-6030	
MB	B8 0820 100 000 002	GM	90.25
VW	39D 549		



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L			
	mm	inch	mm	inch	mm	inch	Kg.	lb
EFG 24 ... 010	10	0.39	80	3.15	70	2.76	0.19	0.42
EFG 24 ... 020	20	0.79	100	3.94	80	3.15	0.20	0.44
EFG 24 ... 030	30	1.18	120	4.72	90	3.54	0.22	0.49
EFG 24 ... 040	40	1.57	140	5.51	100	3.94	0.24	0.53
EFG 24 ... 050	50	1.97	160	6.30	110	4.33	0.26	0.57
EFG 24 ... 060	60	2.36	180	7.09	120	4.72	0.27	0.60
EFG 24 ... 070	70	2.76	200	7.87	130	5.12	0.29	0.64
EFG 24 ... 080	80	3.15	220	8.66	140	5.51	0.31	0.68
EFG 24 ... 100	100	3.94	260	10.24	160	6.30	0.34	0.75

ORDER	COLOR	P	
		bar	psi
EFG 24 23 050	Green	20	290
EFG 24 45 050	Blue	40	580
EFG 24 85 050	Red	75	1090
EFG 24 170 050	Yellow	150	2175
EFG 24 XXX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	EFG 24 23 050	23	52	40
EFG 24 45 050	45	101	80	180
EFG 24 85 050	85	191	155	348
EFG 24 170 050	170	382	305	686
EFG 24 XXX 050	23-200	52-450	40-355	90-798

MOUNTING OPTIONS

Top Mount 605

HOW TO ORDER

ASSEMBLY TOOL OPTION

LPT 17

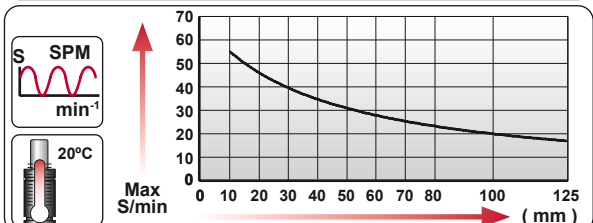
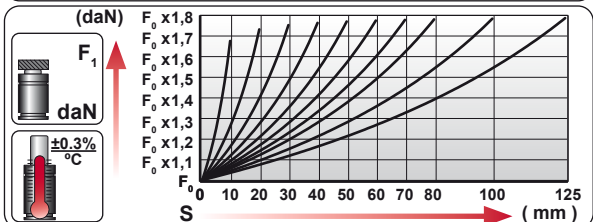
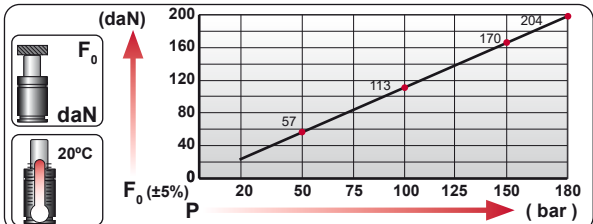
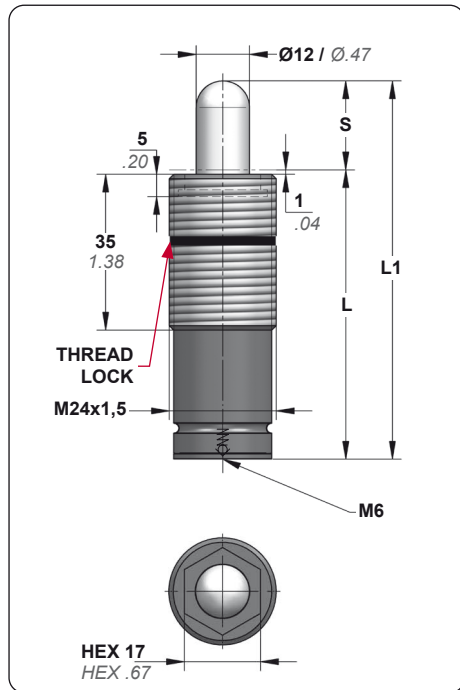
HOW TO ORDER

TECHNICAL DATA					
Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi	Charging Adapter	06 CG 2-Q
Smax	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X



EFGC 24

Gas Strippers



VDI SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		Kg. lb	
	mm	inch	mm	inch	mm	inch		
EFGC 24 ... 010	10	0.39	65	2.56	55	2.17	0.14	0.31
EFGC 24 ... 020	20	0.79	85	3.35	65	2.56	0.16	0.35
EFGC 24 ... 030	30	1.18	105	4.13	75	2.95	0.18	0.40
EFGC 24 ... 040	40	1.57	125	4.92	85	3.35	0.19	0.42
EFGC 24 ... 050	50	1.97	145	5.71	95	3.74	0.21	0.46
EFGC 24 ... 060	60	2.36	165	6.50	105	4.13	0.23	0.51
EFGC 24 ... 070	70	2.76	185	7.28	115	4.53	0.25	0.55
EFGC 24 ... 080	80	3.15	205	8.07	125	4.92	0.26	0.57
EFGC 24 ... 100	100	3.94	245	9.65	145	5.71	0.30	0.66
EFGC 24 ... 125	125	4.92	295	11.61	170	6.69	0.34	0.75

ORDER	COLOR	P	
		bar	psi
EFGC 24 23 050	Green	20	290
EFGC 24 45 050	Blue	40	580
EFGC 24 85 050	Red	75	1090
EFGC 24 170 050	Yellow	150	2175
EFGC 24 XXX 050	Black	20-180	290-2610

ORDER	F_0 Initial Force ±5% 20°C 68°F		F_1 (ISOTHERMAL) End Force	
	daN	lb	daN	lb
	EFGC 24 23 050	23	52	40
EFGC 24 45 050	45	101	80	180
EFGC 24 85 050	85	191	150	337
EFGC 24 170 050	170	382	300	674
EFGC 24 XXX 050	23-200	52-450	40-355	90-798

MOUNTING OPTIONS



E23-024 605

ASSEMBLY TOOL OPTION



LPT 17

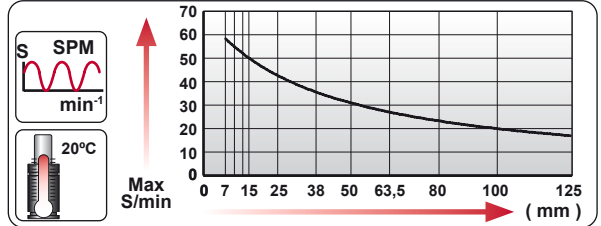
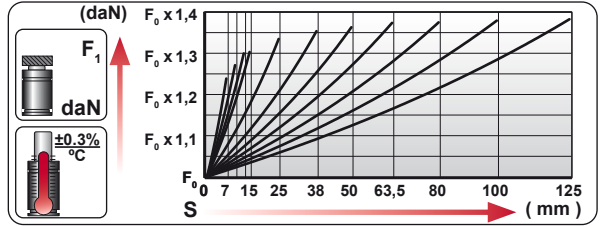
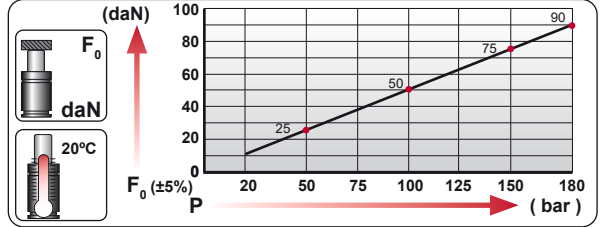
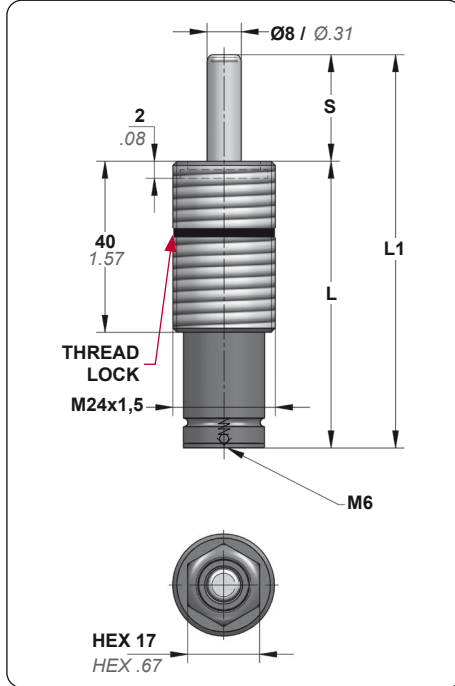
TECHNICAL DATA

Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar / 290 psi	180 bar / 2610 psi	Charging Adapter	06 CG 2-Q
Smix	< 90%	Tmin Tmax	0 °C / 32 °F	80 °C / 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	X

EFGL 24

Gas Strippers

	FORD W-DX35-8018	



VDI SAFETY

STANDARS

ORDER	S		L1 ±0.25		L			
	mm	inch	mm	inch	mm	inch	Kg.	lb
EFGL 24 ... 007	7	0.28	56	2.20	49	1.93	0.12	0.26
EFGL 24 ... 010	10	0.39	62	2.44	52	2.05	0.13	0.29
EFGL 24 ... 012	12.7	0.50	67.4	2.65	54.7	2.15	0.13	0.29
EFGL 24 ... 015	15	0.59	72	2.83	57	2.24	0.13	0.29
EFGL 24 ... 025	25	0.98	92	3.62	67	2.64	0.15	0.33
EFGL 24 ... 038	38	1.50	118	4.65	80	3.15	0.16	0.35
EFGL 24 ... 050	50	1.97	142	5.59	92	3.62	0.18	0.40
EFGL 24 ... 063	63.5	2.50	172	6.77	109	4.29	0.19	0.42
EFGL 24 ... 080	80	3.15	205	8.07	125	4.92	0.21	0.46
EFGL 24 ... 100	100	3.94	245	9.65	145	5.71	0.24	0.53
EFGL 24 ... 125	125	4.92	295	11.61	170	6.69	0.27	0.60

ORDER	COLOR	P	
		bar	psi
EFGL 24 30 050	Green	60	870
EFGL 24 50 050	Blue	100	1450
EFGL 24 70 050	Red	140	2030
EFGL 24 90 050	Yellow	180	2610
EFGL 24 XX 050	Black	20-180	290-2610

ORDER	F ₀ Initial Force ±5%		F ₁ (ISOTHERMAL) End Force	
	20°C 68°F			
	daN	lb	daN	lb
EFGL 24 30 050	30	67	40	90
EFGL 24 50 050	50	112	70	157
EFGL 24 70 050	70	157	95	214
EFGL 24 90 050	90	202	120	270
EFGL 24 XX 050	10-90	22-202	13-120	29-270

MOUNTING OPTIONS

Top Mount

HOW TO ORDER **E23-024**

ASSEMBLY TOOL OPTION

HOW TO ORDER **LPT 17**

TECHNICAL DATA					
Fluid	N ₂	Pmin Pmax	20 bar 180 bar	Charging Adapter	06 CG 2-Q
		20°C / 68°F	290 psi 2610 psi		
Smax	< 90%	Tmin Tmax	0 °C 80 °C	Connection	X
			32 °F 176 °F		
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X



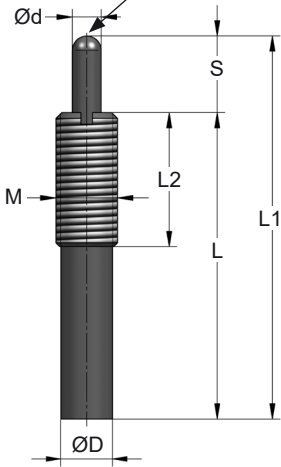
MBR

Spring Plungers



MBR

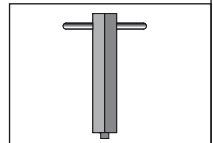
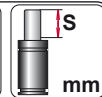
S45C
(STEEL)



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	ØD (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBR 16 020	M16x2	20	100	80	35	13.4	7.5	35	174	LP 16
MBR 16 030	M16x2	30	150	120	35	13.4	7.5	20	80	LP 16
MBR 16 040	M16x2	40	190	150	35	13.4	7.5	55	158	LP 16
MBR 16 050	M16x2	50	250	200	35	13.4	7.5	35	105	LP 16



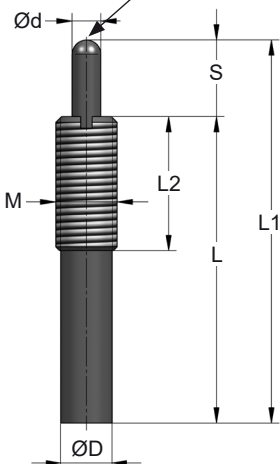
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



LP 16

MBN

S45C
(STEEL)



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	$\varnothing D$ (mm)	$\varnothing d$ (mm)	F ₀ (N)	F ₁ (N)	Key
MBN 16 010	M16	11	91	80	35	13.4	7.3	17	75	LPS 16
MBN 16 020	M16	21	141	120	35	13.4	7.3	21	80	LPS 16
MBN 16 030	M16	31	181	150	35	13.4	7.3	21	90	LPS 16
MBN 16 040	M16	41	241	200	35	13.4	7.3	16	80	LPS 16
MBN 22 020	M22	21	151	130	50	19	9	80	215	LPS 22
MBN 22 030	M22	31	199	168	50	19	9	70	210	LPS 22
MBN 22 040	M22	41	267	226	50	19	9	75	210	LPS 22



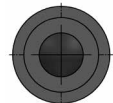
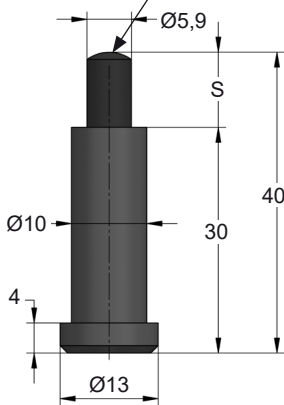
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



LPS _ _

MBP

S45C
(STEEL)



ORDER	S (mm)	F ₀ (N)	F ₁ (N)
MBP 010	10	42	110



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

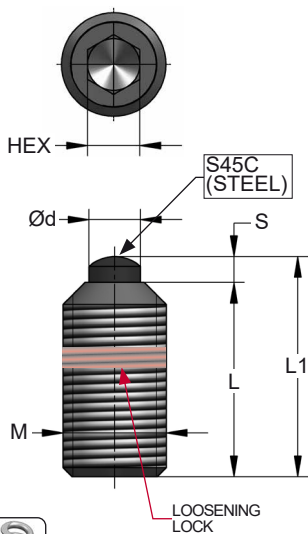


MBSD / MBSL

Spring Plungers



MBSD



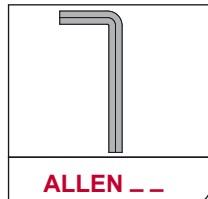
ORDER	M	S (mm)	L1 (mm)	L (mm)	Ød (mm)	HEX (mm)	F ₀ (N)	F ₁ (N)	Allen Key
MBSD 5 001	M5	1.5	13.5	12	2.5	2.5	5	15	2.5
MBSD 6 001	M6	1.5	14.5	13	3	3	6	20	3
MBSD 8 002	M8	2	17	15	4	4	6	20	4
MBSD 10 002	M10	2.5	18.5	16	5	5	10	30	5
MBSD 12 003	M12	3.5	23.5	20	6	6	10	30	6
MBSD 16 004	M16	4.5	26.5	22	8	8	20	60	8

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

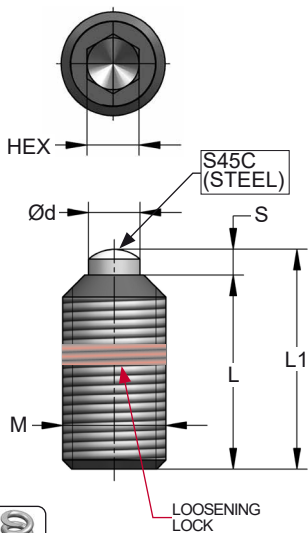
M
 S
 mm

MBSD M16 4

MBSD 16 004



MBSL



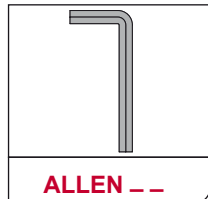
ORDER	M	S (mm)	L1 (mm)	L (mm)	Ød (mm)	HEX (mm)	F ₀ (N)	F ₁ (N)	Allen Key
MBSL 5 001	M5	1.5	13.5	12	2.5	2.5	2	8	2.5
MBSL 6 001	M6	1.5	14.5	13	3	3	3	10	3
MBSL 8 002	M8	2	17	15	4	4	3	10	4
MBSL 10 002	M10	2.5	18.5	16	5	5	5	15	5
MBSL 12 003	M12	3.5	23.5	20	6	6	5	15	6
MBSL 16 004	M16	4.5	26.5	22	8	8	10	30	8

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

M
 S
 mm

MBSL M16 4

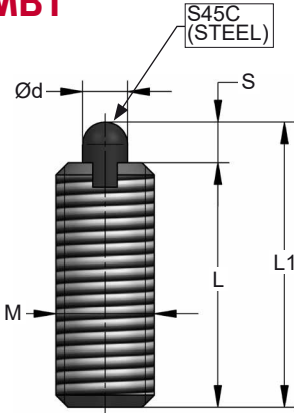
MBSL 16 004





MBT / MBTH
Spring Plungers

MBT

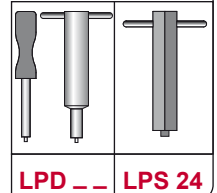


ORDER	M	S (mm)	L1 (mm)	L (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBT 3 001	M3	1	13	12	1	2	4	LPD 3
MBT 4 001	M4	1.5	16.5	15	1.5	4.5	16	LPD 4
MBT 5 002	M5	2.3	20.3	18	2.4	6	19	LPD 5
MBT 6 002	M6	2.5	22.5	20	2.7	6	19	LPD 6
MBT 8 003	M8	3	25	22	3.5	10	39	LPD 8
MBT 10 003	M10	3	25	22	4	10	39	LPD 10
MBT 12 004	M12	4	32	28	6	12	53	LPD 12
MBT 16 005	M16	5	37	32	7.5	45	100	LPD 16
MBT 20 007	M20	7	47	40	10	52	125	LPD 20
MBT 24 010	M24	10	62	52	12	70	170	LPS 24

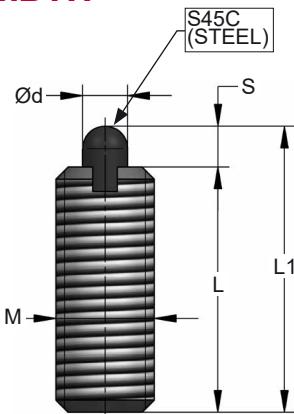
ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

MBT M24 10

MBT 24 010



MBTH

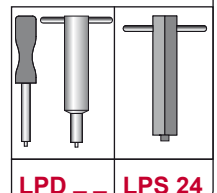


ORDER	M	S (mm)	L1 (mm)	L (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBTH 5 002	M5	2.3	20.3	18	2.4	11	40	LPD 5
MBTH 6 002	M6	2.5	22.5	20	2.7	15	43	LPD 6
MBTH 8 003	M8	3	25	22	3.5	20	75	LPD 8
MBTH 10 003	M10	3	25	22	4	20	75	LPD 10
MBTH 12 004	M12	4	32	28	6	45	120	LPD 12
MBTH 16 005	M16	5	37	32	7.5	64	160	LPD 16
MBTH 20 007	M20	7	47	40	10	75	195	LPD 20
MBTH 24 010	M24	10	62	52	12	75	245	LPS 24

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

MBTH M24 10

MBTH 24 010



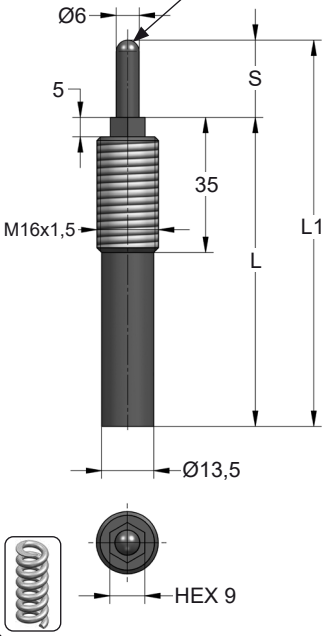
MBFP

Spring Plungers

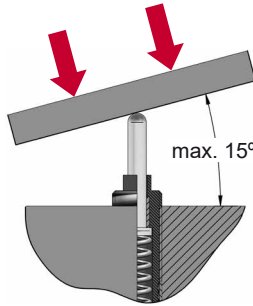


MBFP

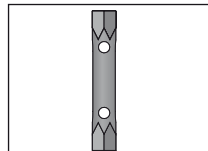
S45C
(STEEL)



ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBFP 16 020	20	100	80	35	89	LPV 8-9
MBFP 16 030	30	120	90	2	27	LPV 8-9
MBFP 16 050	50	200	150	9	34	LPV 8-9

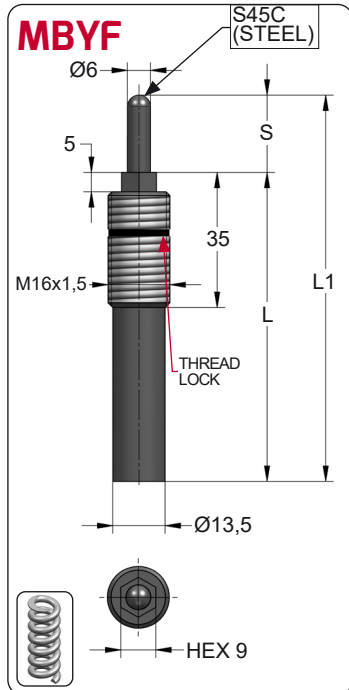


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

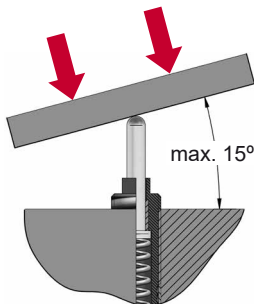


MBFP M16 50
MBFP 16 050

LPV 8-9



ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBYF 16 020	20	100	80	35	89	LPV 8-9
MBYF 16 030	30	150	120	16	73	LPV 8-9
MBYF 16 050	50	250	200	21	76	LPV 8-9

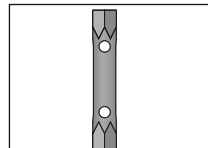


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

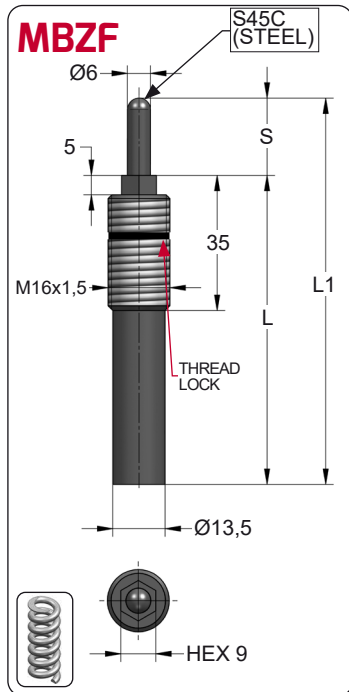


MBYF M16 50

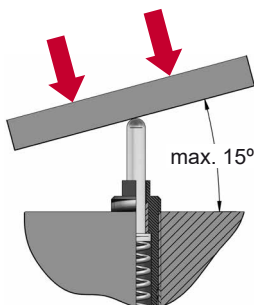
MBYF 16 050



LPV 8-9



ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBZF 16 020	20	100	80	4	36	LPV 8-9
MBZF 16 030	30	110	80	3.5	43	LPV 8-9
MBZF 16 050	50	200	150	11	40	LPV 8-9

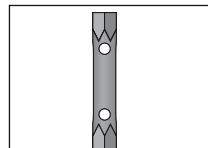


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



MBZF M16 50

MBZF 16 050



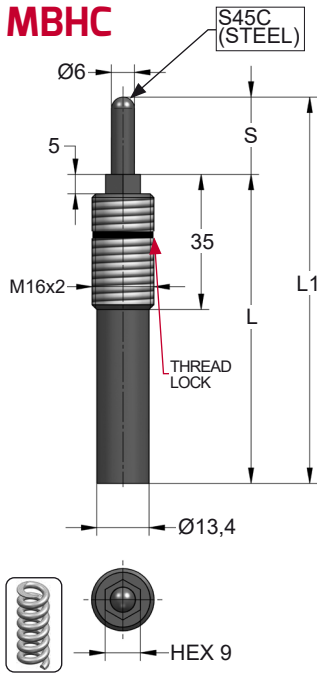
LPV 8-9

MBHC / MBHF

Spring Plungers



MBHC



ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBHC 16 010	10	70	60	4	13.3	LPV 8-9
MBHC 16 015	15	75	60	10	40	LPV 8-9
MBHC 16 020	20	100	80	7	34.5	LPV 8-9
MBHC 16 030	30	110	80	6.5	45.5	LPV 8-9
MBHC 16 030/1	30	150	120	18	40	LPV 8-9
MBHC 16 040	40	190	150	13.2	37.2	LPV 8-9
MBHC 16 050	50	200	150	13.2	43.2	LPV 8-9
MBHC 16 060	60	210	150	13.2	49.2	LPV 8-9
MBHC 16 070	70	270	200	9.7	40.5	LPV 8-9
MBHC 16 080	80	280	200	9.7	44.8	LPV 8-9

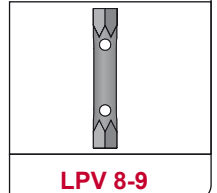
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

M

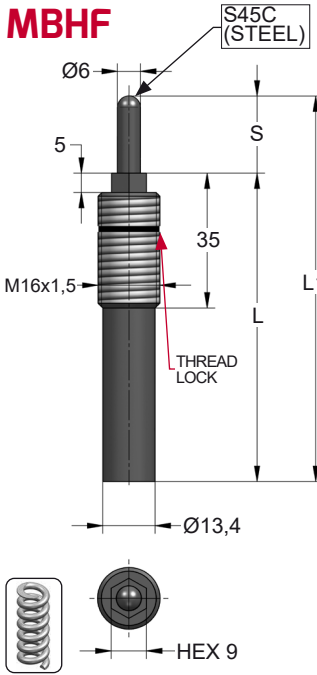
S
mm

MBHC M16 80

MBHC 16 080



MBHF



ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBHF 16 010	10	70	60	4	13.3	LPV 8-9
MBHF 16 015	15	75	60	10	40	LPV 8-9
MBHF 16 020	20	100	80	7	34.5	LPV 8-9
MBHF 16 030	30	110	80	6.5	45.5	LPV 8-9
MBHF 16 030/1	30	150	120	18	40	LPV 8-9
MBHF 16 040	40	190	150	13.2	37.2	LPV 8-9
MBHF 16 050	50	200	150	13.2	43.2	LPV 8-9
MBHF 16 060	60	210	150	13.2	49.2	LPV 8-9
MBHF 16 070	70	270	200	9.7	40.5	LPV 8-9
MBHF 16 080	80	280	200	9.7	44.8	LPV 8-9

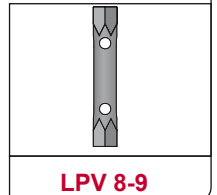
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

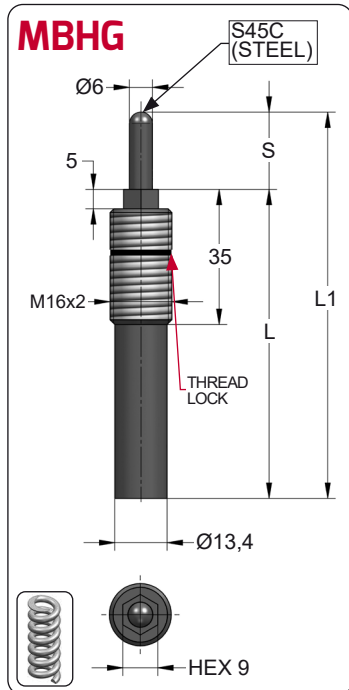
M

S
mm

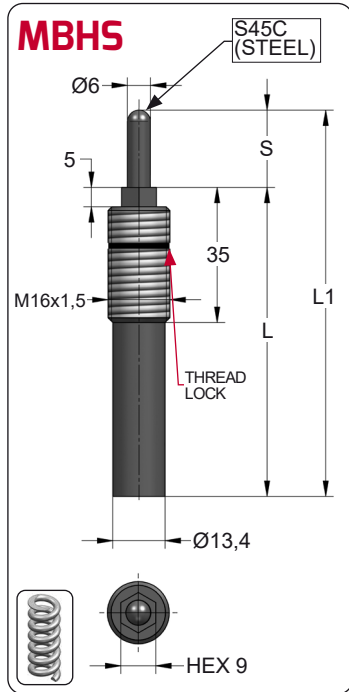
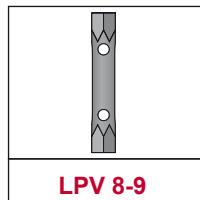
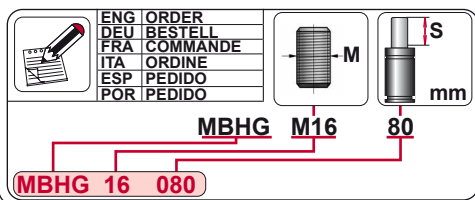
MBHF M16 80

MBHF 16 080

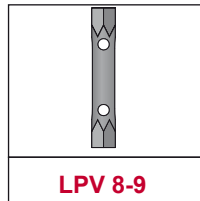
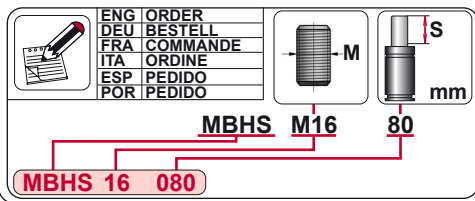




ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBHG 16 010	10	70	60	13	45.5	LPV 8-9
MBHG 16 015	15	75	60	15	56	LPV 8-9
MBHG 16 020	20	100	80	34.5	172.5	LPV 8-9
MBHG 16 030	30	150	120	20	80	LPV 8-9
MBHG 16 030/1	30	180	150	56.1	132.2	LPV 8-9
MBHG 16 040	40	190	150	56.1	158.1	LPV 8-9
MBHG 16 050	50	250	200	19.3	100	LPV 8-9
MBHG 16 060	60	260	200	19.3	116	LPV 8-9
MBHG 16 070	70	270	200	19.3	132	LPV 8-9
MBHG 16 080	80	280	200	25	100	LPV 8-9



ORDER	S (mm)	L1 (mm)	L (mm)	F ₀ (N)	F ₁ (N)	Key
MBHS 16 010	10	70	60	13	45.5	LPV 8-9
MBHS 16 015	15	75	60	15	56	LPV 8-9
MBHS 16 020	20	100	80	34.5	172.5	LPV 8-9
MBHS 16 030	30	150	120	20	80	LPV 8-9
MBHS 16 030/1	30	180	150	56.1	132.2	LPV 8-9
MBHS 16 040	40	190	150	56.1	158.1	LPV 8-9
MBHS 16 050	50	250	200	19.3	100	LPV 8-9
MBHS 16 060	60	260	200	19.3	116	LPV 8-9
MBHS 16 070	70	270	200	19.3	132	LPV 8-9
MBHS 16 080	80	280	200	25	100	LPV 8-9

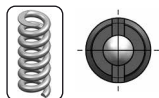
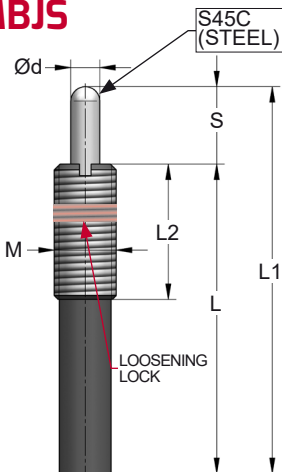


MBJS / MBJX

Spring Plungers



MBJS



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBJS 3 001	M3	1.5	11.5	10	10	1.1	0.05	0.32	---
MBJS 3 003	M3	3	18	15	15	1.1	0.09	0.32	---
MBJS 4 002	M4	2	17	15	15	1.6	0.23	0.65	---
MBJS 4 004	M4	4	28	24	24	1.6	0.24	0.65	---
MBJS 5 003	M5	3	23	20	20	2	0.74	2.95	LPJ 1
MBJS 5 005	M5	5	32	27	27	2	0.72	2.95	LPJ 1
MBJS 6 003	M6	3	28	25	25	2.5	0.85	3.2	LPJ 1
MBJS 6 005	M6	5	35	30	30	2.5	0.85	3.2	LPJ 1
MBJS 8 003	M8	3	28	25	25	3.1	0.9	3.3	LPJ 2
MBJS 8 005	M8	5	32	27	27	3.1	0.9	3.3	LPJ 2
MBJS 10 005	M10	5	35	30	30	3.8	1.9	4.7	LPJ 2
MBJS 10 010	M10	10	53	43	30	3.8	1.7	4.7	LPJ 2
MBJS 12 005	M12	5	35	30	30	5.5	1.5	4.7	LPJ 3
MBJS 12 010	M12	10	53	43	35	5.5	1.3	5.9	LPJ 3
MBJS 12 015	M12	15	66	51	35	5.5	1.6	5.9	LPJ 3
MBJS 16 010	M16	10	70	60	35	8	1.7	12.8	LPJ 4
MBJS 16 015	M16	15	75	60	35	8	1.7	12.8	LPJ 4
MBJS 16 020	M16	20	105	85	35	8	1.7	12.8	LPJ 4

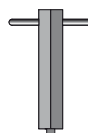


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



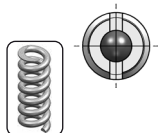
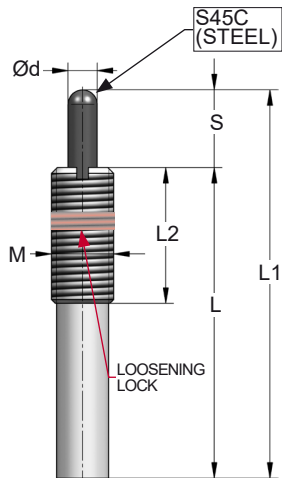
MBJS M16 20

MBJS 16 020



LPJ __

MBJX



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBJX 3 001	M3	1.5	16.5	15	15	1.1	2	5	---
MBJX 3 003	M3	3	23	20	20	1.1	2	5	---
MBJX 4 002	M4	2	26	24	24	1.6	5	13	---
MBJX 4 004	M4	4	28	24	24	1.6	5	13	---
MBJX 5 003	M5	3	30	27	27	2	9	25	LPJ 1
MBJX 5 005	M5	5	44	39	39	2	9	25	LPJ 1
MBJX 6 003	M6	3	33	30	30	2.5	14	39	LPJ 1
MBJX 6 005	M6	5	41	36	36	2.5	14	39	LPJ 1
MBJX 8 003	M8	3	30	27	27	3.1	15	41	LPJ 2
MBJX 8 005	M8	5	40	35	30	3.1	15	41	LPJ 2
MBJX 10 005	M10	5	40	35	30	3.8	16	63	LPJ 2
MBJX 10 010	M10	10	63	53	30	3.8	13	63	LPJ 2
MBJX 12 005	M12	5	48	43	35	5.5	37	98	LPJ 3
MBJX 12 010	M12	10	68	58	35	5.5	15	98	LPJ 3
MBJX 12 015	M12	15	93	78	35	5.5	15	98	LPJ 3
MBJX 16 010	M16	10	70	60	35	8	24	147	LPJ 4
MBJX 16 015	M16	15	85	70	35	8	22	147	LPJ 4
MBJX 16 020	M16	20	110	90	35	8	13	147	LPJ 4
MBJX 20 015	M20	15	95	80	45	10	13	250	LPJ 5
MBJX 24 015	M24	15	99	84	45	10	25	314	LPJ 5

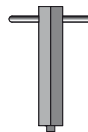


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



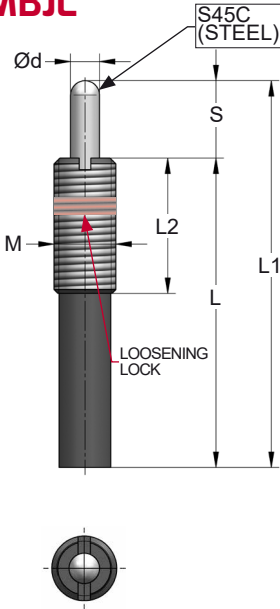
MBJX M24 15

MBJX 24 015



LPJ __

MBJL



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBJL 3 001	M3	1.5	11.5	10	10	1.1	0.5	1	---
MBJL 3 003	M3	3	18	15	15	1.1	0.3	1	---
MBJL 4 002	M4	2	17	15	15	1.6	1	2	---
MBJL 4 004	M4	4	28	24	24	1.6	0.6	2	---
MBJL 5 003	M5	3	23	20	20	2	2	10	LPJ 1
MBJL 5 005	M5	5	32	27	27	2	2	10	LPJ 1
MBJL 6 003	M6	3	28	25	25	2.5	6	10	LPJ 1
MBJL 6 005	M6	5	35	30	30	2.5	2	10	LPJ 1
MBJL 6 010	M6	10	49	39	30	2.5	1.4	10	LPJ 1
MBJL 8 003	M8	3	28	25	25	3.1	6	10	LPJ 2
MBJL 8 005	M8	5	32	27	27	3.1	3	10	LPJ 2
MBJL 8 010	M8	10	53	43	30	3.1	3	10	LPJ 2
MBJL 10 005	M10	5	35	30	30	3.8	6	15	LPJ 2
MBJL 10 010	M10	10	53	43	30	3.8	3	15	LPJ 2
MBJL 10 015	M10	15	73	58	30	3.8	3	15	LPJ 2
MBJL 12 005	M12	5	35	30	30	5.5	6	15	LPJ 3
MBJL 12 010	M12	10	53	43	35	5.5	3	20	LPJ 3
MBJL 12 015	M12	15	66	51	35	5.5	3	20	LPJ 3
MBJL 12 020	M12	20	98	78	35	5.5	3.5	20	LPJ 3
MBJL 16 010	M16	10	70	60	35	8	6	40	LPJ 4
MBJL 16 015	M16	15	75	60	35	8	4	40	LPJ 4
MBJL 16 020	M16	20	105	85	35	8	5	40	LPJ 4
MBJL 16 030	M16	30	155	125	35	8	3	40	LPJ 4
MBJL 16 040	M16	40	165	125	35	8	5	40	LPJ 4
MBJL 16 050	M16	50	205	155	35	8	20	50	LPJ 4
MBJL 16 060	M16	60	219	159	35	8	3	50	LPJ 4
MBJL 16 070	M16	70	255	185	35	8	3.5	50	LPJ 4
MBJL 16 080	M16	80	265	185	35	8	20	50	LPJ 4
MBJL 20 015	M20	15	75	60	45	10	13	80	LPJ 5
MBJL 20 020	M20	20	92	72	45	10	12	80	LPJ 5
MBJL 20 030	M20	30	126	96	45	10	12	80	LPJ 5
MBJL 20 040	M20	40	160	120	45	10	12	80	LPJ 5
MBJL 24 007	M24	7	67	60	45	10	20	98	LPJ 5
MBJL 24 015	M24	15	75	60	45	10	20	98	LPJ 5
MBJL 24 020	M24	20	95	75	45	10	18	98	LPJ 5
MBJL 24 030	M24	30	130	100	45	10	18	98	LPJ 5
MBJL 24 040	M24	40	164	124	45	10	18	98	LPJ 5
MBJL 30 015	M30	15	81	66	45	14	28	118	LPJ 6
MBJL 30 020	M30	20	98	78	45	14	28	118	LPJ 6
MBJL 30 030	M30	30	130	100	45	14	28	118	LPJ 6
MBJL 30 040	M30	40	163	123	45	14	28	118	LPJ 6

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

MBJL M30 40

MBJL 30 040

LPJ --

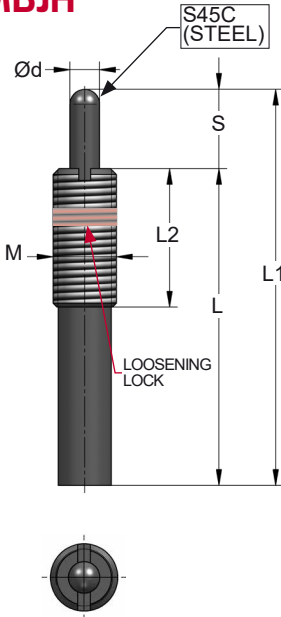


MBJH

Spring Plungers



MBJH

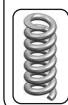
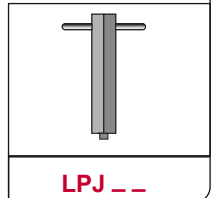


ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBJH 3 001	M3	1.5	11.5	10	10	1.1	0.8	3	---
MBJH 3 003	M3	3	18	15	15	1.1	0.8	3	---
MBJH 4 002	M4	2	17	15	15	1.6	3	9	---
MBJH 4 004	M4	4	28	24	24	1.6	2	9	---
MBJH 5 003	M5	3	23	20	20	2	5	20	LPJ 1
MBJH 5 005	M5	5	32	27	27	2	3	20	LPJ 1
MBJH 6 003	M6	3	28	25	25	2.5	8	30	LPJ 1
MBJH 6 005	M6	5	35	30	30	2.5	5	30	LPJ 1
MBJH 6 010	M6	10	49	39	30	2.5	5	28	LPJ 1
MBJH 8 003	M8	3	28	25	25	3.1	15	30	LPJ 2
MBJH 8 005	M8	5	32	27	27	3.1	8	30	LPJ 2
MBJH 8 010	M8	10	53	43	30	3.1	7	30	LPJ 2
MBJH 10 005	M10	5	35	30	30	3.8	9	50	LPJ 2
MBJH 10 010	M10	10	53	43	30	3.8	8	50	LPJ 2
MBJH 10 015	M10	15	73	58	30	3.8	6	50	LPJ 2
MBJH 12 005	M12	5	35	30	30	5.5	19	50	LPJ 3
MBJH 12 010	M12	10	53	43	35	5.5	8	50	LPJ 3
MBJH 12 015	M12	15	66	51	35	5.5	5	50	LPJ 3
MBJH 12 020	M12	20	98	78	35	5.5	7	50	LPJ 3
MBJH 16 010	M16	10	70	60	35	8	13	80	LPJ 4
MBJH 16 015	M16	15	75	60	35	8	13	80	LPJ 4
MBJH 16 020	M16	20	105	85	35	8	10	80	LPJ 4
MBJH 16 030	M16	30	155	125	35	8	7	80	LPJ 4
MBJH 16 040	M16	40	165	125	35	8	7	80	LPJ 4
MBJH 16 050	M16	50	205	155	35	8	30	80	LPJ 4
MBJH 16 060	M16	60	219	159	35	8	4	80	LPJ 4
MBJH 16 070	M16	70	255	185	35	8	5,6	80	LPJ 4
MBJH 16 080	M16	80	265	185	35	8	30	95	LPJ 4
MBJH 20 015	M20	15	75	60	45	10	25	150	LPJ 5
MBJH 20 020	M20	20	92	72	45	10	23	150	LPJ 5
MBJH 20 030	M20	30	126	96	45	10	23	150	LPJ 5
MBJH 20 040	M20	40	160	120	45	10	23	150	LPJ 5
MBJH 24 007	M24	7	67	60	45	10	44	196	LPJ 5
MBJH 24 015	M24	15	75	60	45	10	47	216	LPJ 5
MBJH 24 020	M24	20	95	75	45	10	44	216	LPJ 5
MBJH 24 030	M24	30	130	100	45	10	44	216	LPJ 5
MBJH 24 040	M24	40	164	124	45	10	44	216	LPJ 5
MBJH 30 015	M30	15	81	66	45	14	44	275	LPJ 6
MBJH 30 020	M30	20	98	78	45	14	53	275	LPJ 6
MBJH 30 030	M30	30	130	100	45	14	45	275	LPJ 6
MBJH 30 040	M30	40	163	123	45	14	47	275	LPJ 6

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

MBJH M30 40

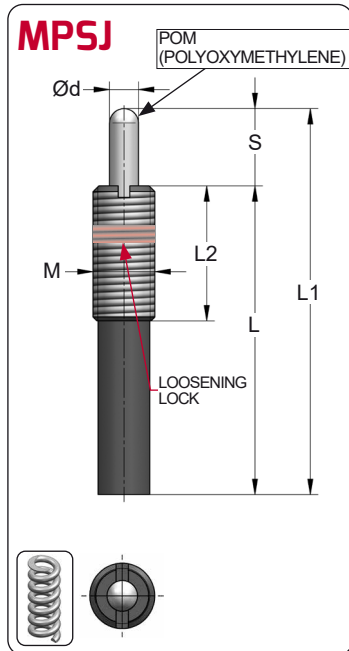
MBJH 30 040





MPSJ / MPLJ

Spring Plungers



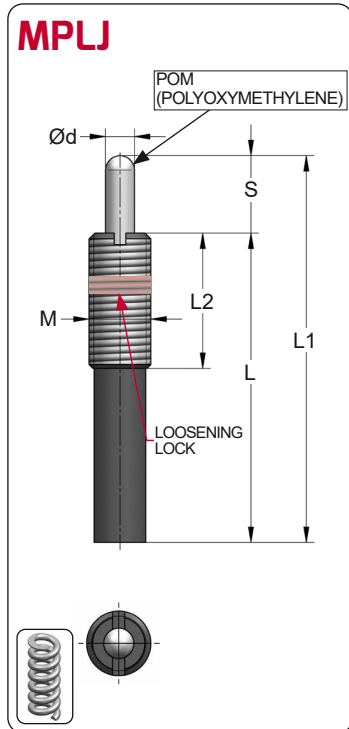
ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPSJ 3 001	M3	1.5	11.5	10	10	1.1	0.05	0.32	---
MPSJ 3 003	M3	3	18	15	15	1.1	0.09	0.32	---
MPSJ 4 002	M4	2	17	15	15	1.6	0.23	0.65	---
MPSJ 4 004	M4	4	28	24	24	1.6	0.24	0.65	---
MPSJ 5 003	M5	3	23	20	20	2	0.74	2.95	LPJ 1
MPSJ 5 005	M5	5	32	27	27	2	0.72	2.95	LPJ 1
MPSJ 6 003	M6	3	28	25	25	2.5	0.85	3.2	LPJ 1
MPSJ 6 005	M6	5	35	30	30	2.5	0.85	3.2	LPJ 1
MPSJ 8 003	M8	3	28	25	25	3.1	0.9	3.3	LPJ 2
MPSJ 8 005	M8	5	32	27	27	3.1	0.9	3.3	LPJ 2
MPSJ 10 005	M10	5	35	30	30	3.8	1.9	4.7	LPJ 2
MPSJ 10 010	M10	10	53	43	30	3.8	1.7	4.7	LPJ 2
MPSJ 12 005	M12	5	35	30	30	5.5	1.5	4.7	LPJ 3
MPSJ 12 010	M12	10	53	43	35	5.5	1.3	5.9	LPJ 3
MPSJ 12 015	M12	15	66	51	35	5.5	1.6	5.9	LPJ 3
MPSJ 16 010	M16	10	70	60	35	8	1.7	12.8	LPJ 4
MPSJ 16 015	M16	15	75	60	35	8	1.7	12.8	LPJ 4
MPSJ 16 020	M16	20	105	85	35	8	1.7	12.8	LPJ 4

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

MPSJ M16 20

MPSJ 16 020

LPJ __



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPLJ 3 001	M3	1.5	11.5	10	10	1.1	0.5	1	---
MPLJ 3 003	M3	3	18	15	15	1.1	0.3	1	---
MPLJ 4 002	M4	2	17	15	15	1.6	1	2	---
MPLJ 4 004	M4	4	28	24	24	1.6	0.6	2	---
MPLJ 5 003	M5	3	23	20	20	2	2	10	LPJ 1
MPLJ 5 005	M5	5	32	27	27	2	2	10	LPJ 1
MPLJ 6 003	M6	3	28	25	25	2.5	6	10	LPJ 1
MPLJ 6 005	M6	5	35	30	30	2.5	2	10	LPJ 1
MPLJ 8 003	M8	3	28	25	25	3.1	6	10	LPJ 2
MPLJ 8 005	M8	5	32	27	27	3.1	3	10	LPJ 2
MPLJ 10 005	M10	5	35	30	30	3.8	6	15	LPJ 2
MPLJ 10 010	M10	10	53	43	30	3.8	3	15	LPJ 2
MPLJ 12 005	M12	5	35	30	30	5.5	6	15	LPJ 3
MPLJ 12 010	M12	10	53	43	35	5.5	3	20	LPJ 3
MPLJ 12 015	M12	15	66	51	35	5.5	3	20	LPJ 3
MPLJ 16 010	M16	10	70	60	35	8	6	40	LPJ 4
MPLJ 16 015	M16	15	75	60	35	8	4	40	LPJ 4
MPLJ 16 020	M16	20	105	85	35	8	5	40	LPJ 4
MPLJ 16 030	M16	30	155	125	35	8	3	40	LPJ 4
MPLJ 20 015	M20	15	75	60	45	10	13	80	LPJ 5
MPLJ 24 015	M24	15	75	60	45	10	20	98	LPJ 5

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

MPLJ M24 15

MPLJ 24 015

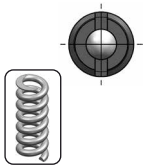
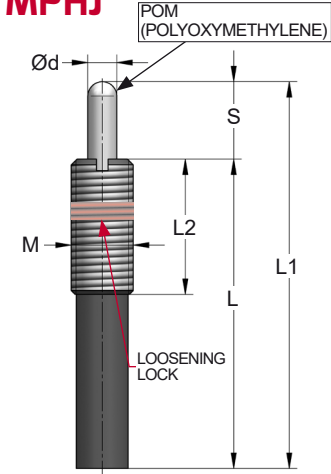
LPJ __

MPHJ / MPXJ

Spring Plungers



MPHJ

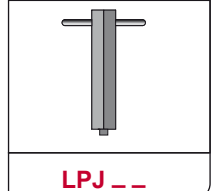


ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPHJ 3 001	M3	1.5	11.5	10	10	1.1	0.8	3	---
MPHJ 3 003	M3	3	18	15	15	1.1	0.8	3	---
MPHJ 4 002	M4	2	17	15	15	1.6	3	9	---
MPHJ 4 004	M4	4	28	24	24	1.6	2	9	---
MPHJ 5 003	M5	3	23	20	20	2	5	20	LPJ 1
MPHJ 5 005	M5	5	32	27	27	2	3	20	LPJ 1
MPHJ 6 003	M6	3	28	25	25	2.5	8	30	LPJ 1
MPHJ 6 005	M6	5	35	30	30	2.5	5	30	LPJ 1
MPHJ 8 003	M8	3	28	25	25	3.1	15	30	LPJ 2
MPHJ 8 005	M8	5	32	27	27	3.1	8	30	LPJ 2
MPHJ 10 005	M10	5	35	30	30	3.8	9	50	LPJ 2
MPHJ 10 010	M10	10	53	43	30	3.8	8	50	LPJ 2
MPHJ 12 005	M12	5	35	30	30	5.5	19	50	LPJ 3
MPHJ 12 010	M12	10	53	43	35	5.5	8	50	LPJ 3
MPHJ 12 015	M12	15	66	51	35	5.5	5	50	LPJ 3
MPHJ 16 010	M16	10	70	60	35	8	13	80	LPJ 4
MPHJ 16 015	M16	15	75	60	35	8	13	80	LPJ 4
MPHJ 16 020	M16	20	105	85	35	8	10	80	LPJ 4
MPHJ 16 030	M16	30	155	125	35	8	7	80	LPJ 4
MPHJ 20 015	M20	15	75	60	45	10	25	150	LPJ 5
MPHJ 24 015	M24	15	75	60	45	10	47	216	LPJ 5

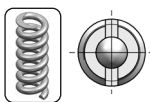
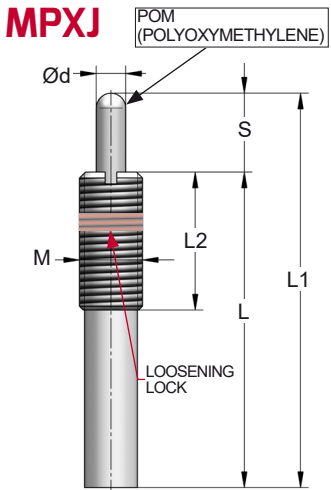
ENG ORDER / DEU BESTELL / FRA COMMANDE / ITA ORDINE / ESP PEDIDO / POR PEDIDO

MPHJ M24 15

MPHJ 24 015



MPXJ

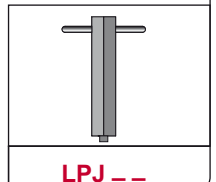


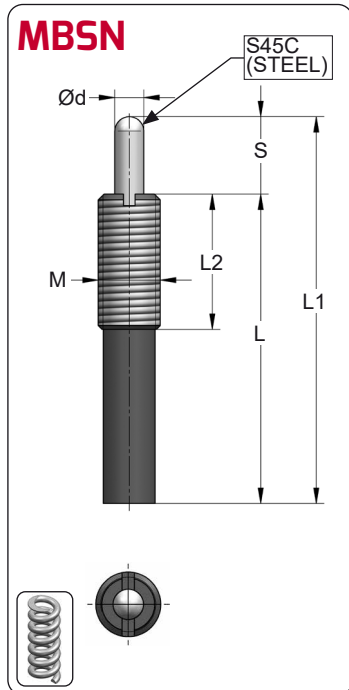
ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPXJ 3 001	M3	1.5	16.5	15	15	1.1	2	5	---
MPXJ 3 003	M3	3	23	20	20	1.1	2	5	---
MPXJ 4 002	M4	2	26	24	24	1.6	5	13	---
MPXJ 4 004	M4	4	28	24	24	1.6	5	13	---
MPXJ 5 003	M5	3	30	27	27	2	9	25	LPJ 1
MPXJ 5 005	M5	5	44	39	39	2	9	25	LPJ 1
MPXJ 6 003	M6	3	33	30	30	2.5	14	39	LPJ 1
MPXJ 6 005	M6	5	41	36	36	2.5	14	39	LPJ 1
MPXJ 8 003	M8	3	30	27	27	3.1	15	41	LPJ 2
MPXJ 8 005	M8	5	40	35	30	3.1	15	41	LPJ 2
MPXJ 10 005	M10	5	40	35	30	3.8	16	63	LPJ 2
MPXJ 10 010	M10	10	63	53	30	3.8	13	63	LPJ 2
MPXJ 12 005	M12	5	48	43	35	5.5	37	98	LPJ 3
MPXJ 12 010	M12	10	68	58	35	5.5	15	98	LPJ 3
MPXJ 12 015	M12	15	93	78	35	5.5	15	98	LPJ 3
MPXJ 16 010	M16	10	70	60	35	8	24	147	LPJ 4
MPXJ 16 015	M16	15	85	70	35	8	22	147	LPJ 4
MPXJ 16 020	M16	20	110	90	35	8	13	147	LPJ 4

ENG ORDER / DEU BESTELL / FRA COMMANDE / ITA ORDINE / ESP PEDIDO / POR PEDIDO

MPXJ M16 20

MPXJ 16 020





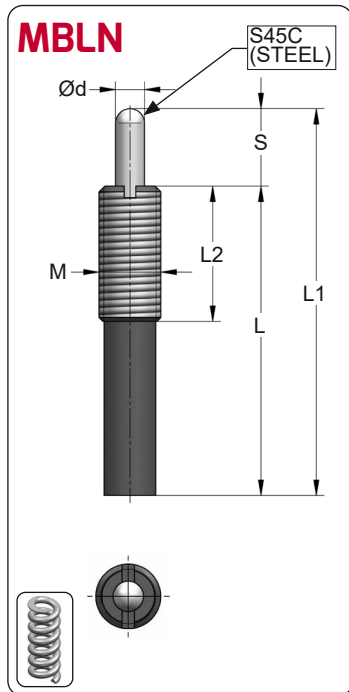
ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBSN 5 003	M5	3	23	20	20	2	0.74	2.95	LPJ 1
MBSN 5 005	M5	5	32	27	27	2	0.72	2.95	LPJ 1
MBSN 6 003	M6	3	28	25	25	2.5	0.85	3.2	LPJ 1
MBSN 6 005	M6	5	35	30	30	2.5	0.85	3.2	LPJ 1
MBSN 8 003	M8	3	28	25	25	3.1	0.9	3.3	LPJ 2
MBSN 8 005	M8	5	32	27	27	3.1	0.9	3.3	LPJ 2
MBSN 10 005	M10	5	35	30	30	3.8	1.9	4.7	LPJ 2
MBSN 10 010	M10	10	53	43	30	3.8	1.7	4.7	LPJ 2
MBSN 12 005	M12	5	35	30	30	5.5	1.5	4.7	LPJ 3
MBSN 12 010	M12	10	53	43	35	5.5	1.3	5.9	LPJ 3
MBSN 12 015	M12	15	66	51	35	5.5	1.6	5.9	LPJ 3
MBSN 16 010	M16	10	70	60	35	8	1.7	12.8	LPJ 4
MBSN 16 015	M16	15	75	60	35	8	1.7	12.8	LPJ 4
MBSN 16 020	M16	20	105	85	35	8	1.7	12.8	LPJ 4

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

MBSN M16 20

MBSN 16 020

LPJ _ _



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBLN 5 003	M5	3	23	20	20	2	2	10	LPJ 1
MBLN 5 005	M5	5	32	27	27	2	2	10	LPJ 1
MBLN 6 003	M6	3	28	25	25	2.5	6	10	LPJ 1
MBLN 6 005	M6	5	35	30	30	2.5	2	10	LPJ 1
MBLN 8 003	M8	3	28	25	25	3.1	6	10	LPJ 2
MBLN 8 005	M8	5	32	27	27	3.1	3	10	LPJ 2
MBLN 10 005	M10	5	35	30	30	3.8	6	15	LPJ 2
MBLN 10 010	M10	10	53	43	30	3.8	3	15	LPJ 2
MBLN 12 005	M12	5	35	30	30	5.5	6	15	LPJ 3
MBLN 12 010	M12	10	53	43	35	5.5	3	20	LPJ 3
MBLN 12 015	M12	15	66	51	35	5.5	3	20	LPJ 3
MBLN 16 010	M16	10	70	60	35	8	6	40	LPJ 4
MBLN 16 015	M16	15	75	60	35	8	4	40	LPJ 4
MBLN 16 020	M16	20	105	85	35	8	5	40	LPJ 4

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

MBLN M16 20

MBLN 16 020

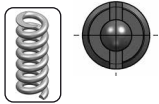
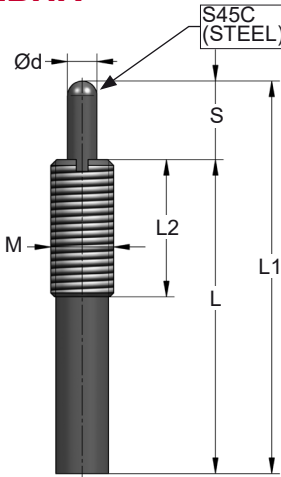
LPJ _ _

MBHN / MBXN

Spring Plungers



MBHN



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBHN 5 003	M5	3	23	20	20	2	5	20	LPJ 1
MBHN 5 005	M5	5	32	27	27	2	3	20	LPJ 1
MBHN 6 003	M6	3	28	25	25	2.5	8	30	LPJ 1
MBHN 6 005	M6	5	35	30	30	2.5	5	30	LPJ 1
MBHN 8 003	M8	3	28	25	25	3.1	15	30	LPJ 2
MBHN 8 005	M8	5	32	27	27	3.1	8	30	LPJ 2
MBHN 10 005	M10	5	35	30	30	3.8	9	50	LPJ 2
MBHN 10 010	M10	10	53	43	30	3.8	8	50	LPJ 2
MBHN 12 005	M12	5	35	30	30	5.5	19	50	LPJ 3
MBHN 12 010	M12	10	53	43	35	5.5	8	50	LPJ 3
MBHN 12 015	M12	15	66	51	35	5.5	5	50	LPJ 3
MBHN 16 010	M16	10	70	60	35	8	13	80	LPJ 4
MBHN 16 015	M16	15	75	60	35	8	13	80	LPJ 4
MBHN 16 020	M16	20	105	85	35	8	10	80	LPJ 4

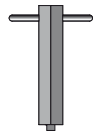


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



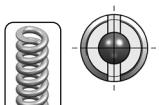
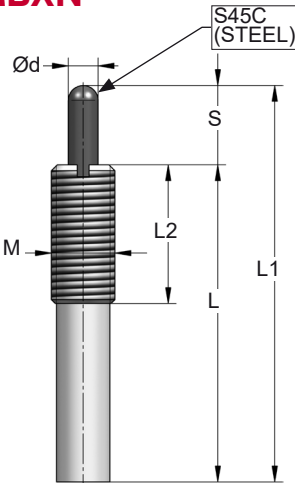
MBHN M16 20

MBHN 16 020



LPJ _ _

MBXN



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MBXN 5 003	M5	3	30	27	27	2	9	25	LPJ 1
MBXN 5 005	M5	5	44	39	39	2	9	25	LPJ 1
MBXN 6 003	M6	3	33	30	30	2.5	14	39	LPJ 1
MBXN 6 005	M6	5	41	36	36	2.5	14	39	LPJ 1
MBXN 8 003	M8	3	30	27	27	3.1	15	41	LPJ 2
MBXN 8 005	M8	5	40	35	30	3.1	15	41	LPJ 2
MBXN 10 005	M10	5	40	35	30	3.8	16	63	LPJ 2
MBXN 10 010	M10	10	63	53	30	3.8	13	63	LPJ 2
MBXN 12 005	M12	5	48	43	35	5.5	37	98	LPJ 3
MBXN 12 010	M12	10	68	58	35	5.5	15	98	LPJ 3
MBXN 12 015	M12	15	93	78	35	5.5	15	98	LPJ 3
MBXN 16 010	M16	10	70	60	35	8	24	147	LPJ 4
MBXN 16 015	M16	15	85	70	35	8	22	147	LPJ 4
MBXN 16 020	M16	20	110	90	35	8	13	147	LPJ 4

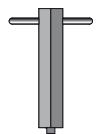


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



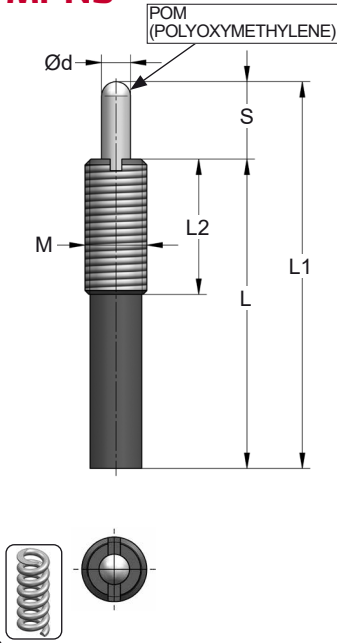
MBXN M16 20

MBXN 16 020



LPJ _ _

MPNS



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPNS 5 003	M5	3	23	20	20	2	0.74	2.95	LPJ 1
MPNS 5 005	M5	5	32	27	27	2	0.72	2.95	LPJ 1
MPNS 6 003	M6	3	28	25	25	2.5	0.85	3.2	LPJ 1
MPNS 6 005	M6	5	35	30	30	2.5	0.85	3.2	LPJ 1
MPNS 8 003	M8	3	28	25	25	3.1	0.9	3.3	LPJ 2
MPNS 8 005	M8	5	32	27	27	3.1	0.9	3.3	LPJ 2
MPNS 10 005	M10	5	35	30	30	3.8	1.9	4.7	LPJ 2
MPNS 10 010	M10	10	53	43	30	3.8	1.7	4.7	LPJ 2
MPNS 12 005	M12	5	35	30	30	5.5	1.5	4.7	LPJ 3
MPNS 12 010	M12	10	53	43	35	5.5	1.3	5.9	LPJ 3
MPNS 12 015	M12	15	66	51	35	5.5	1.6	5.9	LPJ 3
MPNS 16 010	M16	10	70	60	35	8	1.7	12.8	LPJ 4
MPNS 16 015	M16	15	75	60	35	8	1.7	12.8	LPJ 4
MPNS 16 020	M16	20	105	85	35	8	1.7	12.8	LPJ 4

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

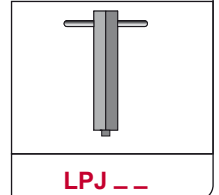
M

S

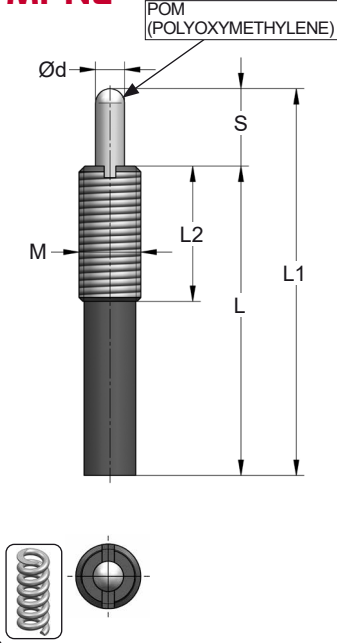
mm

MPNS M16 20

MPNS 16 020



MPNL



ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPNL 5 003	M5	3	23	20	20	2	2	10	LPJ 1
MPNL 5 005	M5	5	32	27	27	2	2	10	LPJ 1
MPNL 6 003	M6	3	28	25	25	2.5	6	10	LPJ 1
MPNL 6 005	M6	5	35	30	30	2.5	2	10	LPJ 1
MPNL 8 003	M8	3	28	25	25	3.1	6	10	LPJ 2
MPNL 8 005	M8	5	32	27	27	3.1	3	10	LPJ 2
MPNL 10 005	M10	5	35	30	30	3.8	6	15	LPJ 2
MPNL 10 010	M10	10	53	43	30	3.8	3	15	LPJ 2
MPNL 12 005	M12	5	35	30	30	5.5	6	15	LPJ 3
MPNL 12 010	M12	10	53	43	35	5.5	3	20	LPJ 3
MPNL 12 015	M12	15	66	51	35	5.5	3	20	LPJ 3
MPNL 16 010	M16	10	70	60	35	8	6	40	LPJ 4
MPNL 16 015	M16	15	75	60	35	8	4	40	LPJ 4
MPNL 16 020	M16	20	105	85	35	8	5	40	LPJ 4

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

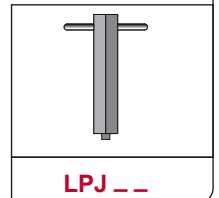
M

S

mm

MPNL M16 20

MPNL 16 020

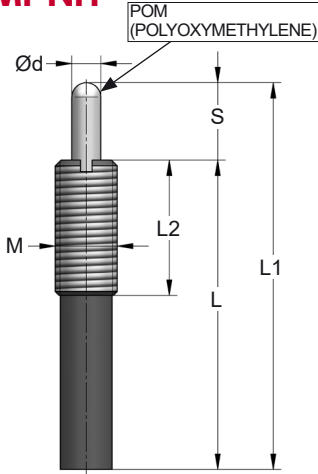


MPNH

Spring Plungers



MPNH



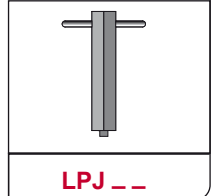
ORDER	M	S (mm)	L1 (mm)	L (mm)	L2 (mm)	Ød (mm)	F ₀ (N)	F ₁ (N)	Key
MPNH 5 003	M5	3	23	20	20	2	5	20	LPJ 1
MPNH 5 005	M5	5	32	27	27	2	3	20	LPJ 1
MPNH 6 003	M6	3	28	25	25	2.5	8	30	LPJ 1
MPNH 6 005	M6	5	35	30	30	2.5	5	30	LPJ 1
MPNH 8 003	M8	3	28	25	25	3.1	15	30	LPJ 2
MPNH 8 005	M8	5	32	27	27	3.1	8	30	LPJ 2
MPNH 10 005	M10	5	35	30	30	3.8	9	50	LPJ 2
MPNH 10 010	M10	10	53	43	30	3.8	8	50	LPJ 2
MPNH 12 005	M12	5	35	30	30	5.5	19	50	LPJ 3
MPNH 12 010	M12	10	53	43	35	5.5	8	50	LPJ 3
MPNH 12 015	M12	15	66	51	35	5.5	5	50	LPJ 3
MPNH 16 010	M16	10	70	60	35	8	13	80	LPJ 4
MPNH 16 015	M16	15	75	60	35	8	13	80	LPJ 4
MPNH 16 020	M16	20	105	85	35	8	10	80	LPJ 4



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

MPNH M16 20

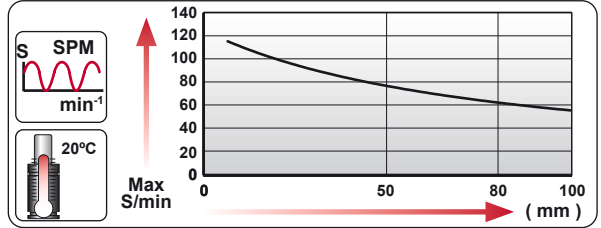
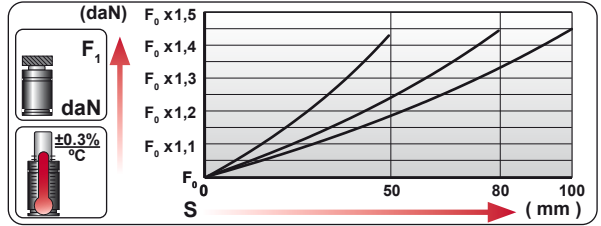
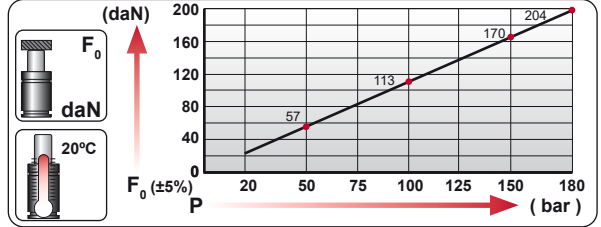
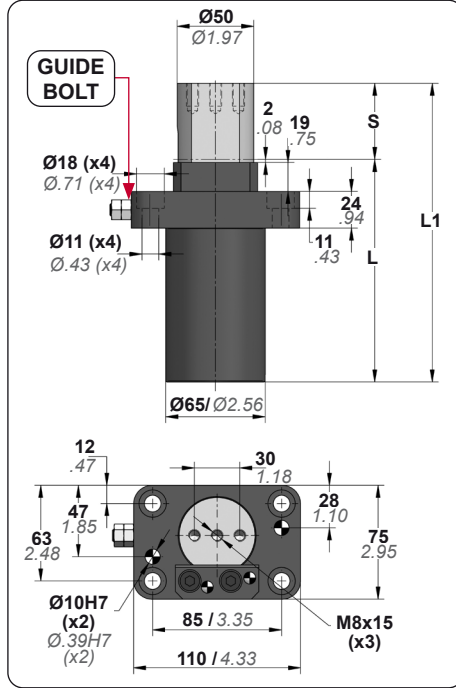
MPNH 16 020



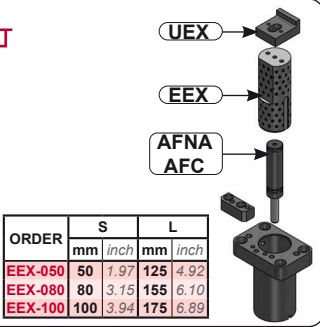
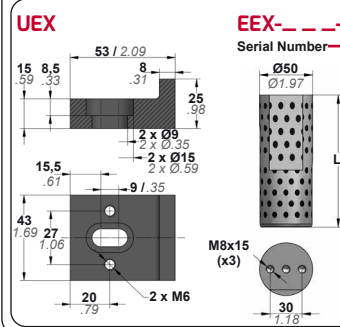


EXU

Flange Strippers



ORDER	S		L1 ±0.25		L		GAS SPRING		Kg. / lb	
	mm	inch	mm	inch	mm	inch				
EXU --- 050	50	1.97	196	7.72	146	5.75	AFNA --- 050	4.15	9.15	
EXU --- 080	80	3.15	256	10.08	176	6.93	AFC --- 080	5.01	11.05	
EXU --- 100	100	3.94	296	11.65	196	7.72	AFC --- 100	5.41	11.93	

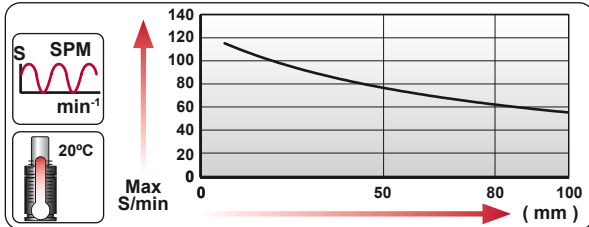
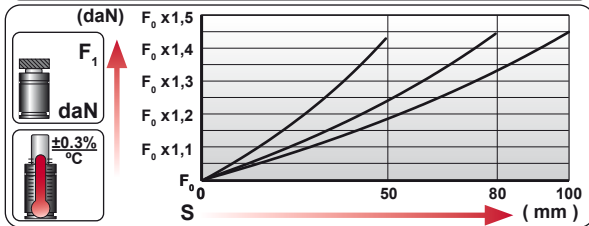
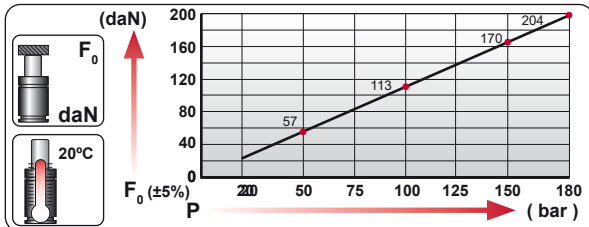
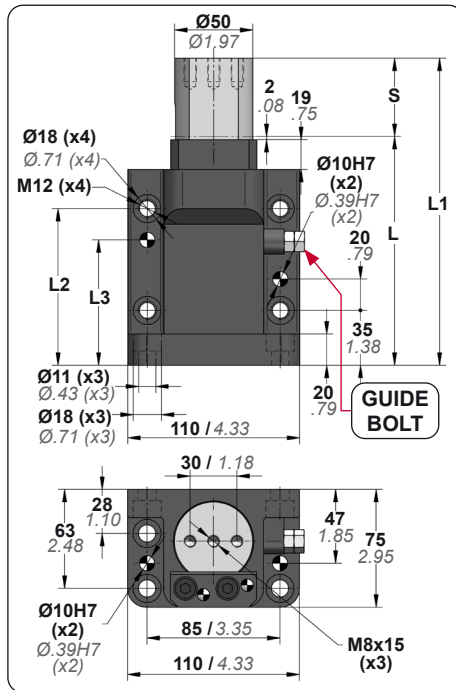


ORDER	S	L
	mm / inch	mm / inch
EEX-050	50 / 1.97	125 / 4.92
EEX-080	80 / 3.15	155 / 6.10
EEX-100	100 / 3.94	175 / 6.89

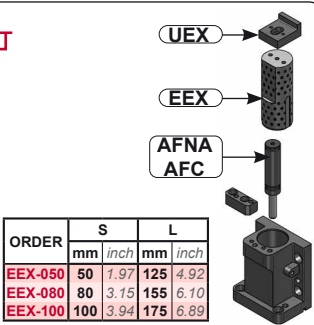
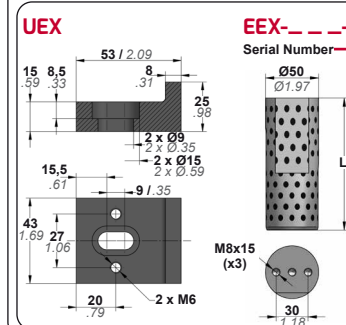
ORDER	COLOR	P	
		bar	psi
EXU 50 050	Green	45	650
EXU 100 050	Blue	90	1305
EXU 150 050	Red	135	1960
EXU 200 050	Yellow	180	2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
EXU 50 050	50	112	70	157
EXU 100 050	100	225	145	326
EXU 150 050	150	337	215	483
EXU 200 050	200	450	285	641

TECHNICAL DATA										
	Fluid	N ₂		Pmin Pmax	20 bar	180 bar		Gas Spring	AFNA --- 050	
				20°C / 68°F	290 psi	2610 psi			AFC ---	
	Smax	< 90%		Tmin Tmax	0 °C	80 °C		Cap	UEX	
					32 °F	176 °F				
	Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C			Rod	EEX---	



ORDER	S		L1 ± 0.25		L		L2		L3		GAS SPRING	Kg. / lb	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
EXY --- 050	50	1.97	196	7.72	146	5.75	100	3.94	80	3.15	AFNA --- 050	5.47	12.06
EXY --- 080	80	3.15	256	10.08	176	6.93	130	5.12	110	4.33	AFC --- 080	6.83	15.06
EXY --- 100	100	3.94	296	11.65	196	7.72	150	5.91	130	5.12	AFC --- 100	7.56	16.67



ORDER	COLOR	P	
		bar	psi
EXY 50 050	Green	45	650
EXY 100 050	Blue	90	1305
EXY 150 050	Red	135	1960
EXY 200 050	Yellow	180	2610

ORDER	F_0 Initial Force $\pm 5\%$ 20°C 68°F		F_1 (ISOTHERMAL) End Force	
	daN	lb	daN	lb
EXY 50 050	50	112	70	157
EXY 100 050	100	225	145	326
EXY 150 050	150	337	215	483
EXY 200 050	200	450	285	641

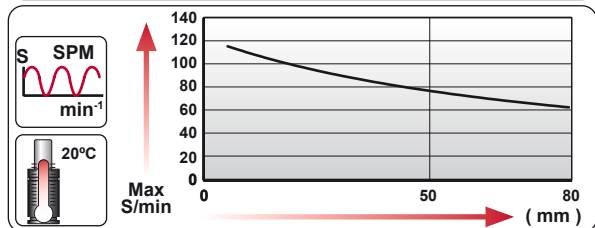
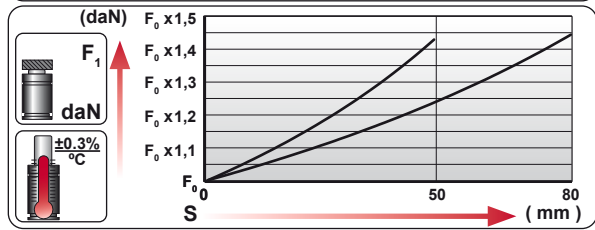
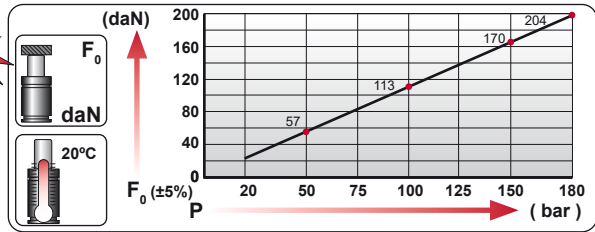
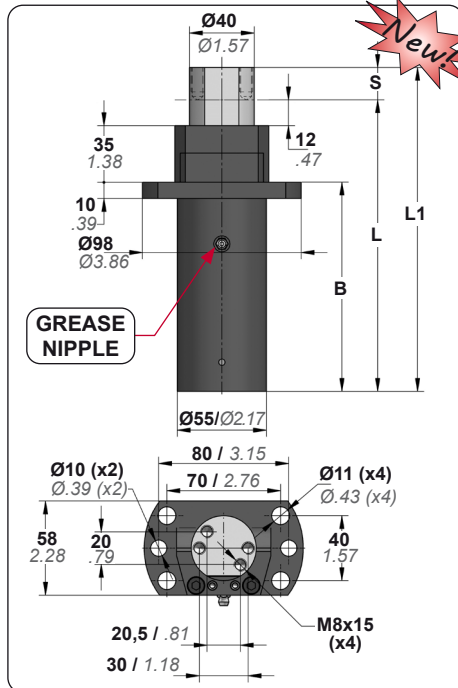
TECHNICAL DATA									
	Fluid	N_2		Pmin Pmax 20°C / 68°F	20 bar 290 psi	180 bar 2610 psi		Gas Spring	AFNA --- 050 AFC ---
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Cap	UEX
	Vmax	1,6 m/s		Force variation by temperature	$\pm 0,3\% / ^\circ C$			Rod	EEX---

EXG V1

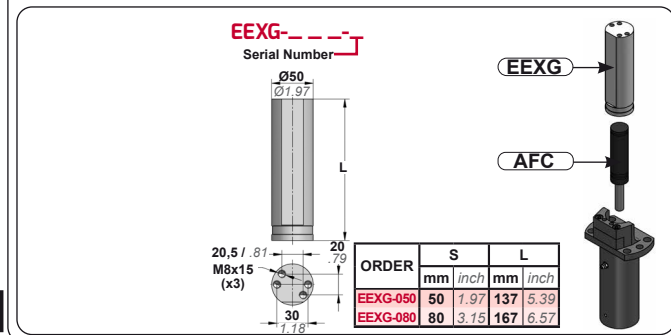
Flange Strippers

AZOLGAS	PSA
EXG 150 050 V1	MABEC (2015)
EXG 150 080 V1	N 000 473 321
	N 000 473 322

	PSA	E24.57.420.G (2015)



ORDER	S		L1 ±0.25		L		B		GAS SPRING	Kg. lb	
	mm	inch	mm	inch	mm	inch	mm	inch			
EXG ... 050 V1	50	1.97	200	7.87	150	5.91	103	4.06	AFC ... 050	2.53	5.58
EXG ... 080 V1	80	3.15	260	10.24	180	7.09	133	5.24	AFC ... 080	3.09	6.81



ORDER	COLOR	P	
		bar	psi
EXG 50 050 V1	Green	45	650
EXG 100 050 V1	Blue	90	1305
EXG 150 050 V1	Red	135	1960
EXG 200 050 V1	Yellow	180	2610

ORDER	F_0 Initial Force ±5%		F_1 (ISOTHERMAL) End Force	
	20°C 68°F			
	daN	lb	daN	lb
EXG 50 050 V1	50	112	75	169
EXG 100 050 V1	100	225	155	348
EXG 150 050 V1	150	337	230	517
EXG 200 050 V1	200	450	305	686

TECHNICAL DATA											
	Fluid	N ₂		Pmin Pmax	20 bar 180 bar		Tmin Tmax	290 psi 2610 psi		Gas Spring	AFC -----
	Smax	< 90%		Tmin Tmax	0 °C 80 °C		Cap	X		Rod	EEXG----
	Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C						

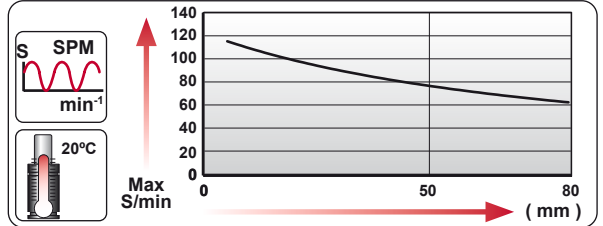
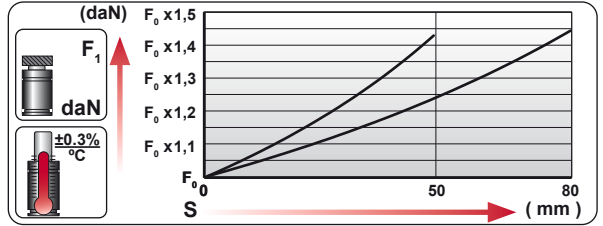
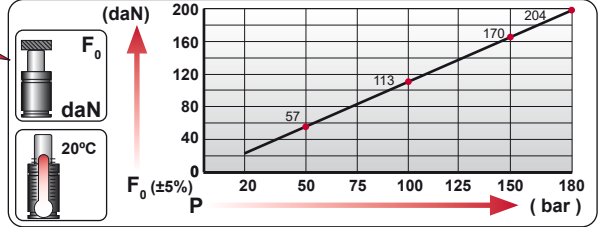
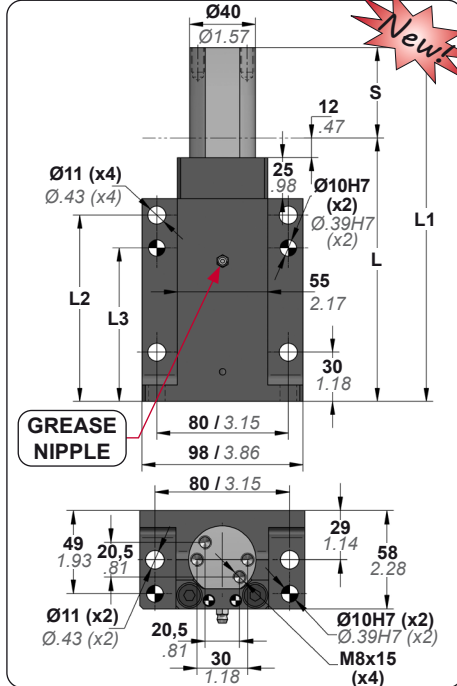


		PSA	E24.57.420.G

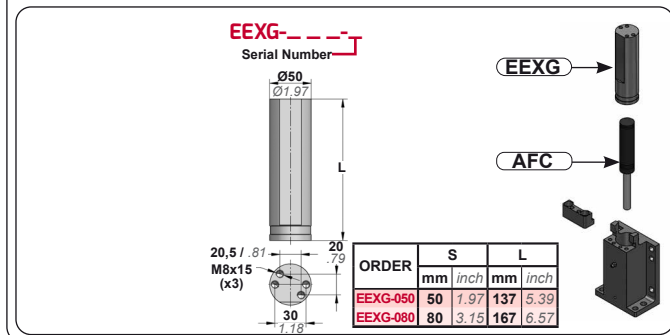
AZOLGAS	PSA MABEC
EXF 150 050	N 000 442 336
EXF 150 080	N 000 444 548



Flange Strippers



ORDER	S		L1 ±0.25		L		L2		L3		GAS SPRING		Kg. lb	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
EXF --- 050	50	1.97	200	7.87	150	5.91	103	4.06	83	3.27	AFC --- 050	4.38	9.66	
EXF --- 080	80	3.15	260	10.24	180	7.09	133	5.24	113	4.45	AFC --- 080	5.50	12.13	



ORDER	COLOR	P	
		bar	psi
EXF 50 050	Green	45	650
EXF 100 050	Blue	90	1305
EXF 150 050	Red	135	1960
EXF 200 050	Yellow	180	2610

ORDER	F ₀ Initial Force ±5% 20°C 68°F		F ₁ (ISOTHERMAL) End Force	
	daN	lb	daN	lb
EXF 50 050	50	112	75	169
EXF 100 050	100	225	155	348
EXF 150 050	150	337	230	517
EXF 200 050	200	450	305	686

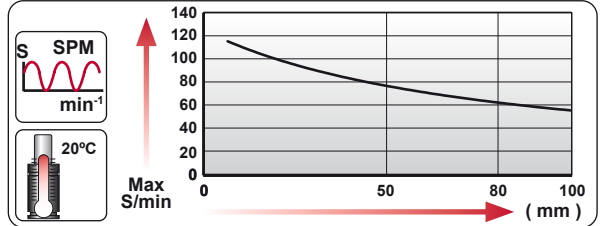
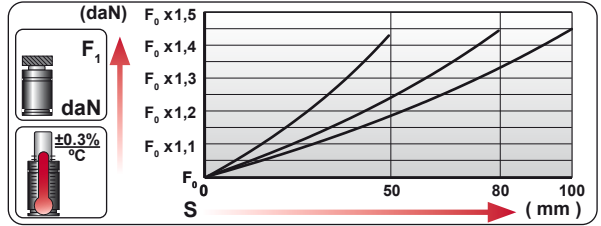
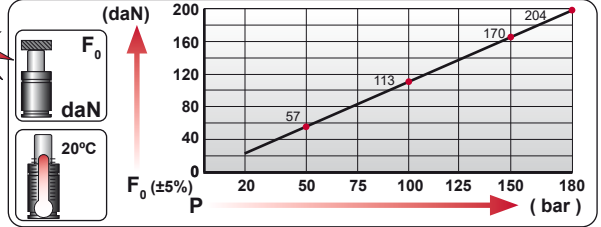
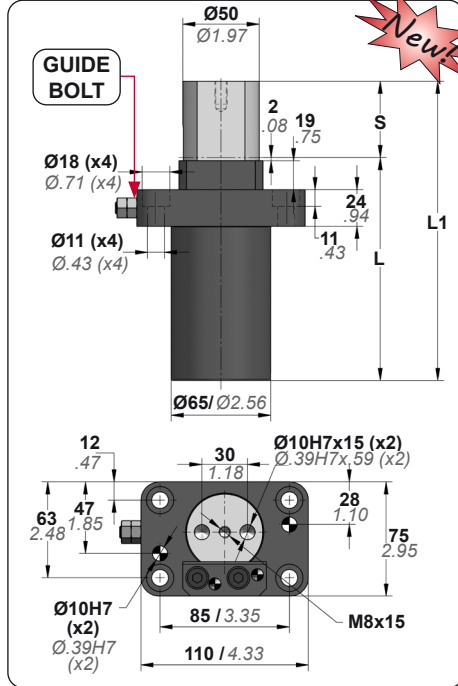
TECHNICAL DATA								
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 180 bar 290 psi 2610 psi		Gas Spring	AFC -----
	Smax	< 90%		Tmin Tmax	0 °C 80 °C 32 °F 176 °F		Cap	X
	Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C		Rod	EEXG-----

EXB

Flange Strippers

AZOLGAS	BMW
EXB 100 050	2 174 771
EXB 100 080	2 174 772
EXB 100 100	2 175 937

BMW B2 4003	
-------------	--



ORDER	S		L1 ±0.25		L		GAS SPRING		Kg. lb	
	mm	inch	mm	inch	mm	inch				
EXB --- 050	50	1.97	196	7.72	146	5.75	AFNA --- 050	4.15	9.15	
EXB --- 080	80	3.15	256	10.08	176	6.93	AFC --- 080	5.01	11.05	
EXB --- 100	100	3.94	296	11.65	196	7.72	AFC --- 100	5.41	11.93	

UEX

EEX- - - -

Serial Number

UEX

EEX

AFNA AFC

ORDER	S	L
	mm	inch
EEX-050	50	1.97
EEX-080	80	3.15
EEX-100	100	3.94

ORDER	COLOR	P	
		bar	psi
EXB 50 050	Green	45	650
EXB 100 050	Blue	90	1305
EXB 150 050	Red	135	1960
EXB 200 050	Yellow	180	2610

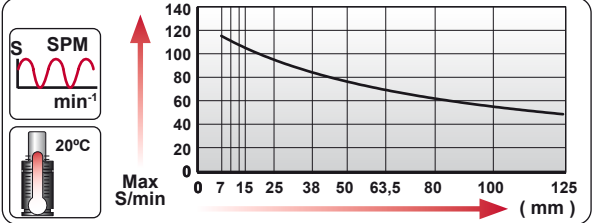
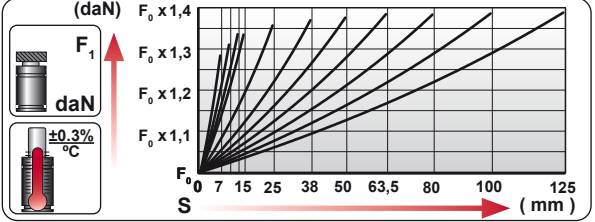
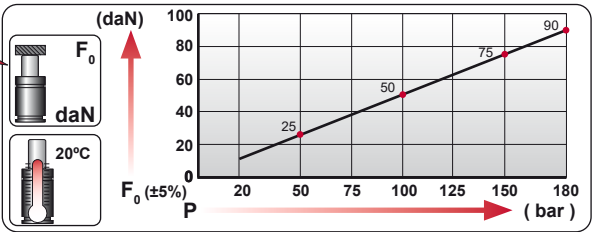
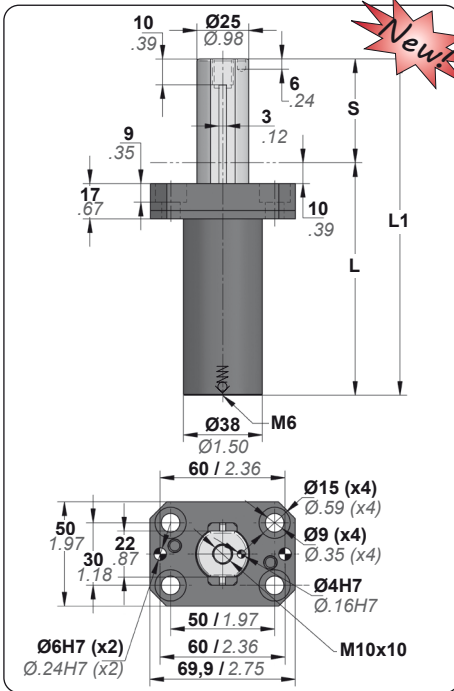
ORDER	F ₀ Initial Force ±5%		F ₁ (ISOTHERMAL) End Force	
	20°C	68°F	daN	lb
EXB 50 050	50	112	70	157
EXB 100 050	100	225	145	326
EXB 150 050	150	337	215	483
EXB 200 050	200	450	285	641

TECHNICAL DATA			
	Fluid	N ₂	
	Smax	< 90%	
	Vmax	1,6 m/s	
	Pmin Pmax	20°C / 68°F	20 bar 180 bar 290 psi 2610 psi
	Tmin Tmax		0 °C 80 °C 32 °F 176 °F
	Force variation by temperature		±0,3% / °C
	Gas Spring		AFNA --- 050 AFC ---
	Cap		UEX
	Rod		EEX---

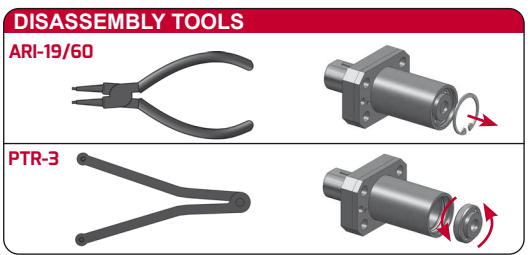
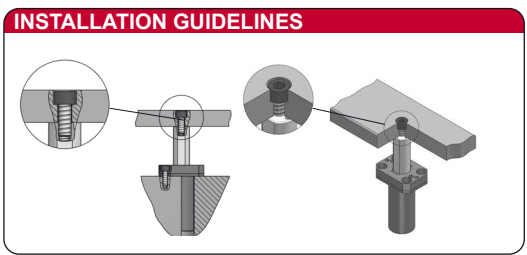


EXDB 90 V3

Stock Lifters



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		GAS SPRING		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb			Kg.	lb
EXDB 90 025 V3	25	0.98	112	4.41	87	3.43	90	202	127	286	AFJ 90 025 V1	0.63	1.39	
EXDB 90 038 V3	38	1.50	138	5.43	100	3.94	±5% 180 bar 2610 psi at 20°C 68°F		128	288	AFJ 90 038 V1	0.69	1.52	
EXDB 90 050 V3	50	1.97	162	6.38	112	4.41			128	288	AFJ 90 050 V1	0.75	1.65	
EXDB 90 063 V3	63.5	2.50	192	7.56	128.5	5.06			129	289	AFJ 90 063 V1	0.82	1.81	
EXDB 90 080 V3	80	3.15	225	8.86	145	5.71			129	289	AFJ 90 080 V1	0.92	2.03	
EXDB 90 100 V3	100	3.94	265	10.43	165	6.50			129	290	AFJ 90 100 V1	1.02	2.25	
EXDB 90 125 V3	125	4.92	315	12.40	190	7.48			129	290	AFJ 90 125 V1	1.15	2.54	

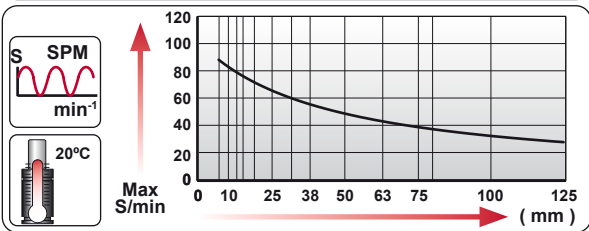
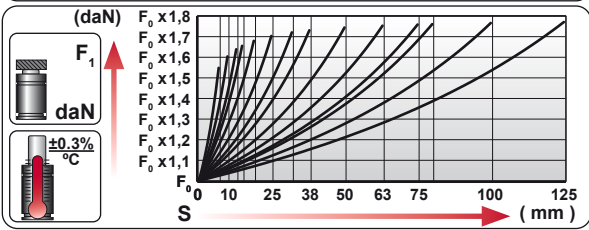
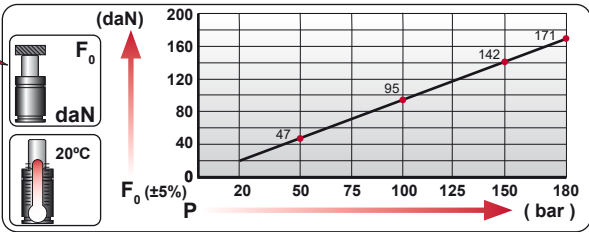
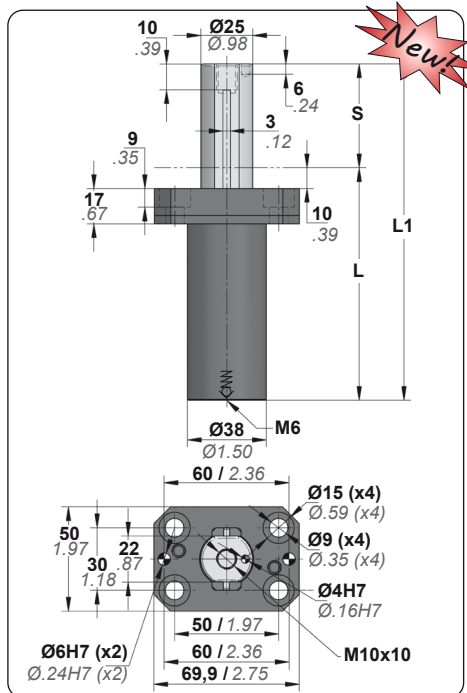


TECHNICAL DATA

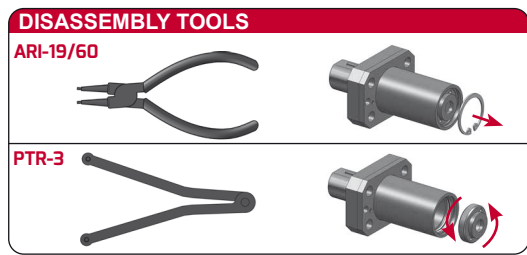
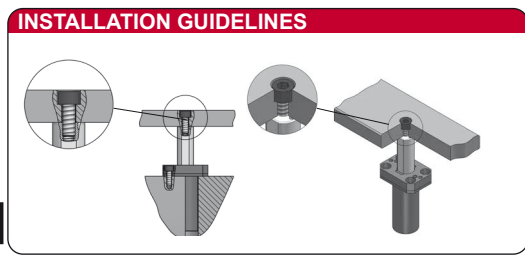
Fluid	N ₂	Pmin Pmax	20 bar 180 bar 20°C / 68°F 2610 psi	Gas Spring	AFJ 90 ___ V1
Smax	< 90%	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Connection	X
Vmax	0,8 m/s	Force variation by temperature	±0,3% / °C	Cartridge Kit	X

EXDT 170 V3

Stock Lifters



ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		GAS SPRING		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb			Kg.	lb
EXDT 170 025 V3	25	0.98	112	4.41	87	3.43	170 ±5% 180 bar 2610 psi at 20°C 68°F	382	293	658	CW 170 025 V1	0.61	1.34	
EXDT 170 038 V3	38	1.50	138	5.43	100	3.94			301	676	CW 170 038 V1	0.68	1.50	
EXDT 170 050 V3	50	1.97	162	6.38	112	4.41			304	685	CW 170 050 V1	0.75	1.65	
EXDT 170 063 V3	63	2.48	188	7.40	125	4.92			307	691	CW 170 063 V1	0.83	1.83	
EXDT 170 080 V3	80	3.15	225	8.86	145	5.71			307	689	CW 170 080 V1	0.94	2.07	
EXDT 170 100 V3	100	3.94	265	10.43	165	6.50			309	695	CW 170 100 V1	1.05	2.31	
EXDT 170 125 V3	125	4.92	315	12.40	190	7.48			311	699	CW 170 125 V1	1.19	2.62	

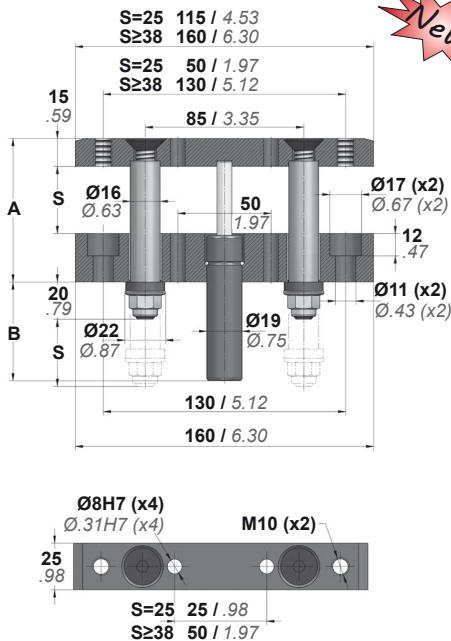


TECHNICAL DATA

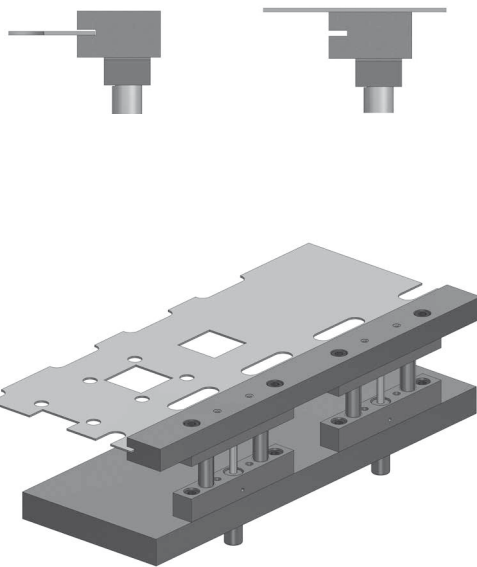
Fluid	N ₂	Pmin Pmax	20 bar 180 bar 290 psi 2610 psi	Tmin Tmax	0 °C 80 °C 32 °F 176 °F	Gas Spring	CW 170 --- V1
Smax	< 90%	Force variation by temperature	±0,3% / °C	Connection	X	Cartridge Kit	X
Vmax	0,8 m/s						

LPG 90

Guided Lifters



INSTALLATION GUIDELINES



ORDER	S		A		B		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		GAS SPRING		Kg. lb	
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb				
LPG 90 025	23	0.91	64	2.52	40	1.57	90	202	±5% 180 bar 2610 psi at 20°C 68°F	127	286	AFJ 90 025 V1	1.36	3.00
LPG 90 038	36	1.42	77	3.03	53	2.09				128	288	AFJ 90 038 V1	1.42	3.13
LPG 90 050	48	1.89	89	3.50	65	2.56				128	288	AFJ 90 050 V1	1.47	3.24
LPG 90 063	61.5	2.42	102.5	4.04	81.5	3.21				129	289	AFJ 90 063 V1	1.53	3.37
LPG 90 080	78	3.07	119	4.69	98	3.86				129	289	AFJ 90 080 V1	1.60	3.53
LPG 90 100	98	3.86	139	5.47	118	4.65				129	290	AFJ 90 100 V1	1.69	3.73
LPG 90 125	123	4.84	164	6.46	143	5.63				129	290	AFJ 90 125 V1	1.80	3.97
LPG 90 150	148	5.83	189	7.44	168	6.61				129	290	AFJ 90 150 V1	1.91	4.21

Ram Velocity		Attachment Mass	
mm/s	in/s	Kg.	lb
300	12	20	44
400	16	11	24
500	20	7.3	16
600	24	5.0	11
700	28	3.7	8
800	31	2.8	6

Determine the slider speed of the press from its technical specification and application conditions, and follow the instructions according to chart.

Make sure that the load doesn't exceed the recommended maximal value for the given speed.

TECHNICAL DATA

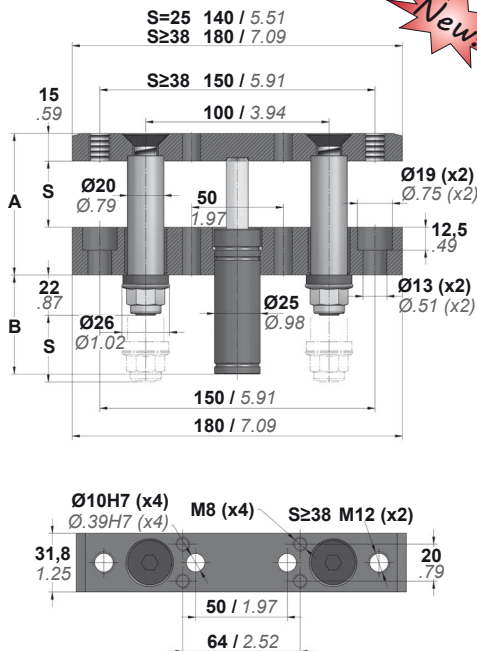
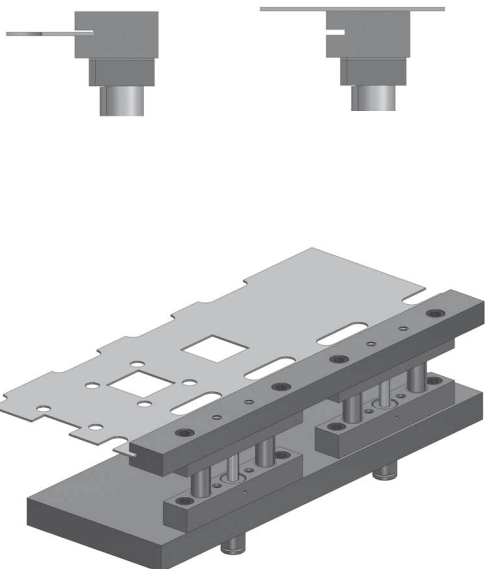
Fluid	N ₂	Pmin Pmax 20°C / 68°F	20 bar 290 psi	180 bar 2610 psi	Charging Adapter	06 CG 2-Q
Sm _{ax}	< 90%	Tmin Tmax	0 °C 32 °F	80 °C 176 °F	Connection	X
Vmax	1,6 m/s	Force variation by temperature	±0,3% / °C		Cartridge Kit	X



LPG 200
Guided Lifters



INSTALLATION GUIDELINES



ORDER	S		A		B		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		GAS SPRING		
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	Kg.	lb	
LPG 200 025	23	0.91	64	2.52	41	1.61	200	450	289	650	AFC 200 025	2.01	4.43
LPG 200 038	36	1.42	77	3.03	54	2.13			291	654	AFC 200 038	2.08	4.59
LPG 200 050	48	1.89	89	3.50	66	2.60			292	656	AFC 200 050	2.16	4.76
LPG 200 063	61.5	2.42	102.5	4.04	82.5	3.25			292	657	AFC 200 063	2.25	4.96
LPG 200 080	78	3.07	119	4.69	99	3.90			293	658	AFC 200 080	2.34	5.16
LPG 200 100	98	3.86	139	5.47	119	4.69			293	659	AFC 200 100	2.46	5.42
LPG 200 125	123	4.84	164	6.46	144	5.67			293	659	AFC 200 125	2.61	5.75
LPG 200 150	148	5.83	189	7.44	177	6.97			295	663	AFC-M 200 150	2.90	6.39
LPG 200 175	173	6.81	214	8.43	202	7.95			295	663	AFC-M 200 175	3.07	6.77
LPG 200 200	198	7.80	239	9.41	227	8.94			296	665	AFC-M 200 200	3.24	7.14

±5%
180 bar
2610 psi
at
20°C
68°F

Ram Velocity		Attachment Mass	
mm/s	in/s	Kg.	lb
300	12	31	68
400	16	17	37
500	20	11	24
600	24	7.7	17
700	28	5.6	12
800	31	4.3	9

Determine the slider speed of the press from its technical specification and application conditions, and follow the instructions according to chart.

Make sure that the load doesn't exceed the recommended maximal value for the given speed.

TECHNICAL DATA

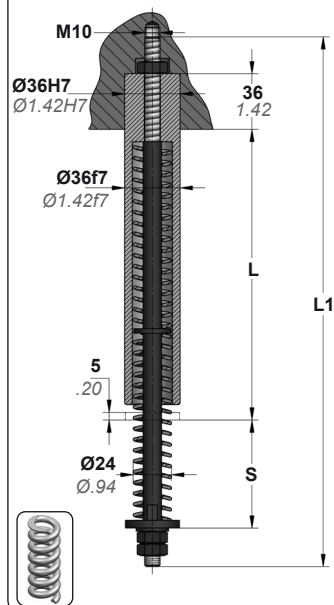
	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	180 bar 2610 psi		Charging Adapter	06 CG 2-Q
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	X
	Vmax	1,6 m/s		Force variation by temperature	±0,3% / °C			Cartridge Kit	X

PME / PGE

Bolt



PME



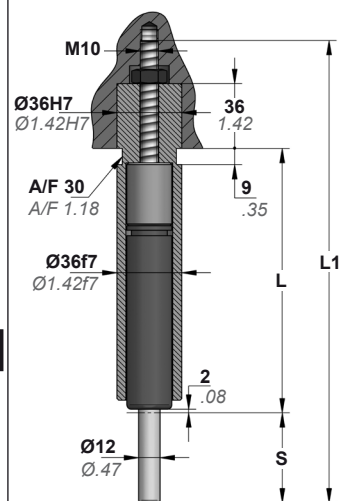
ORDER	S (mm) (inch)	L1 (mm) (inch)	L (mm) (inch)	F ₀ (daN) (lb)	F ₁ (daN) (lb)
PME - 1	50 1.97	290 11.42	155 6.10	117.2 263	650 1461
PME - 2	50 1.97	290 11.42	155 6.10	185 416	1030 2316
PME - 3	65 2.56	343.5 13.52	193.5 7.62	94 211	650 1461
PME - 4	65 2.56	343.5 13.52	193.5 7.62	149 335	1030 2316
PME - 5	80 3.15	392.5 15.45	227.5 8.96	84.7 190	650 1461
PME - 6	80 3.15	392.5 15.45	227.5 8.96	134 301	1030 2316



	ENG ORDER DEU BESTELL FRA COMMANDE ITA ORDINE ESP PEDIDO POR PEDIDO	
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PME 1

PGE



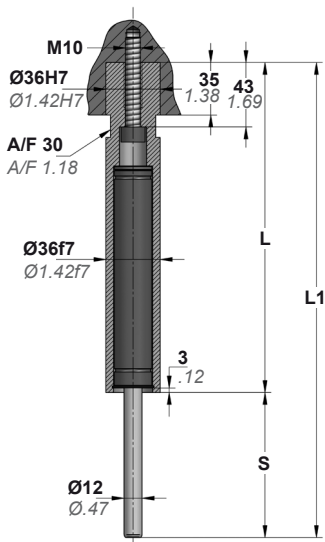
ORDER	S (mm) (inch)	L1 (mm) (inch)	L (mm) (inch)	F ₀ (daN) (lb)	F ₁ (daN) (lb)	Gas Spring
PGE - 1	50 1.97	257 10.12	147 5.79	50 112	65 146	AF 50 050
PGE - 2	50 1.97	257 10.12	147 5.79	100 225	125 281	AF 100 050
PGE - 3	65 2.56	310.5 12.22	185.5 7.30	50 112	65 146	AF 50 065
PGE - 4	65 2.56	310.5 12.22	185.5 7.30	100 225	125 281	AF 100 065
PGE - 5	80 3.15	359.5 14.15	218.5 8.60	50 112	65 146	AF 50 080
PGE - 6	80 3.15	359.5 14.15	218.5 8.60	100 225	125 281	AF 100 080



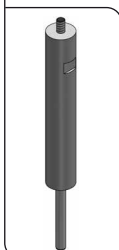
	ENG ORDER DEU BESTELL FRA COMMANDE ITA ORDINE ESP PEDIDO POR PEDIDO	
--	--	--

PGE 1

PGN



ORDER	S (mm) (inch)	L1 (mm) (inch)	L (mm) (inch)	F ₀ (daN) (lb)	F ₁ (daN) (lb)	Gas Spring
PGN - 1	58 2.28	240 9.45	182 7.17	100 225	155 348	AFC 100 063
PGN - 2	74 2.91	274 10.79	200 7.87	100 225	155 348	AFC 100 080
PGN - 3	94 3.70	314 12.36	220 8.66	100 225	155 348	AFC 100 100

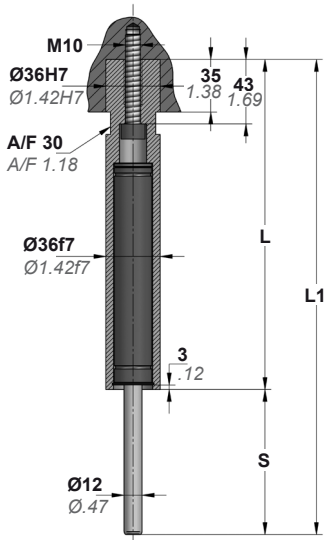


	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
POR PEDIDO		

PGN 1

PGN 1

PGH



ORDER	S (mm) (inch)	L1 (mm) (inch)	L (mm) (inch)	F ₀ (daN) (lb)	F ₁ (daN) (lb)	Gas Spring
PGH - 1	58 2.28	240 9.45	182 7.17	100 225	155 348	AFC 100 063
PGH - 2	74 2.91	274 10.79	200 7.87	100 225	155 348	AFC 100 080
PGH - 3	94 3.70	314 12.36	220 8.66	100 225	155 348	AFC 100 100



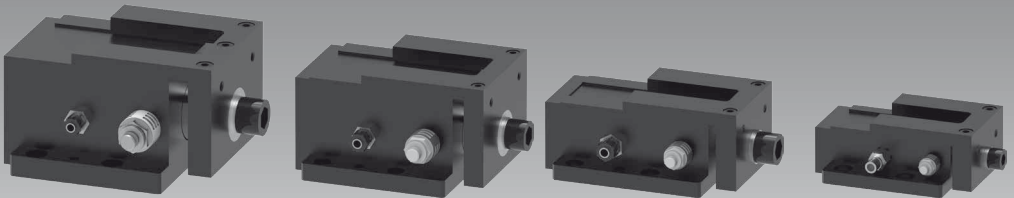
	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
POR PEDIDO		

PGH 1

PGH 1



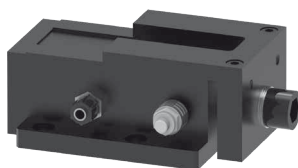
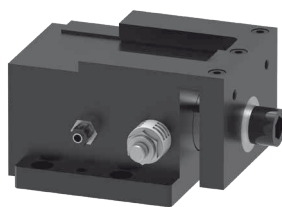
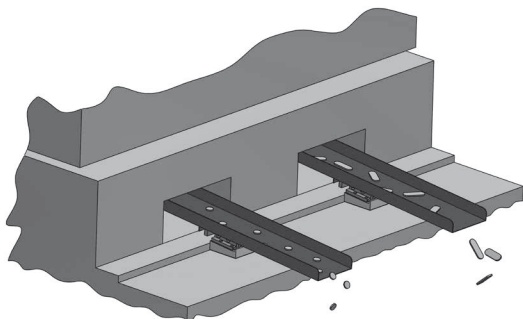
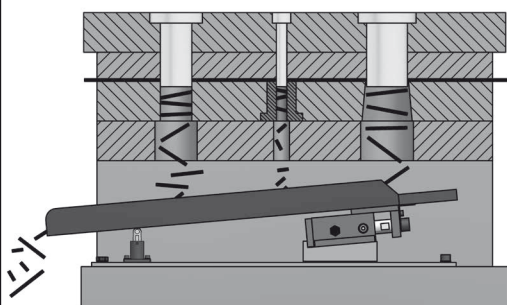
AIR SCRAP REMOVER



SERIES SP-ER

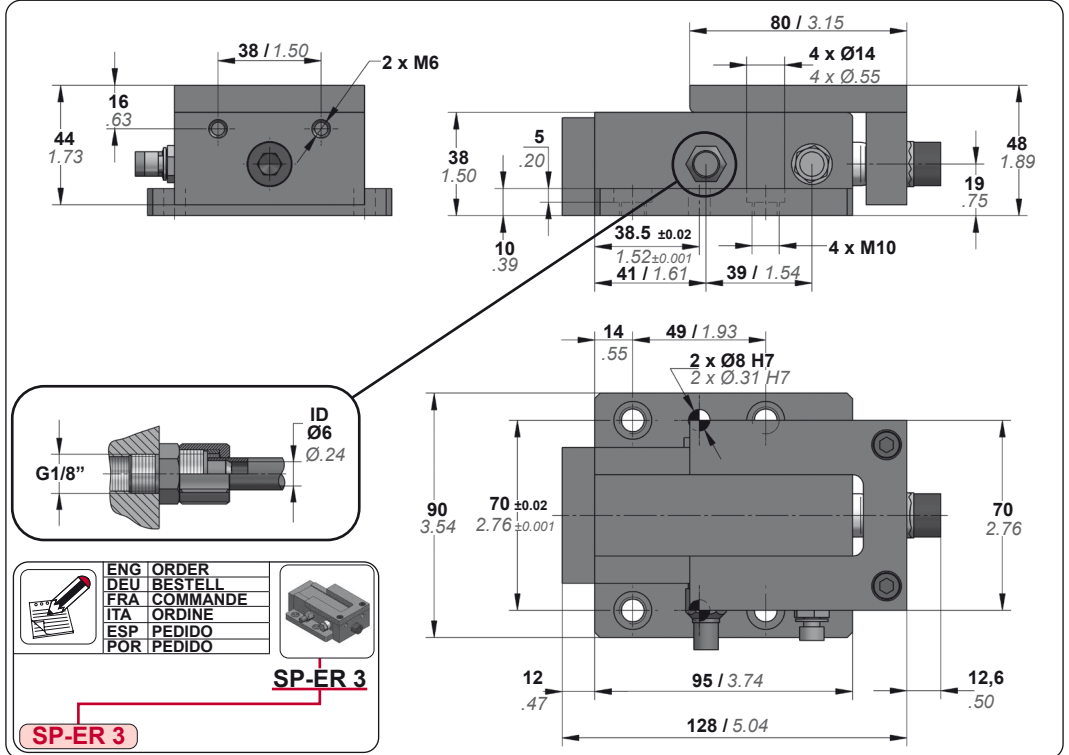
- High max load (56 kgs)
- Easy assembly ready to use
- Low maintenance (no power, no belt replacement)
- Great reliability and long life
- Superior tolerance to uneven loads
- Ideal to remove scrap from stamping dies

ORDER	Smax		Max. Load		∠ min °	Pmin		Pmax		Tmax	
	mm	inch	Kg.	lb		bar	psi	bar	psi	°C	°F
SP-ER 3	30	1.18	6	13.23	6	4	58	6	87	60	140
SP-ER 5	33	1.30	14	30.86	6	4	58	6	87	60	140
SP-ER 7	20	0.79	36	79.37	6	4	58	6	87	60	140
SP-ER 9	28	1.10	56	123.46	6	4	58	6	87	60	140

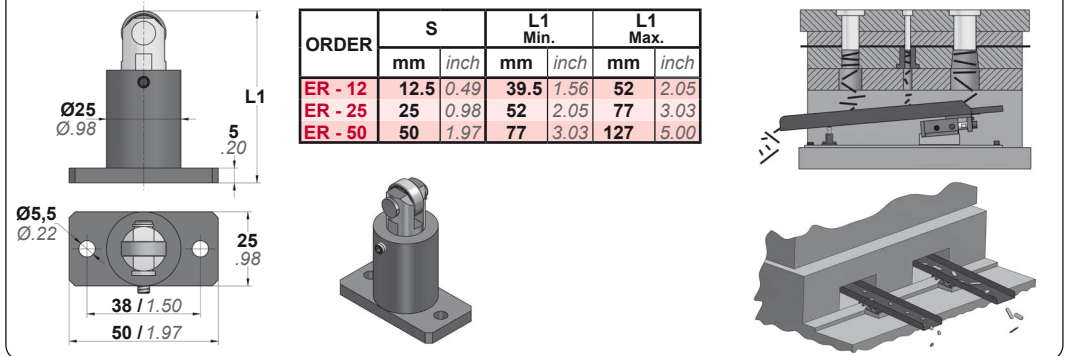
**SP-ER 3****SP-ER 5****SP-ER 7****SP-ER 9**

SP-ER 3

Air Scrap Remover

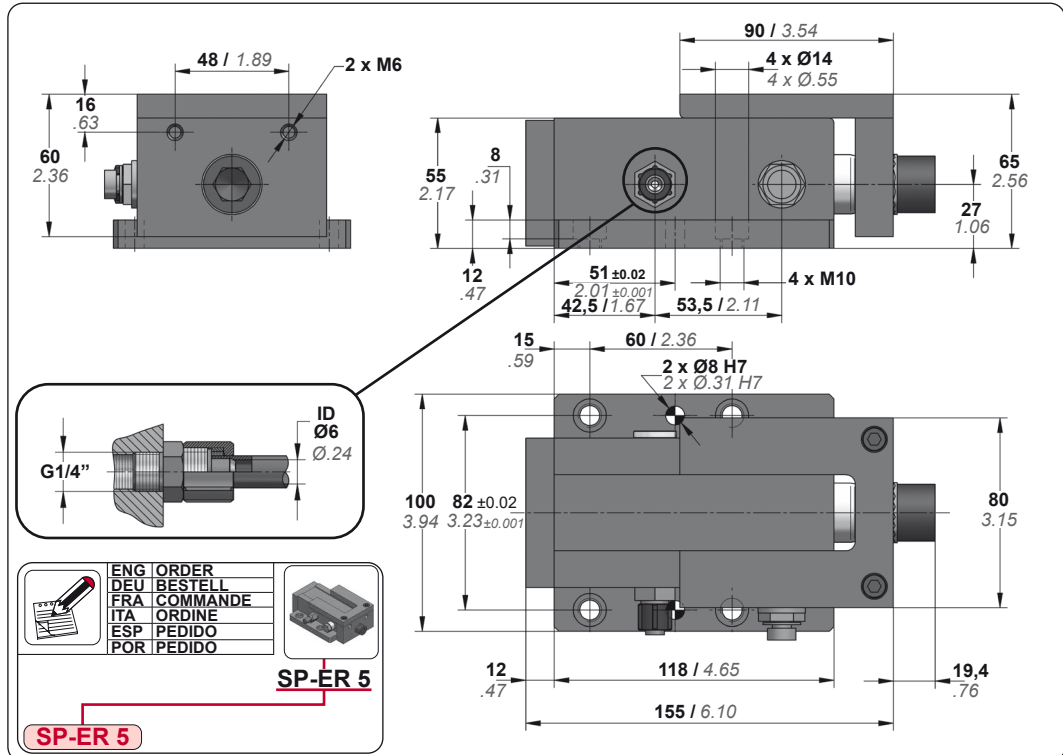


HOLDER

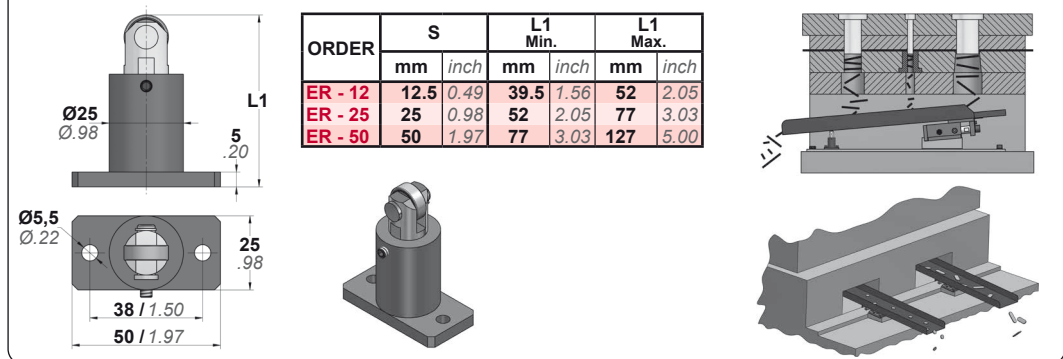


TECHNICAL DATA

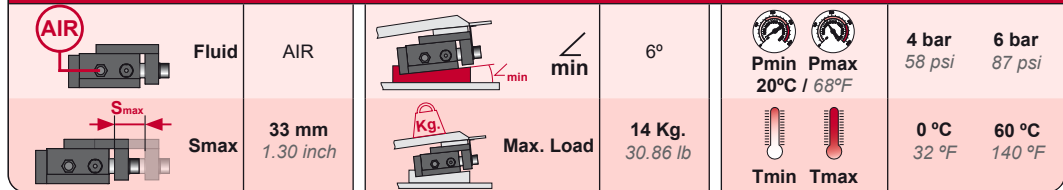
	Fluid	AIR		∠ min	6°		Pmin 20°C / 68°F	Pmax 20°C / 68°F	4 bar 58 psi	6 bar 87 psi
	Smax	30 mm 1.18 inch		Max. Load	6 Kg. 13.23 lb		Tmin	Tmax	0 °C 32 °F	60 °C 140 °F



HOLDER

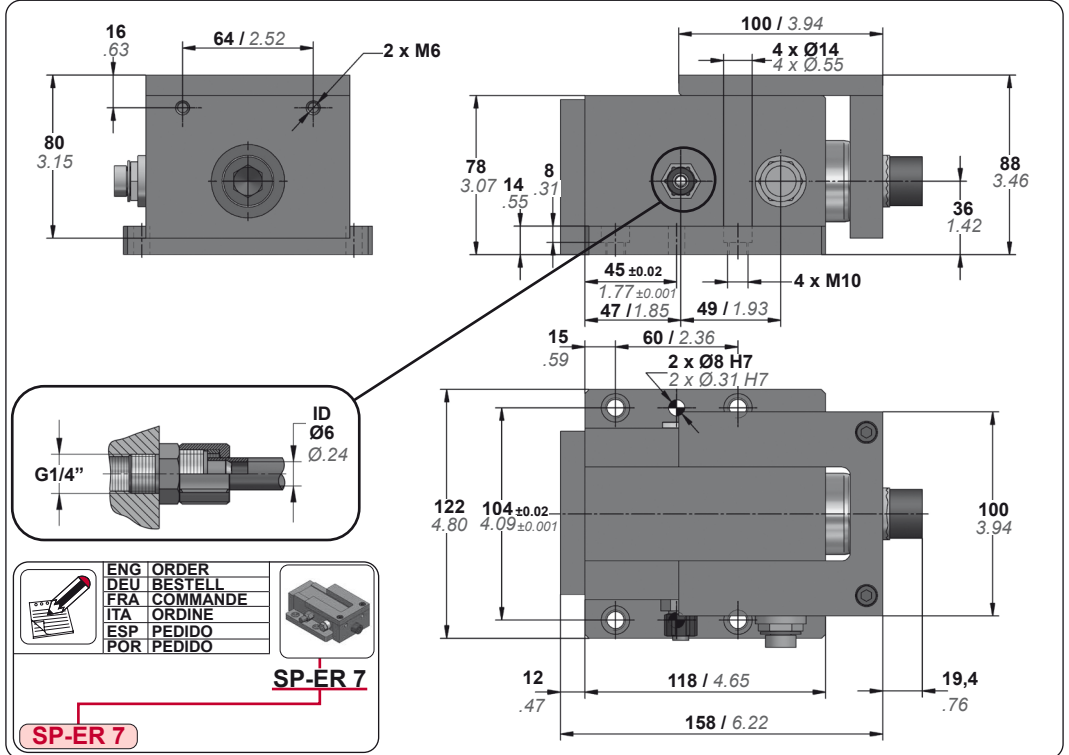


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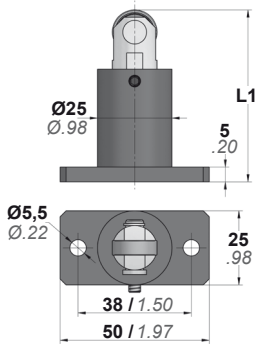


SP-ER 7

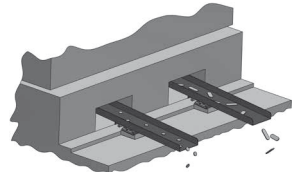
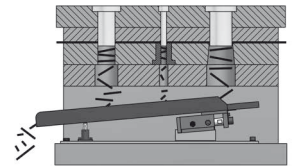
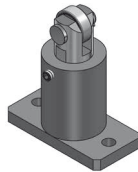
Air Scrap Remover



HOLDER

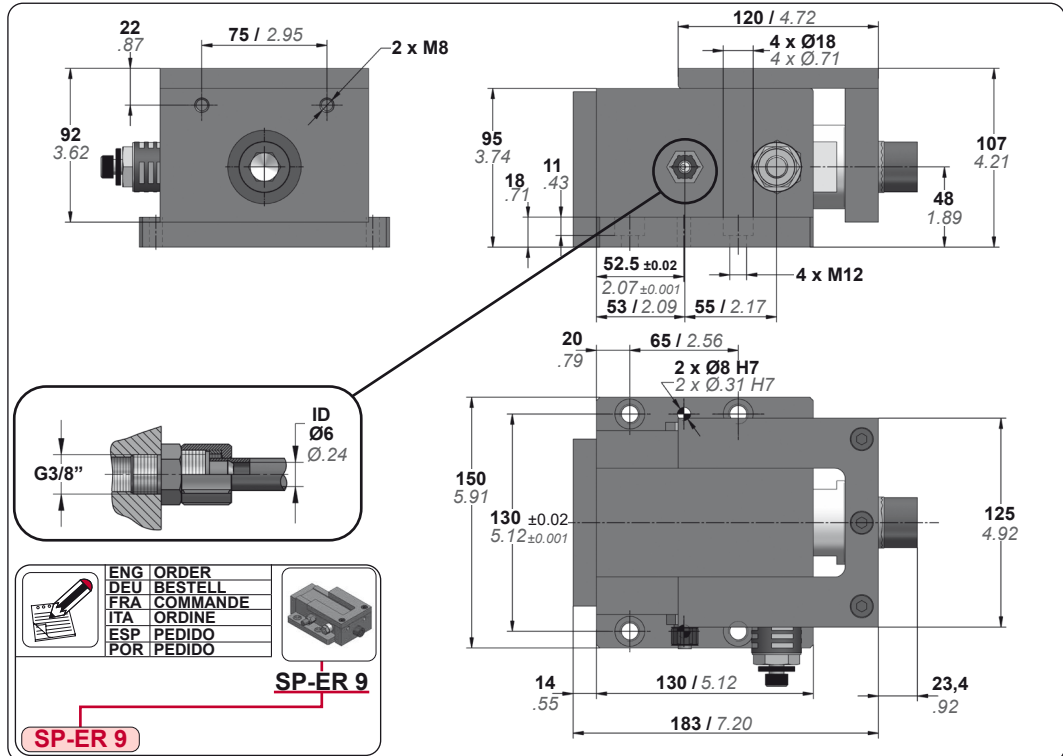


ORDER	S		L1 Min.		L1 Max.	
	mm	inch	mm	inch	mm	inch
ER - 12	12.5	0.49	39.5	1.56	52	2.05
ER - 25	25	0.98	52	2.05	77	3.03
ER - 50	50	1.97	77	3.03	127	5.00

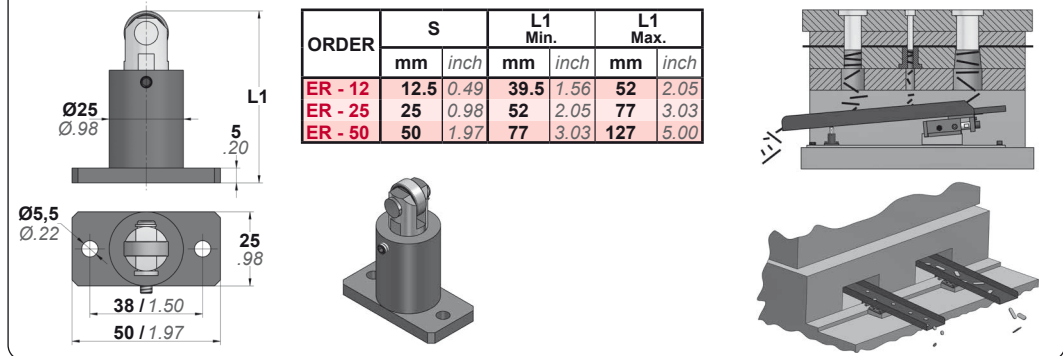


TECHNICAL DATA

	Fluid	AIR		∠ min	6°		Pmin 20°C / 68°F	Pmax 20°C / 68°F	4 bar 58 psi	6 bar 87 psi
	Smax	20 mm .79 inch		Max. Load	36 Kg. 79.37 lb		Tmin	Tmax	0 °C 32 °F	60 °C 140 °F



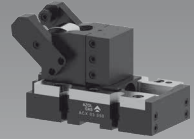
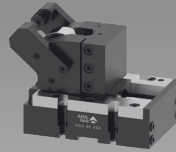
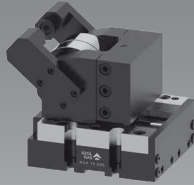
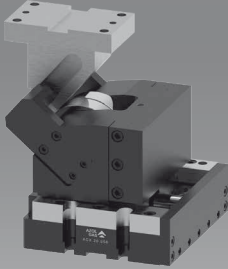
HOLDER



TECHNICAL DATA

	Fluid	AIR		6°		Pmin	4 bar	6 bar
	Smax	28 mm		Max. Load		Pmax	58 psi	87 psi
		1.10 inch				20°C / 68°F		
						Tmin	0 °C	60 °C
						Tmax	32 °F	140 °F

ROLLER CAMS & PUNCHING UNITS



SERIES ACX - FCX - JCX- NXR - NXS - NXC - NXD

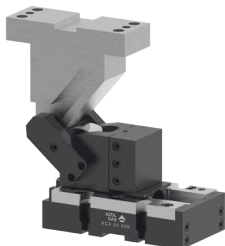
- High precision guiding allows off-centered forces
- Superior performance and longevity
- Wide variety of drivers
- Safety use by optional positive return
- Easy access to gas springs
- Separate head cam slider with lateral fitting

Cam units are suitable for a wide variety of metal forming operations: **cutting, flanging, piercing.**

Try AZOLGAS and trust on the experience of the unique supplier of the **WHOLE set of cams technologies:**

- Roller Cams
- Punching Units
- Cam Units
- Hydraulic Cams

ROLLER CAMS



Pushed by higher productivity requirements on metal bending and punching operations?

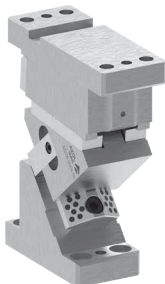
The new generation of AZOLGAS CX Roller Cams MEETS your expectations.

PUNCHING CAMS



Use AZOLGAS NX punching units for metal cutting and piercing operating when smaller size-force-stroke is required.

CAM UNITS



Cam units are appropriate for piercing and flanging on request of higher forces.

HYDRAULIC CAMS



What about punching-piercing-flanging operations with space restrictions in the tool and difficult angle position?

AZOLGAS Hydraulic Cams can be easily installed and operated at any angle or orientation.

FORCE (Tn)	03	05	07	15	16	20
ROLLER CAMS	STROKES					
ACX	50 80 100	50 80 100		50 80 100		50 80 100
FCX			50 80	50 80 100		
JCX			50 80	50 80 100	50 80 100	

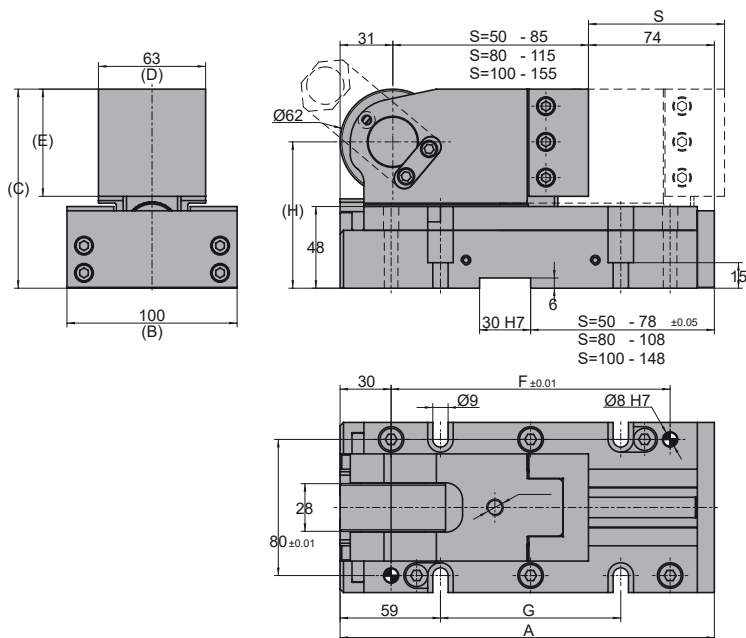
FORCE (Tn)	03	05	07	10
PUNCHING CAMS	STROKES			
NXR	20	30	40	50
NXS	20	30	40	50
NXC	20	30	40	50
NXD	20	30	40	50

ACX

Roller Cam

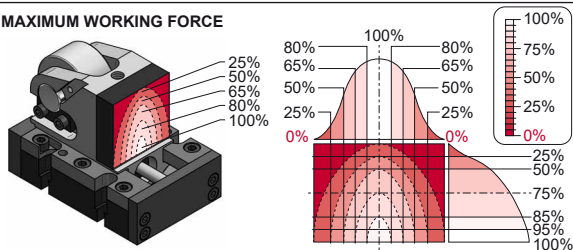
AZOL GAS

ACX 03



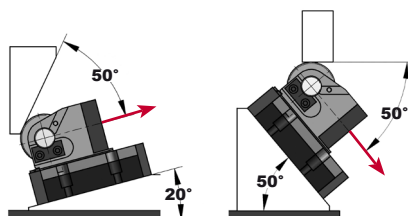
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
ACX 03 050	8.40	50	3000	185	AG 150 063	190	100	117	63	63	134	76	86
ACX 03 080	10.14	80	3000	197	AG 150 080	220	100	117	63	63	164	106	86
ACX 03 100	14.36	100	3000	197	AG 150 100	260	100	141	63	87	204	146	110

MAXIMUM WORKING FORCE

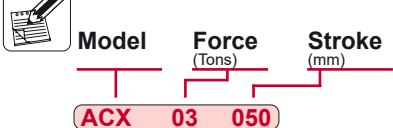


Working force should be as centered as possible on the working area surface.

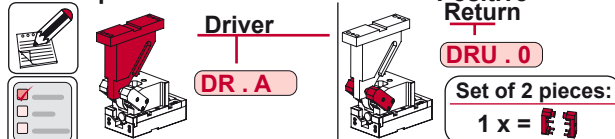
MAXIMUM WORKING ANGLE

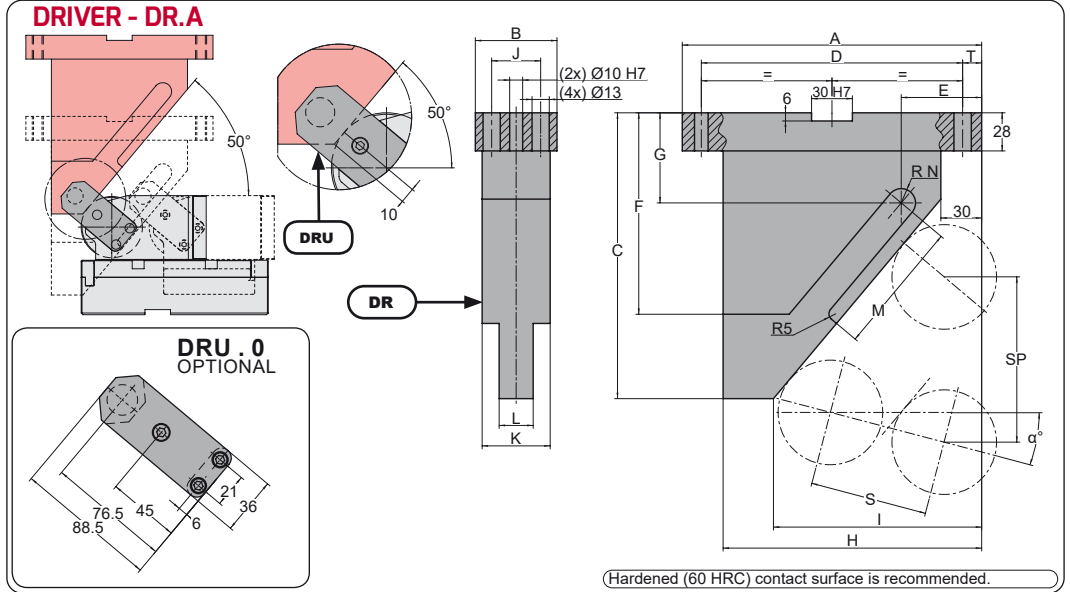


Order:



Order Options:





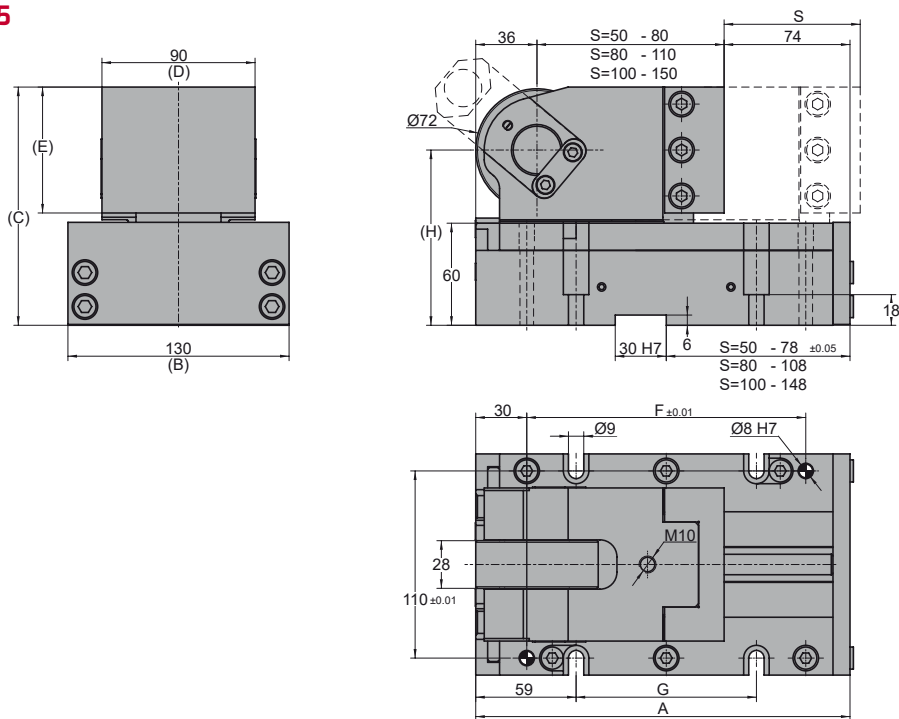
		A	B	C	D	E	F	G	H	I	J	K	L	M	RN	T	α	SP				
																		S=50	S=80	S=100		
	DR.A.1.L.20	160	60	220	130	65.1	140	69.8	130	98	36	50	25	69.0	10.5	15	-20	111.9				
	DR.A.1.L.15	160	60	190	130	61.9	130	64.2	130	98	36	50	25	63.8	10.5	15	-15	90.6				
	DR.A.1.L.10	160	60	165	130	59.0	120	56.5	130	98	36	50	25	65.7	10.5	15	-10	76.6				
	DR.A.1.L.05	160	60	155	130	56.4	110	59.8	130	98	36	50	25	65.0	10.5	15	-05	66.8				
HORIZONTAL	DR.A.1.H.00	160	60	145	130	56.1	100	60.7	130	100	36	50	25	68.9	10.5	15	00	59.6				
	DR.A.1.R.05	160	60	145	130	54.1	105	70.1	130	100	36	50	25	64.7	10.5	15	05	54.2				
	DR.A.1.R.10	160	60	130	130	54.4	90	63.3	130	102	36	50	25	58.5	10.5	15	10	50.0				
	DR.A.1.R.15	160	60	130	130	53.2	90	70.8	130	102	36	50	25	53.0	10.5	15	15	46.8				
	DR.A.1.R.20	160	60	120	130	55.3	85	67.6	130	105	36	50	25	48.0	10.5	15	20	44.2				
	DR.A.1.R.25	160	60	120	130	54.8	85	74.0	130	105	36	50	25	43.4	10.5	15	25	42.3				
	DR.A.1.R.30	160	60	100	130	51.6	70	59.8	130	102	36	50	25	39.0	10.5	15	30	40.8				
	DR.A.1.R.35	160	60	100	130	51.9	70	65.3	130	102	36	50	25	34.8	10.5	15	35	39.7				
	DR.A.1.R.40	160	60	90	130	55.5	60	60.5	130	105	36	50	25	30.6	10.5	15	40	38.9				
	DR.A.1.R.45	160	60	90	130	56.5	60	65.2	130	105	36	50	25	26.5	10.5	15	45	38.4				
	DR.A.1.R.50	160	60	80	130	67.9	49	59.5	130	115	36	50	25	22.3	10.5	15	50	38.3				
		DR.A.2.L.20	220	60	380	192	70.2	195	100.7	190	150	36	50	25	98.8	10.5	14	-20				-
DR.A.2.L.15		220	60	320	192	66.6	160	90.6	190	151	36	50	25	96.8	10.5	14	-15	145.0	181.3			
DR.A.2.L.10		220	60	250	192	62.8	125	56.2	190	151	36	50	25	100.8	10.5	14	-10	122.6	153.2			
DR.A.2.L.05		220	60	225	192	59.6	145	58.7	190	151	36	50	25	96.2	10.5	14	-05	106.8	133.6			
HORIZONTAL	DR.A.2.H.00	220	60	210	192	59.1	148	66.2	190	153	36	50	25	98.4	10.5	14	00	95.3	119.2			
	DR.A.2.R.05	220	60	205	192	57.3	135	80.3	190	153	36	50	25	97.1	10.5	14	05	86.7	108.3			
	DR.A.2.R.10	220	60	185	192	58.2	125	77.0	190	155	36	50	25	93.2	10.5	14	10	80.0	100.0			
	DR.A.2.R.15	220	60	180	192	57.9	135	87.0	190	155	36	50	25	87.2	10.5	14	15	74.8	93.5			
	DR.A.2.R.20	220	60	165	192	61.3	120	85.5	190	158	36	50	25	80.6	10.5	14	20	70.8	88.5			
	DR.A.2.R.25	220	60	165	192	62.4	120	97.8	190	158	36	50	25	73.4	10.5	14	25	67.6	84.5			
	DR.A.2.R.30	220	60	145	192	66.3	105	89.1	190	160	36	50	25	66.7	10.5	14	30	65.2	81.5			
	DR.A.2.R.35	220	60	145	192	68.9	105	99.4	190	160	36	50	25	60.2	10.5	14	35	63.4	79.3			
	DR.A.2.R.40	200	60	115	172	52.2	75	78.7	170	140	36	50	25	54.0	10.5	14	40	62.2	77.8			
	DR.A.2.R.45	200	60	115	172	56.1	85	87.1	170	140	36	50	25	47.8	10.5	14	45	61.5	76.9			
	DR.A.2.R.50	200	60	95	172	80.7	64	74.5	170	160	36	50	25	41.6	10.5	14	50	61.3	76.6			

ACX

Roller Cam

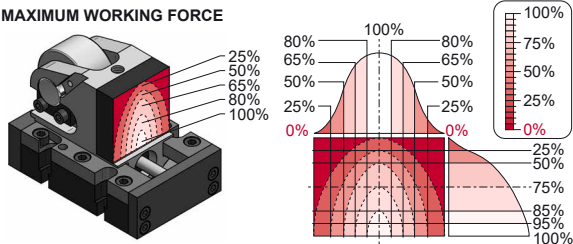
AZOL GAS

ACX 05



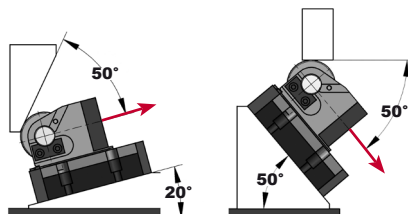
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
ACX 05 050	14.14	50	5000	185	AG 150 063	190	130	140	90	74	134	76	103
ACX 05 080	17.00	80	5000	197	AG 150 080	220	130	140	90	74	164	106	103
ACX 05 100	23.07	100	5000	197	AG 150 100	260	130	157	90	91	204	146	120

MAXIMUM WORKING FORCE

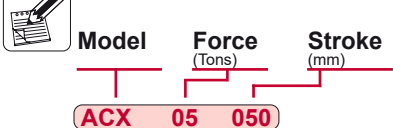


Working force should be as centered as possible on the working area surface.

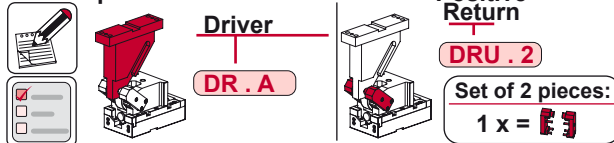
MAXIMUM WORKING ANGLE

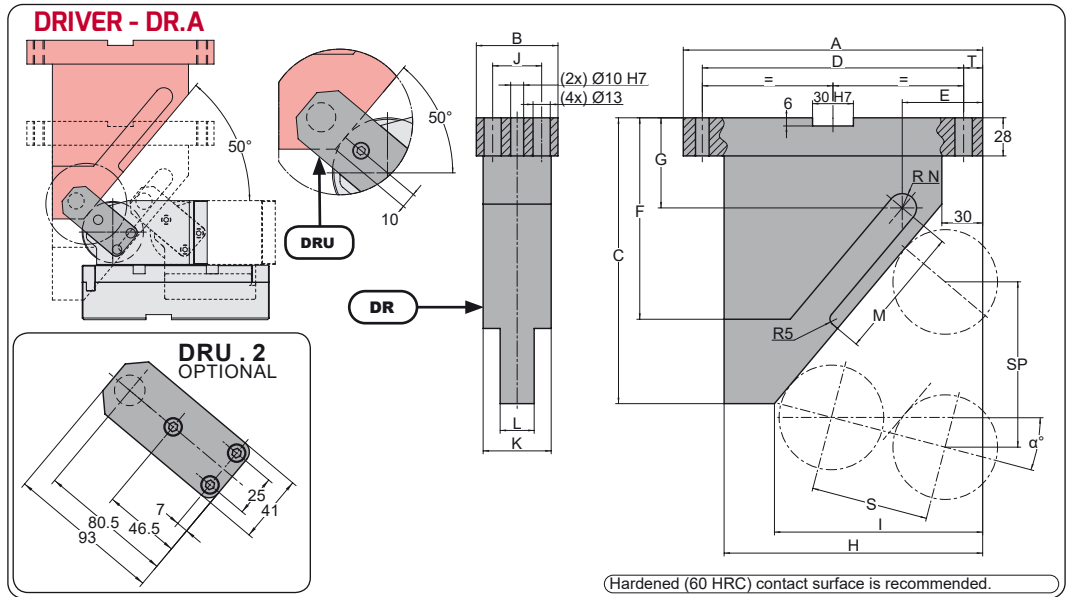


Order:



Order Options:





(Hardened (60 HRC) contact surface is recommended.)

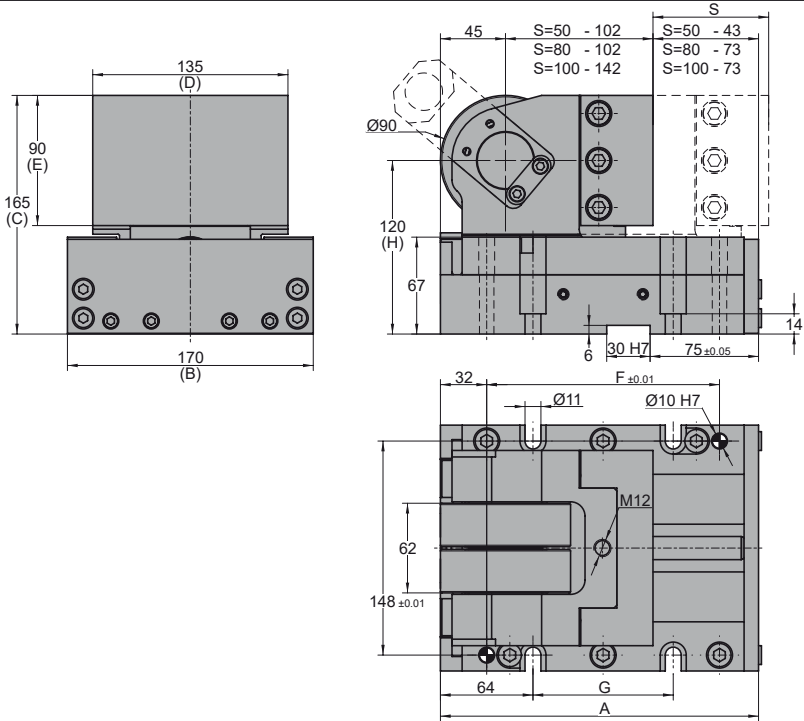
		A	B	C	D	E	F	G	H	I	J	K	L	M	RN	T	α	SP			
																		S=50	S=80	S=100	
	DR.A.1.L.20	160	60	220	130	65.1	140	69.8	130	98	36	50	25	69.0	10.5	15	-20	111.9			
	DR.A.1.L.15	160	60	190	130	61.9	130	64.2	130	98	36	50	25	63.8	10.5	15	-15	90.6			
	DR.A.1.L.10	160	60	165	130	59.0	120	56.5	130	98	36	50	25	65.7	10.5	15	-10	76.6			
	DR.A.1.L.05	160	60	155	130	56.4	110	59.8	130	98	36	50	25	65.0	10.5	15	-05	66.8			
HORIZONTAL	DR.A.1.H.00	160	60	145	130	56.1	100	60.7	130	100	36	50	25	68.9	10.5	15	00	59.6			
	DR.A.1.R.05	160	60	145	130	54.1	105	70.1	130	100	36	50	25	64.7	10.5	15	05	54.2			
	DR.A.1.R.10	160	60	130	130	54.4	90	63.3	130	102	36	50	25	58.5	10.5	15	10	50.0			
	DR.A.1.R.15	160	60	130	130	53.2	90	70.8	130	102	36	50	25	53.0	10.5	15	15	46.8			
	DR.A.1.R.20	160	60	120	130	55.3	85	67.6	130	105	36	50	25	48.0	10.5	15	20	44.2			
	DR.A.1.R.25	160	60	120	130	54.8	85	74.0	130	105	36	50	25	43.4	10.5	15	25	42.3			
	DR.A.1.R.30	160	60	100	130	51.6	70	59.8	130	102	36	50	25	39.0	10.5	15	30	40.8			
	DR.A.1.R.35	160	60	100	130	51.9	70	65.3	130	102	36	50	25	34.8	10.5	15	35	39.7			
	DR.A.1.R.40	160	60	90	130	55.5	60	60.5	130	105	36	50	25	30.6	10.5	15	40	38.9			
	DR.A.1.R.45	160	60	90	130	56.5	60	65.2	130	105	36	50	25	26.5	10.5	15	45	38.4			
	DR.A.1.R.50	160	60	80	130	67.9	49	59.5	130	115	36	50	25	22.3	10.5	15	50	38.3			
		DR.A.2.L.20	220	60	380	192	70.2	195	100.7	190	150	36	50	25	98.8	10.5	14	-20			
		DR.A.2.L.15	220	60	320	192	66.6	160	90.6	190	151	36	50	25	96.8	10.5	14	-15			
DR.A.2.L.10		220	60	250	192	62.8	125	56.2	190	151	36	50	25	100.8	10.5	14	-10				
DR.A.2.L.05		220	60	225	192	59.6	145	58.7	190	151	36	50	25	96.2	10.5	14	-05				
HORIZONTAL		DR.A.2.H.00	220	60	210	192	59.1	148	66.2	190	153	36	50	25	98.4	10.5	14	00			
DR.A.2.R.05		220	60	205	192	57.3	135	80.3	190	153	36	50	25	97.1	10.5	14	05				
DR.A.2.R.10		220	60	185	192	58.2	125	77.0	190	155	36	50	25	93.2	10.5	14	10				
DR.A.2.R.15		220	60	180	192	57.9	135	80.7	190	155	36	50	25	87.2	10.5	14	15				
DR.A.2.R.20		220	60	165	192	61.3	120	85.5	190	158	36	50	25	80.6	10.5	14	20				
DR.A.2.R.25		220	60	165	192	62.4	120	97.8	190	158	36	50	25	73.4	10.5	14	25				
DR.A.2.R.30		220	60	145	192	66.3	105	89.1	190	160	36	50	25	66.7	10.5	14	30				
DR.A.2.R.35		220	60	145	192	68.9	105	99.4	190	160	36	50	25	60.2	10.5	14	35				
DR.A.2.R.40		200	60	115	172	52.2	75	78.7	170	140	36	50	25	54.0	10.5	14	40				
DR.A.2.R.45		200	60	115	172	56.1	85	87.1	170	140	36	50	25	47.8	10.5	14	45				
DR.A.2.R.50	200	60	95	172	80.7	64	74.5	170	160	36	50	25	41.6	10.5	14	50					

ACX

Roller Cam

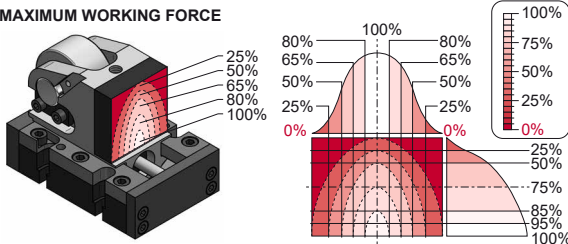
AZOL GAS

ACX 15



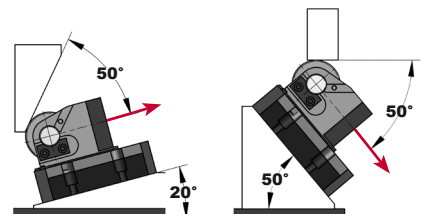
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
ACX 15 050	24.58	50	15000	326	AG 250 063	190	170	165	135	90	131	67	120
ACX 15 080	26.23	80	15000	356	AG 250 080	220	170	165	135	90	161	97	120
ACX 15 100	32.98	100	15000	356	AG 250 100	260	170	165	135	90	201	137	120

MAXIMUM WORKING FORCE

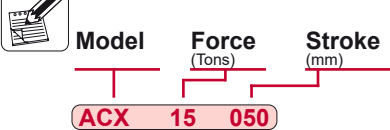


Working force should be as centered as possible on the working area surface.

MAXIMUM WORKING ANGLE



Order:



Order Options:

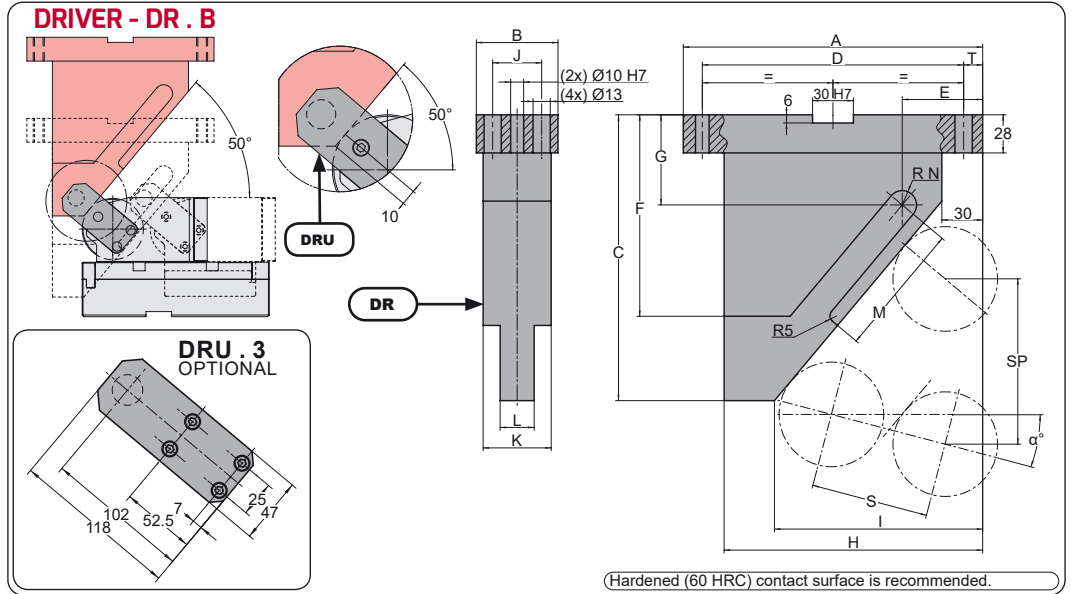
Driver

DR . B

Positive Return

DRU . 3

Set of 2 pieces:
1 x =



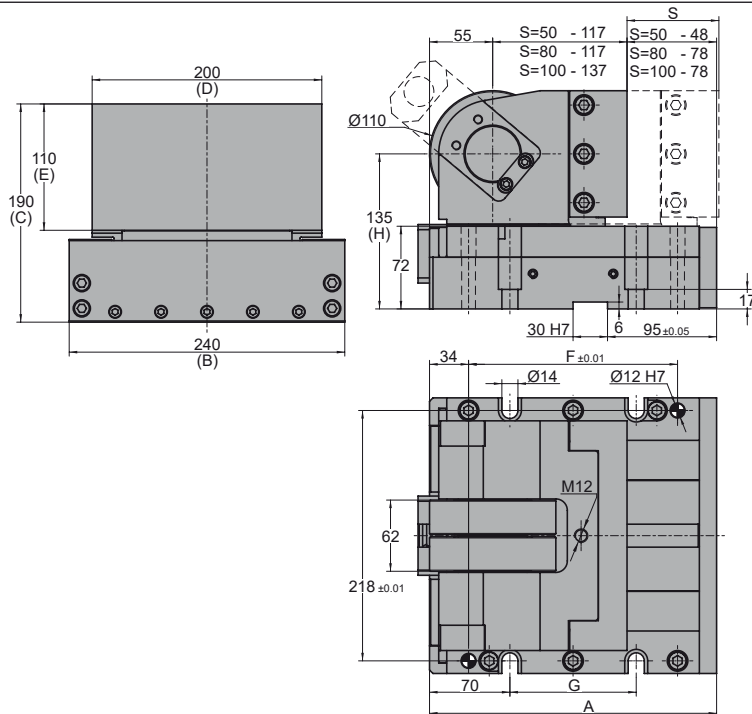
		A	B	C	D	E	F	G	H	I	J	K	L	M	R N	T	α	SP						
																		S=50	S=80	S=100				
	DR.B.1.L.20	160	95	220	130	73.1	155	66.9	130	98	71	66	39	126.8	14	15	-20	111.9						
	DR.B.1.L.15	160	95	200	130	69.6	120	70.6	130	98	71	66	39	105.6	14	15	-15	90.6						
	DR.B.1.L.10	160	95	165	130	66.4	120	52.2	130	98	71	66	39	90.7	14	15	-10	76.6						
	DR.B.1.L.05	160	95	155	130	65.3	100	54.9	130	100	71	66	39	79.6	14	15	-05	66.8						
HORIZONTAL	DR.B.1.H.00	160	95	145	130	62.6	100	55.3	130	100	71	66	39	70.7	14	15	00	59.6						
	DR.B.1.R.05	160	95	145	130	60.1	100	64.1	130	100	71	66	39	63.3	14	15	05	54.2						
	DR.B.1.R.10	160	95	130	130	59.9	90	56.8	130	102	71	66	39	56.9	14	15	10	50.0						
	DR.B.1.R.15	160	95	130	130	58.1	90	63.8	130	102	71	66	39	51.2	14	15	15	46.8						
	DR.B.1.R.20	160	95	120	130	59.5	80	60.3	130	105	71	66	39	46.0	14	15	20	44.2						
	DR.B.1.R.25	160	95	120	130	58.3	80	66.2	130	105	71	66	39	41.3	14	15	25	42.3						
	DR.B.1.R.30	160	95	100	130	54.5	60	51.9	130	102	71	66	39	36.6	14	15	30	40.8						
	DR.B.1.R.35	160	95	100	130	54.1	60	57.1	130	102	71	66	39	32.1	14	15	35	39.7						
	DR.B.1.R.40	160	95	90	130	57.0	50	52.1	130	105	71	66	39	27.7	14	15	40	38.9						
	DR.B.1.R.45	160	95	90	130	57.2	48	56.7	130	105	71	66	39	23.3	14	15	45	38.4						
	DR.B.1.R.50	160	95	80	130	67.9	37	51.0	130	115	71	66	39	18.8	14	15	50	38.3						
		DR.B.2.L.20	220	95	380	192	78.2	250	97.8	190	150	71	66	39	132.6	14	14	-20					179.2	224.0
		DR.B.2.L.15	220	95	320	192	74.4	220	87.0	190	151	71	66	39	137.0	14	14	-15					145.0	181.3
		DR.B.2.L.10	220	95	250	192	70.1	170	51.9	190	151	71	66	39	149.2	14	14	-10					122.6	153.2
		DR.B.2.L.05	220	95	225	192	67.0	150	54.5	190	151	71	66	39	143.8	14	14	-05					106.8	133.6
	HORIZONTAL	DR.B.2.H.00	220	95	210	192	65.6	150	60.7	190	153	71	66	39	148.5	14	14	00					95.3	119.2
DR.B.2.R.05		220	95	210	192	63.3	150	79.3	190	153	71	66	39	133.7	14	14	05		86.7	108.3				
DR.B.2.R.10		220	95	185	192	63.7	135	70.5	190	155	71	66	39	121.2	14	14	10		80.0	100.0				
DR.B.2.R.15		220	95	185	192	62.8	135	85.0	190	155	71	66	39	110.2	14	14	15		74.8	93.5				
DR.B.2.R.20		220	95	165	192	65.5	125	78.1	190	158	71	66	39	100.3	14	14	20		70.8	88.5				
DR.B.2.R.25		220	95	165	192	66.0	125	90.1	190	158	71	66	39	91.2	14	14	25		67.6	84.5				
DR.B.2.R.30		220	95	145	192	69.2	105	81.1	190	160	71	66	39	82.6	14	14	30		65.2	81.5				
DR.B.2.R.35		220	95	145	192	71.1	105	91.2	190	160	71	66	39	74.5	14	14	35		63.4	79.3				
DR.B.2.R.40		200	95	115	172	53.7	75	70.3	170	140	71	66	39	66.6	14	14	40		62.2	77.8				
DR.B.2.R.45		200	95	115	172	56.9	72	78.6	170	140	71	66	39	58.8	14	14	45		61.5	76.9				
DR.B.2.R.50		200	95	95	172	80.7	52	66.0	170	160	71	66	39	51.0	14	14	50		61.3	76.6				

ACX

Roller Cam

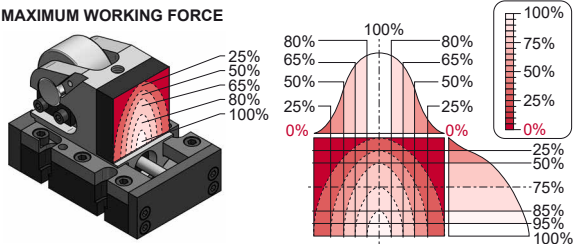
AZOL GAS

ACX 20



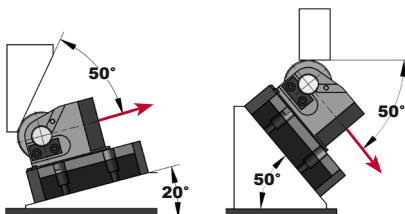
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
ACX 20 050	48.28	50	20000	680	CW 750 075 V1 500	220	240	190	200	110	152	80	135
ACX 20 080	50.45	80	20000	830	CW 750 080 V1 500	250	240	190	200	110	182	110	135
ACX 20 100	55.26	100	20000	830	CW 750 100 V1 500	270	240	190	200	110	202	130	135

MAXIMUM WORKING FORCE

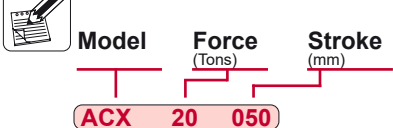


Working force should be as centered as possible on the working area surface.

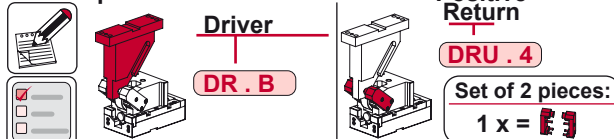
MAXIMUM WORKING ANGLE

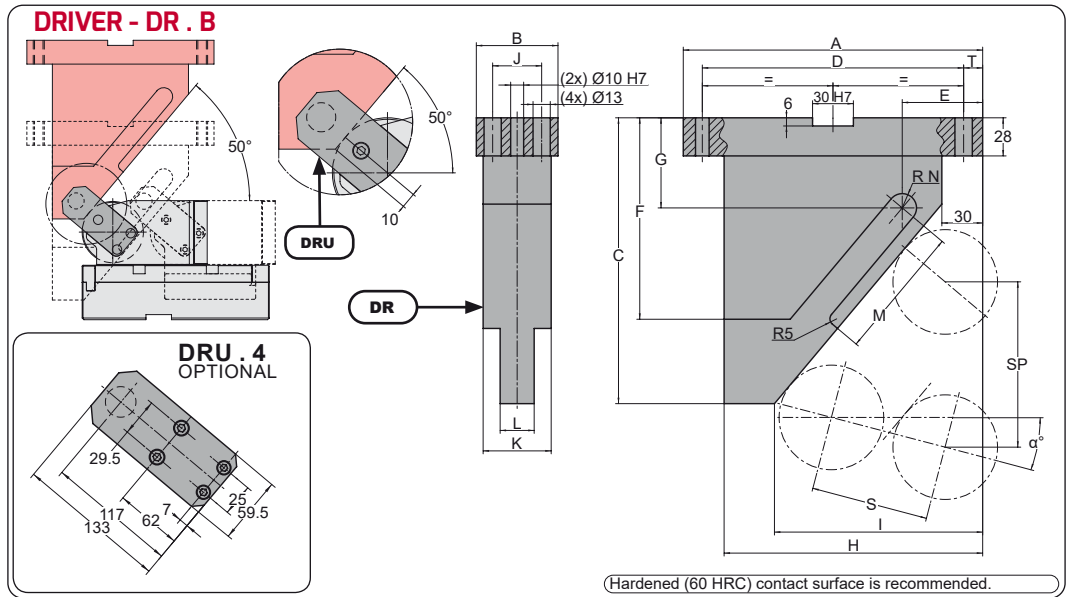


Order:



Order Options:





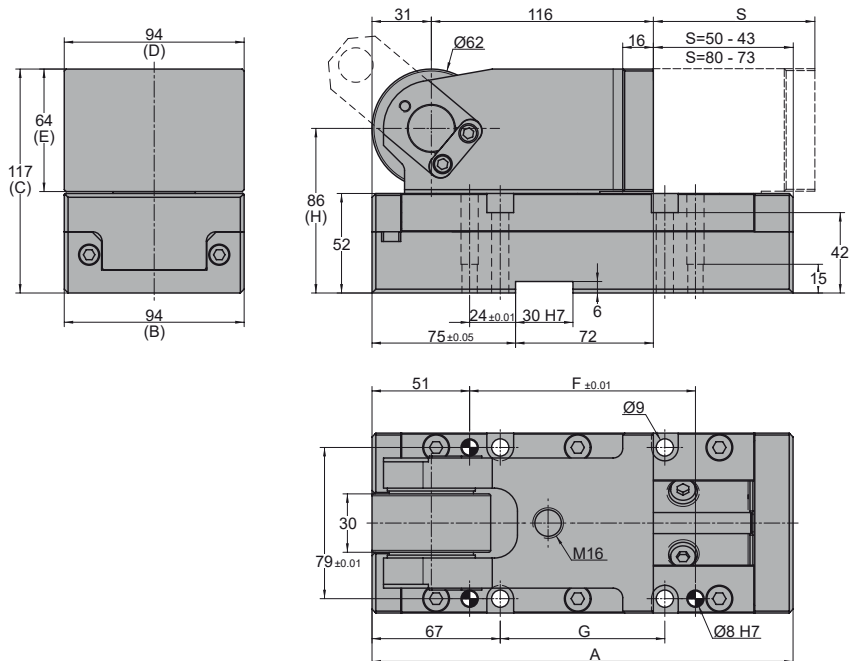
		A	B	C	D	E	F	G	H	I	J	K	L	M	R	N	T	α	SP			
																			S=50	S=80	S=100	
	DR.B.1.L.20	160	95	220	130	73.1	155	66.9	130	98	71	66	39	126.8	14	15	-20	111.9		S=50	S=80	S=100
	DR.B.1.L.15	160	95	200	130	69.6	120	70.6	130	98	71	66	39	105.6	14	15	-15	90.6				
	DR.B.1.L.10	160	95	165	130	66.4	120	52.2	130	98	71	66	39	90.7	14	15	-10	76.6				
	DR.B.1.L.05	160	95	155	130	65.3	100	54.9	130	100	71	66	39	79.6	14	15	-05	66.8				
HORIZONTAL	DR.B.1.H.00	160	95	145	130	62.6	100	55.3	130	100	71	66	39	70.7	14	15	00	59.6				
	DR.B.1.R.05	160	95	145	130	60.1	100	64.1	130	100	71	66	39	63.3	14	15	05	54.2				
	DR.B.1.R.10	160	95	130	130	59.9	90	56.8	130	102	71	66	39	56.9	14	15	10	50.0				
	DR.B.1.R.15	160	95	130	130	58.1	90	63.8	130	102	71	66	39	51.2	14	15	15	46.8				
	DR.B.1.R.20	160	95	120	130	59.5	80	60.3	130	105	71	66	39	46.0	14	15	20	44.2				
	DR.B.1.R.25	160	95	120	130	58.3	80	66.2	130	105	71	66	39	41.3	14	15	25	42.3				
	DR.B.1.R.30	160	95	100	130	54.5	60	51.9	130	102	71	66	39	36.6	14	15	30	40.8				
	DR.B.1.R.35	160	95	100	130	54.1	60	57.1	130	102	71	66	39	32.1	14	15	35	39.7				
	DR.B.1.R.40	160	95	90	130	57.0	50	52.1	130	105	71	66	39	27.7	14	15	40	38.9				
	DR.B.1.R.45	160	95	90	130	57.2	48	56.7	130	105	71	66	39	23.3	14	15	45	38.4				
	DR.B.1.R.50	160	95	80	130	67.9	37	51.0	130	115	71	66	39	18.8	14	15	50	38.3				
		DR.B.2.L.20	220	95	380	192	78.2	250	97.8	190	150	71	66	39	132.6	14	14	-20				
DR.B.2.L.15		220	95	320	192	74.4	220	87.0	190	151	71	66	39	137.0	14	14	-15					
DR.B.2.L.10		220	95	250	192	70.1	170	51.9	190	151	71	66	39	149.2	14	14	-10					
DR.B.2.L.05		220	95	225	192	67.0	150	54.5	190	151	71	66	39	143.8	14	14	-05					
HORIZONTAL	DR.B.2.H.00	220	95	210	192	65.6	150	60.7	190	153	71	66	39	148.5	14	14	00					
	DR.B.2.R.05	220	95	210	192	63.3	150	79.3	190	153	71	66	39	133.7	14	14	05					
	DR.B.2.R.10	220	95	185	192	63.7	135	70.5	190	155	71	66	39	121.2	14	14	10					
	DR.B.2.R.15	220	95	185	192	62.8	135	85.0	190	155	71	66	39	110.2	14	14	15					
	DR.B.2.R.20	220	95	165	192	65.5	125	78.1	190	158	71	66	39	100.3	14	14	20					
	DR.B.2.R.25	220	95	165	192	66.0	125	90.1	190	158	71	66	39	91.2	14	14	25					
	DR.B.2.R.30	220	95	145	192	69.2	105	81.1	190	160	71	66	39	82.6	14	14	30					
	DR.B.2.R.35	220	95	145	192	71.1	105	91.2	190	160	71	66	39	74.5	14	14	35					
	DR.B.2.R.40	200	95	115	172	53.7	75	70.3	170	140	71	66	39	66.6	14	14	40					
	DR.B.2.R.45	200	95	115	172	56.9	72	78.6	170	140	71	66	39	58.8	14	14	45					
	DR.B.2.R.50	200	95	95	172	80.7	52	66.0	170	160	71	66	39	51.0	14	14	50					

FCX

Roller Cam

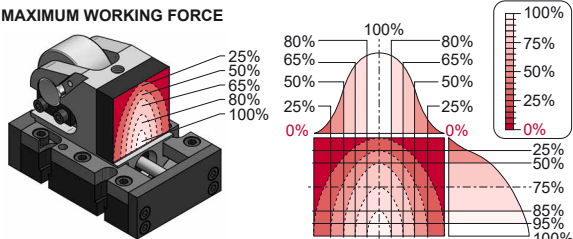


FCX 07



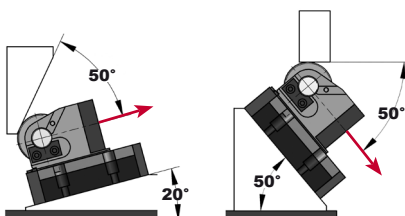
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
FCX 07 050	10.29	50	7200	300	CW 170 050	190	94	117	94	64	88	56	86
FCX 07 080	11.13	80	7200	290	CW 170 080	220	94	117	94	64	118	86	86

MAXIMUM WORKING FORCE

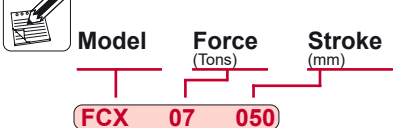


Working force should be as centered as possible on the working area surface.

MAXIMUM WORKING ANGLE



Order:

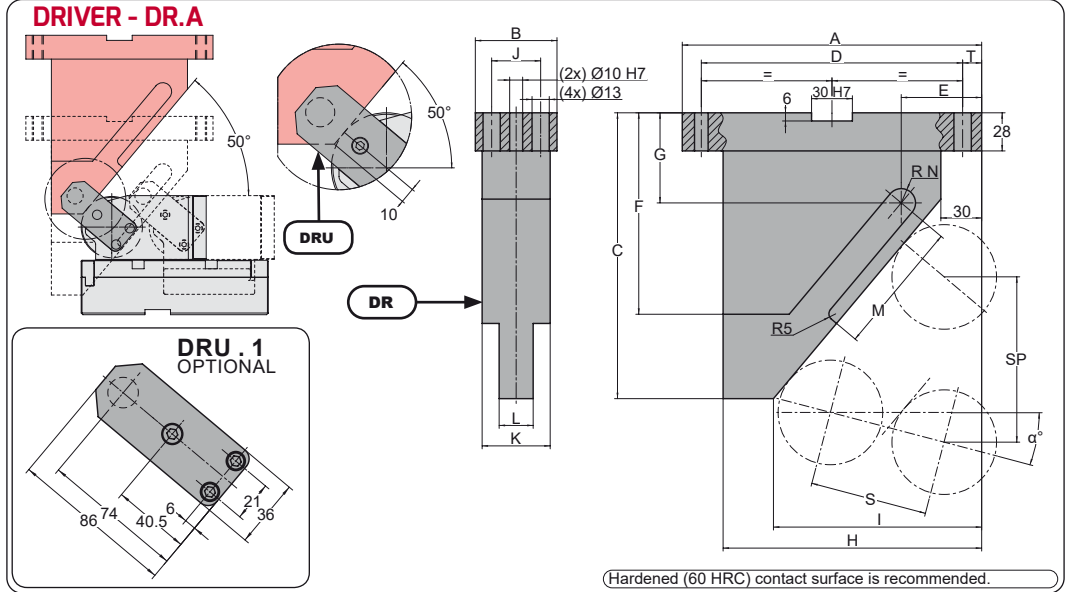


Order Options:

Driver
DR . A

Positive Return
DRU . 1

Set of 2 pieces:
1 x =



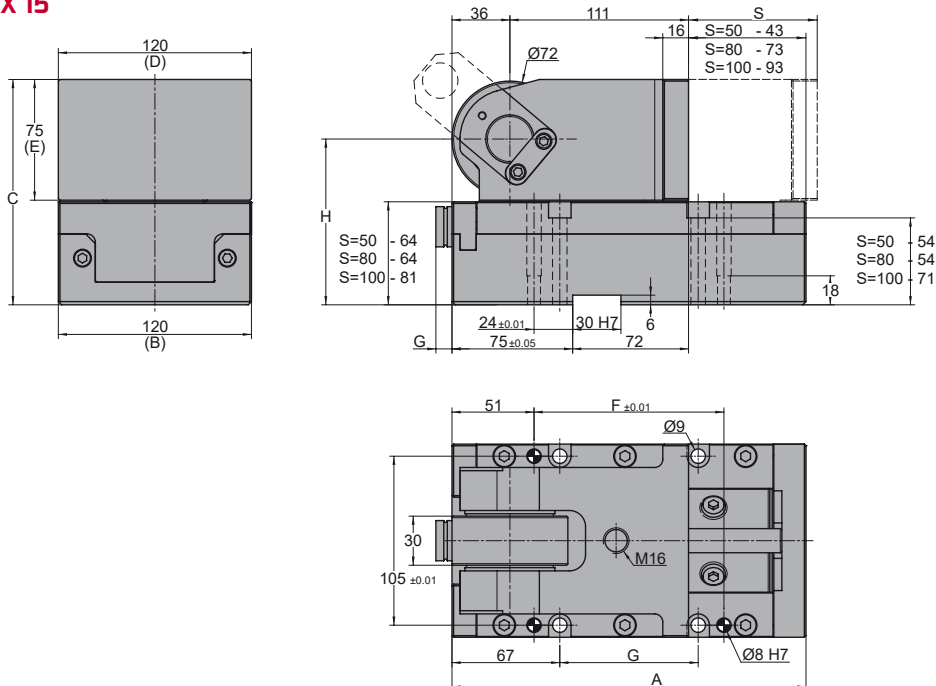
		A	B	C	D	E	F	G	H	I	J	K	L	M	R	N	T	α	SP			
																			S=50	S=80	S=100	
	DR.A.1.L.20	160	60	220	130	65.1	140	69.8	130	98	36	50	25	69.0	10.5	15	-20	111.9				
	DR.A.1.L.15	160	60	190	130	61.9	130	64.2	130	98	36	50	25	63.8	10.5	15	-15	90.6				
	DR.A.1.L.10	160	60	165	130	59.0	120	56.5	130	98	36	50	25	65.7	10.5	15	-10	76.6				
	DR.A.1.L.05	160	60	155	130	56.4	110	59.8	130	98	36	50	25	65.0	10.5	15	-05	66.8				
HORIZONTAL	DR.A.1.H.00	160	60	145	130	56.1	100	60.7	130	100	36	50	25	68.9	10.5	15	00	59.6				
	DR.A.1.R.05	160	60	145	130	54.1	105	70.1	130	100	36	50	25	64.7	10.5	15	05	54.2				
	DR.A.1.R.10	160	60	130	130	54.4	90	63.3	130	102	36	50	25	58.5	10.5	15	10	50.0				
	DR.A.1.R.15	160	60	130	130	53.2	90	70.8	130	102	36	50	25	53.0	10.5	15	15	46.8				
	DR.A.1.R.20	160	60	120	130	55.3	85	67.6	130	105	36	50	25	48.0	10.5	15	20	44.2				
	DR.A.1.R.25	160	60	120	130	54.8	85	74.0	130	105	36	50	25	43.4	10.5	15	25	42.3				
	DR.A.1.R.30	160	60	100	130	51.6	70	59.8	130	102	36	50	25	39.0	10.5	15	30	40.8				
	DR.A.1.R.35	160	60	100	130	51.9	70	65.3	130	102	36	50	25	34.8	10.5	15	35	39.7				
	DR.A.1.R.40	160	60	90	130	55.5	60	60.5	130	105	36	50	25	30.6	10.5	15	40	38.9				
	DR.A.1.R.45	160	60	90	130	56.5	60	65.2	130	105	36	50	25	26.5	10.5	15	45	38.4				
	DR.A.1.R.50	160	60	80	130	67.9	49	59.5	130	115	36	50	25	22.3	10.5	15	50	38.3				
		DR.A.2.L.20	220	60	380	192	70.2	195	100.7	190	150	36	50	25	98.8	10.5	14	-20				
DR.A.2.L.15		220	60	320	192	66.6	160	90.6	190	151	36	50	25	96.8	10.5	14	-15	179.2				
DR.A.2.L.10		220	60	250	192	62.8	125	56.2	190	151	36	50	25	100.8	10.5	14	-10	145.0				
DR.A.2.L.05		220	60	225	192	59.6	145	58.7	190	151	36	50	25	96.2	10.5	14	-05	122.6				
HORIZONTAL		DR.A.2.H.00	220	60	210	192	59.1	148	66.2	190	153	36	50	25	98.4	10.5	14	00	106.8			
		DR.A.2.R.05	220	60	205	192	57.3	135	80.3	190	153	36	50	25	97.1	10.5	14	05	95.3			
		DR.A.2.R.10	220	60	185	192	58.2	125	77.0	190	155	36	50	25	93.2	10.5	14	10	86.7			
		DR.A.2.R.15	220	60	180	192	57.9	135	87.0	190	155	36	50	25	87.2	10.5	14	15	80.0			
		DR.A.2.R.20	220	60	165	192	61.3	120	85.5	190	158	36	50	25	80.6	10.5	14	20	74.8			
		DR.A.2.R.25	220	60	165	192	62.4	120	97.8	190	158	36	50	25	73.4	10.5	14	25	70.8			
		DR.A.2.R.30	220	60	145	192	66.3	105	89.1	190	160	36	50	25	66.7	10.5	14	30	67.6			
		DR.A.2.R.35	220	60	145	192	68.9	105	99.4	190	160	36	50	25	60.2	10.5	14	35	65.2			
	DR.A.2.R.40	200	60	115	172	52.2	75	78.7	170	140	36	50	25	54.0	10.5	14	40	63.4				
	DR.A.2.R.45	200	60	115	172	56.1	85	87.1	170	140	36	50	25	47.8	10.5	14	45	62.2				
DR.A.2.R.50	200	60	95	172	80.7	64	74.5	170	160	36	50	25	41.6	10.5	14	50	61.5					
																					61.3	

FCX

Roller Cam

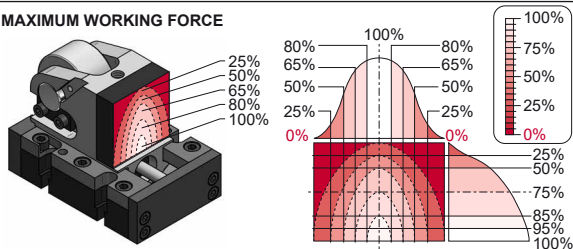
AZOL GAS

FCX 15



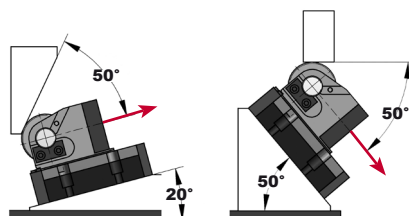
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
FCX 15 050	16.35	50	15300	620	CW 320 050	190	120	140	120	75	88	56	103
FCX 15 080	17.78	80	15300	590	CW 320 080	220	120	140	120	75	118	86	103
FCX 15 100	22.26	100	15300	590	CW 320 100	240	120	157	120	75	158	126	120

MAXIMUM WORKING FORCE

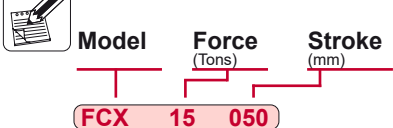


Working force should be as centered as possible on the working area surface.

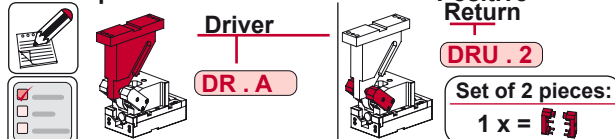
MAXIMUM WORKING ANGLE

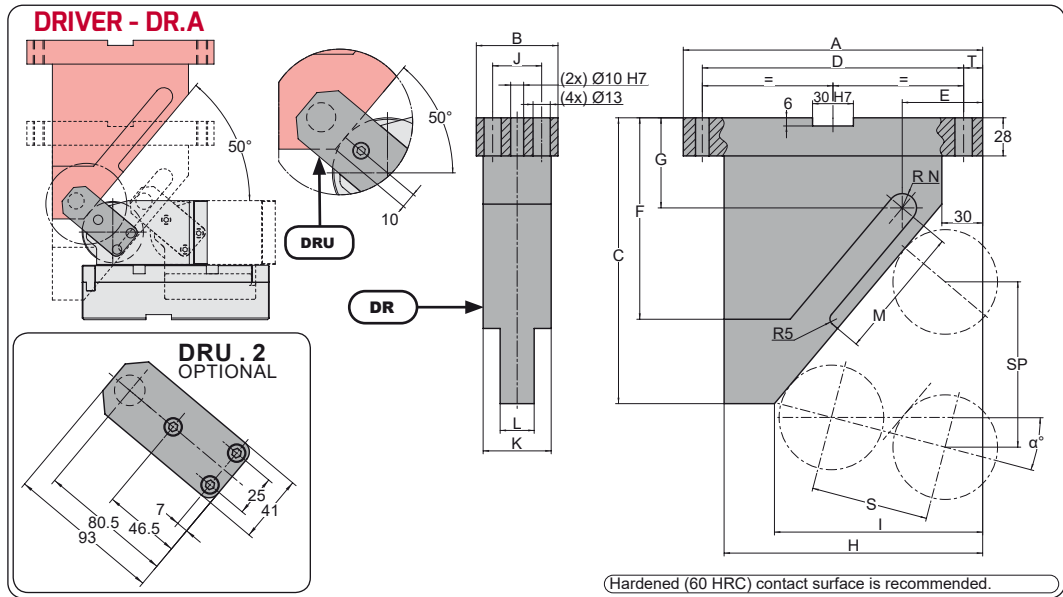


Order:



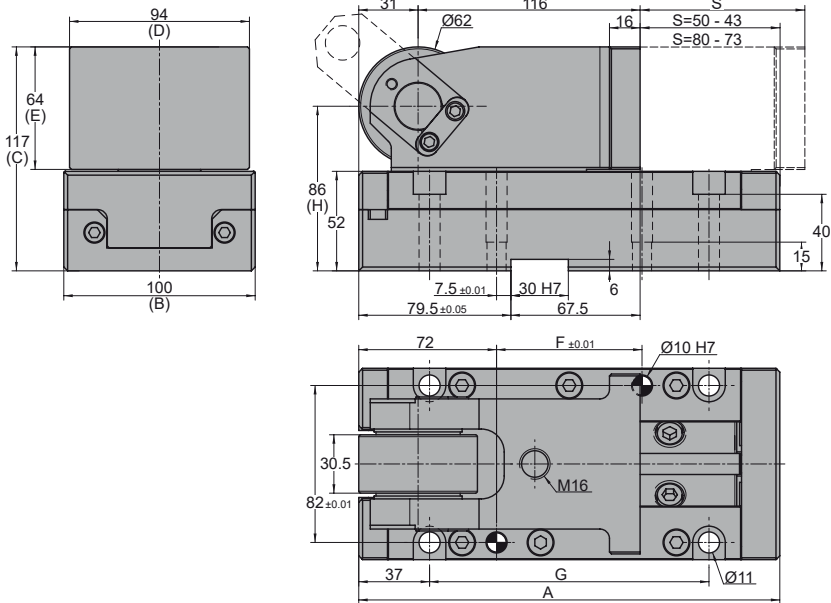
Order Options:





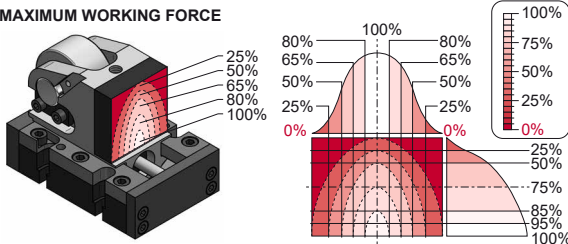
		A	B	C	D	E	F	G	H	I	J	K	L	M	RN	T	α	SP							
																		S=50	S=80	S=100					
	DR.A.1.L.20	160	60	220	130	65.1	140	69.8	130	98	36	50	25	69.0	10.5	15	-20	111.9							
	DR.A.1.L.15	160	60	190	130	61.9	130	64.2	130	98	36	50	25	63.8	10.5	15	-15	90.6							
	DR.A.1.L.10	160	60	165	130	59.0	120	56.5	130	98	36	50	25	65.7	10.5	15	-10	76.6							
	DR.A.1.L.05	160	60	155	130	56.4	110	59.8	130	98	36	50	25	65.0	10.5	15	-05	66.8							
HORIZONTAL	DR.A.1.H.00	160	60	145	130	56.1	100	60.7	130	100	36	50	25	68.9	10.5	15	00	59.6							
	DR.A.1.R.05	160	60	145	130	54.1	105	70.1	130	100	36	50	25	64.7	10.5	15	05	54.2							
	DR.A.1.R.10	160	60	130	130	54.4	90	63.3	130	102	36	50	25	58.5	10.5	15	10	50.0							
	DR.A.1.R.15	160	60	130	130	53.2	90	70.8	130	102	36	50	25	53.0	10.5	15	15	46.8							
	DR.A.1.R.20	160	60	120	130	55.3	85	67.6	130	105	36	50	25	48.0	10.5	15	20	44.2							
	DR.A.1.R.25	160	60	120	130	54.8	85	74.0	130	105	36	50	25	43.4	10.5	15	25	42.3							
	DR.A.1.R.30	160	60	100	130	51.6	70	59.8	130	102	36	50	25	39.0	10.5	15	30	40.8							
	DR.A.1.R.35	160	60	100	130	51.9	70	65.3	130	102	36	50	25	34.8	10.5	15	35	39.7							
	DR.A.1.R.40	160	60	90	130	55.5	60	60.5	130	105	36	50	25	30.6	10.5	15	40	38.9							
	DR.A.1.R.45	160	60	90	130	56.5	60	65.2	130	105	36	50	25	26.5	10.5	15	45	38.4							
	DR.A.1.R.50	160	60	80	130	67.9	49	59.5	130	115	36	50	25	22.3	10.5	15	50	38.3							
		DR.A.2.L.20	220	60	380	192	70.2	195	100.7	190	150	36	50	25	98.8	10.5	14	-20							
DR.A.2.L.15		220	60	320	192	66.6	160	90.6	190	151	36	50	25	96.8	10.5	14	-15	179.2							224.0
DR.A.2.L.10		220	60	250	192	62.8	125	56.2	190	151	36	50	25	100.8	10.5	14	-10	145.0							181.3
DR.A.2.L.05		220	60	225	192	59.6	145	58.7	190	151	36	50	25	96.2	10.5	14	-05	122.6							153.2
HORIZONTAL	DR.A.2.H.00	220	60	210	192	59.1	148	66.2	190	153	36	50	25	98.4	10.5	14	00	106.8							133.6
	DR.A.2.R.05	220	60	205	192	57.3	135	80.3	190	153	36	50	25	97.1	10.5	14	05	95.3	119.2						
	DR.A.2.R.10	220	60	185	192	58.2	125	77.0	190	155	36	50	25	93.2	10.5	14	10	86.7	108.3						
	DR.A.2.R.15	220	60	180	192	57.9	135	87.0	190	155	36	50	25	87.2	10.5	14	15	80.0	100.0						
	DR.A.2.R.20	220	60	165	192	61.3	120	85.5	190	158	36	50	25	80.6	10.5	14	20	74.8	93.5						
	DR.A.2.R.25	220	60	165	192	62.4	120	97.8	190	158	36	50	25	73.4	10.5	14	25	70.8	88.5						
	DR.A.2.R.30	220	60	145	192	66.3	105	89.1	190	160	36	50	25	66.7	10.5	14	30	67.6	84.5						
	DR.A.2.R.35	220	60	145	192	68.9	105	99.4	190	160	36	50	25	60.2	10.5	14	35	65.2	81.5						
	DR.A.2.R.40	200	60	115	172	52.2	75	78.7	170	140	36	50	25	54.0	10.5	14	40	63.4	79.3						
	DR.A.2.R.45	200	60	115	172	56.1	85	87.1	170	140	36	50	25	47.8	10.5	14	45	62.2	77.8						
	DR.A.2.R.50	200	60	95	172	80.7	64	74.5	170	160	36	50	25	41.6	10.5	14	50	61.5	76.9						
																			61.3	76.6					

JCX 07



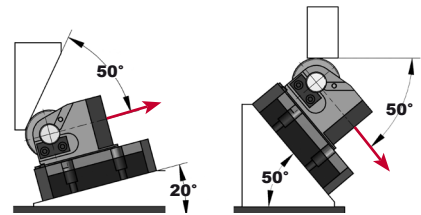
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
JCX 07 050	10.67	50	7200	300	CW 170 050	190	100	117	94	64	46	116	86
JCX 07 080	11.58	80	7200	290	CW 170 080	220	100	117	94	64	76	146	86

MAXIMUM WORKING FORCE

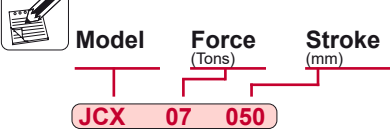


Working force should be as centered as possible on the working area surface.

MAXIMUM WORKING ANGLE



Order:

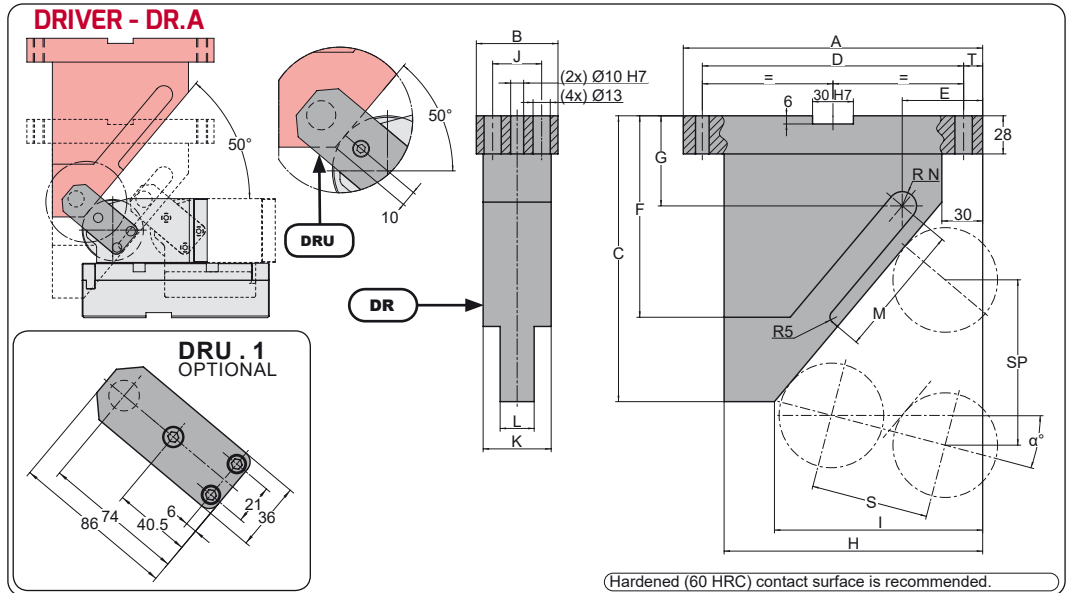


Order Options:

Driver
DR . A

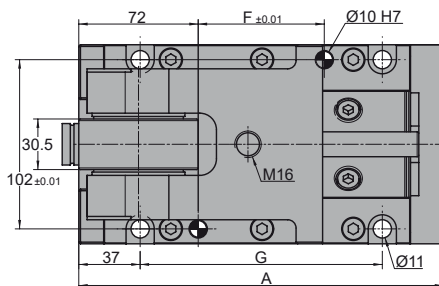
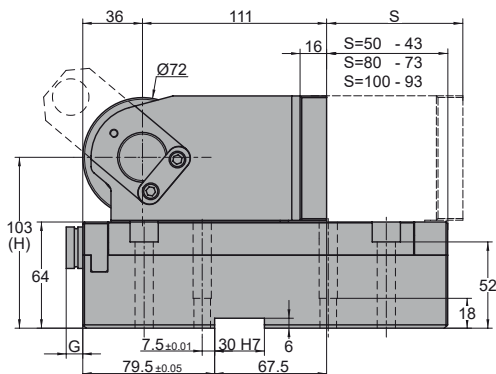
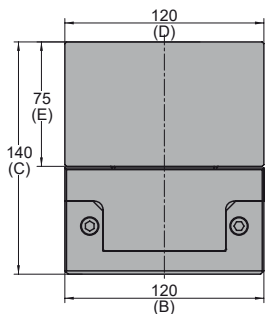
Positive Return
DRU . 1

Set of 2 pieces:
1 x =



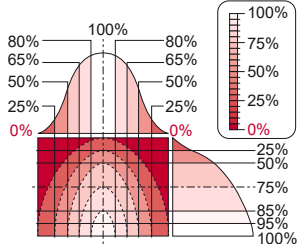
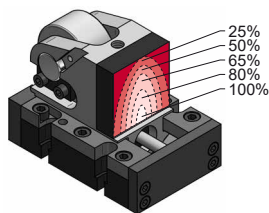
		A	B	C	D	E	F	G	H	I	J	K	L	M	RN	T	α	SP			
																		S=50	S=80	S=100	
	DR.A.1.L.20	160	60	220	130	65.1	140	69.8	130	98	36	50	25	69.0	10.5	15	-20	111.9			
	DR.A.1.L.15	160	60	190	130	61.9	130	64.2	130	98	36	50	25	63.8	10.5	15	-15	90.6			
	DR.A.1.L.10	160	60	165	130	59.0	120	56.5	130	98	36	50	25	65.7	10.5	15	-10	76.6			
	DR.A.1.L.05	160	60	155	130	56.4	110	59.8	130	98	36	50	25	65.0	10.5	15	-05	66.8			
HORIZONTAL	DR.A.1.H.00	160	60	145	130	56.1	100	60.7	130	100	36	50	25	68.9	10.5	15	00	59.6			
	DR.A.1.R.05	160	60	145	130	54.1	105	70.1	130	100	36	50	25	64.7	10.5	15	05	54.2			
	DR.A.1.R.10	160	60	130	130	54.4	90	63.3	130	102	36	50	25	58.5	10.5	15	10	50.0			
	DR.A.1.R.15	160	60	130	130	53.2	90	70.8	130	102	36	50	25	53.0	10.5	15	15	46.8			
	DR.A.1.R.20	160	60	120	130	55.3	85	67.6	130	105	36	50	25	48.0	10.5	15	20	44.2			
	DR.A.1.R.25	160	60	120	130	54.8	85	74.0	130	105	36	50	25	43.4	10.5	15	25	42.3			
	DR.A.1.R.30	160	60	100	130	51.6	70	59.8	130	102	36	50	25	39.0	10.5	15	30	40.8			
	DR.A.1.R.35	160	60	100	130	51.9	70	65.3	130	102	36	50	25	34.8	10.5	15	35	39.7			
	DR.A.1.R.40	160	60	90	130	55.5	60	60.5	130	105	36	50	25	30.6	10.5	15	40	38.9			
	DR.A.1.R.45	160	60	90	130	56.5	60	65.2	130	105	36	50	25	26.5	10.5	15	45	38.4			
	DR.A.1.R.50	160	60	80	130	67.9	49	59.5	130	115	36	50	25	22.3	10.5	15	50	38.3			
		DR.A.2.L.20	220	60	380	192	70.2	195	100.7	190	150	36	50	25	98.8	10.5	14	-20			
DR.A.2.L.15		220	60	320	192	66.6	160	90.6	190	151	36	50	25	96.8	10.5	14	-15	145.0			
DR.A.2.L.10		220	60	250	192	62.8	125	56.2	190	151	36	50	25	100.8	10.5	14	-10	122.6			
DR.A.2.L.05		220	60	225	192	59.6	145	58.7	190	151	36	50	25	96.2	10.5	14	-05	106.8			
HORIZONTAL	DR.A.2.H.00	220	60	210	192	59.1	148	66.2	190	153	36	50	25	98.4	10.5	14	00	95.3			
	DR.A.2.R.05	220	60	205	192	57.3	135	80.3	190	153	36	50	25	97.1	10.5	14	05	86.7			
	DR.A.2.R.10	220	60	185	192	58.2	125	77.0	190	155	36	50	25	93.2	10.5	14	10	80.0			
	DR.A.2.R.15	220	60	180	192	57.9	135	87.0	190	155	36	50	25	87.2	10.5	14	15	74.8			
	DR.A.2.R.20	220	60	165	192	61.3	120	85.5	190	158	36	50	25	80.6	10.5	14	20	70.8			
	DR.A.2.R.25	220	60	165	192	62.4	120	97.8	190	158	36	50	25	73.4	10.5	14	25	67.6			
	DR.A.2.R.30	220	60	145	192	66.3	105	89.1	190	160	36	50	25	66.7	10.5	14	30	65.2			
	DR.A.2.R.35	220	60	145	192	68.9	105	99.4	190	160	36	50	25	60.2	10.5	14	35	63.4			
	DR.A.2.R.40	200	60	115	172	52.2	75	78.7	170	140	36	50	25	54.0	10.5	14	40	62.2			
	DR.A.2.R.45	200	60	115	172	56.1	85	87.1	170	140	36	50	25	47.8	10.5	14	45	61.5			
	DR.A.2.R.50	200	60	95	172	80.7	64	74.5	170	160	36	50	25	41.6	10.5	14	50	61.3			

JCX 15



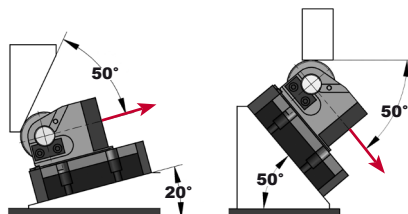
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
JCX 15 050	16.23	50	15300	620	CW 320 050	190	120	140	120	75	46	116	103
JCX 15 080	17.68	80	15300	590	CW 320 080	220	120	140	120	75	76	146	103
JCX 15 100	18.53	100	15300	590	CW 320 100	240	120	140	120	75	96	166	103

MAXIMUM WORKING FORCE

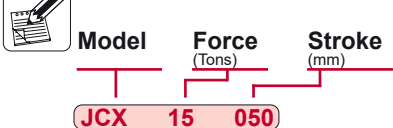


Working force should be as centered as possible on the working area surface.

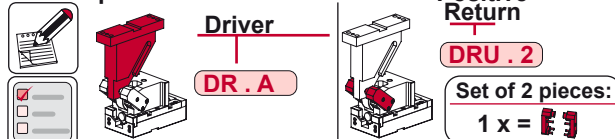
MAXIMUM WORKING ANGLE

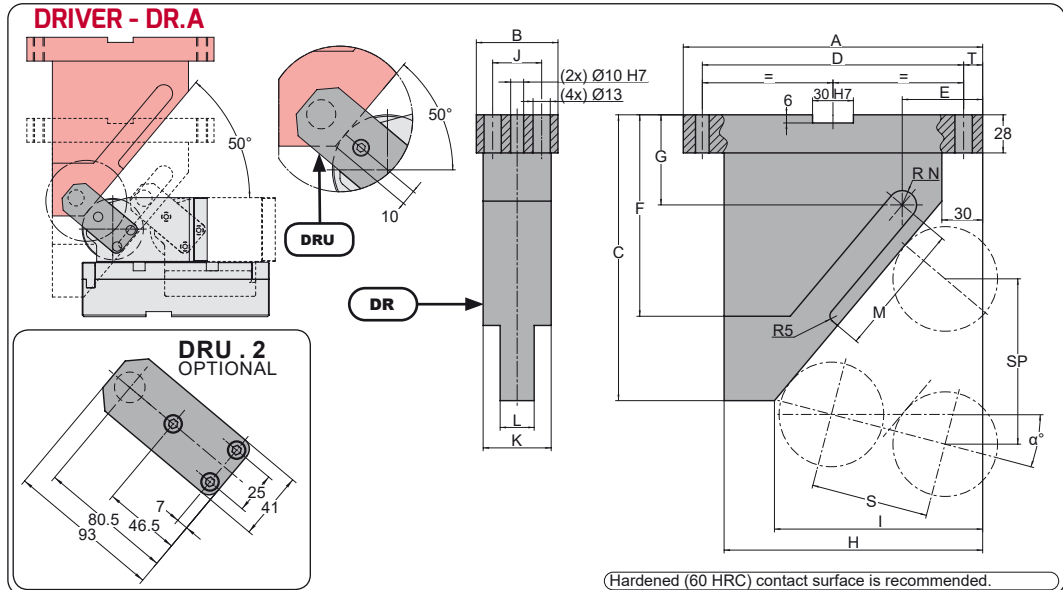


Order:



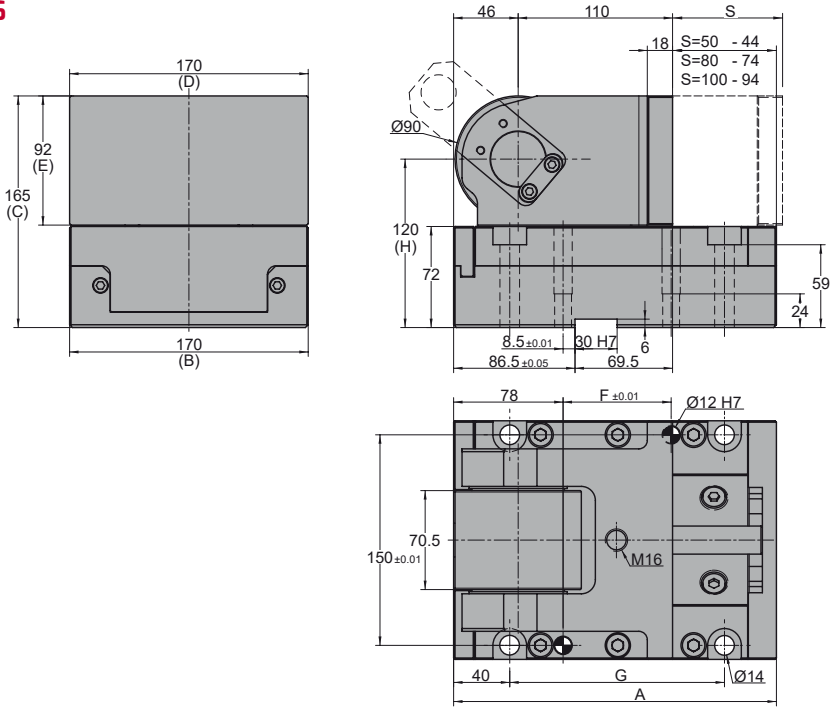
Order Options:





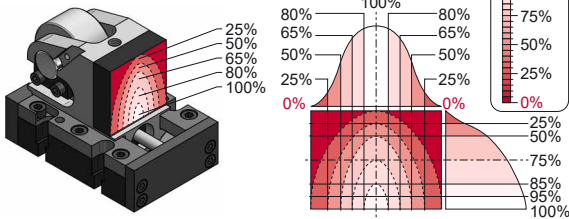
		A	B	C	D	E	F	G	H	I	J	K	L	M	RN	T	α	SP				
																		S=50	S=80	S=100		
	DR.A.1.L.20	160	60	220	130	65.1	140	69.8	130	98	36	50	25	69.0	10.5	15	-20	111.9				
	DR.A.1.L.15	160	60	190	130	61.9	130	64.2	130	98	36	50	25	63.8	10.5	15	-15	90.6				
	DR.A.1.L.10	160	60	165	130	59.0	120	56.5	130	98	36	50	25	65.7	10.5	15	-10	76.6				
	DR.A.1.L.05	160	60	155	130	56.4	110	59.8	130	98	36	50	25	65.0	10.5	15	-05	66.8				
HORIZONTAL	DR.A.1.H.00	160	60	145	130	56.1	100	60.7	130	100	36	50	25	68.9	10.5	15	00	59.6				
	DR.A.1.R.05	160	60	145	130	54.1	105	70.1	130	100	36	50	25	64.7	10.5	15	05	54.2				
	DR.A.1.R.10	160	60	130	130	54.4	90	63.3	130	102	36	50	25	58.5	10.5	15	10	50.0				
	DR.A.1.R.15	160	60	130	130	53.2	90	70.8	130	102	36	50	25	53.0	10.5	15	15	46.8				
	DR.A.1.R.20	160	60	120	130	55.3	85	67.6	130	105	36	50	25	48.0	10.5	15	20	44.2				
	DR.A.1.R.25	160	60	120	130	54.8	85	74.0	130	105	36	50	25	43.4	10.5	15	25	42.3				
	DR.A.1.R.30	160	60	100	130	51.6	70	59.8	130	102	36	50	25	39.0	10.5	15	30	40.8				
	DR.A.1.R.35	160	60	100	130	51.9	70	65.3	130	102	36	50	25	34.8	10.5	15	35	39.7				
	DR.A.1.R.40	160	60	90	130	55.5	60	60.5	130	105	36	50	25	30.6	10.5	15	40	38.9				
	DR.A.1.R.45	160	60	90	130	56.5	60	65.2	130	105	36	50	25	26.5	10.5	15	45	38.4				
	DR.A.1.R.50	160	60	80	130	67.9	49	59.5	130	115	36	50	25	22.3	10.5	15	50	38.3				
		DR.A.2.L.20	220	60	380	192	70.2	195	100.7	190	150	36	50	25	98.8	10.5	14	-20				179.2
DR.A.2.L.15		220	60	320	192	66.6	160	90.6	190	151	36	50	25	96.8	10.5	14	-15	145.0				181.3
DR.A.2.L.10		220	60	250	192	62.8	125	56.2	190	151	36	50	25	100.8	10.5	14	-10	122.6				153.2
DR.A.2.L.05		220	60	225	192	59.6	145	58.7	190	151	36	50	25	96.2	10.5	14	-05	106.8				133.6
HORIZONTAL	DR.A.2.H.00	220	60	210	192	59.1	148	66.2	190	153	36	50	25	98.4	10.5	14	00	95.3				119.2
	DR.A.2.R.05	220	60	205	192	57.3	135	80.3	190	153	36	50	25	97.1	10.5	14	05	86.7	108.3			
	DR.A.2.R.10	220	60	185	192	58.2	125	77.0	190	155	36	50	25	93.2	10.5	14	10	80.0	100.0			
	DR.A.2.R.15	220	60	180	192	57.9	135	80.7	190	155	36	50	25	87.2	10.5	14	15	74.8	93.5			
	DR.A.2.R.20	220	60	165	192	61.3	120	85.5	190	158	36	50	25	80.6	10.5	14	20	70.8	88.5			
	DR.A.2.R.25	220	60	165	192	62.4	120	97.8	190	158	36	50	25	73.4	10.5	14	25	67.6	84.5			
	DR.A.2.R.30	220	60	145	192	66.3	105	89.1	190	160	36	50	25	66.7	10.5	14	30	65.2	81.5			
	DR.A.2.R.35	220	60	145	192	68.9	105	99.4	190	160	36	50	25	60.2	10.5	14	35	63.4	79.3			
	DR.A.2.R.40	200	60	115	172	52.2	75	78.7	170	140	36	50	25	54.0	10.5	14	40	62.2	77.8			
	DR.A.2.R.45	200	60	115	172	56.1	85	87.1	170	140	36	50	25	47.8	10.5	14	45	61.5	76.9			
	DR.A.2.R.50	200	60	95	172	80.7	64	74.5	170	160	36	50	25	41.6	10.5	14	50	61.3	76.6			

JCX 16



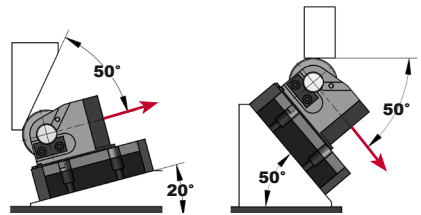
MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
JCX 16 050	27.95	50	16000	800	CW 500 050	200	170	165	170	92	47	123	120
JCX 16 080	30.06	80	16000	800	CW 500 080	230	170	165	170	92	77	153	120
JCX 16 100	31.47	100	16000	800	CW 500 100	250	170	165	170	92	97	173	120

MAXIMUM WORKING FORCE

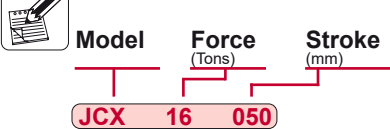


Working force should be as centered as possible on the working area surface.

MAXIMUM WORKING ANGLE



Order:



Order Options:

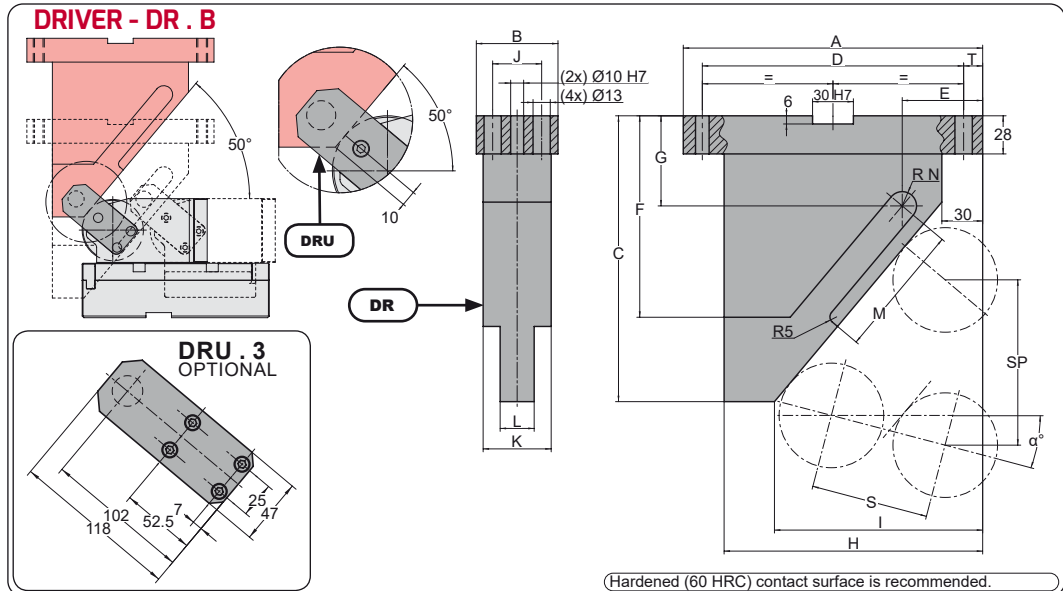
Driver

DR . B

Positive Return

DRU . 3

Set of 2 pieces:
1 x =



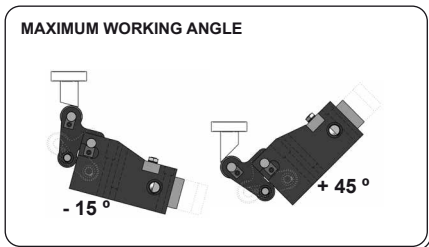
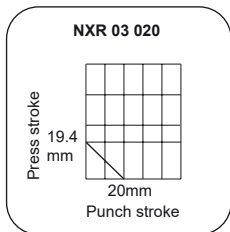
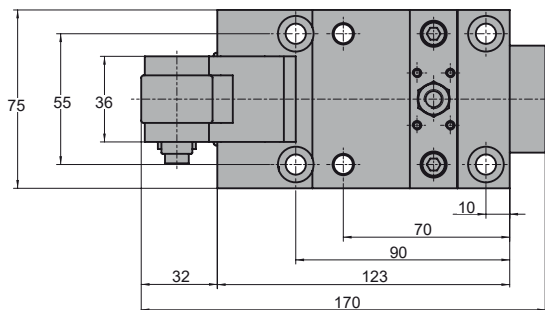
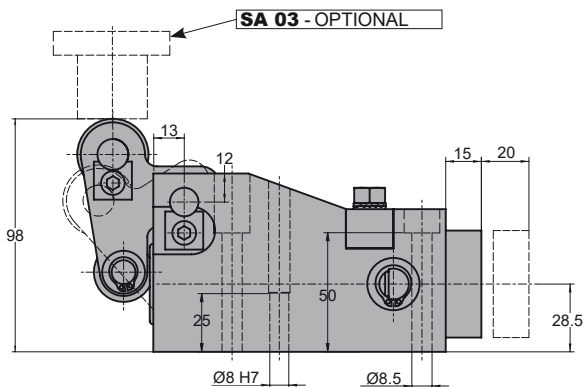
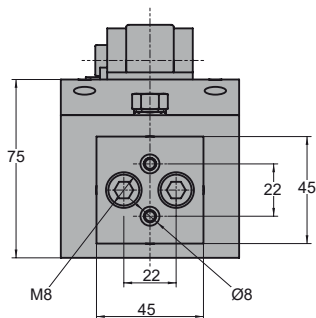
		A	B	C	D	E	F	G	H	I	J	K	L	M	RN	T	α	SP					
																		S=50	S=80	S=100			
	DR.B.1.L.20	160	95	220	130	73.1	155	66.9	130	98	71	66	39	126.8	14	15	-20	111.9					
	DR.B.1.L.15	160	95	200	130	69.6	120	70.6	130	98	71	66	39	105.6	14	15	-15	90.6					
	DR.B.1.L.10	160	95	165	130	66.4	120	52.2	130	98	71	66	39	90.7	14	15	-10	76.6					
	DR.B.1.L.05	160	95	155	130	65.3	100	54.9	130	100	71	66	39	79.6	14	15	-05	66.8					
HORIZONTAL	DR.B.1.H.00	160	95	145	130	62.6	100	55.3	130	100	71	66	39	70.7	14	15	00	59.6					
	DR.B.1.R.05	160	95	145	130	60.1	100	64.1	130	100	71	66	39	63.3	14	15	05	54.2					
	DR.B.1.R.10	160	95	130	130	59.9	90	56.8	130	102	71	66	39	56.9	14	15	10	50.0					
	DR.B.1.R.15	160	95	130	130	58.1	90	63.8	130	102	71	66	39	51.2	14	15	15	46.8					
	DR.B.1.R.20	160	95	120	130	59.5	80	60.3	130	105	71	66	39	46.0	14	15	20	44.2					
	DR.B.1.R.25	160	95	120	130	58.3	80	66.2	130	105	71	66	39	41.3	14	15	25	42.3					
	DR.B.1.R.30	160	95	100	130	54.5	60	51.9	130	102	71	66	39	36.6	14	15	30	40.8					
	DR.B.1.R.35	160	95	100	130	54.1	60	57.1	130	102	71	66	39	32.1	14	15	35	39.7					
	DR.B.1.R.40	160	95	90	130	57.0	50	52.1	130	105	71	66	39	27.7	14	15	40	38.9					
	DR.B.1.R.45	160	95	90	130	57.2	48	56.7	130	105	71	66	39	23.3	14	15	45	38.4					
	DR.B.1.R.50	160	95	80	130	67.9	37	51.0	130	115	71	66	39	18.8	14	15	50	38.3					
		DR.B.2.L.20	220	95	380	192	78.2	250	97.8	190	150	71	66	39	132.6	14	14	-20					179.2
DR.B.2.L.15		220	95	320	192	74.4	220	87.0	190	151	71	66	39	137.0	14	14	-15					145.0	181.3
DR.B.2.L.10		220	95	250	192	70.1	170	51.9	190	151	71	66	39	149.2	14	14	-10					122.6	153.2
DR.B.2.L.05		220	95	225	192	67.0	150	54.5	190	151	71	66	39	143.8	14	14	-05					106.8	133.6
HORIZONTAL	DR.B.2.H.00	220	95	210	192	65.6	150	60.7	190	153	71	66	39	148.5	14	14	00					95.3	119.2
	DR.B.2.R.05	220	95	210	192	63.3	150	79.3	190	153	71	66	39	133.7	14	14	05		86.7	108.3			
	DR.B.2.R.10	220	95	185	192	63.7	135	70.5	190	155	71	66	39	121.2	14	14	10		80.0	100.0			
	DR.B.2.R.15	220	95	185	192	62.8	135	85.0	190	155	71	66	39	110.2	14	14	15		74.8	93.5			
	DR.B.2.R.20	220	95	165	192	65.5	125	78.1	190	158	71	66	39	100.3	14	14	20		70.8	88.5			
	DR.B.2.R.25	220	95	165	192	66.0	125	90.1	190	158	71	66	39	91.2	14	14	25		67.6	84.5			
	DR.B.2.R.30	220	95	145	192	69.2	105	81.1	190	160	71	66	39	82.6	14	14	30		65.2	81.5			
	DR.B.2.R.35	220	95	145	192	71.1	105	91.2	190	160	71	66	39	74.5	14	14	35		63.4	79.3			
	DR.B.2.R.40	200	95	115	172	53.7	75	70.3	170	140	71	66	39	66.6	14	14	40		62.2	77.8			
	DR.B.2.R.45	200	95	115	172	56.9	72	78.6	170	140	71	66	39	58.8	14	14	45		61.5	76.9			
	DR.B.2.R.50	200	95	95	172	80.7	52	66.0	170	160	71	66	39	51.0	14	14	50		61.3	76.6			

NXR

Punching Unit



NXR 03 020



MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXR 03 020	4.8	20	3000	215	CW 320 032 V1 150

Order:

Model **Force** **Stroke**
 (Tons) (mm)

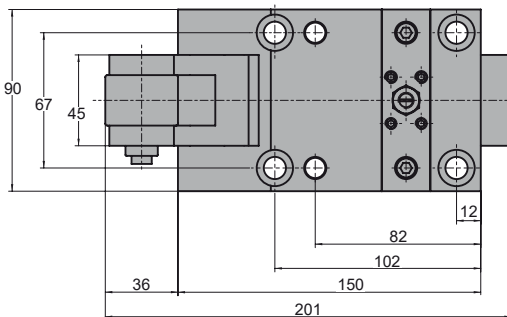
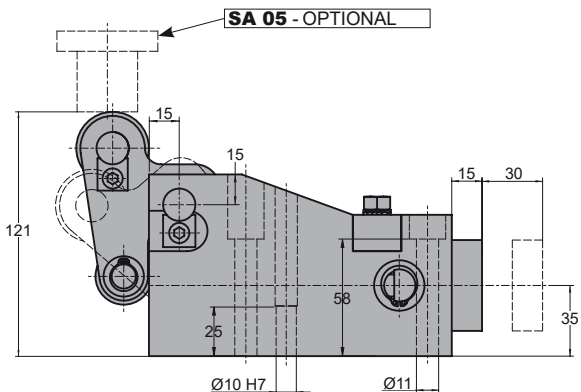
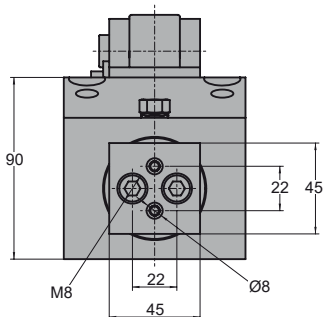
NXR 03 020

Order Options:

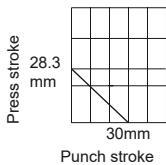
Driver

SA 03

NXR 05 030

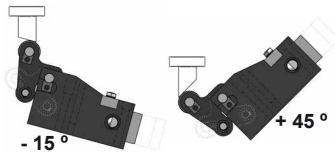


NXR 05 030

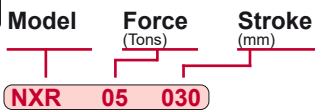


MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXR 05 030	8.1	30	5000	323	CW 320 038 V1 200

MAXIMUM WORKING ANGLE



Order:

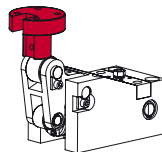


Order Options:



Driver

SA 05

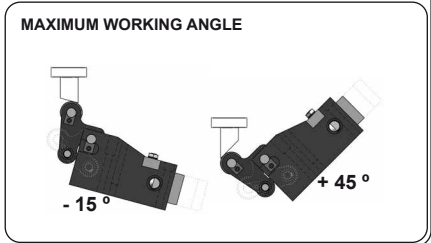
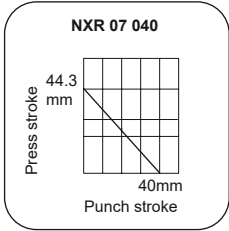
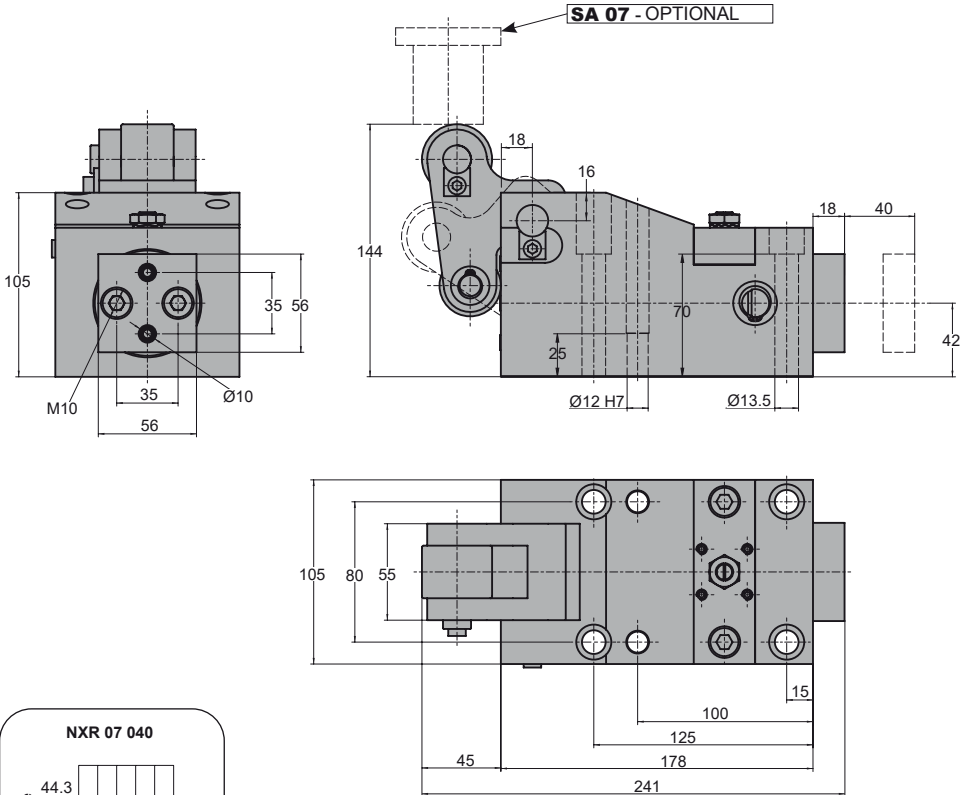


NXR

Punching Unit

AZOL GAS

NXR 07 040



MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXR 07 040	13.5	40	7000	355	CW 350 050 V1 250

Order:

Model **Force** (Tons) **Stroke** (mm)

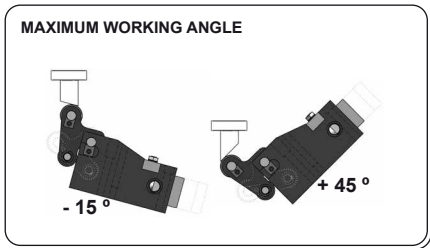
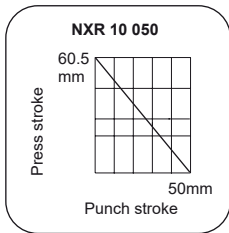
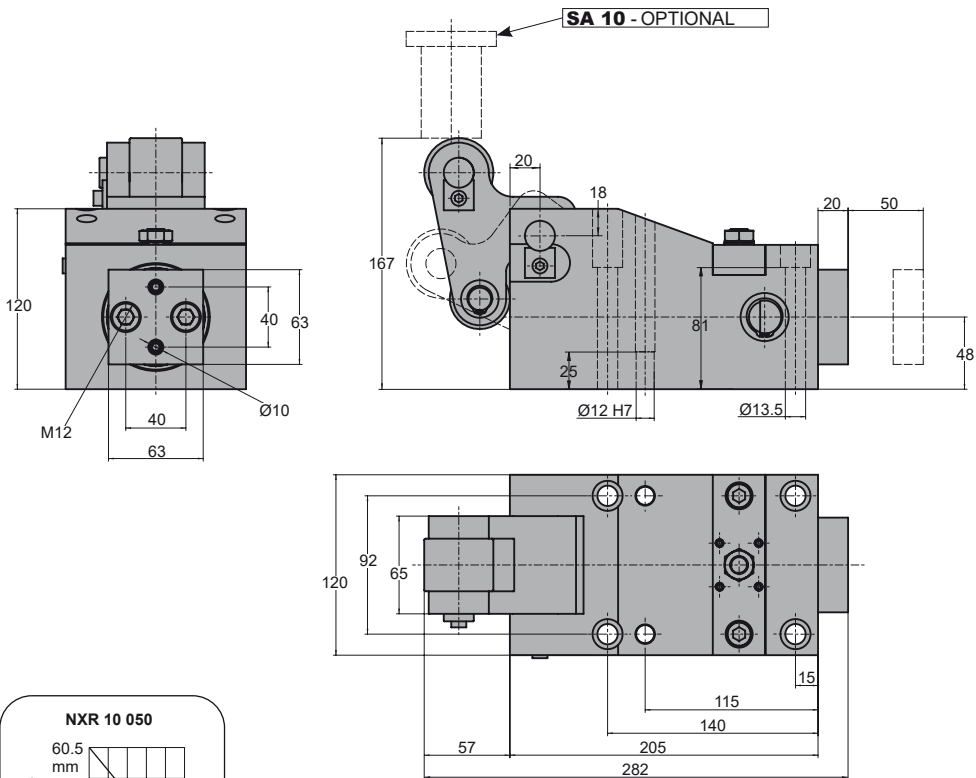
NXR 07 040

Order Options:

Driver

SA 07

NXR 10 050



MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXR 10 050	20.6	50	10000	820	CW 750 050 V1 500

Order:

Model Force (Tons) Stroke (mm)

NXR 10 050

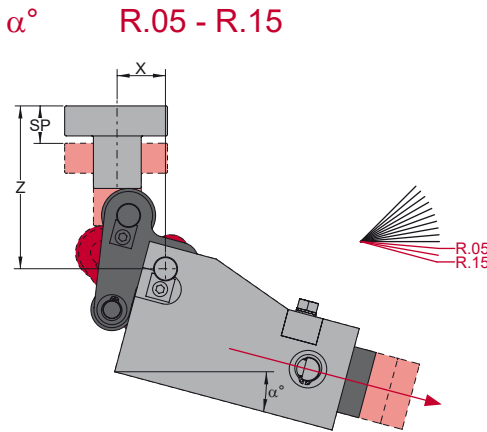
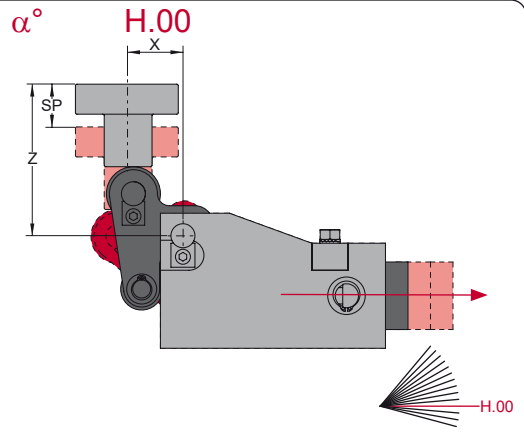
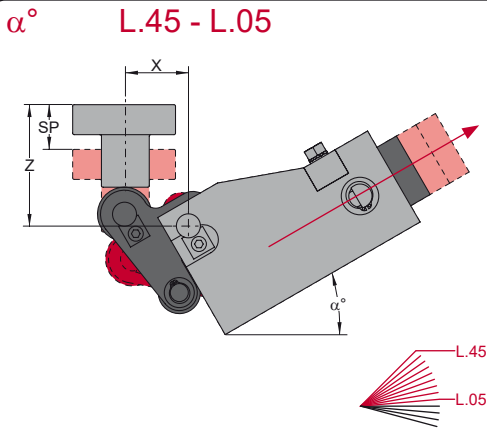
Order Options:

Driver

SA 10

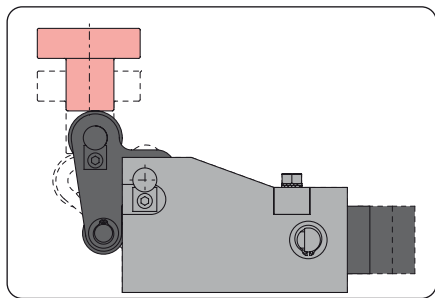
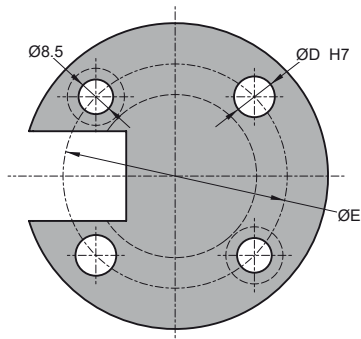
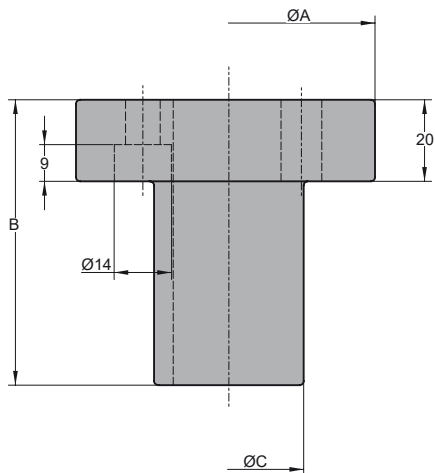
NXR DRIVER POSITIONING

Punching Unit



		α°												
		L.45	L.40	L.35	L.30	L.25	L.20	L.15	L.10	L.05	H.00	R.05	R.10	R.15
NXR 03 020	X	36.5	36.5	36.5	36.5	36.5	36.5	36.5	39.0	38.0	36.5	35.0	33.0	31.5
	Z	62,93	66,04	69,17	72,32	75,44	78,53	81,55	84,48	87,3	90,00	92,53	94,90	97,08
	SP	17,99	18,74	19,35	19,82	20,13	20,29	20,30	20,15	19,85	19,39	18,79	18,05	17,17
NXR 05 030	X	42.0	42.0	42.0	42.0	42.0	42.0	48.5	47.0	45.0	43.0	40.0	40.0	39.0
	Z	69,46	73,23	77,00	80,74	84,43	88,02	91,50	94,84	98,01	101,00	103,76	106,30	108,58
	SP	27,40	28,42	29,22	29,80	30,15	30,28	30,17	29,83	29,27	28,48	27,47	26,26	24,85
NXR 07 040	X	49.0	51.0	52.0	52.0	52.0	52.0	52.0	53.5	51.0	49.0	47.0	46.0	45.0
	Z	99,34	104,17	109,00	113,81	118,54	123,18	127,67	132,00	136,11	140,00	143,61	146,93	149,93
	SP	39,59	41,46	43,00	44,23	45,11	45,65	45,85	45,69	45,19	44,34	43,16	41,65	39,82
NXR 10 050	X	52.0	54.0	56.0	58.0	60.0	62.0	64.0	65.0	65.5	62.0	61.0	61.0	61.0
	Z	99,51	105,46	111,43	117,37	123,24	129,00	134,59	139,98	145,13	150,00	154,55	158,74	162,55
	SP	51,15	53,95	56,34	58,30	59,81	60,88	61,47	61,60	61,27	60,46	59,20	57,48	55,33

SA



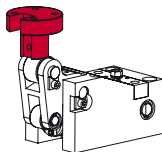
TYPE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	NXR MODELS
SA 03	70	55	35	8	50	NXR 03 020
SA 05	70	55	35	8	50	NXR 05 030
SA 07	75	85	44	10	60	NXR 07 040
SA 10	75	85	44	10	60	NXR 10 050

Order Options:



Driver

SA 05

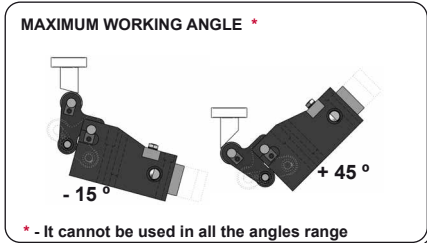
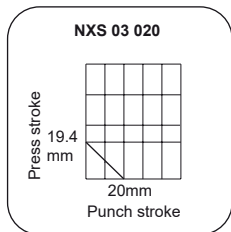
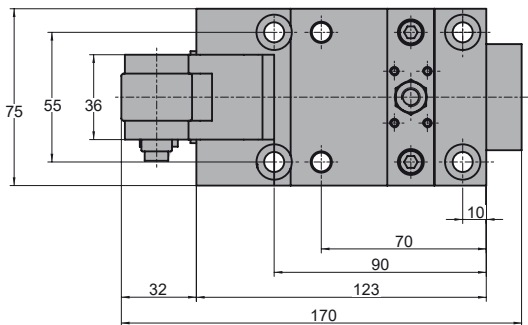
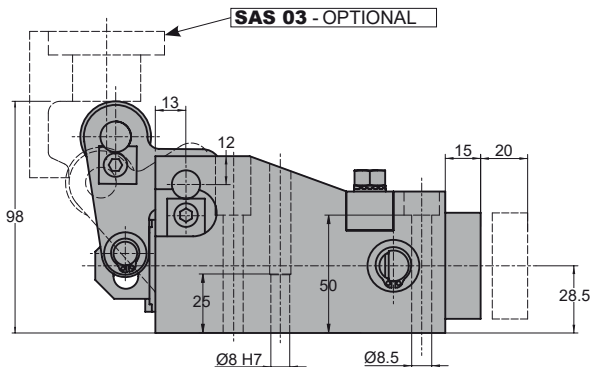
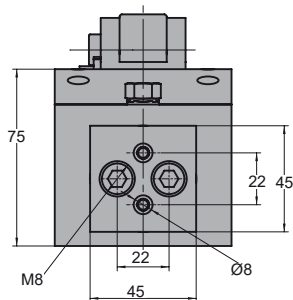



NXS

Punching Unit


AZOL GAS

NXS 03 020




MODEL	 Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXS 03 020	4.8	20	3000	215	CW 320 032 V1 150

Order:

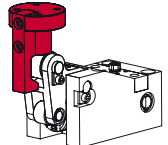
 **Model** **Force (Tons)** **Stroke (mm)**

NXS 03 020

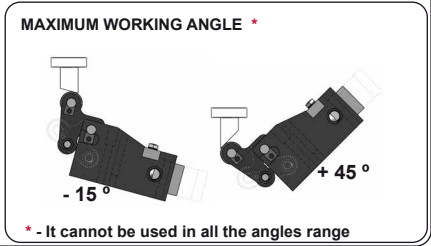
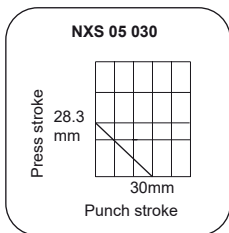
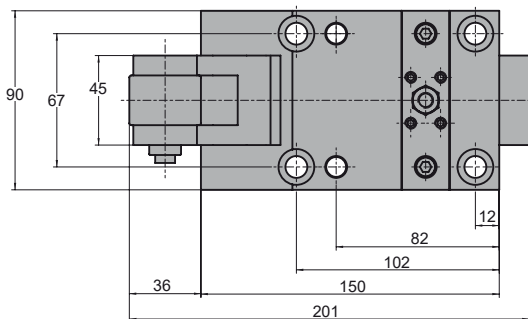
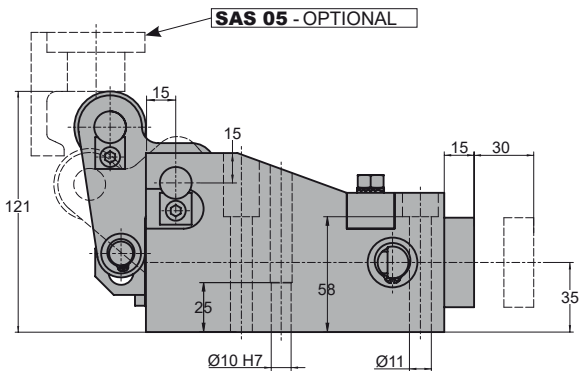
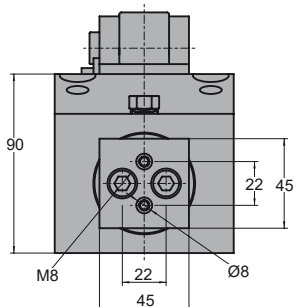
Order Options:

 **Driver**

SAS 03



NXS 05 030



MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXS 05 030	8.1	30	5000	323	CW 320 038 V1 200

Order:

Model **Force** (Tons) **Stroke** (mm)

└───┬───┬───┘

NXS 05 030

Order Options:

Driver

└───┘

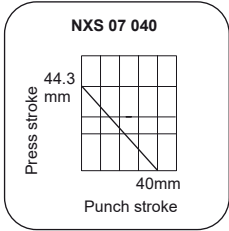
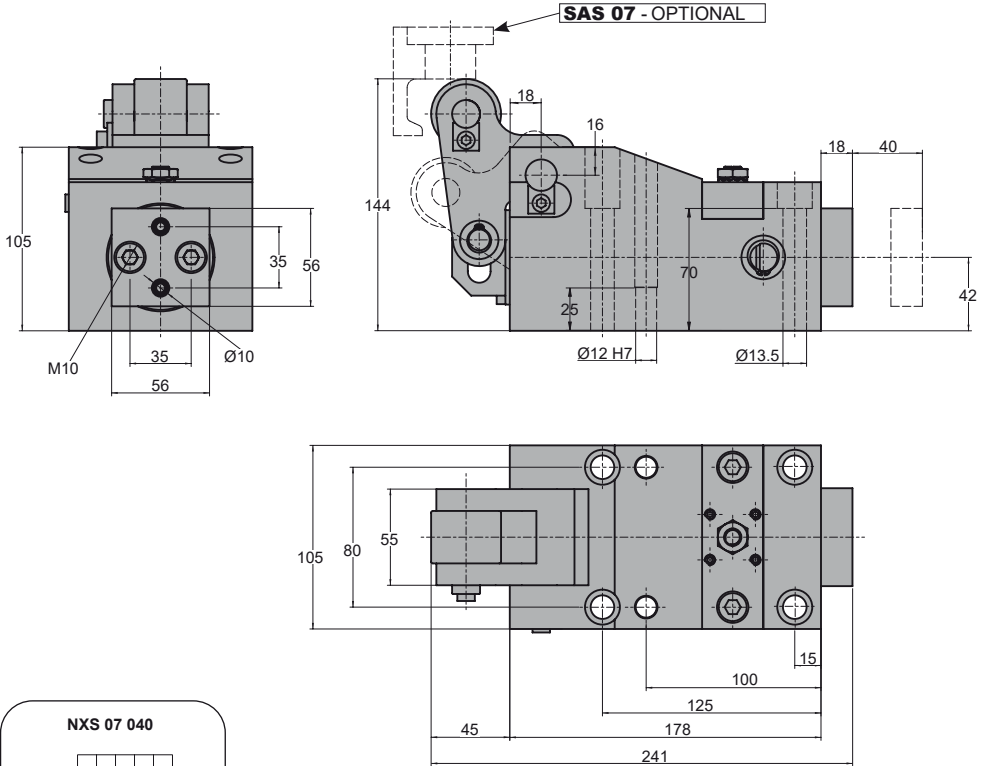
SAS 05

NXS

Punching Unit

AZOL GAS

NXS 07 040



MAXIMUM WORKING ANGLE *

*** - It cannot be used in all the angles range**

MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXS 07 040	13.5	40	7000	355	CW 350 050 V1 250

Order:

Model **Force (Tons)** **Stroke (mm)**

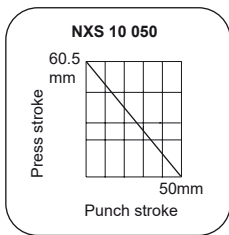
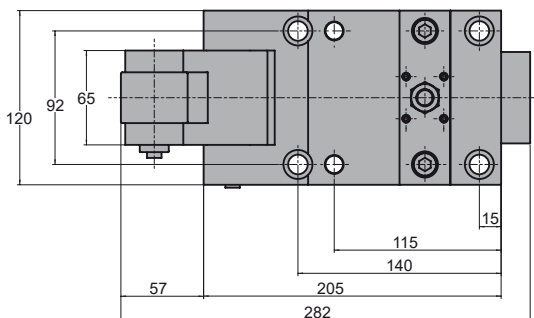
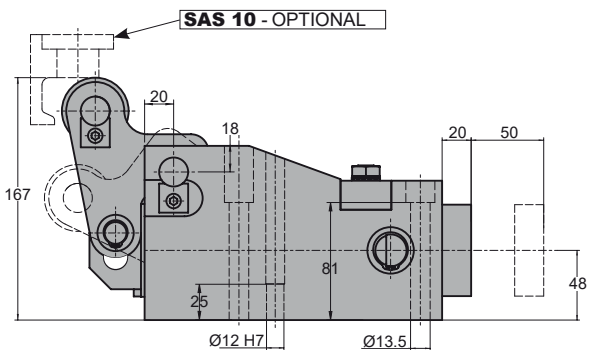
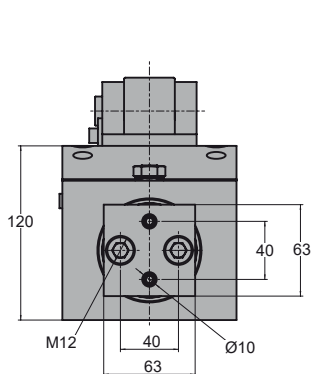
NXS 07 040

Order Options:

Driver

SAS 07

NXS 10 050



MAXIMUM WORKING ANGLE *

- 15° + 45°

* - It cannot be used in all the angles range

MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXS 10 050	20.7	50	10000	820	CW 750 050 V1 500

Order:

Model **Force (Tons)** **Stroke (mm)**

NXS 10 050

Order Options:

Driver

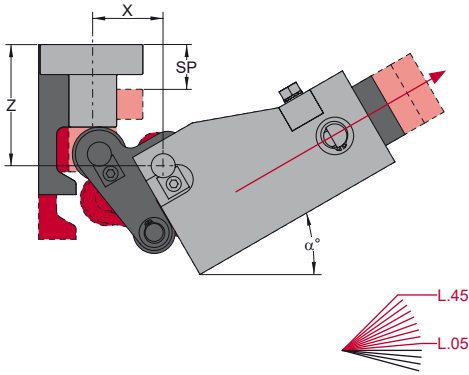
SAS 10

NXS DRIVER POSITIONING

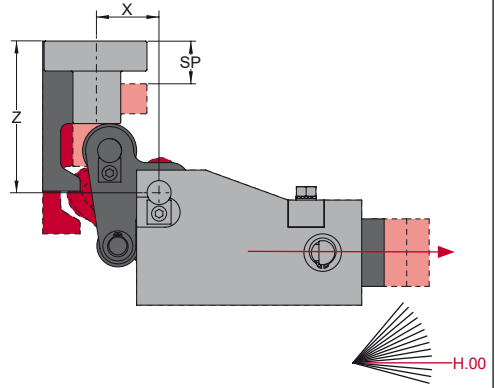
Punching Unit



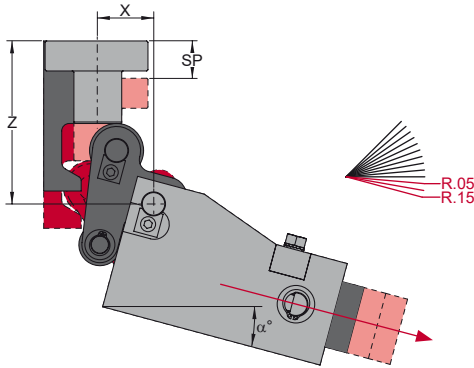
α° L.45 - L.05



α° H.00



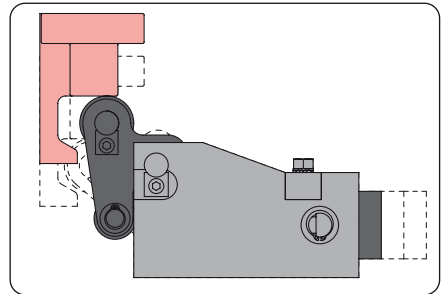
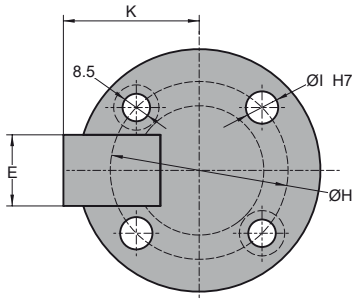
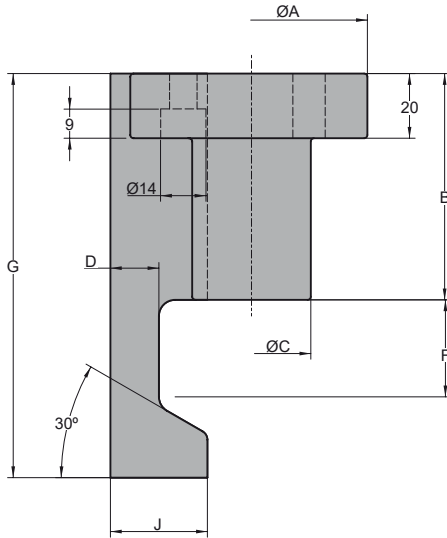
α° R.05 - R.15



		α°												
		L.45	L.40	L.35	L.30	L.25	L.20	L.15	L.10	L.05	H.00	R.05	R.10	R.15
NXS 03 020	X	-	-	-	-	-	-	-	39.0	38.0	36.5	35.0	33.0	31.5
	Z	-	-	-	-	-	-	-	84.48	87.30	90.00	92.53	94.90	97.08
	SP	-	-	-	-	-	-	-	20.15	19.85	19.39	18.79	18.05	17.17
NXS 05 030	X	-	-	-	-	-	-	48.5	47.0	45.0	43.0	40.0	40.0	39.0
	Z	-	-	-	-	-	-	91.50	94.84	98.01	101.00	103.76	106.30	108.58
	SP	-	-	-	-	-	-	30.17	29.83	29.27	28.48	27.47	26.26	24.85
NXS 07 040	X	-	-	-	-	-	-	-	53.5	51.0	49.0	47.0	46.0	45.0
	Z	-	-	-	-	-	-	-	132.00	136.11	140.00	143.61	146.93	149.93
	SP	-	-	-	-	-	-	-	45.69	45.19	44.34	43.16	41.65	39.82
NXS 10 050	X	-	-	-	-	-	-	-	-	65.5	62.0	61.0	61.0	61.0
	Z	-	-	-	-	-	-	-	-	145.13	150.00	154.54	158.73	162.54
	SP	-	-	-	-	-	-	-	-	61.26	60.46	59.19	57.48	55.32

- En los ángulos sin datos (-) no es posible accionar el retorno positivo.

SAS



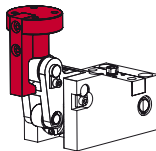
TYPE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	NXS MODELS
SAS 03	70	55	35	12	20	22	95	50	8	25	34.5	NXS 03 020
SAS 05	70	55	35	12	20	26	100	50	8	25	34.5	NXS 05 030
SAS 07	75	85	44	15	22	30	140	60	10	30	46	NXS 07 040
SAS 10	75	85	44	15	22	35	145	60	10	30	46	NXS 10 050

Order Options:



Driver

SAS 05

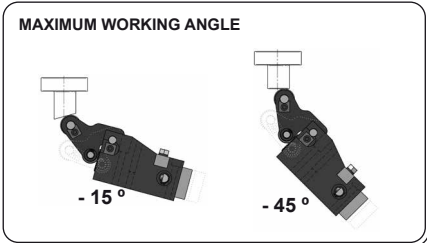
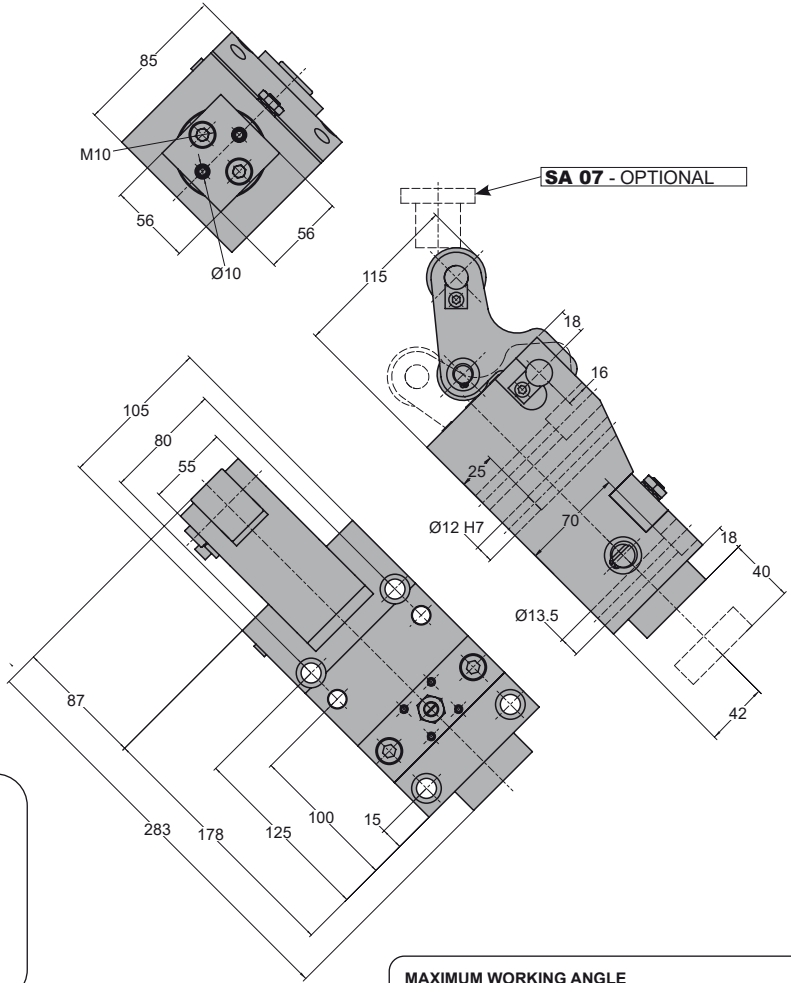


NXC

Punching Unit

AZOL GAS

NXC 07 040



MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXC 07 040	13.7	40	7000	355	CW 350 050 V1 250

Order:

Model **Force** (Tons) **Stroke** (mm)

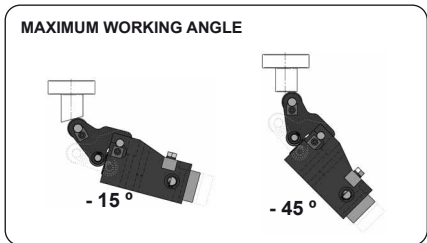
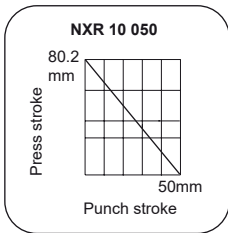
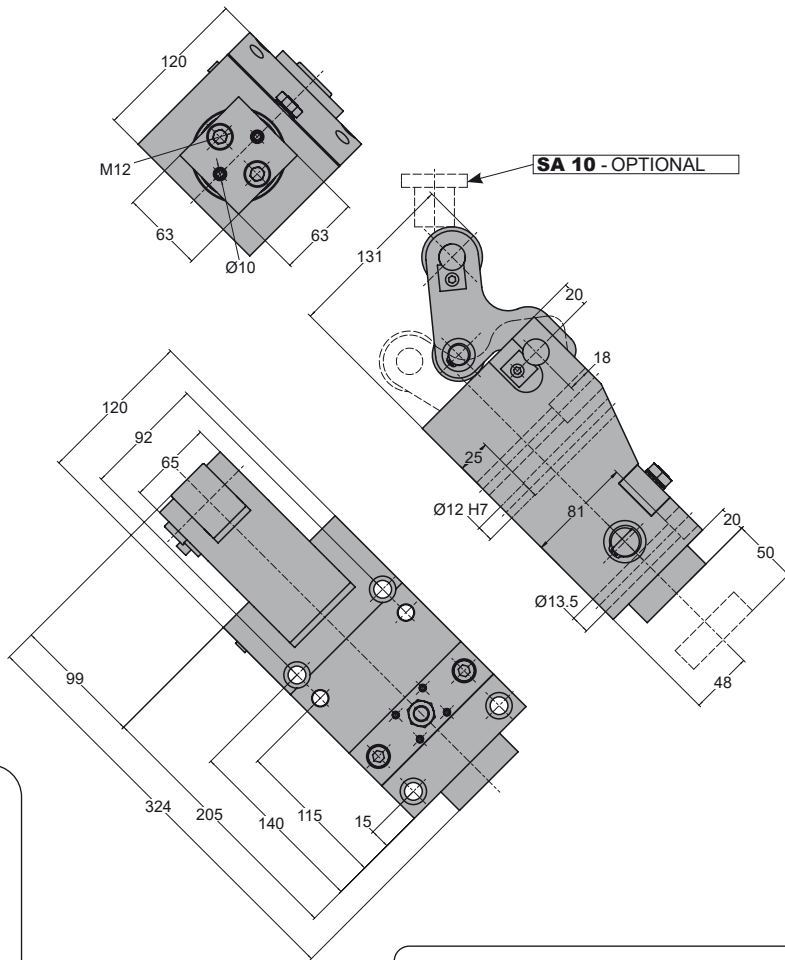
NXC 07 040

Order Options:

Driver

SA 07

NXC 10 050



MODEL	Kg.	STROKE S (mm)	WORKING FORCE (daN)	RETURN FORCE Initial (daN)	GAS SPRING
NXC 10 050	20.8	50	10000	820	CW 750 050 V1 500

Order:

Model **Force (Tons)** **Stroke (mm)**

NXC 10 050

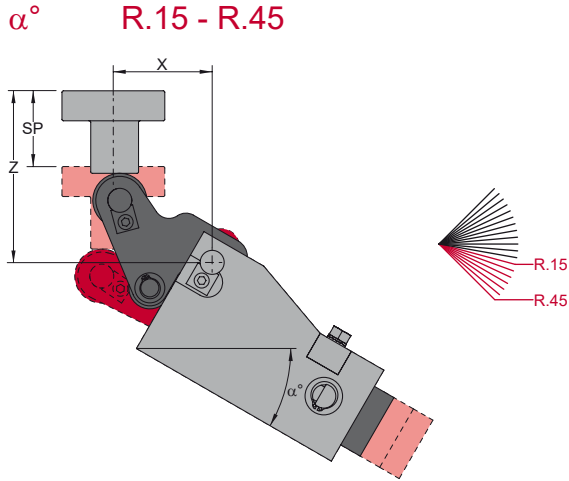
Order Options:

Driver

SA 10

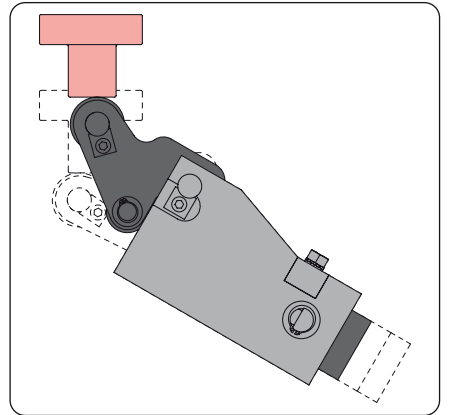
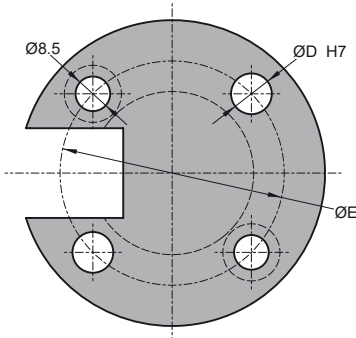
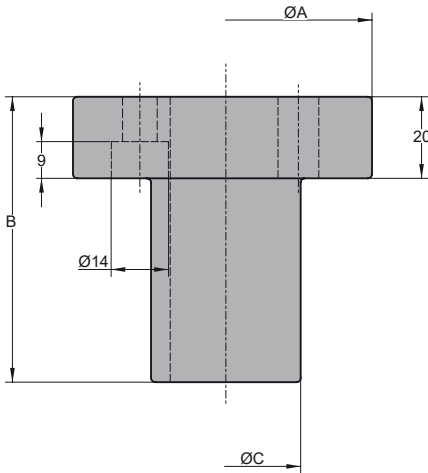
NXC DRIVER POSITIONING

Punching Unit



		α°						
		R.15	R.20	R.25	R.30	R.35	R.40	R.45
NXC 03 020	X	65.5	65.5	63.0	61.0	58.0	58.0	56.0
	Z	91.65	96.92	102.00	106.83	111.37	115.61	119.49
	SP	36.68	36.37	35.79	34.93	33.80	32.42	30.79
NXC 05 030	X	72.0	77.5	74.0	71.0	71.0	65.0	64.0
	Z	96.98	103.00	108.80	114.33	119.54	124.39	128.86
	SP	51.87	51.80	51.33	50.48	49.24	47.62	45.65
NXC 07 040	X	80.0	80.0	77.5	76.0	76.0	75.5	75.0
	Z	132.79	139.70	146.36	152.69	158.66	164.23	169.34
	SP	70.15	70.46	70.24	69.48	68.18	66.38	64.06
NXC 10 050	X	88.0	90.0	92.0	89.5	89.5	89.5	81.0
	Z	138.64	146.47	154.00	161.20	167.97	174.30	180.12
	SP	84.64	85.33	85.37	84.76	83.50	81.61	79.09

SA



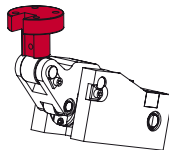
TYPE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	NXC MODELS
SA 03	70	55	35	8	50	NXC 03 020
SA 05	70	55	35	8	50	NXC 05 030
SA 07	75	85	44	10	60	NXC 07 040
SA 10	75	85	44	10	60	NXC 10 050

Order Options:



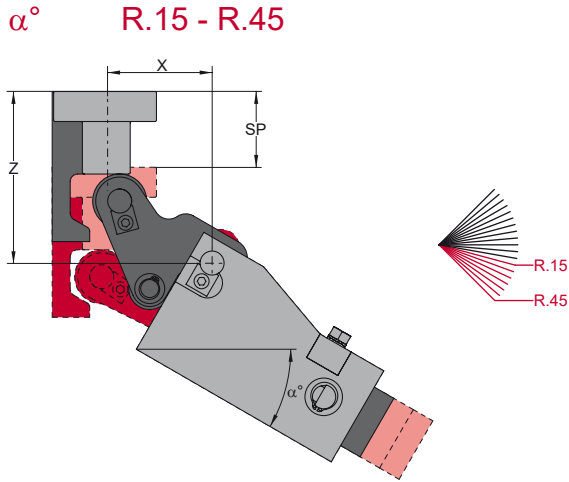
Driver

SA 05



NXD DRIVER POSITIONING

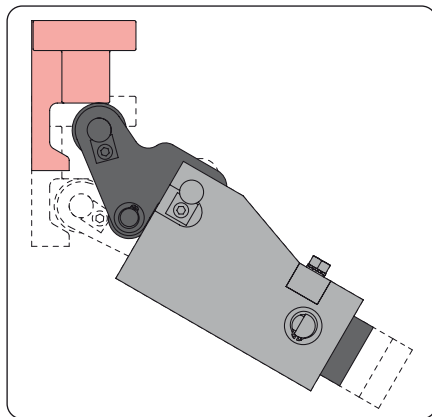
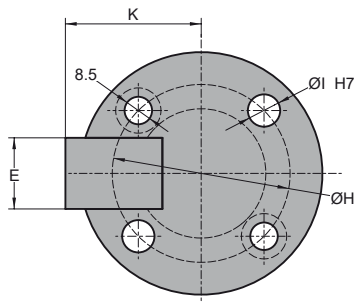
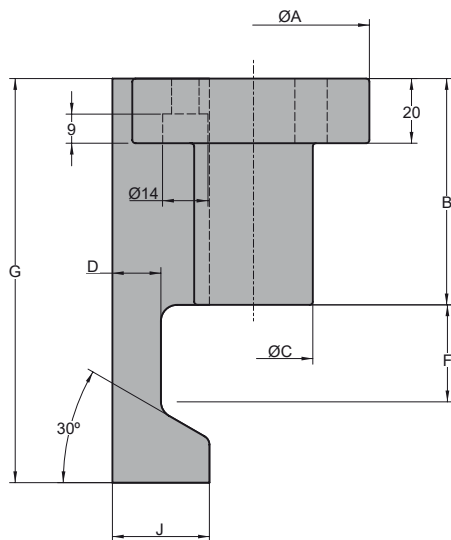
Punching Unit



		α°						
		R.15	R.20	R.25	R.30	R.35	R.40	R.45
NXD 03 020	X	-	65.5	63.0	61.0	58.0	58.0	56.0
	Z	-	96.92	102.00	106.83	111.37	115.61	119.49
	SP	-	36.37	35.79	34.93	33.80	32.42	30.79
NXD 05 030	X	-	77.5	74.0	71.0	71.0	-	-
	Z	-	103.00	108.80	114.33	119.54	-	-
	SP	-	51.80	51.33	50.48	49.24	-	-
NXD 07 040	X	-	-	77.5	76.0	76.0	75.5	75.0
	Z	-	-	146.36	152.69	158.66	164.23	169.34
	SP	-	-	70.24	69.48	68.18	66.38	64.06
NXD 10 050	X	-	-	92.0	89.5	89.5	89.5	-
	Z	-	-	154.00	161.20	167.97	174.30	-
	SP	-	-	85.37	84.76	83.50	81.61	-

- In angles without data (-) cannot be used the positive return.

SAS



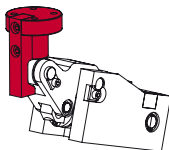
TYPE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	NXD MODELS
SAS 03	70	55	35	12	20	22	95	50	8	25	34.5	NXD 03 020
SAS 05	70	55	35	12	20	26	100	50	8	25	34.5	NXD 05 030
SAS 07	75	85	44	15	22	30	140	60	10	30	46	NXD 07 040
SAS 10	75	85	44	15	22	35	145	60	10	30	46	NXD 10 050

Order Options:



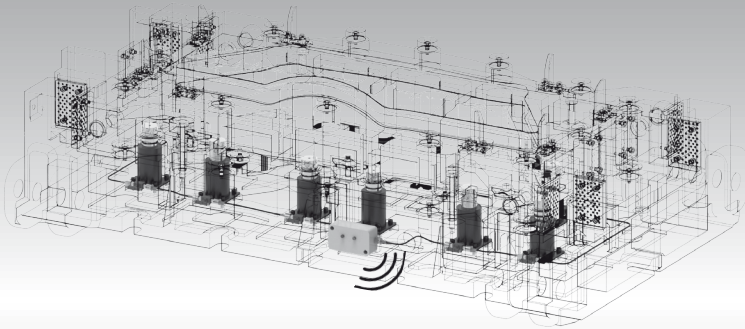
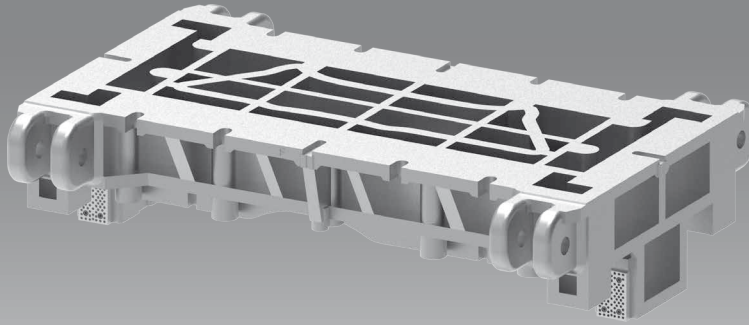
Driver

SAS 05





LINKED SYSTEMS



Optimize the gas springs force in your metal stamping dies and injection molds using AZOLGAS linked systems

Benefits of AZOLGAS linked systems:

- to balance the force in different areas of the tool
- to charge, drain and adjust the pressure
- to control the pressure through a control panel
- to monitor and automate response actions by sensors

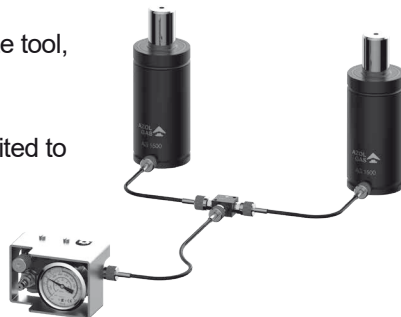
EVERYTHING you need to design and assemble AZOLGAS linked system.

EASY to find and configure the right hoses and components based on fitting port type.

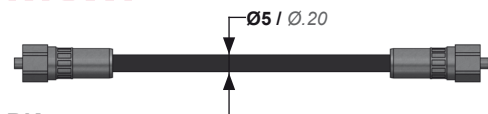
AZOLGAS linked systems fulfill different main automotive standards.

AZOLGAS linked system for every need: compact size tool, high volume gas flow, high vibration.

We ASSIST YOU to design the best linked system suited to your application.

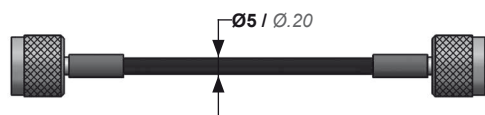


M8x1



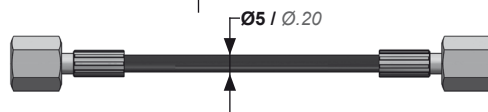
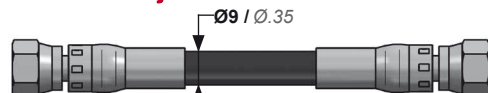
BK

S12,65x1,5



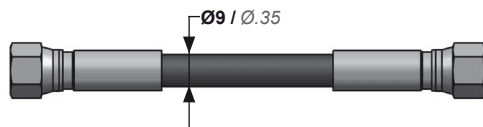
SGS / RGS / PGS / RGR / PGP

M12x1,5



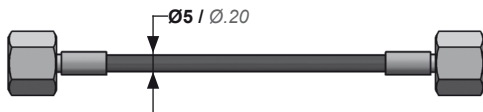
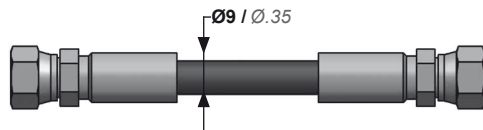
TNRR / TNRL / TNLL / TNRC / TNLC
 HJRR / HJRL / HJLL

7/16"



TFRR / TFRL / TFL / SMRR

9/16"

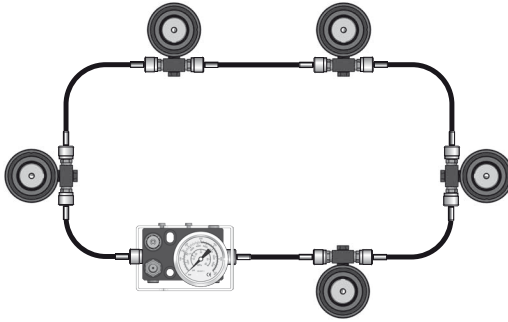


MCRR / MCRL / MCLL / GTRR / GTRL / GTLL

HOSED SYSTEMS ADVANTAGES

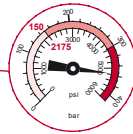
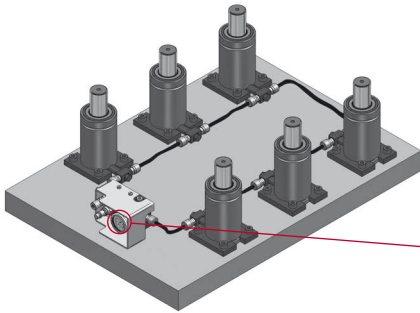


Hosed Systems

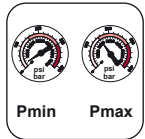


Using gas springs in hosed systems let the end user profit the following advantages.

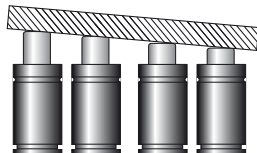
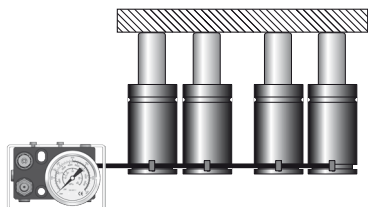
Follow the safety and operating instructions contained in the guide Gas springs hosed systems.



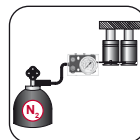
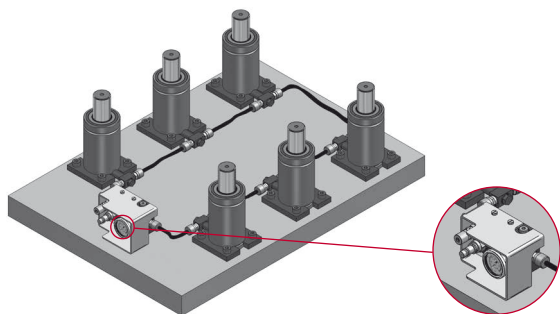
To control the pressure of all the hosed gas springs from outside the die set.



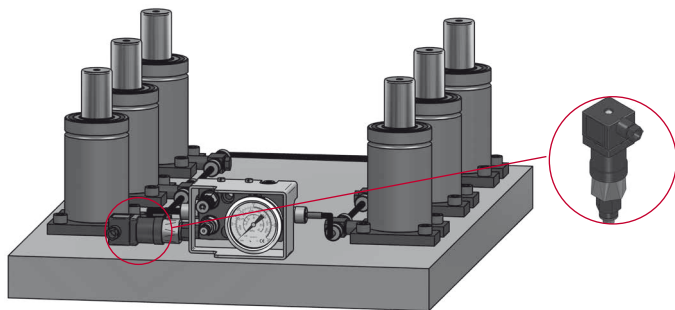
To keep the same pressure in all the hosed gas springs.



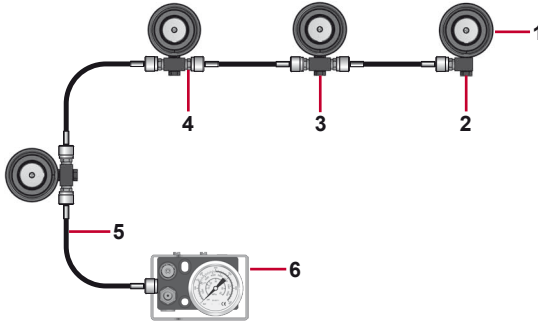
To keep the same force in all the hosed gas springs with the same technical features.



To charge, drain and adjust the pressure of the hosed gas springs through the control panel.



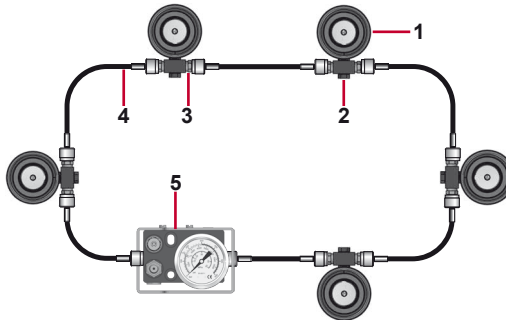
To use additional warning or emergency stop systems (pressure switch) when the pressure is higher or lower than a predefined value.

HOSED SYSTEMS EXAMPLES*Hosed Systems***EXAMPLE 1**

1.-	AG (x4)
2.-	CF 01 24 (x1)
3.-	CF 02 40 (x3)
4.-	SKK 12R 1/8 (x8)
5.-	SGS XXXX (x4)
6.-	600-CP (x1)

Hosed system in series.

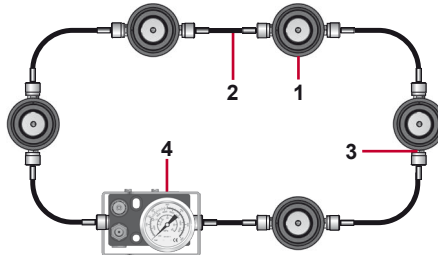
System used when there is no uniform distribution of gas springs through all the surface of the die set.

EXAMPLE 2

1.-	AG (x5)
2.-	CF 02 (x5)
3.-	SKK 12R 1/8 (x12)
4.-	SGS XXXX (x6)
5.-	600-CP (x1)

Hosed system in circuit.

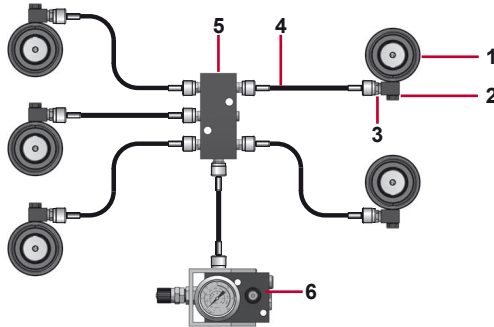
System used when there is a uniform distribution of gas springs through all the surface of the die set.

EXAMPLE 3

1.-	AGB-H (x5)
2.-	SGS XXXX (x6)
3.-	SKK 12R 1/8 (x12)
4.-	600-CP (x1)

Hosed system with double filling port gas springs.

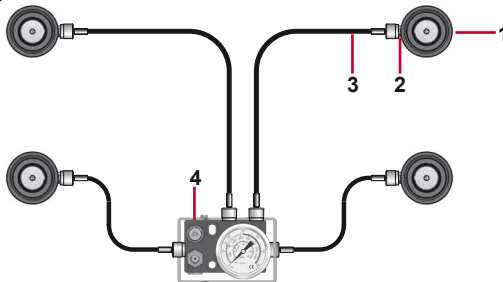
System used when there is a uniform distribution of gas springs through all the surface of the die set, but additionally it is necessary to compact the required space.

EXAMPLE 4


1.-	AG (x5)
2.-	CF 01 24 (x5)
3.-	SKK 12R 1/8 (X12)
4.-	SGS XXXX (x6)
5.-	PLD 6 (x1)
6.-	600-CP (x1)

Hosed system through distribution block.

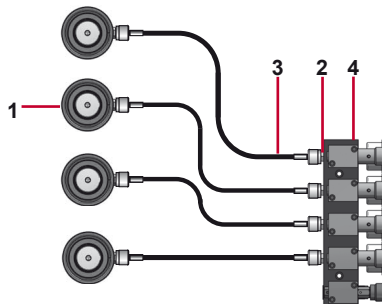
System used when the design of the die set do not let the use of hosed system in circuit.

EXAMPLE 5


1.-	AG (x4)
2.-	SKK 12R 1/8 (x8)
3.-	SGS XXXX (x4)
4.-	600-CP (x1)

Hosed system direct to a control panel.

System used to simplify the connection of hosed system, preventing T-connections and elbows.

EXAMPLE 6


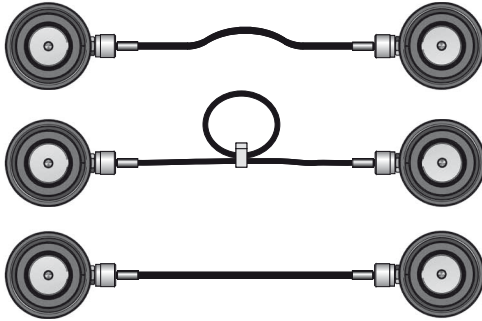
1.-	AG (x4)
2.-	SKK 12R 1/8 (x8)
3.-	SGS XXXX (x4)
4.-	400-CPFG_01 (x1)

Hosed system direct to a multiple control panel.

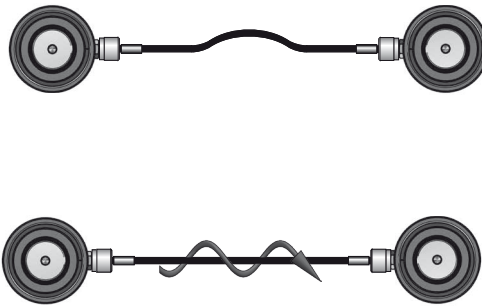
System used to ensure individual and independent pressure of each gas spring, connected to the control panel.

FITTING HOSES

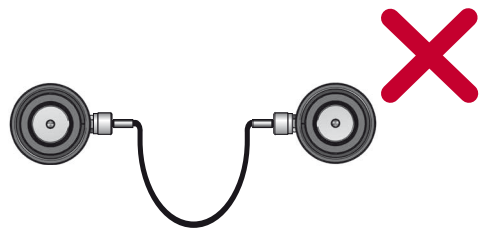
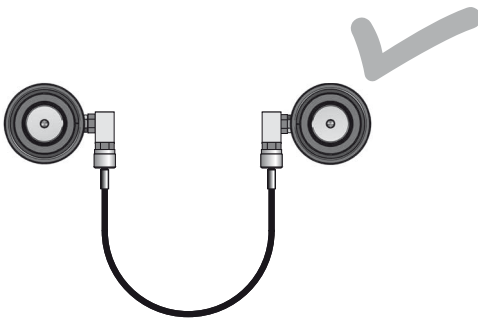
Hosed Systems



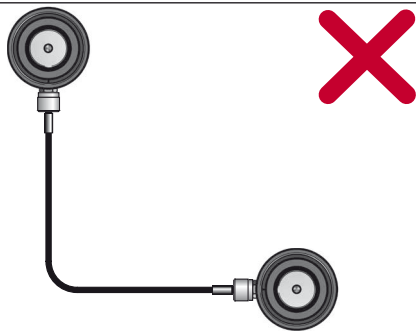
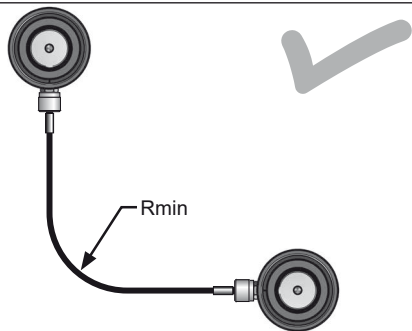
To obtain the best working performance on connected systems, please follow these recommendations:



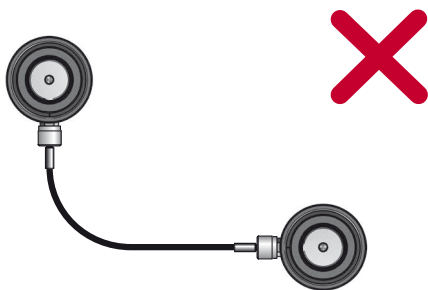
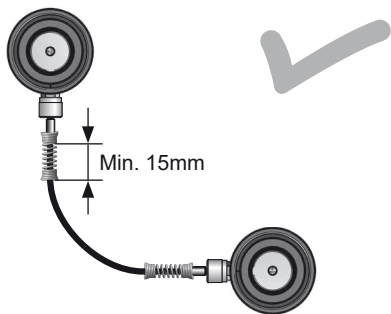
Select a hose length that allows certain tolerance within connected cylinders.



Do not twist the hoses.
Select appropriate hose fittings to prevent undesired bends in the hoses.

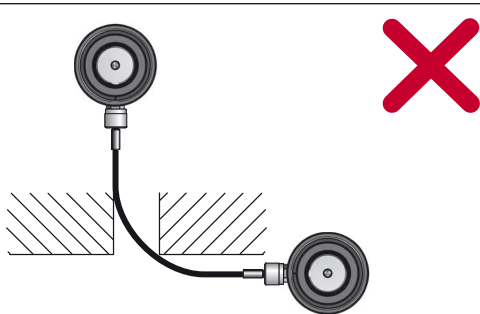
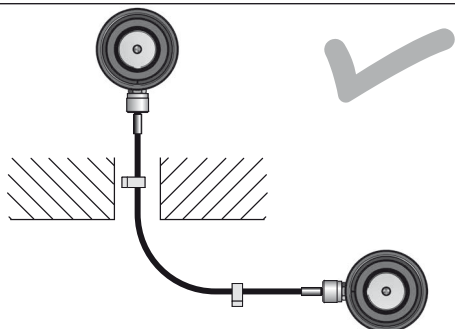


Respect the minimum radius recommended for each type of hose.



Respect the minimum gap to start bending the hose.

Use the PF 02 hose protectors.



Fix the hose to the die in the right way to prevent any mechanical damage on the hose when operating.

Use hose clamps RBP 5 or RBP 10 according to the type of hose diameter.

SELF-CONTAINED AND HOSED

Hosed Systems



NOT TO BE HOSED

TO BE HOSED

6 www.azolgas.com

AFI V1

Technical Data:

Pressure	18 bar	20 bar	180 bar
Stroke	100 mm	100 mm	100 mm
Temp. range	-20°C	80°C	120°C
Temp. variation	±0.3%	±0.3%	±0.3%

Connection: **X**

CO₂-G: **X**

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AG 750

Technical Data:

Pressure	18 bar	20 bar	180 bar
Stroke	100 mm	100 mm	100 mm
Temp. range	-20°C	80°C	120°C
Temp. variation	±0.3%	±0.3%	±0.3%

Connection: **AG-H 750 XXX**

CO₂-G: **X**

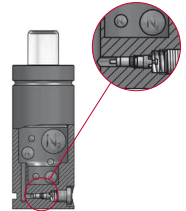
Most of gas springs can be used as hosed, but some of them cannot be hosed.

On each catalogue sheet (lower right side) can be checked if gas springs are able to be used as hosed (e.g. AG-H 750) or not (e.g. AFI V1).

TO BE HOSED

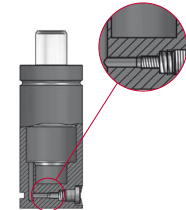
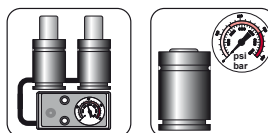
FOR SELF-CONTAINED USE

AG 750 050



FOR HOSED USE

AG-H 750 050



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AG 750

Technical Data:

Pressure	18 bar	20 bar	180 bar
Stroke	100 mm	100 mm	100 mm
Temp. range	-20°C	80°C	120°C
Temp. variation	±0.3%	±0.3%	±0.3%

Connection: **AG-H 750 XXX**

CO₂-G: **X**

OR

AG 750 013
AG 750 025
AG 750 038
AG 750 050

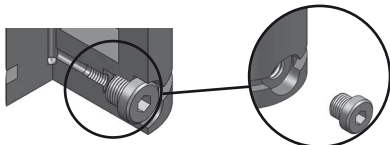
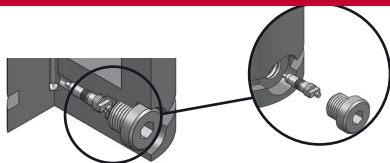
AG-H 750 XXX

The gas springs able to be hosed may be ordered as self-contained use (if nothing is specified) or as hosed use (just by adding -H to the gas spring standard model).

- for a self-contained use (when nothing is specified) are supplied charged to the initial pressure.
- for a hosed use (when -H is added to standard model) are supplied discharged and without the filling valve.

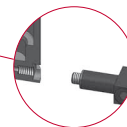
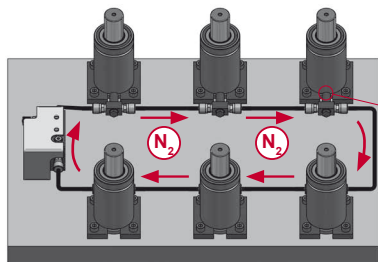
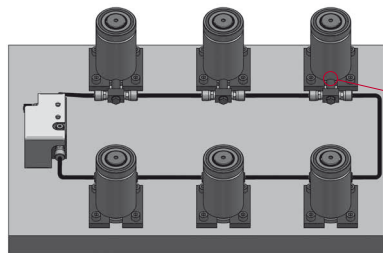
SELF-CONTAINED OR HOSED GAS SPRINGS

CODE					
		bar	psi	daN	daN
AG 750 050		150	2175	740	1100
AG-H 750 050		0	0	---	---



	ENG	Self-contained gas spring	Gas spring delivered charged (with filling valve)
	DEU	Autonome Gasdruckfeder	Befüllte Gasdruckfeder (mit Ventil)
	FRA	Ressort à gaz autonome	Ressort à gaz fourni chargé (avec valve de charge)
	ITA	Cilindro ad azoto autonomo	Cilindro fornito carico (con valvola di carico)
	ESP	Cilindro de gas autónomo	Cilindro de gas suministrado cargado (con válvula de carga)
	POR	Cilindro de gas autónomo	Cilindro de gás fornecido carregado (com válvula de carga)

	ENG	Ready to be hoses	Gas spring delivered unfilled (without filling valve)
	DEU	Fertig zum Verschleuchen	Drucklose Gasdruckfeder (ohne Ventil)
	FRA	Prêt à être relié	Ressort à gaz fourni non chargé (sans valve de charge)
	ITA	Pronto per essere collegato	Cilindro fornito scarico (senza valvola di carico)
	ESP	Preparado para conexión	Cilindro de gas suministrado descargado (sin válvula de carga)
	POR	Pronto a ser interligado	Cilindro de gás fornecido descarregado (sem válvula de carga)



When the pressure pushes the filling valve it opens and let the flow of gas, but when there is no pressure pushing the filling valve, it keep closed and do not allow the exit of gas.

Warning: if the filling valve is installed into the gas springs, the gas springs are not linked each other into a circuit and cannot be charged through the control panel, it is necessary to remove the filling valve from the gas springs in order to keep N₂ pressure through the circuit.

SELF-CONTAINED AND HOSED



Hosed Systems

1

Gas spring, from self-contained to hosed system.

2

Before discharging a gas spring point the gas flow away from operator or anybody else.

3

Check the type of plug and use the corresponding tool to unscrew it.

4

Thread the draining tool to the filling port thread and turn it slowly in order to get it fully drained.

Verify that the cylinder is completely unloaded, if so it should be possible to insert the rod by hand and stay in this position.

5 **XTC-M6**

DMNL
XTCP

DMNL

DIN 7757

DMNL
ABXP

A 800

Check the type of the filling valve and unscrew it by using the tool DMNL with the corresponding adapter (XTCP for XTC-M6, and ABXP for DIN 7757).
Remove the valve XTC-M6 by using the tool DMNL and the valve DIN 7757 by using the tool A 800.

6

M8x1 **BK**

Charge Port M6

512,65x1,5 **SGS**

M12x1,5 **TNRR**

7/16" **TFRR**

9/16" **MCRR**

Charge Port G1/8"

Make the right choice of the hosed system according to the gas spring and application:
- use hosed systems M8x1 for M6 filling port gas springs
- use hosed systems • S12,65x1,5 • M12x15 • 7/16" • 9/16" for G1/8" filling port gas springs

7

KRM6 **M8x1**

Charge Port M6

SKK **512,65x1,5**

DRM8 **M12x1,5**

7RM8 **7/16"**

9RM8 **9/16"**

Charge Port G1/8"

Make the right choice of adapter corresponding to each hosed system.

8

LM

⚠️

~~Gas Spring~~

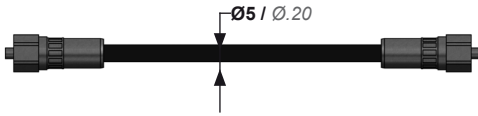
Pull up completely the piston rod by using the corresponding LM tool, never use gas.
The gas spring is ready to be hosed.

TYPES OF HOSED SYSTEMS



Hosed Systems

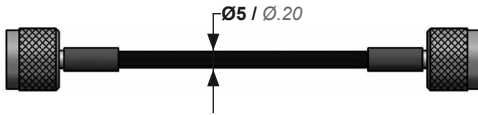
M8x1



BK

<p>Charge Port M6</p>	<p>Pmax 400 bar</p>
<p>Rmin 20 mm</p>	<p>Tmax 100 °C</p>

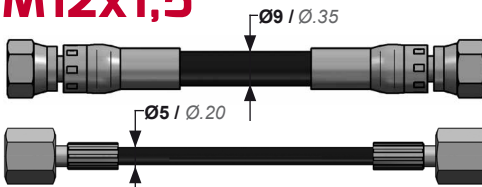
512,65x1,5



SGS / RGS / PGS / RGR / PGP

<p>Charge Port G1/8"</p>	<p>Pmax 630 bar</p>
<p>Rmin 20 mm</p>	<p>Tmax 100 °C</p>

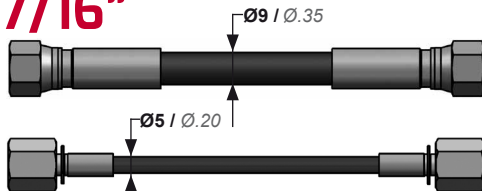
M12x1,5



TNRR / TNRL / TNLL / TNRC / TNLC / HJRR / HJRL / HJLL

<p>Charge Port G1/8"</p>	<p>Pmax 345 bar</p>	<p>Charge Port G1/8"</p>	<p>Pmax 345 bar</p>
<p>Rmin 40 mm</p>	<p>Tmax 100 °C</p>	<p>Rmin 20 mm</p>	<p>Tmax 100 °C</p>

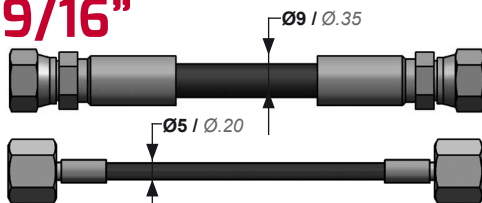
7/16"



TFRR / TFRL / TFL / SMRR

<p>Charge Port G1/8"</p>	<p>Pmax 345 bar</p>	<p>Charge Port G1/8"</p>	<p>Pmax 345 bar</p>
<p>Rmin 40 mm</p>	<p>Tmax 100 °C</p>	<p>Rmin 20 mm</p>	<p>Tmax 100 °C</p>

9/16"



MCRR / MCRL / MCLL / GTRR / GTRL / GTLL

<p>Charge Port G1/8"</p>	<p>Pmax 345 bar</p>	<p>Charge Port G1/8"</p>	<p>Pmax 345 bar</p>
<p>Rmin 40 mm</p>	<p>Tmax 100 °C</p>	<p>Rmin 20 mm</p>	<p>Tmax 100 °C</p>

TYPES OF HOSED SYSTEMS
Hosed Systems

M8x1

Specially suited to be used with M6 filling port gas springs.

The most compact hosed system.

Charge
Port
M6



S12,65x1,5

Most popular use for G1/8" filling port gas springs and automobile: EM.24.54.700, W-DX35-72, 90.25, SMS DNH 3217n

A versatile and compact hosed system that allows easy inter-link fitting and vibration-proof couplings.

Charge
Port
G1/8"

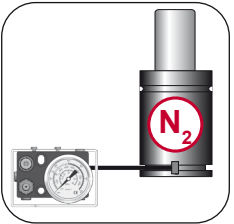


M12x1,5

Intended use for high volume gas springs with G1/8" filling port, or high gas flow required (compensation tanks).

Widest space required.

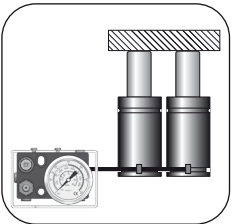
Charge
Port
G1/8"



7/16"

Only to be used for standard applications on G1/8" filling port gas springs, in case of high vibration applications use hosed system 9/16".

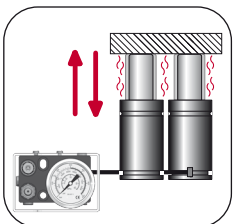
Charge
Port
G1/8"



9/16"

Recommended use for G1/8" filling port gas springs in high vibration applications.

Charge
Port
G1/8"



TYPES OF HOSED SYSTEMS



Hosed Systems

M6 GAS SPRINGS LINKABLE	
AG 250	CK 500
CD 300 V1 - 500 V1	CT 500 - 5000
CM 300 - 600 V1	KZ 350 - 500
FD 300	CW 350 - 2400 V1

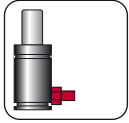
Filling Port



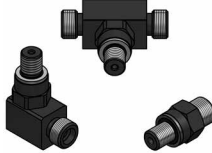
M6



Adapters



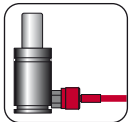
KR / KC / KT / --BK
(M8x1)



SKK / CF
(S12,65x1,5)



Hoses



Ø9

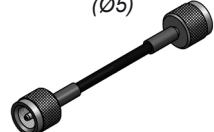
BK

(M8x1) (Ø5)



Ø5

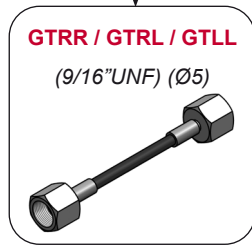
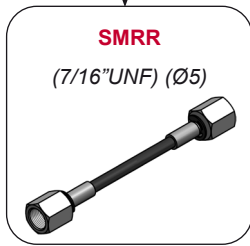
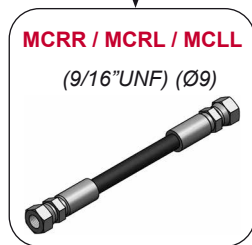
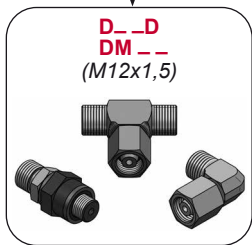
SGS / RGS / PGS
RGR / PGP
(S12,65x1,5 Minimes) (Ø5)



TYPES OF HOSED SYSTEMS

Hosed Systems


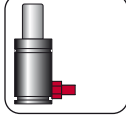


































G1/8" GAS SPRINGS LINKABLE	
AG 500	CTN 750 - 5000
AG 750 - 10000	KZ 750 - 6600
CD 700 - 18500	KT 1000 - 9500
CM 1000 - 10000	CW 4200 - 20000
GN 750 - 7500	CWC 750 - 2400
FD 500 - 5000 V1	CP-KC 1000 V1 - 2000 V2
CK 750 V2 - 4000 V1	CS-KC 1000 V2 - 18300 V1



TYPES OF HOSED SYSTEMS



Hosed Systems

 <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;"> Filling Port </div>	 <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-top: 10px;"> Adapters </div>																
<div style="border: 1px solid black; padding: 10px; display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p style="font-size: 24px; font-weight: bold; color: red;">M6</p>  </div> <table border="1" style="font-size: 10px; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">M6 GAS SPRINGS LINKABLE</th> </tr> </thead> <tbody> <tr> <td style="background-color: #f8d7da;">AG 250</td> <td style="background-color: #f8d7da;">CK 500</td> </tr> <tr> <td style="background-color: #f8d7da;">CD 300 V1 - 500 V1</td> <td style="background-color: #f8d7da;">CT 500 - 5000</td> </tr> <tr> <td style="background-color: #f8d7da;">CM 300 - 600 V1</td> <td style="background-color: #f8d7da;">KZ 350 - 500</td> </tr> <tr> <td style="background-color: #f8d7da;">FD 300</td> <td style="background-color: #f8d7da;">CW 350 - 2400 V1</td> </tr> </tbody> </table> </div>	M6 GAS SPRINGS LINKABLE		AG 250	CK 500	CD 300 V1 - 500 V1	CT 500 - 5000	CM 300 - 600 V1	KZ 350 - 500	FD 300	CW 350 - 2400 V1	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 20px;">  <p style="font-size: 24px; font-weight: bold; color: red;">M8x1</p> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="text-align: center;">  <p style="font-size: 18px; font-weight: bold; color: red;">KRM6</p> </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="text-align: center;">  <p style="font-size: 18px; font-weight: bold; color: red;">TE BK</p> </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <div style="text-align: center;">  <p style="font-size: 18px; font-weight: bold; color: red;">90 BK</p> </div> <div style="text-align: center;">  </div> </div> </div>						
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TYPES OF HOSED SYSTEMS

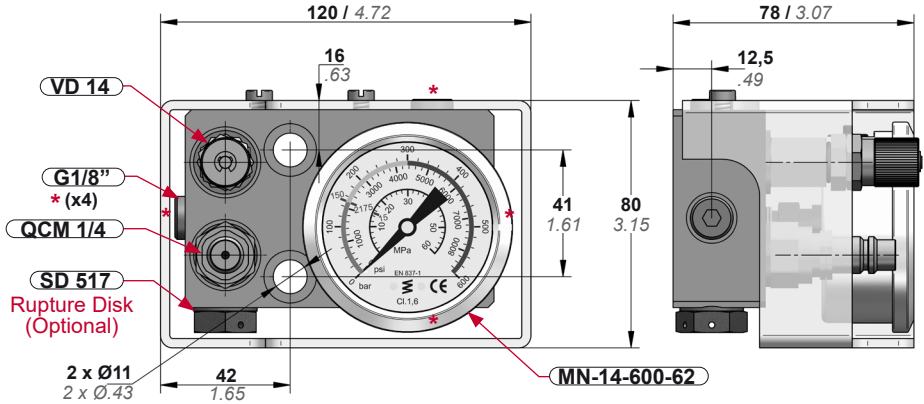
Hosed Systems

CONTROL PANELS

Hosed Systems



600-CPLC __ V1



bar	psi
600	8000

bar	psi
517	7500

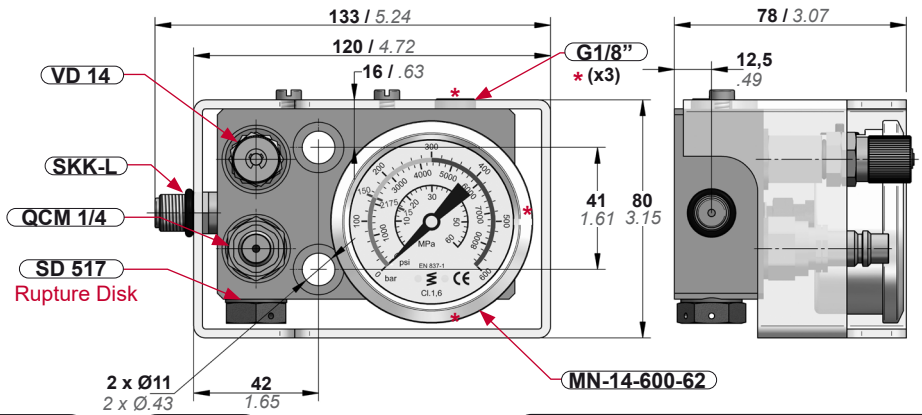
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	DEU BESTELL		
	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

600-CPLC 01 V1

600-CPLC 02 V1

600-CPTO __ V1

TOYOTA SMS DHN 3211n



bar	psi
600	8000

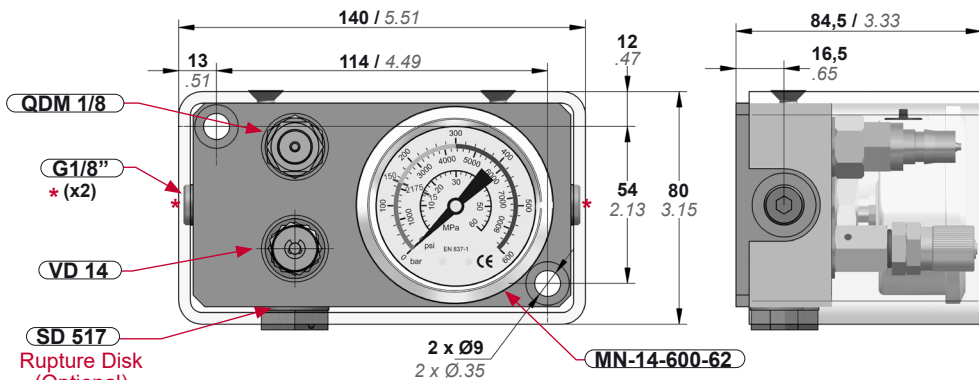
bar	psi
517	7500

	ENG ORDER		
	DEU BESTELL		
	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

600-CPTO 01 V1

600-CPFI _ _

FIAT A0.14.01



bar	psi
600	8000

bar	psi
517	7500

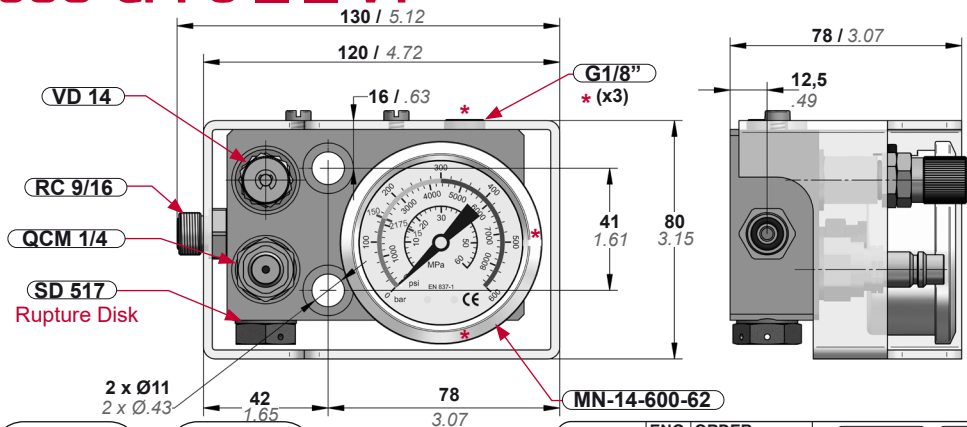
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	DEU BESTELL		
	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

600-CPFI 01

600-CPFI 02

600-CPFO _ _ V1

FORD W-DX-35-72



bar	psi
600	8000

bar	psi
517	7500

	ENG ORDER	SD 517	SD 517
	DEU BESTELL		
	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

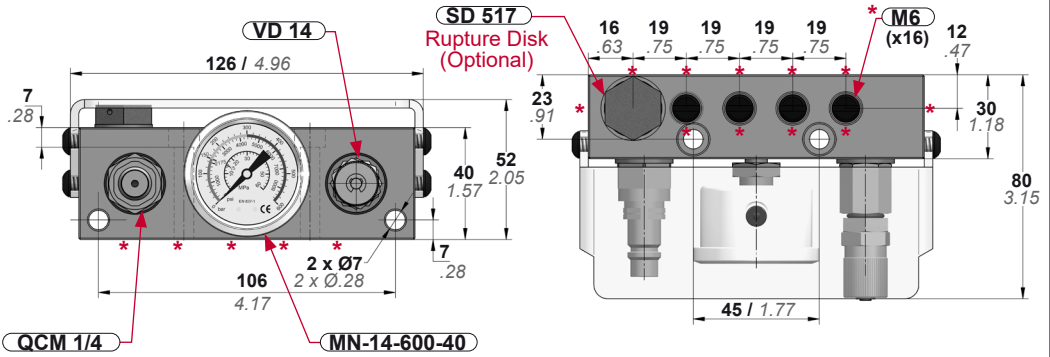
600-CPFO 01 V1

CONTROL PANELS

Hosed Systems



600-CPM6 _ _



QCM 1/4 MN-14-600-40

MN-14-600-62

bar	psi
600	8000

SD 517

bar	psi
517	7500

	ENG ORDER
	DEU BESTELL
	FRA COMMANDE
	ITA ORDINE
	ESP PEDIDO
	POR PEDIDO

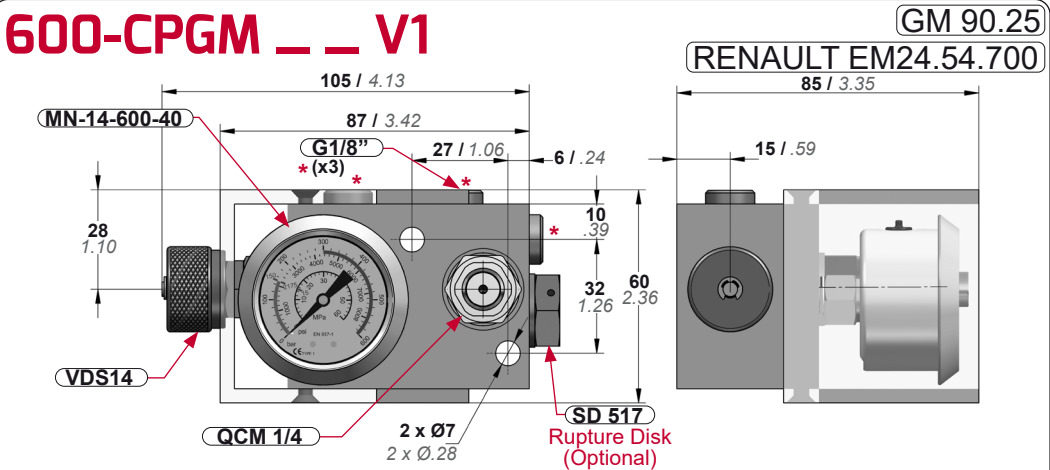
~~SD 517~~

SD 517

600 CPM6 01

600 CPM6 03

600-CPGM _ _ V1



MN-14-600-62

bar	psi
600	8000

SD 517

bar	psi
517	7500

	ENG ORDER
	DEU BESTELL
	FRA COMMANDE
	ITA ORDINE
	ESP PEDIDO
	POR PEDIDO

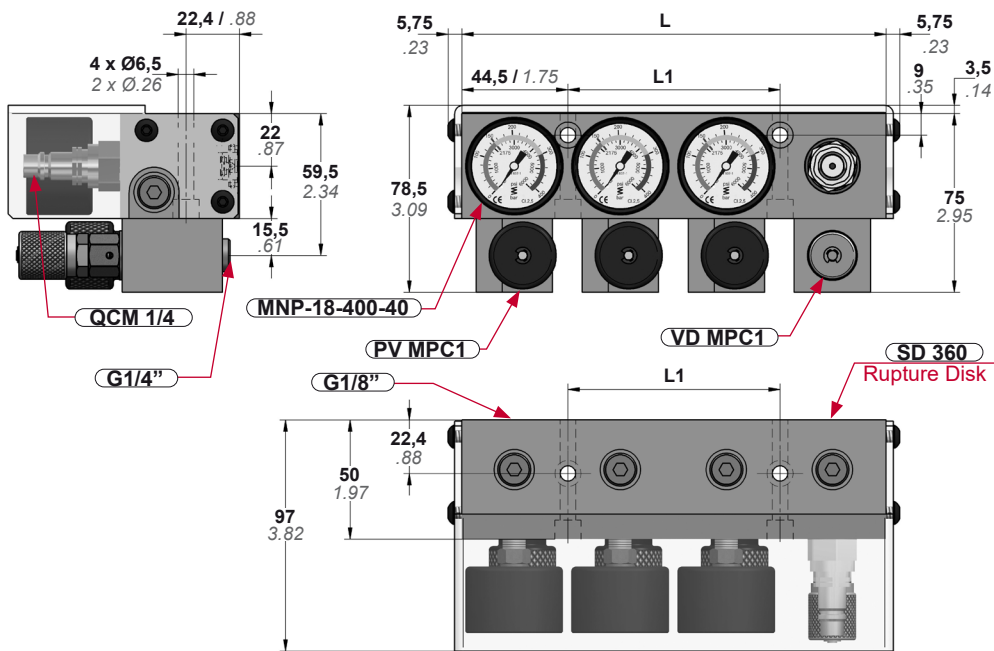
~~SD 517~~

SD 517

600-CPGM 03 V1

600-CPGM 05 V1

400-CPFG _ 01



ORDER	Qty. testing units	L (mm)	L (inch)	L1 (mm)	L1 (inch)
400-CPFG2 01	2	133.5	5.26	44.5	1.75
400-CPFG3 01	3	178	7.01	89	3.50
400-CPFG4 01	4	222.5	8.76	133.5	5.26
400-CPFG5 01	5	267	10.51	178	7.01
400-CPFG6 01	6	311.5	12.26	222.5	8.76
400-CPFG8 01	8	400.5	15.77	311.5	12.26
400-CPFG10 01	10	489.5	19.27	400.5	15.77



bar psi
400 6000

bar psi
360 5220

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



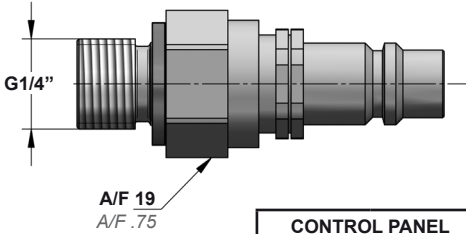
400-CPFG2 01

CONTROL PANELS

Hosed Systems

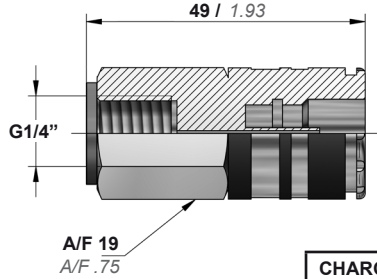


QCM 1/4



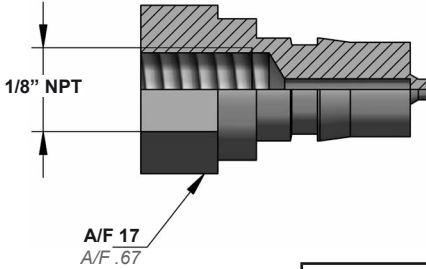
CONTROL PANEL	
600-CPLC	600-CPM6
600-CPTO	600-CPGM
600-CPFO	400-CPFG

QCF 1/4



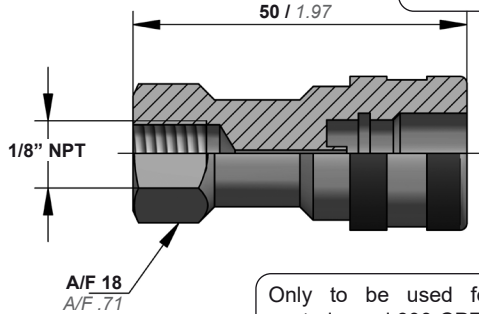
CHARGING UNIT	
EC 37	
EC 38	
EC 39	

QDM 1/8



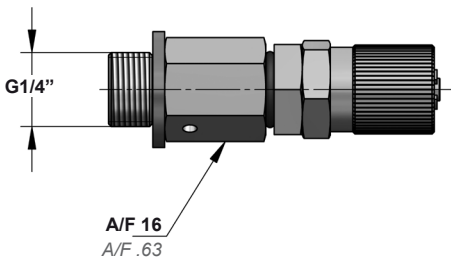
CONTROL PANEL	
600-CPFI	

QDF 1/8

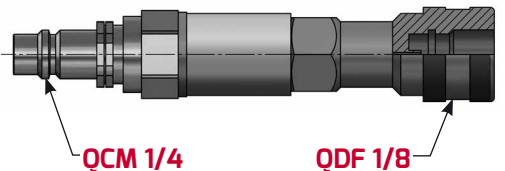


Only to be used for control panel 600-CPFI

VD 14

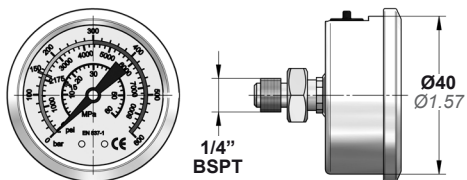


QDF 1/8-Q

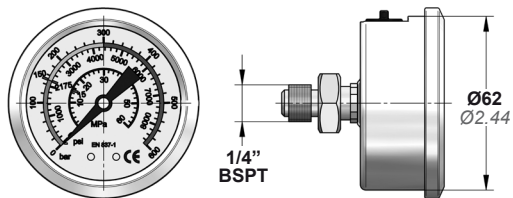


Only to be used for control panel 600-CPFI

MN-14-600-40

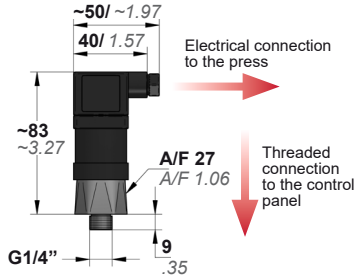
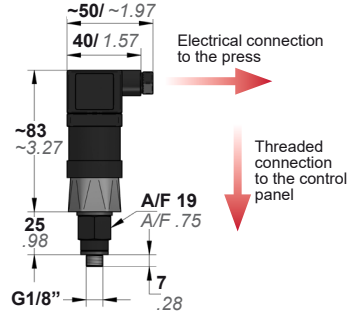


MN-14-600-62



PRESSURE SWITCH

Hosed Systems

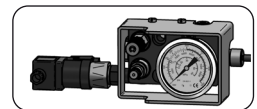
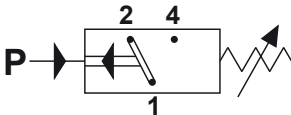
**AZOL
GAS****SPS 1/4****SPS 1/8****HOW TO ORDER****SPS 1/4****HOW TO ORDER****SPS 1/8****TECHNICAL DATA**

Range:	50 - 200 bar	725 - 2900 psi
Tolerance:	±5 bar a 20 °C	±5 bar a 20 °C
Thread:	G1/4" y G1/8"	G1/4" y G1/8"
Tension:	Max. 250 V	Max. 250 V
Safety over-pressure:	300 bar	4351 psi
Working temperature:	-25 °C to +50 °C	-25 °C to +50 °C

APPLICATIONS

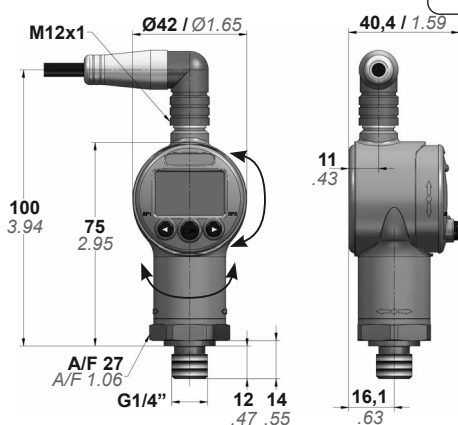
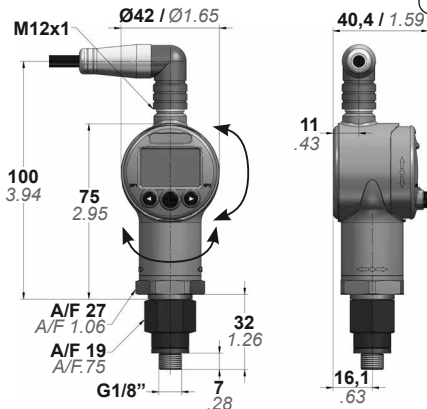
A pressure switch is a simpler pressure sensor that does not provide a continuous output (only an on/off device). One preset pressure value can be fixed into the pressure switch, in the event of the pressure of the circuit reach the preset mentioned value, the device changes the status of the electrical circuit (opened / closed).

The setting of the setpoint pressure is analogical, by turning a screw in its internal part.

**WARNING**

The electronic pressure switch must be connected by a qualified electrician in accordance to the regulations of the country where they will be used.

The local and international regulations for the electric equipment installation must be observed.

EDS 400 1/4**HOW TO ORDER****EDS 400 1/4****EDS 400 1/8****HOW TO ORDER****EDS 400 1/8****TECHNICAL DATA**

Mechanical connection:	G1/4" - G1/8"	G1/4" - G1/8"
Measuring range:	0 - 400 bar	0 - 5801 psi
Max. pressure:	800 bar	11603 psi
Burst pressure:	2000 bar	29007 psi
Operating temperature:	-25 °C to +80 °C.	-25 °C to +80 °C.
Torque:	20 Nm	20 Nm
Protection class (IEC 60529)	IP67	IP67
Weight:	120 g	0.265 lb

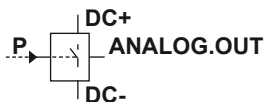
Switching current:	max. 1.2 A
Supply voltage:	9 - 35 VDC
Electrical connection:	M12x1 (4 pole)
Output: (2 switching outputs + analog output)	2 PNP Pin 2, 4

APPLICATIONS

A pressure transducer is a more versatile sensor that provides a continuous output, connected to a controller, which monitors and performs actions based upon the pressure within the system. The transducer measures the pressure of a gas spring or a connected system and converts it into an analog or digital signal that can be collected and interpreted by electronic systems, with the ultimate goal of having a record of the pressure values that are occurring in the system.

The EDS 400 combines both functions:

- Pressure switch: it has 2 configurable setpoint pressures, which can change the status of an electrical circuit according to the preset pressure value.
- Transducer: it has an analog output of the pressure measurement, which can be displayed, recorded or analyzed by electronic systems (PLCs, Computers).

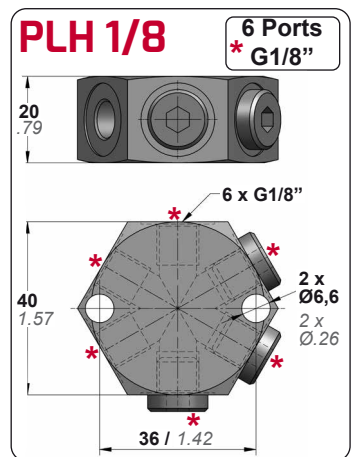
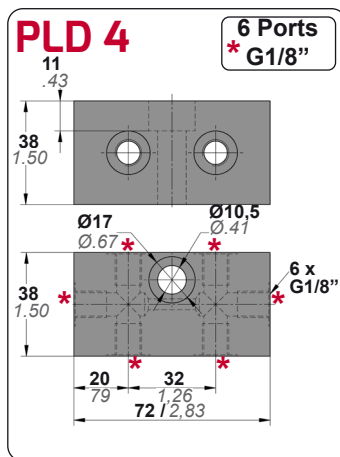
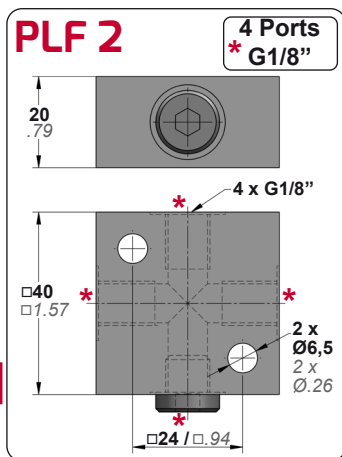
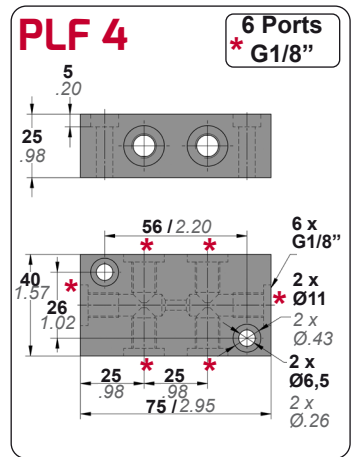
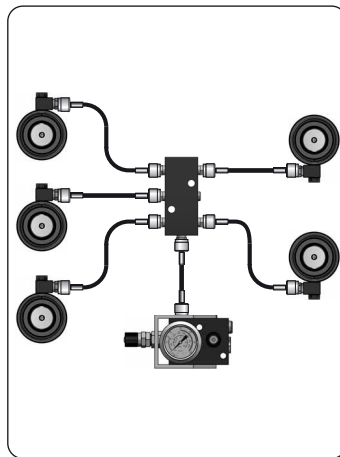
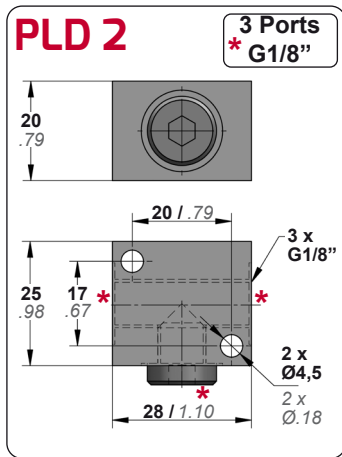
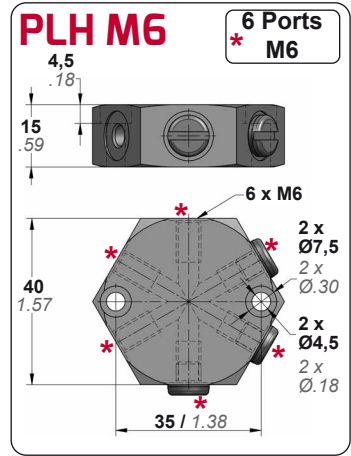
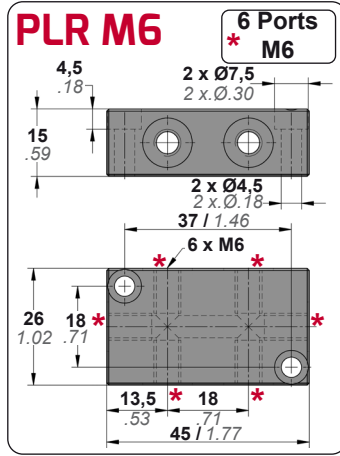
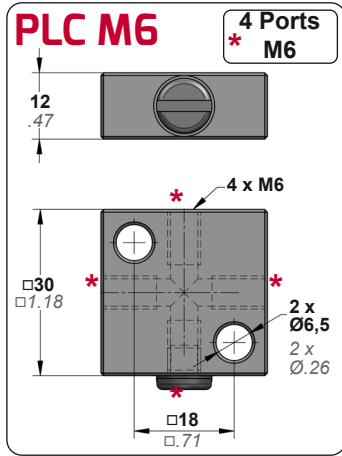
**WARNING**

The electronic pressure switch must be connected by a qualified electrician in accordance to the regulations of the country where they will be used.

The local and international regulations for the electric equipment installation must be observed.

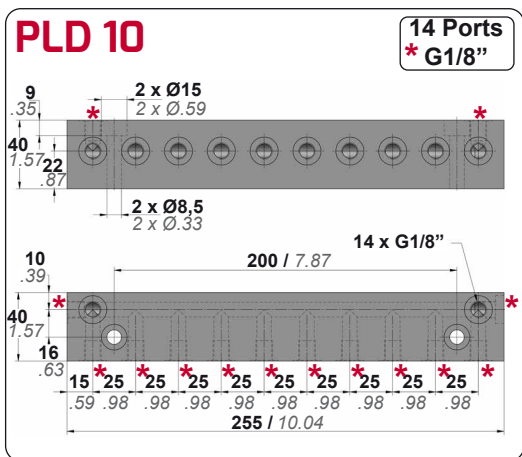
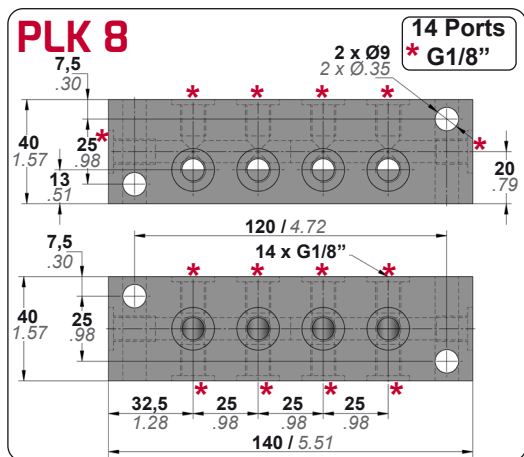
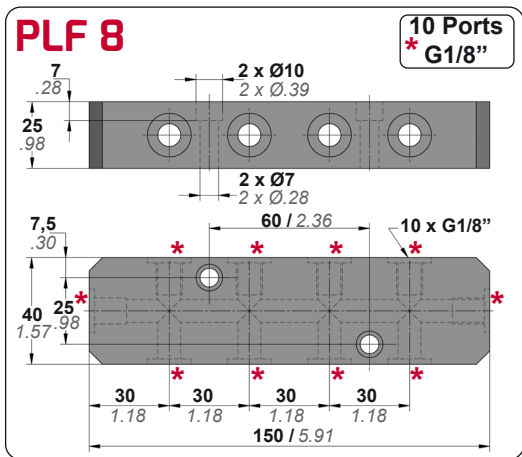
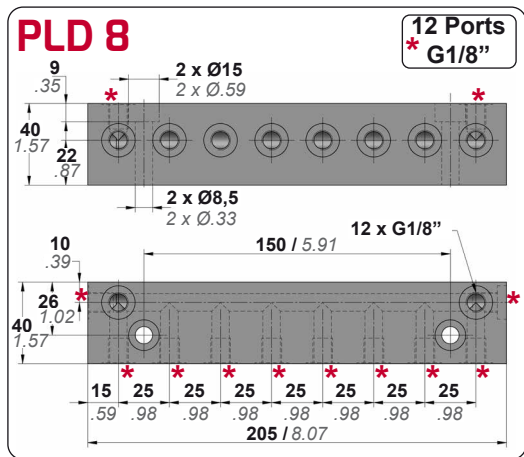
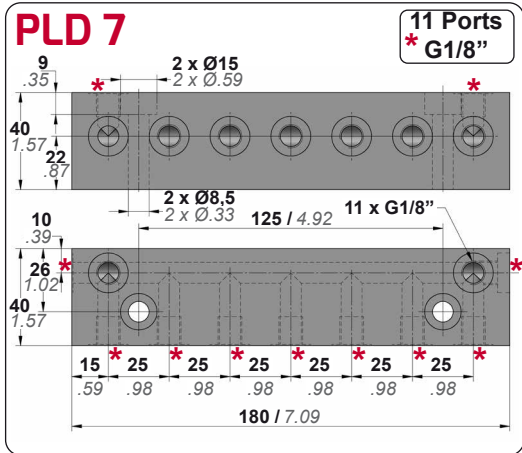
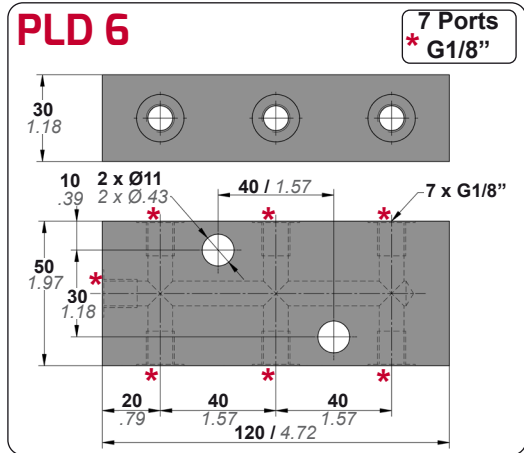
DISTRIBUTION BLOCKS

Hosed Systems



DISTRIBUTION BLOCKS

Hosed Systems

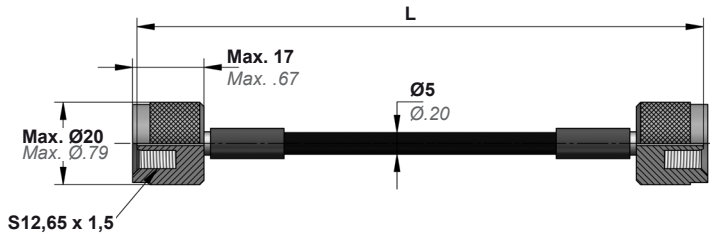


G1/8" MINIMESS (Ø5)

Hosed Systems



SGS



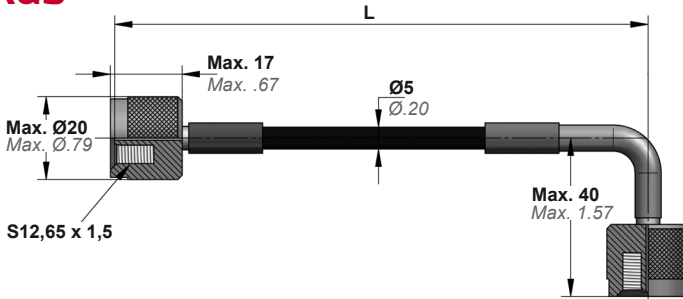
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
SGS 200	200	7.87
SGS 300	300	11.81
SGS 400	400	15.75
SGS 500	500	19.69
SGS 630	630	24.80
SGS 800	800	31.50
SGS 1000	1000	39.37
SGS 1200	1200	47.24
SGS 1250	1250	49.21
SGS 1500	1500	59.06
SGS 2000	2000	78.74
SGS 2500	2500	98.43
SGS 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO



EM.24.54.700
90.25
W-DX35-72
SMS DNH 3217n

RGS

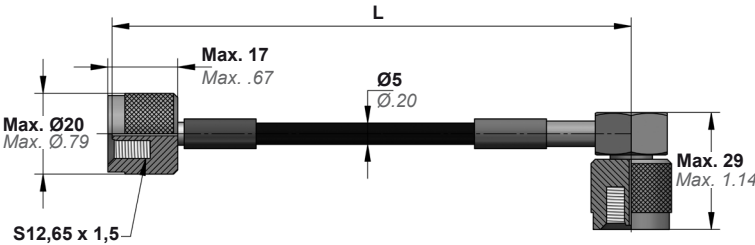


ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
RGS 200	200	7.87
RGS 300	300	11.81
RGS 400	400	15.75
RGS 500	500	19.69
RGS 630	630	24.80
RGS 800	800	31.50
RGS 1000	1000	39.37
RGS 1200	1200	47.24
RGS 1250	1250	49.21
RGS 1500	1500	59.06
RGS 2000	2000	78.74
RGS 2500	2500	98.43
RGS 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

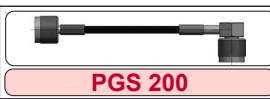


PGS



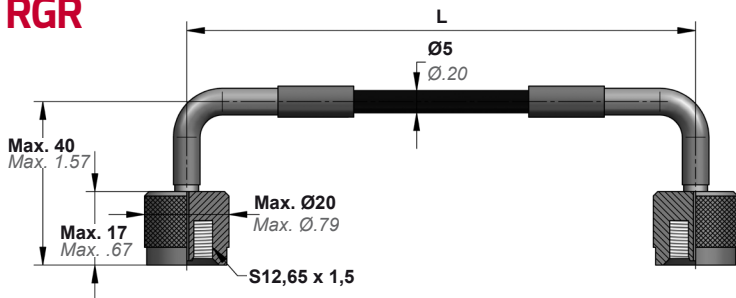
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
PGS 200	200	7.87
PGS 300	300	11.81
PGS 400	400	15.75
PGS 500	500	19.69
PGS 630	630	24.80
PGS 800	800	31.50
PGS 1000	1000	39.37
PGS 1200	1200	47.24
PGS 1250	1250	49.21
PGS 1500	1500	59.06
PGS 2000	2000	78.74
PGS 2500	2500	98.43
PGS 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO



EM.24.54.700
90.25
W-DX35-72
SMS DNH 3217n

RGR



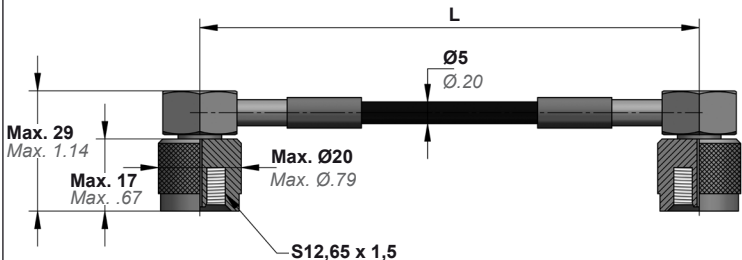
ORDER	L ₀ ⁺⁵ ₋₀ (mm)	L ₀ ^{+0.20} ₋₀ (inch)
RGR 200	200	7.87
RGR 300	300	11.81
RGR 400	400	15.75
RGR 500	500	19.69
RGR 630	630	24.80
RGR 800	800	31.50
RGR 1000	1000	39.37
RGR 1200	1200	47.24
RGR 1250	1250	49.21
RGR 1500	1500	59.06
RGR 2000	2000	78.74
RGR 2500	2500	98.43
RGR 3000	3000	118.11



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



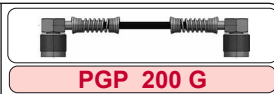
PGP



ORDER	L ₀ ⁺⁵ ₋₀ (mm)	L ₀ ^{+0.20} ₋₀ (inch)
PGP 200	200	7.87
PGP 300	300	11.81
PGP 400	400	15.75
PGP 500	500	19.69
PGP 630	630	24.80
PGP 800	800	31.50
PGP 1000	1000	39.37
PGP 1200	1200	47.24
PGP 1250	1250	49.21
PGP 1500	1500	59.06
PGP 2000	2000	78.74
PGP 2500	2500	98.43
PGP 3000	3000	118.11

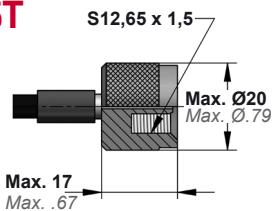


ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

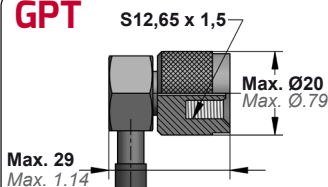


EM.24.54.700
90.25
W-DX35-72
SMS DNH 3217n

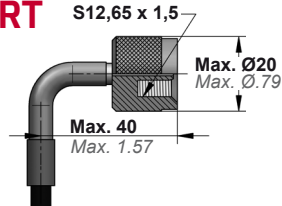
GST



GPT



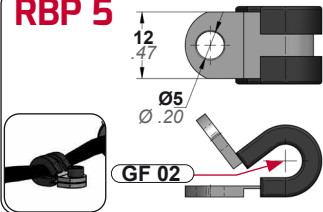
GRT



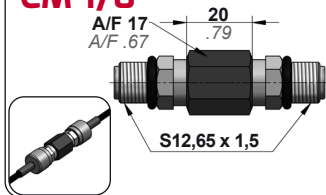
GF 02



RBP 5



CM 1/8



Pmax
630 bar

Tmax
100 °C

Rmin
20 mm

G1/8" MINIMESS (Ø5)

Hosed Systems



SKK 12R 1/8

Technical drawing of SKK 12R 1/8 valve. Dimensions: S12,65 x 1,5, 22 .87, A/F14 A/F .55, G1/8. Includes a flow direction symbol with a red arrow pointing left.

SKK L

Technical drawing of SKK L valve. Dimensions: S12,65 x 1,5, 22 .87, A/F14 A/F .55, G1/8. Includes a flow direction symbol with two red arrows pointing left and right.

SKK 12R 1/4

Technical drawing of SKK 12R 1/4 valve. Dimensions: S12,65 x 1,5, Max. 30, Max. 1.18, A/F 19 A/F .75, G1/4. Includes a flow direction symbol with a red arrow pointing left.

CF 01 24

Technical drawing of CF 01 24 valve. Dimensions: 25 .98, 18 .71, G1/8, 24 .94, 6,5 .26. Includes a small 3D perspective view of the valve.

CF 01 38

Technical drawing of CF 01 38 valve. Dimensions: 25 .98, 18 .71, G1/8, 38 1.50, 6,5 .26. Includes a small 3D perspective view of the valve.

CF 01 48

Technical drawing of CF 01 48 valve. Dimensions: 25 .98, 18 .71, G1/8, 48 1.89, 6,5 .26. Includes a small 3D perspective view of the valve.

CF 02 26

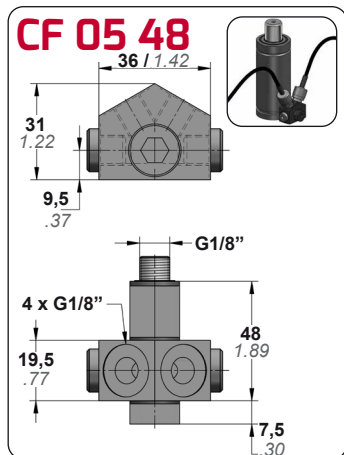
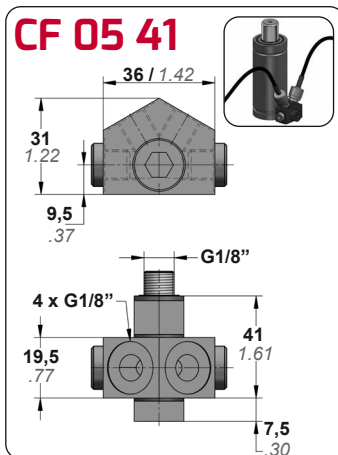
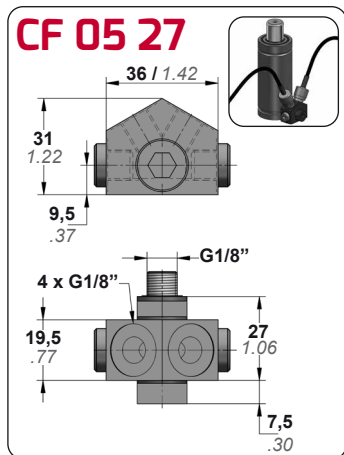
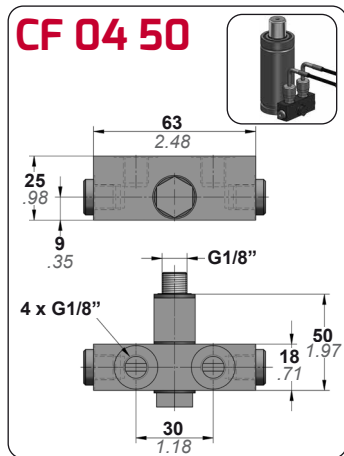
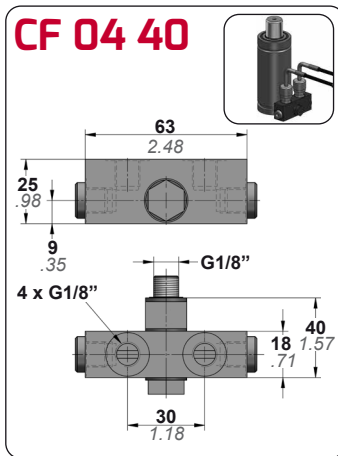
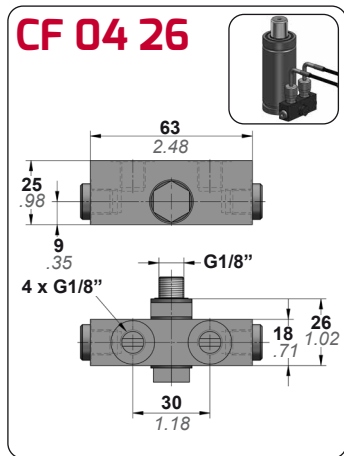
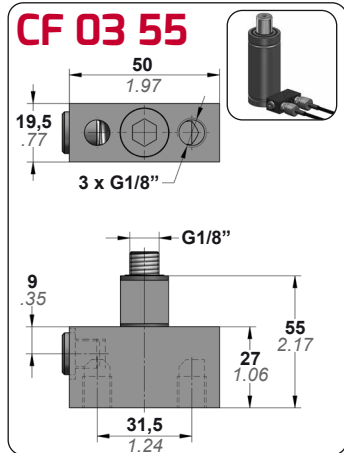
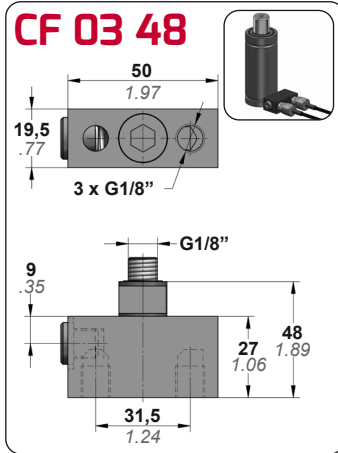
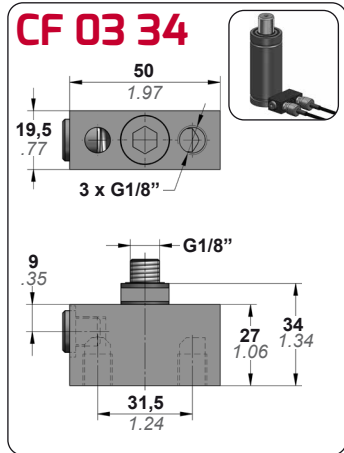
Technical drawing of CF 02 26 valve. Dimensions: 30 1.18, 18 .71, G1/8, 26 1.02, 6,5 .26, 2 x G1/8. Includes a small 3D perspective view of the valve.

CF 02 40

Technical drawing of CF 02 40 valve. Dimensions: 30 1.18, 18 .71, G1/8, 40 1.57, 6,5 .26, 2 x G1/8. Includes a small 3D perspective view of the valve.

CF 02 50

Technical drawing of CF 02 50 valve. Dimensions: 30 1.18, 18 .71, G1/8, 50 1.97, 6,5 .26, 2 x G1/8. Includes a small 3D perspective view of the valve.

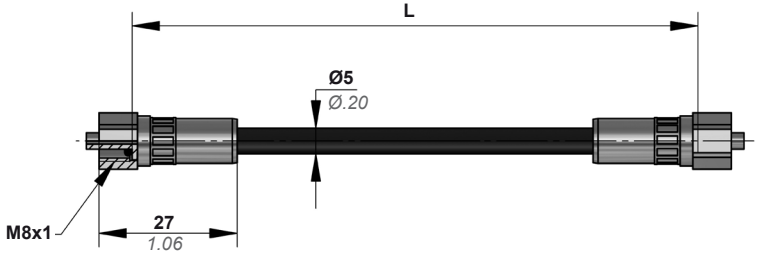


M8 x 1 (Ø5)

Hosed Systems



BK



ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
BK 200	200	7.87
BK 300	300	11.81
BK 400	400	15.75
BK 500	500	19.69
BK 630	630	24.80
BK 800	800	31.50
BK 1000	1000	39.37
BK 1200	1200	47.24
BK 1250	1250	49.21
BK 1500	1500	59.06
BK 2000	2000	78.74
BK 2500	2500	98.43
BK 3000	3000	118.11



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

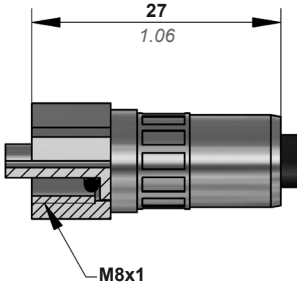
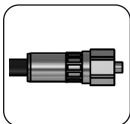


BK 200

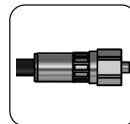


BK 200 G

BKRT



GF 02

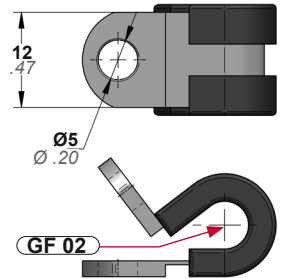


Pmax
400 bar

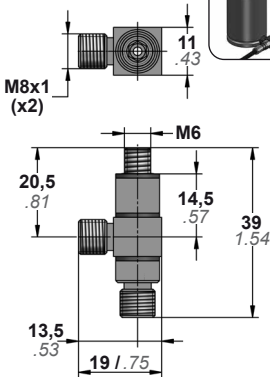
Tmax
100 °C

Rmin
20 mm

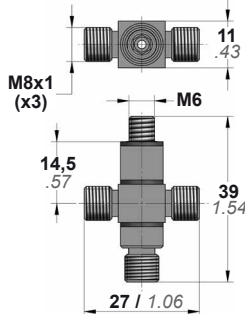
RBP 5



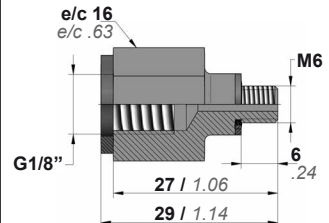
90 R BK1



TE R BK1



06 GA 9



KRM6

15 / .59
M6 M8x1
A/F 10
A/F .39

KRM8

24 / .94
G1/8" M8x1

18 MS 1

A/F 14
A/F .55
G1/8"
M6
9 / .35
24 / .94

06 MS 3

A/F 10
A/F .39
M6
M6
5 / .20
20,5 / .81

90 BK1

11 / .43
M8x1 M6
14,5 / .57
13,5 / .53
19 / .75

TE BK1

11 / .43
M8x1 (x2) M6
14,5 / .57
27 / 1.06

KRMK1

30 / 1.18
M8x1 (x2)

KCMK1

9 / .35
M8x1 (x2)
15 / .59
17 / .67

KTMK1

9 / .35
M8x1 (x3)
12,5 / .49
30 / 1.18

KXMK

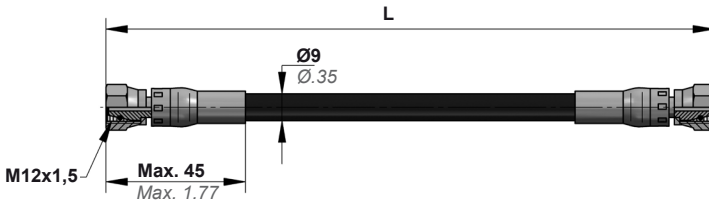
27 / 1.06
M8x1 (x4)

M12 x 1,5 (Ø9)

Hosed Systems



TNRR

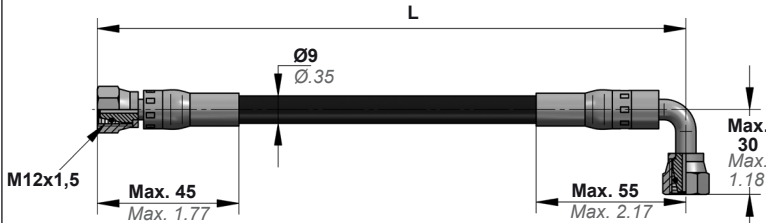


ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0,20} ₋₀ (inch)
TNRR 200	200	7.87
TNRR 300	300	11.81
TNRR 400	400	15.75
TNRR 500	500	19.69
TNRR 630	630	24.80
TNRR 800	800	31.50
TNRR 1000	1000	39.37
TNRR 1200	1200	47.24
TNRR 1250	1250	49.21
TNRR 1500	1500	59.06
TNRR 2000	2000	78.74
TNRR 2500	2500	98.43
TNRR 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

TNRR 200

TNRL

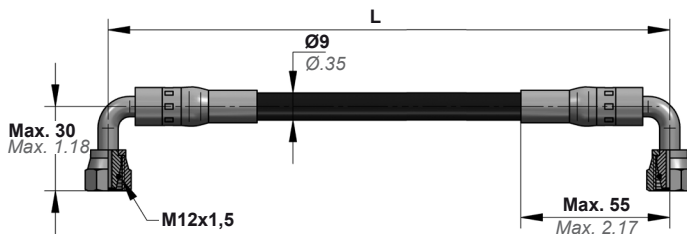


ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0,20} ₋₀ (inch)
TNRL 200	200	7.87
TNRL 300	300	11.81
TNRL 400	400	15.75
TNRL 500	500	19.69
TNRL 630	630	24.80
TNRL 800	800	31.50
TNRL 1000	1000	39.37
TNRL 1200	1200	47.24
TNRL 1250	1250	49.21
TNRL 1500	1500	59.06
TNRL 2000	2000	78.74
TNRL 2500	2500	98.43
TNRL 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

TNRL 200

TNLL

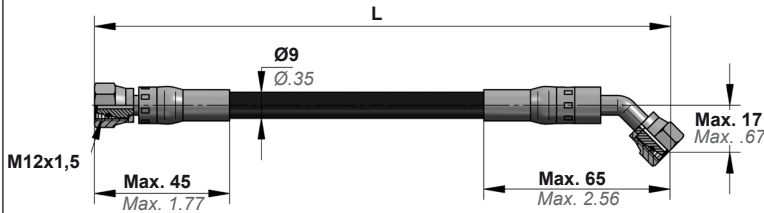


ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0,20} ₋₀ (inch)
TNLL 200	200	7.87
TNLL 300	300	11.81
TNLL 400	400	15.75
TNLL 500	500	19.69
TNLL 630	630	24.80
TNLL 800	800	31.50
TNLL 1000	1000	39.37
TNLL 1200	1200	47.24
TNLL 1250	1250	49.21
TNLL 1500	1500	59.06
TNLL 2000	2000	78.74
TNLL 2500	2500	98.43
TNLL 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

TNLL 200

TNRC

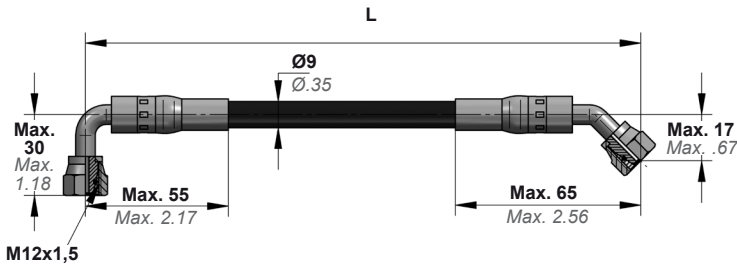


ORDER	L ₀ ⁺⁵ ₋₀ (mm)	L ₀ ^{+0,20} ₋₀ (inch)
TNRC 200	200	7.87
TNRC 300	300	11.81
TNRC 400	400	15.75
TNRC 500	500	19.69
TNRC 630	630	24.80
TNRC 800	800	31.50
TNRC 1000	1000	39.37
TNRC 1200	1200	47.24
TNRC 1250	1250	49.21
TNRC 1500	1500	59.06
TNRC 2000	2000	78.74
TNRC 2500	2500	98.43
TNRC 3000	3000	118.11

ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

TNRC 200

TNLC

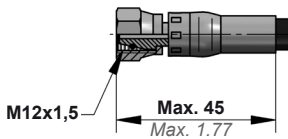


ORDER	L ₀ ⁺⁵ ₋₀ (mm)	L ₀ ^{+0,20} ₋₀ (inch)
TNLC 200	200	7.87
TNLC 300	300	11.81
TNLC 400	400	15.75
TNLC 500	500	19.69
TNLC 630	630	24.80
TNLC 800	800	31.50
TNLC 1000	1000	39.37
TNLC 1200	1200	47.24
TNLC 1250	1250	49.21
TNLC 1500	1500	59.06
TNLC 2000	2000	78.74
TNLC 2500	2500	98.43
TNLC 3000	3000	118.11

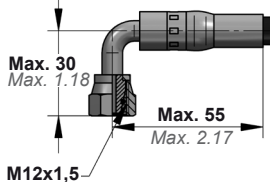
ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

TNLC 200

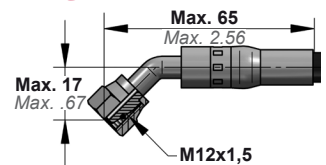
TNRT



TNLT



TNCT



GF 05/9

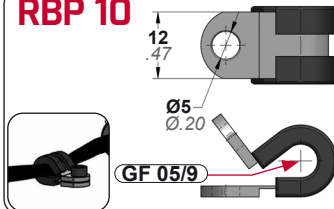


Pmax
345 bar

Tmax
100 °C

Rmin
40 mm

RBP 10

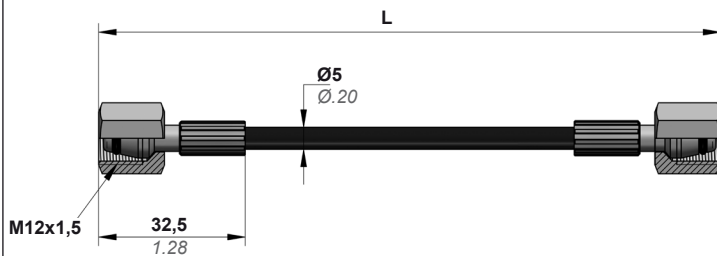


M12 x 1,5 (Ø5)

Hosed Systems



HJRR



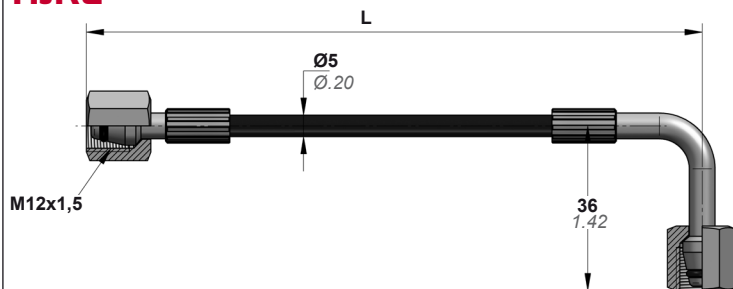
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0,20} ₋₀ (inch)
HJRR 200	200	7.87
HJRR 300	300	11.81
HJRR 400	400	15.75
HJRR 500	500	19.69
HJRR 630	630	24.80
HJRR 800	800	31.50
HJRR 1000	1000	39.37
HJRR 1200	1200	47.24
HJRR 1250	1250	49.21
HJRR 1500	1500	59.06
HJRR 2000	2000	78.74
HJRR 2500	2500	98.43
HJRR 3000	3000	118.11



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



HJRL



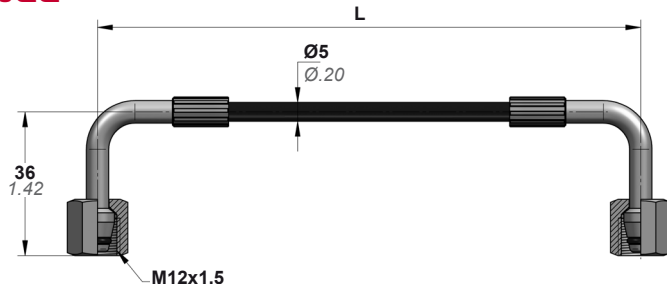
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0,20} ₋₀ (inch)
HJRL 200	200	7.87
HJRL 300	300	11.81
HJRL 400	400	15.75
HJRL 500	500	19.69
HJRL 630	630	24.80
HJRL 800	800	31.50
HJRL 1000	1000	39.37
HJRL 1200	1200	47.24
HJRL 1250	1250	49.21
HJRL 1500	1500	59.06
HJRL 2000	2000	78.74
HJRL 2500	2500	98.43
HJRL 3000	3000	118.11



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



HJLL



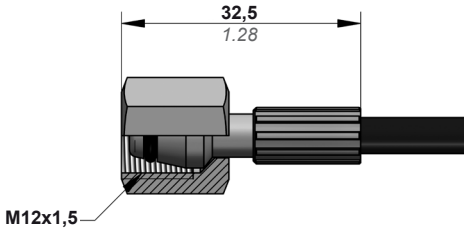
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0,20} ₋₀ (inch)
HJLL 200	200	7.87
HJLL 300	300	11.81
HJLL 400	400	15.75
HJLL 500	500	19.69
HJLL 630	630	24.80
HJLL 800	800	31.50
HJLL 1000	1000	39.37
HJLL 1200	1200	47.24
HJLL 1250	1250	49.21
HJLL 1500	1500	59.06
HJLL 2000	2000	78.74
HJLL 2500	2500	98.43
HJLL 3000	3000	118.11



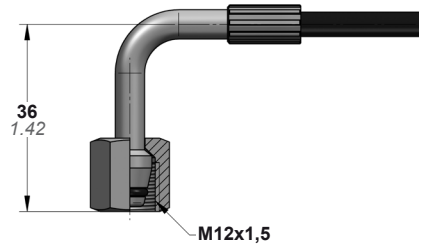
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



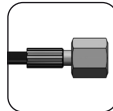
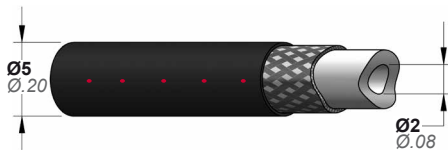
HJRT



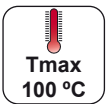
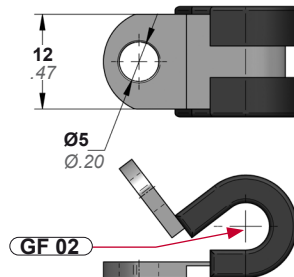
HJLT



GF 02



RBP 5

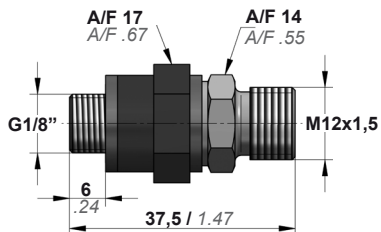


M12 x 1,5 (Ø5/Ø9)

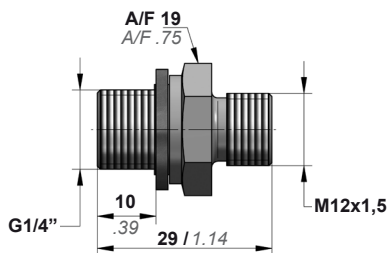
Hosed Systems



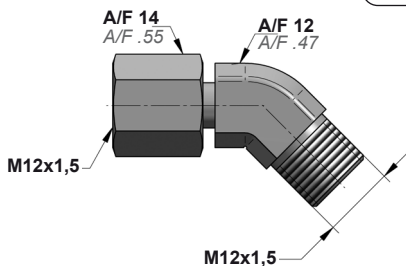
DRM8



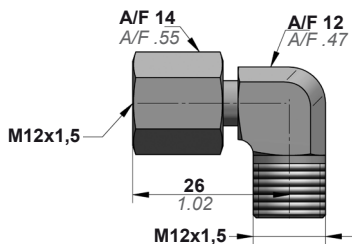
DRM4



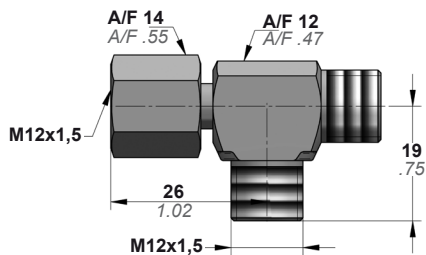
DLFD



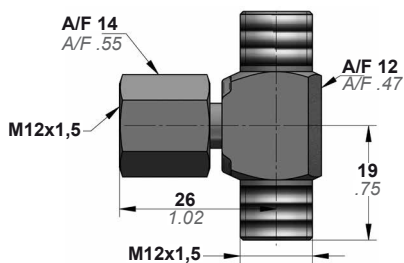
DCFD



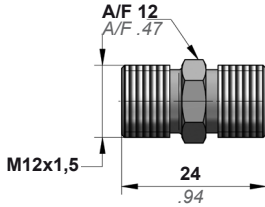
DWFD



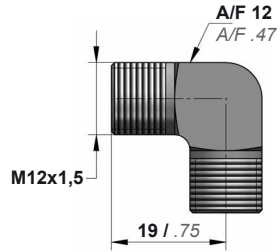
DTFD



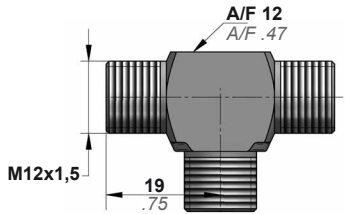
DIMD



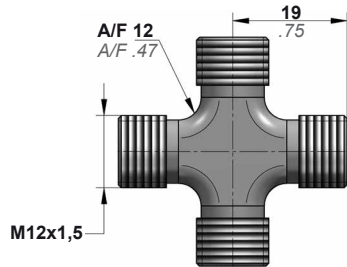
DCMD



DTMD

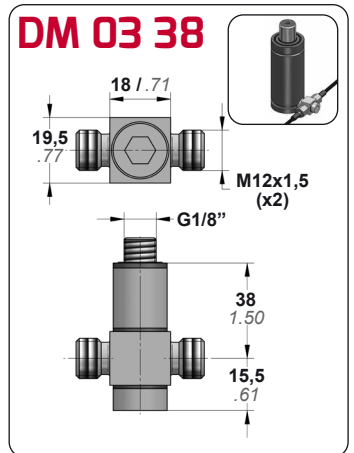
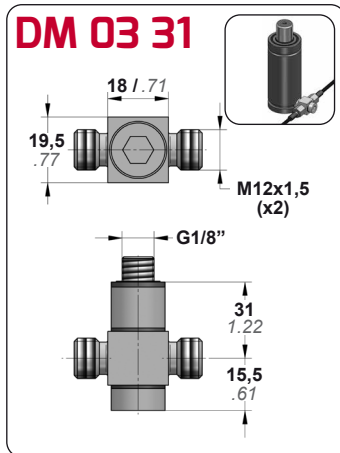
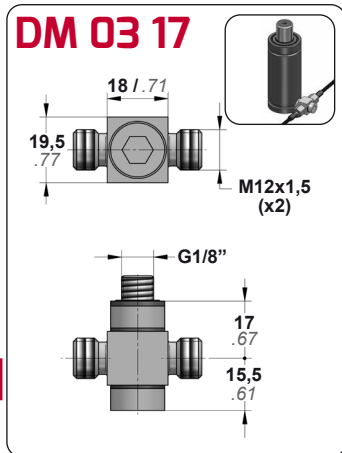
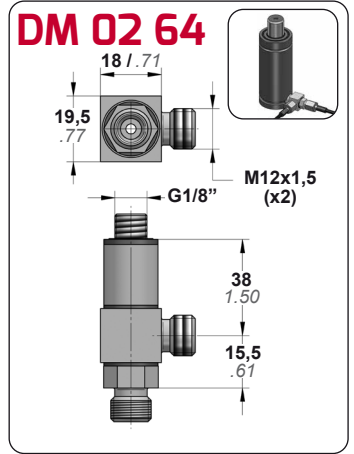
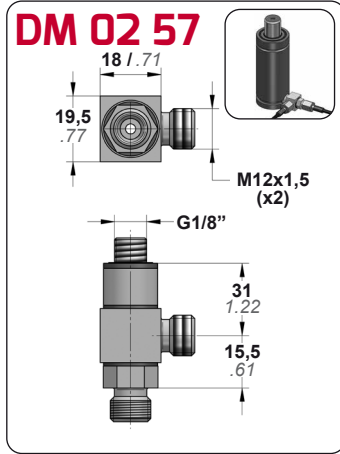
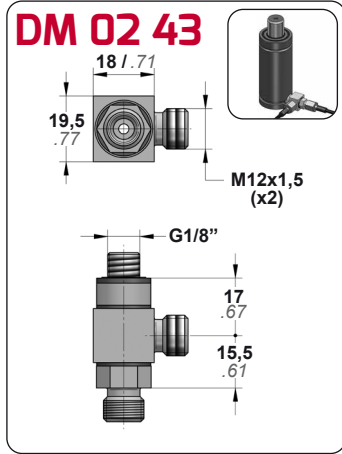
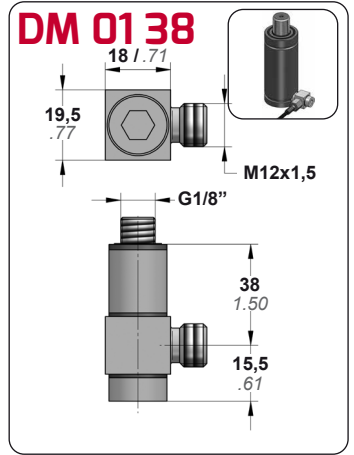
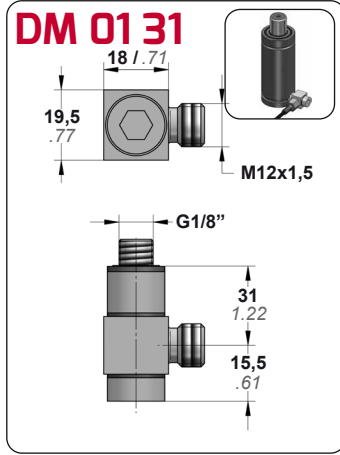
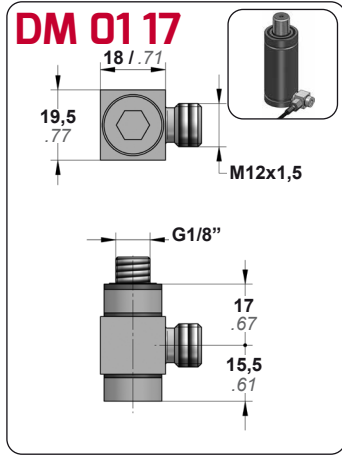


DXMD



M12 x 1,5 (05/09)

Hosed Systems

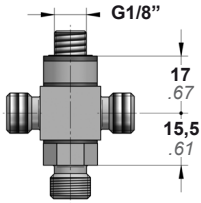
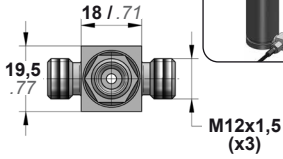




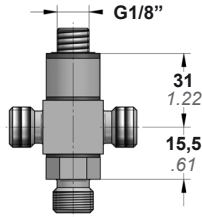
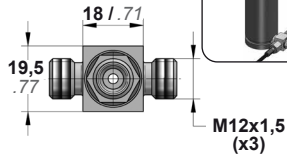
M12 x 1,5 (Ø5/Ø9)

Hosed Systems

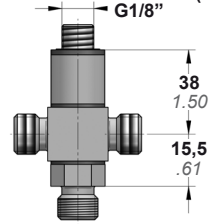
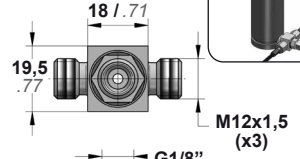
DM 04 43



DM 04 57



DM 04 64

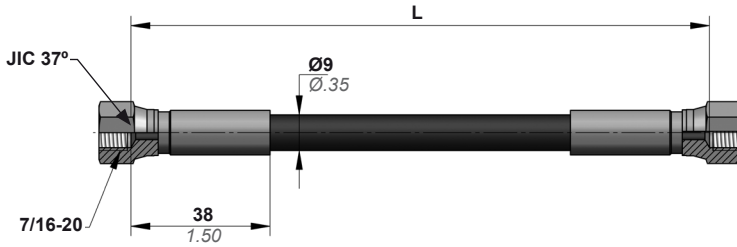


7/16" UNF (Ø9)

Hosed Systems



TFRR



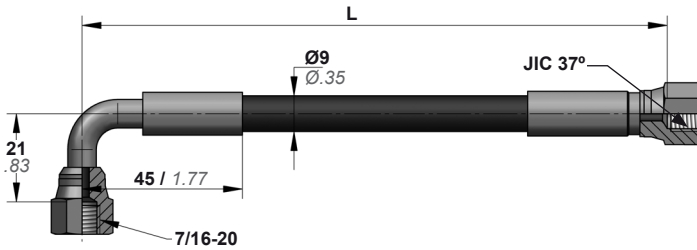
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
TFRR 200	200	7.87
TFRR 300	300	11.81
TFRR 400	400	15.75
TFRR 500	500	19.69
TFRR 630	630	24.80
TFRR 800	800	31.50
TFRR 1000	1000	39.37
TFRR 1200	1200	47.24
TFRR 1250	1250	49.21
TFRR 1500	1500	59.06
TFRR 2000	2000	78.74
TFRR 2500	2500	98.43
TFRR 3000	3000	118.11


 ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO



TFRR 200

TFRL



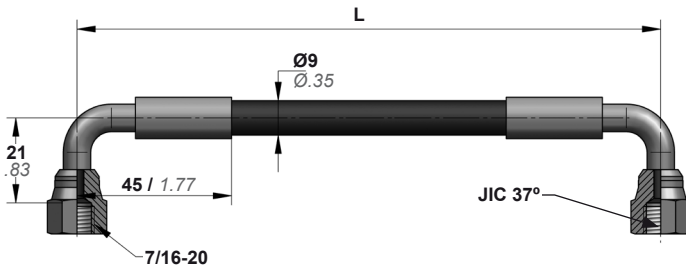
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
TFRL 200	200	7.87
TFRL 300	300	11.81
TFRL 400	400	15.75
TFRL 500	500	19.69
TFRL 630	630	24.80
TFRL 800	800	31.50
TFRL 1000	1000	39.37
TFRL 1200	1200	47.24
TFRL 1250	1250	49.21
TFRL 1500	1500	59.06
TFRL 2000	2000	78.74
TFRL 2500	2500	98.43
TFRL 3000	3000	118.11


 ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO



TFRL 200

TFLL



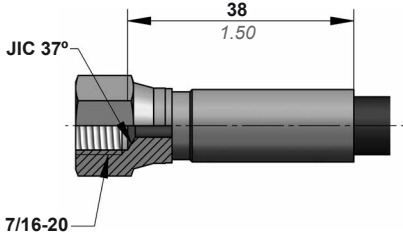
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
TFLL 200	200	7.87
TFLL 300	300	11.81
TFLL 400	400	15.75
TFLL 500	500	19.69
TFLL 630	630	24.80
TFLL 800	800	31.50
TFLL 1000	1000	39.37
TFLL 1200	1200	47.24
TFLL 1250	1250	49.21
TFLL 1500	1500	59.06
TFLL 2000	2000	78.74
TFLL 2500	2500	98.43
TFLL 3000	3000	118.11


 ENG ORDER
 DEU BESTELL
 FRA COMMANDE
 ITA ORDINE
 ESP PEDIDO
 POR PEDIDO

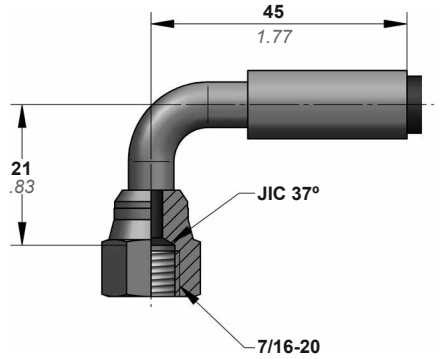


TFLL 200

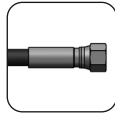
TFRT



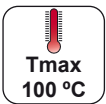
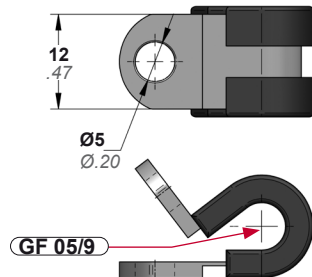
TFLT



GF 05/9



RBP 10

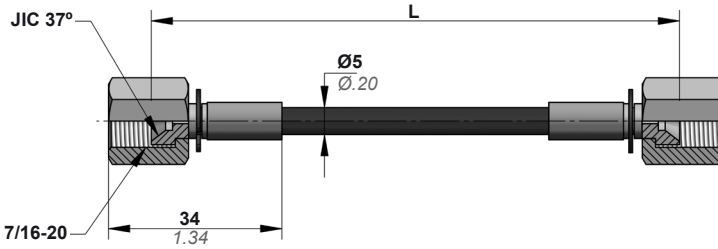


7/16" UNF (Ø5)

Hosed Systems



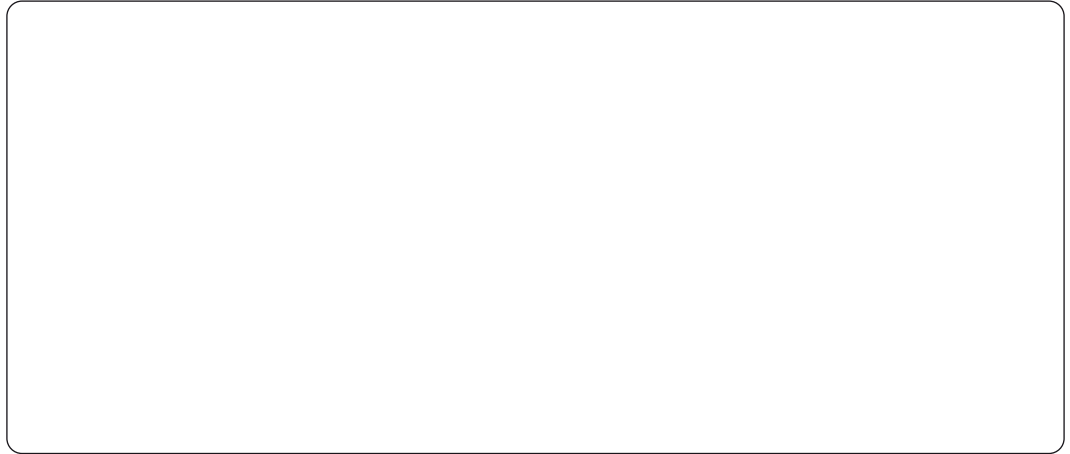
SMRR



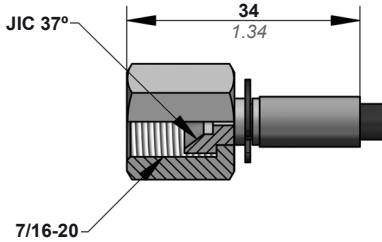
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
SMRR 200	200	7.87
SMRR 300	300	11.81
SMRR 400	400	15.75
SMRR 500	500	19.69
SMRR 630	630	24.80
SMRR 800	800	31.50
SMRR 1000	1000	39.37
SMRR 1200	1200	47.24
SMRR 1250	1250	49.21
SMRR 1500	1500	59.06
SMRR 2000	2000	78.74
SMRR 2500	2500	98.43
SMRR 3000	3000	118.11



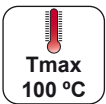
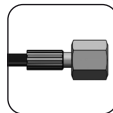
ENG	ORDER
DEU	BESTELL
FRA	COMMANDE
ITA	ORDINE
ESP	PEDIDO
POR	PEDIDO



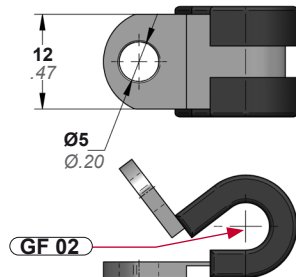
SMRT



GF 02



RBP 5

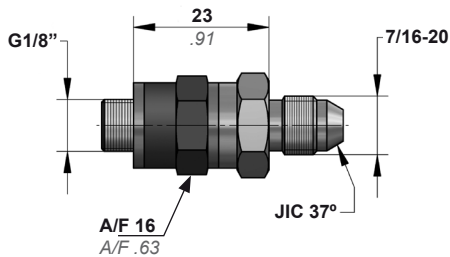


7/16" UNF (Ø5/Ø9)

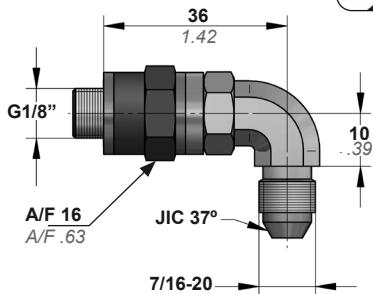
Hosed Systems



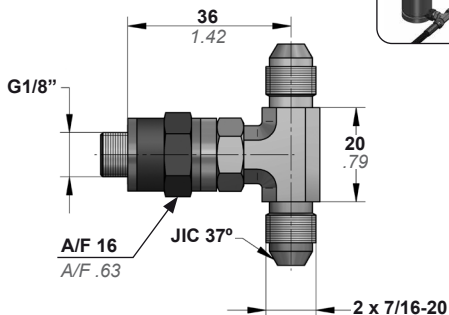
7RM8



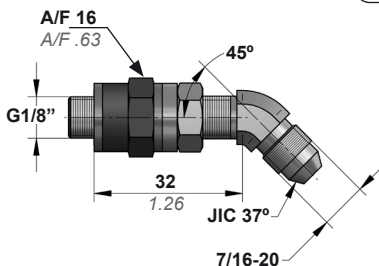
7CM8



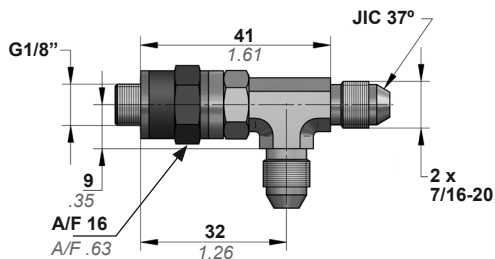
7EM8



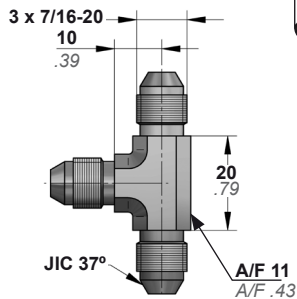
7LM8



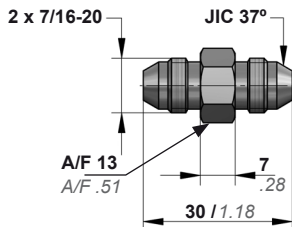
7TL8



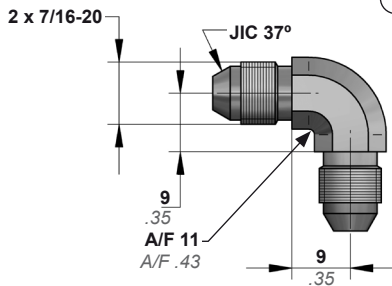
7TM7



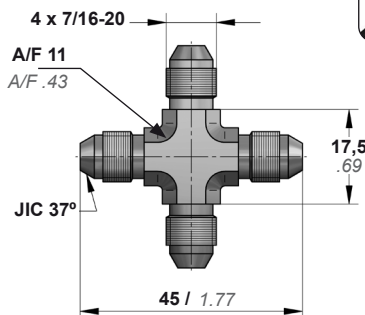
7IM7



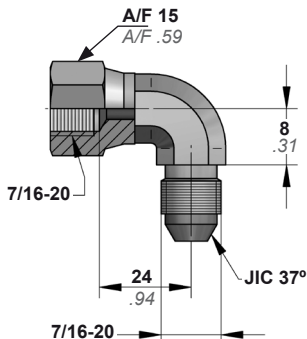
7NM7



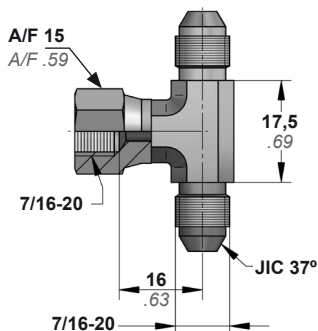
7XM7



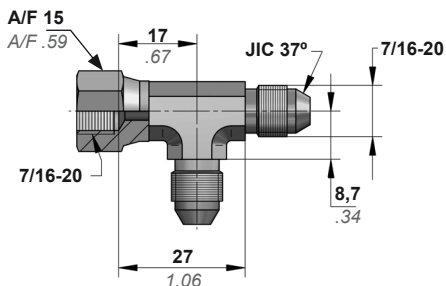
7CF7



7TF7



7WF7

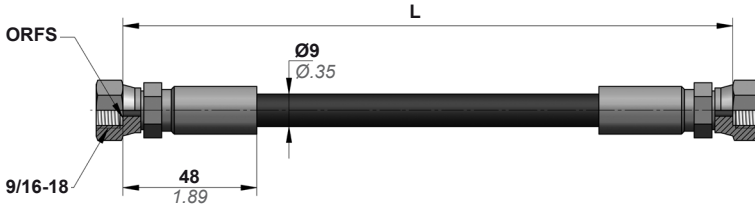


9/16" UNF (Ø9)

Hosed Systems



MCRR



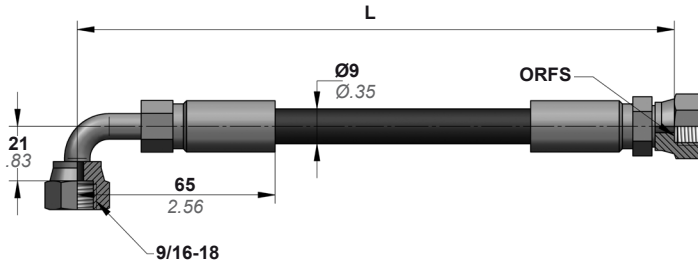
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
MCRR 200	200	7.87
MCRR 300	300	11.81
MCRR 400	400	15.75
MCRR 500	500	19.69
MCRR 630	630	24.80
MCRR 800	800	31.50
MCRR 1000	1000	39.37
MCRR 1200	1200	47.24
MCRR 1250	1250	49.21
MCRR 1500	1500	59.06
MCRR 2000	2000	78.74



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



MCRL



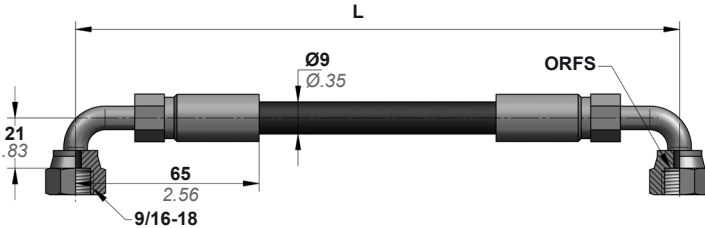
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
MCRL 200	200	7.87
MCRL 300	300	11.81
MCRL 400	400	15.75
MCRL 500	500	19.69
MCRL 630	630	24.80
MCRL 800	800	31.50
MCRL 1000	1000	39.37
MCRL 1200	1200	47.24
MCRL 1250	1250	49.21
MCRL 1500	1500	59.06
MCRL 2000	2000	78.74
MCRL 2500	2500	98.43
MCRL 3000	3000	118.11



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



MCLL



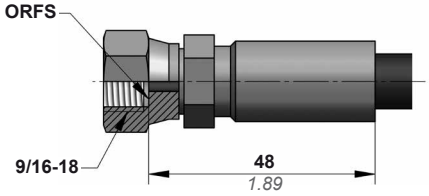
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
MCLL 200	200	7.87
MCLL 300	300	11.81
MCLL 400	400	15.75
MCLL 500	500	19.69
MCLL 630	630	24.80
MCLL 800	800	31.50
MCLL 1000	1000	39.37
MCLL 1200	1200	47.24
MCLL 1250	1250	49.21
MCLL 1500	1500	59.06
MCLL 2000	2000	78.74
MCLL 2500	2500	98.43
MCLL 3000	3000	118.11



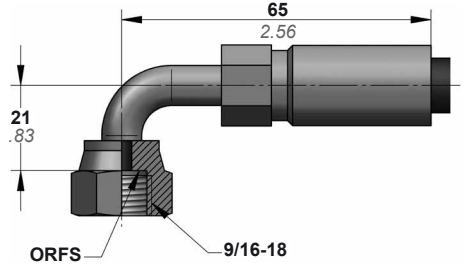
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



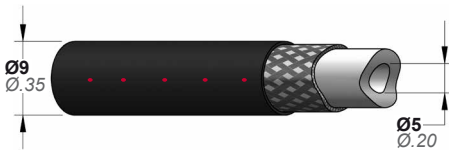
MCRT



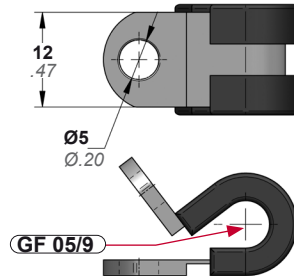
MCLT



GF 05/9



RBP 10



Pmax
345 bar

Tmax
100 °C

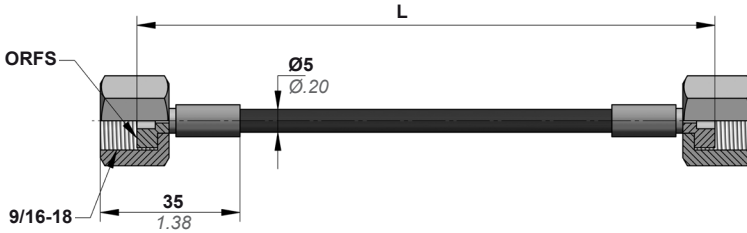
Rmin
40 mm

9/16" UNF (Ø5)

Hosed Systems



GTRR



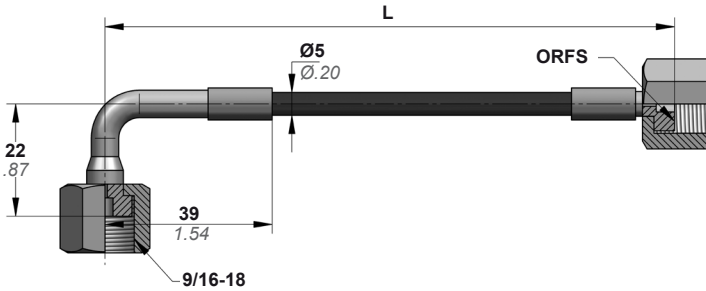
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
GTRR 200	200	7.87
GTRR 300	300	11.81
GTRR 400	400	15.75
GTRR 500	500	19.69
GTRR 630	630	24.80
GTRR 800	800	31.50
GTRR 1000	1000	39.37
GTRR 1200	1200	47.24
GTRR 1250	1250	49.21
GTRR 1500	1500	59.06
GTRR 2000	2000	78.74



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



GTRL



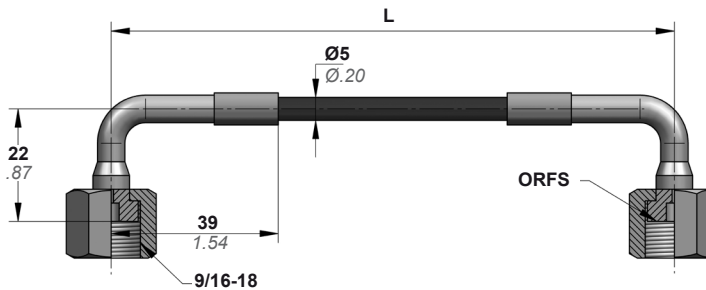
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
GTRL 200	200	7.87
GTRL 300	300	11.81
GTRL 400	400	15.75
GTRL 500	500	19.69
GTRL 630	630	24.80
GTRL 800	800	31.50
GTRL 1000	1000	39.37
GTRL 1200	1200	47.24
GTRL 1250	1250	49.21
GTRL 1500	1500	59.06
GTRL 2000	2000	78.74
GTRL 2500	2500	98.43
GTRL 3000	3000	118.11



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



GTLL



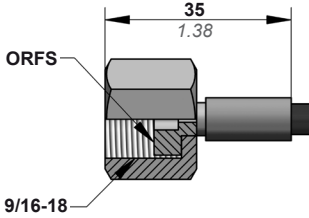
ORDER	L ⁺⁵ ₋₀ (mm)	L ^{+0.20} ₋₀ (inch)
GTLL 200	200	7.87
GTLL 300	300	11.81
GTLL 400	400	15.75
GTLL 500	500	19.69
GTLL 630	630	24.80
GTLL 800	800	31.50
GTLL 1000	1000	39.37
GTLL 1200	1200	47.24
GTLL 1250	1250	49.21
GTLL 1500	1500	59.06
GTLL 2000	2000	78.74
GTLL 2500	2500	98.43
GTLL 3000	3000	118.11



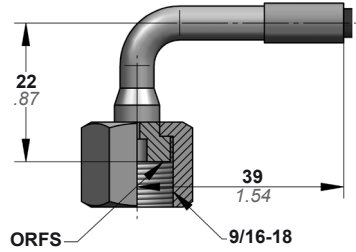
ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



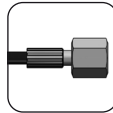
GTRT



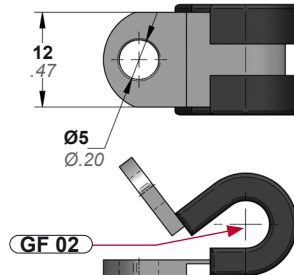
GTLT






GF 02



RBP 5



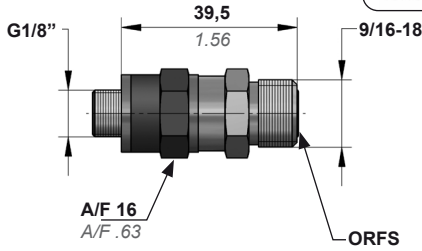
 Pmax 345 bar	 Tmax 100 °C	 Rmin 20 mm
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9/16" UNF (Ø5/Ø9)

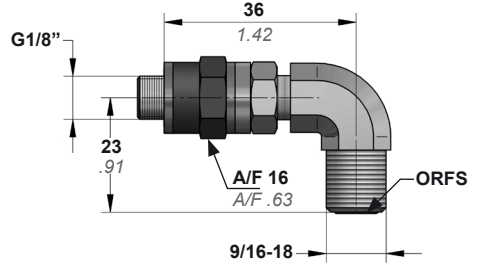
Hosed Systems



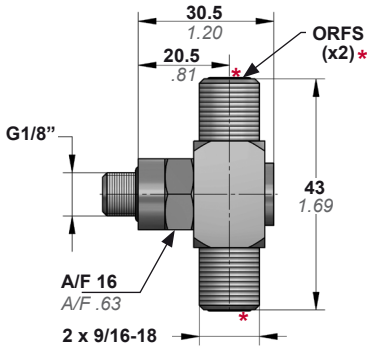
9RM8



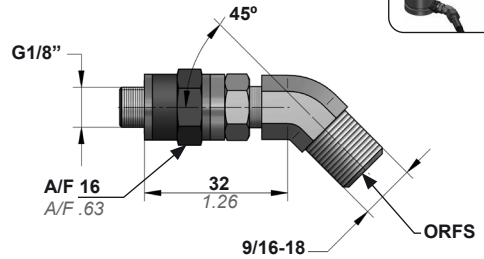
9CM8



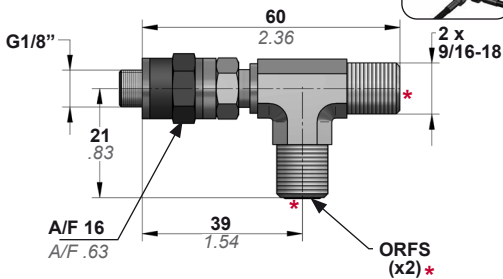
9EM8



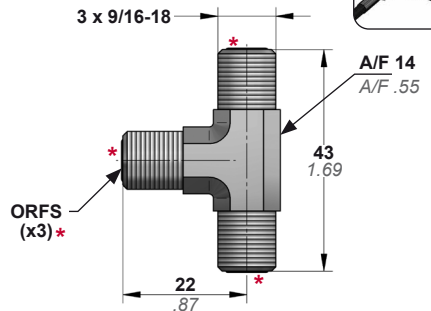
9LM8



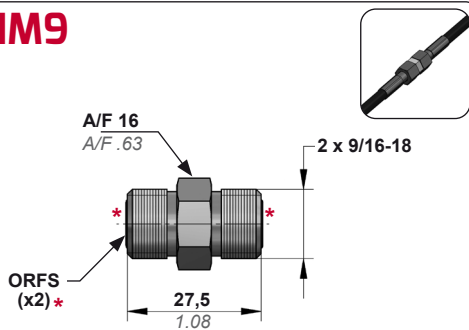
9TL8



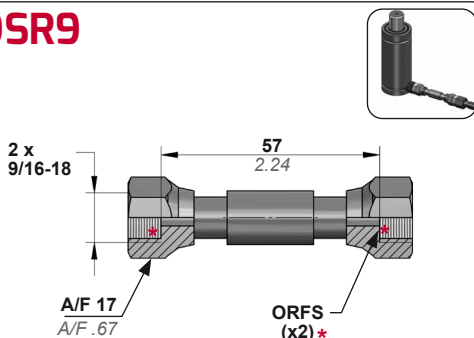
9TM9



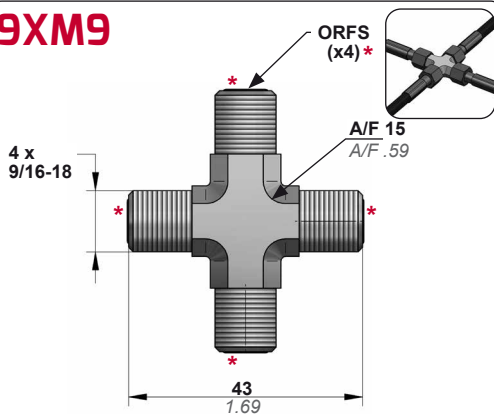
9IM9



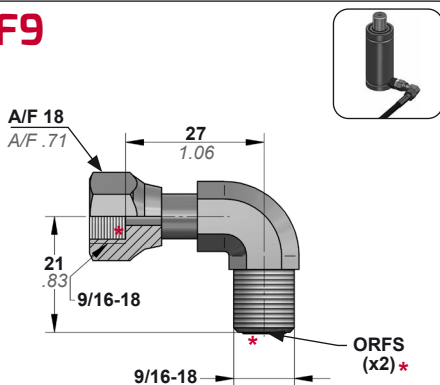
9SR9



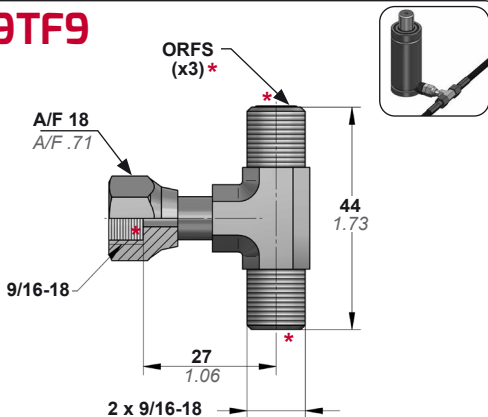
9XM9



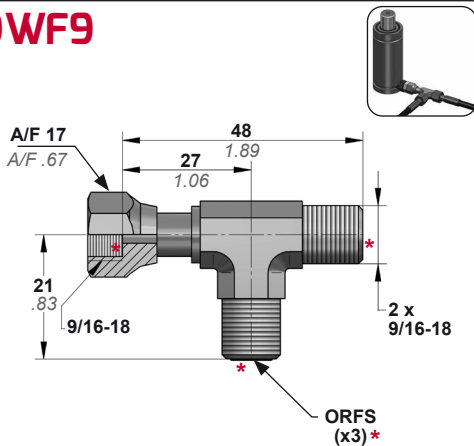
9CF9



9TF9

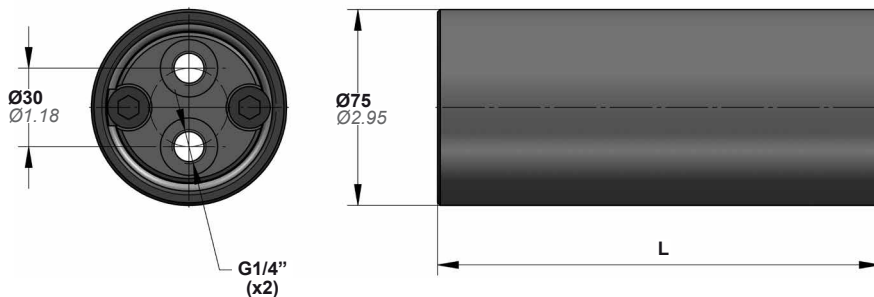



9WF9

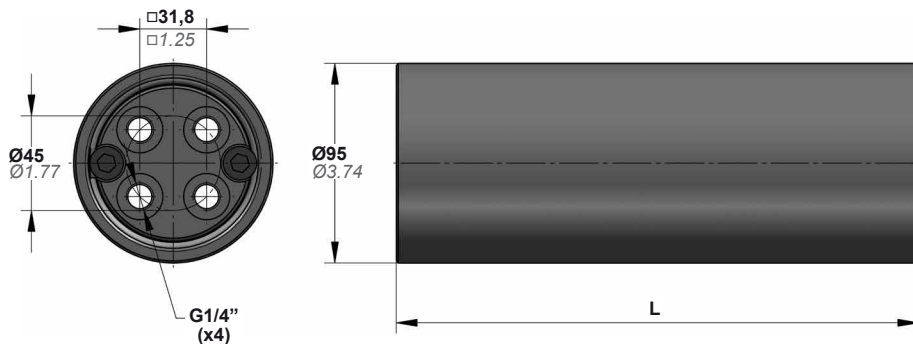



COMPENSATION TANKS

Hosed Systems

**AZOL
GAS** **DFC 75**

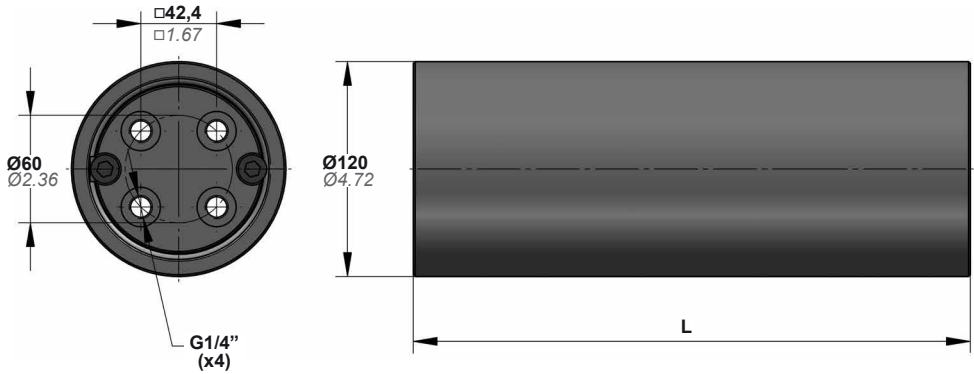
ORDER	Vol. l <i>in</i> ³	L mm <i>inch</i>	 Kg. <i>lb</i>
DFC 75 025	0.25 15.26	170 6.69	3.70 8.16
DFC 75 050	0.50 30.51	250 9.84	4.52 9.96
DFC 75 100	1.00 61.02	410 16.14	6.15 13.56

**DFC 95**

ORDER	Vol. l <i>in</i> ³	L mm <i>inch</i>	 Kg. <i>lb</i>
DFC 95 100	1.00 61.02	300 11.81	8.42 18.56
DFC 95 200	2.00 122.05	500 19.69	11.66 25.71
DFC 95 300	3.00 183.07	700 27.56	14.89 32.83
DFC 95 400	4.00 244.10	900 35.43	18.13 39.97



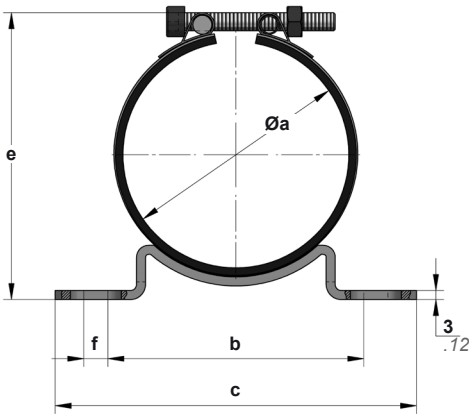
DFC 120



ORDER	Vol. l in ³	L mm inch	Kg. lb
DFC 120 200	2.00 122.05	360 14.17	15.78 34.79
DFC 120 400	4.00 244.10	615 24.21	22.70 50.04
DFC 120 800	8.00 488.19	1125 44.29	42.12 92.86

	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
POR PEDIDO		
DFC 120 200		

ADCB



ORDER	Øa mm inch	b mm inch	c mm inch	d mm inch	e mm inch	f mm inch
ADCB 75	75 2.95	85 3.35	120 4.72	40 1.57	96 3.78	8 0.31
ADCB 95	95 3.74	85 3.35	120 4.72	40 1.57	115 4.53	8 0.31
ADCB 120	120 4.72	100 3.94	156 6.14	50 1.97	154 6.06	18 0.71

	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
POR PEDIDO		
ADCB 75		

DIE INFORMATION TAGS



Hosed Systems

PI-01

127 / 5

ATTENTION

TOOL WITH **GAS** SPRINGS
 MAXIMUM CHARGING PRESSURE **150 bar**
 BEFORE HANDLING GAS SPRINGS MAKE SURE
 THEY ARE TOTALLY DISCHARGED.
 KEEP THEM AWAY FROM IMPACTS AND WELDING
 SCRAPS, ETC.

AZOL GAS Landalucía, 7 - Pl. Jundiz
 01015 Vitoria / Spain

70
2.76

PI-02

127 / 5

ATTENTION:

This tool is equipped with gas cylinder in:

Keep out from shocks, heat projections, etc.

MODEL _____
 QUANTITY _____
 USEFUL STROKE _____ THEORETIC STROKE _____

FORCE PER CYLINDER _____ daN.
 TOTAL WORKING FORCE _____ daN.

CHARGING PRESSURE _____ bar.

70
2.76

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

ATTENTION

TOOL WITH **GAS** SPRINGS
 MAXIMUM CHARGING PRESSURE **150 bar**
 BEFORE HANDLING GAS SPRINGS MAKE SURE
 THEY ARE TOTALLY DISCHARGED.
 KEEP THEM AWAY FROM IMPACTS AND WELDING
 SCRAPS, ETC.

AZOL GAS Landalucía, 7 - Pl. Jundiz
 01015 Vitoria / Spain

PI-01-ENG

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

ATTENTION:

This tool is equipped with gas cylinder in:

Keep out from shocks, heat projections, etc.

MODEL _____
 QUANTITY _____
 USEFUL STROKE _____ THEORETIC STROKE _____

FORCE PER CYLINDER _____ daN.
 TOTAL WORKING FORCE _____ daN.

CHARGING PRESSURE _____ bar.

PI-02-ENG

PI-01-ESP	SPANISH	PI-01-POL	POLISH
PI-01-ENG	ENGLISH	PI-01-TUR	TURKISH
PI-01-ITA	ITALIAN	PI-01-RUS	RUSSIAN
PI-01-FRE	FRENCH	PI-01-CHI	CHINESE
PI-01-GER	GERMAN	PI-01-JAP	JAPANESE
PI-01-POR	PORTUGUESE	PI-01-KOR	KOREAN

PI-02-ESP	SPANISH	PI-02-POL	POLISH
PI-02-ENG	ENGLISH	PI-02-TUR	TURKISH
PI-02-ITA	ITALIAN	PI-02-RUS	RUSSIAN
PI-02-FRE	FRENCH	PI-02-CHI	CHINESE
PI-02-GER	GERMAN	PI-02-JAP	JAPANESE
PI-02-POR	PORTUGUESE	PI-02-KOR	KOREAN

PI-11 GM 90.20.09

150 / 5.90

CAUTION

EXHAUST ALL PRESSURE AND COLLAPSE
 CYLINDERS BEFORE SERVICING SYSTEM.
 MAXIMUM CHARGING PRESSURE 103 BAR / 1500 PSI

DIE NO. _____
 CYLINDER _____ SEAL KIT _____
 OPERATING PRESSURE _____ BAR _____ PSI

75
2.95

PI-12 GM 90.20.08

150 / 5.90

CAUTION

EXHAUST ALL PRESSURE AND COLLAPSE
 CYLINDERS BEFORE SERVICING SYSTEM.
 MAXIMUM CHARGING PRESSURE 150 BAR / 2175 PSI

DIE NO. _____
 CYLINDER _____ SEAL KIT _____
 OPERATING PRESSURE _____ BAR _____ PSI

75
2.95

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

CAUTION

EXHAUST ALL PRESSURE AND COLLAPSE
 CYLINDERS BEFORE SERVICING SYSTEM.
 MAXIMUM CHARGING PRESSURE 103 BAR / 1500 PSI

DIE NO. _____ SEAL KIT _____
 CYLINDER _____ BAR _____ PSI

PI-11-ENG

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

CAUTION

EXHAUST ALL PRESSURE AND COLLAPSE
 CYLINDERS BEFORE SERVICING SYSTEM.
 MAXIMUM CHARGING PRESSURE 150 BAR / 2175 PSI

DIE NO. _____ SEAL KIT _____
 CYLINDER _____ BAR _____ PSI

PI-12-ENG

PI-11-ESP	SPANISH	PI-11-TUR	TURKISH
PI-11-ENG	ENGLISH	PI-11-RUS	RUSSIAN
PI-11-GER	GERMAN	PI-11-THA	THAI
PI-11-FRE	FRENCH	PI-11-CHI	CHINESE
PI-11-POR	PORTUGUESE	PI-11-JAP	JAPANESE
PI-11-POL	POLISH	PI-11-KOR	KOREAN

PI-12-ESP	SPANISH	PI-12-TUR	TURKISH
PI-12-ENG	ENGLISH	PI-12-RUS	RUSSIAN
PI-12-GER	GERMAN	PI-12-THA	THAI
PI-12-FRE	FRENCH	PI-12-CHI	CHINESE
PI-12-POR	PORTUGUESE	PI-12-JAP	JAPANESE
PI-12-POL	POLISH	PI-12-KOR	KOREAN



DIE INFORMATION TAGS

Hosed Systems

PI-21

GM 90.20.07

150 / 5.90

75
2.95

○ PART No. _____ WT UPPER DIE ASSY _____
 ○ STYLE No. _____ WT LOWER DIE ASSY _____
 TYPE DIE _____ WT DRAW PUNCH ASSY _____
 PRESS STROKE REQ'D _____ WT TOTAL DIE ASSY _____
 CALCULATED TONNAGE _____ BINDER _____ PUNCH _____

THIS DIE ALSO MAKES
 PART No. _____ STYLE _____ DIE CHG REQUIRED _____

○ G.M.C. _____ TOOL NO. _____

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

PI-21-ENG

PI-21-ESP	SPANISH
PI-21-ENG	ENGLISH
PI-21-GER	GERMAN
PI-21-FRE	FRENCH
PI-21-POR	PORTUGUESE
PI-21-POL	POLISH

PI-21-TUR	TURKISH
PI-21-RUS	RUSSIAN
PI-21-THA	THAI
PI-21-CHI	CHINESE
PI-21-JAP	JAPANESE
PI-21-KOR	KOREAN

PI-22

FIAT A0.15.01

80 / 3.15

70
2.76

IMPIANTO CON AZOTO
 PRESSIONE (MAX DI CARICA: DI LAVORO:

ATTENZIONE

PRIMA DI ESEGUIRE INTERVENTI MANUTENTIVI SULLO STAMPO O SULL'IMPIANTO SCARICARE L'AZOTO VERIFICANDO L'AVVENUTO AZZERAMENTO DEL MANOMETRO

COLORE COLOUR	Pmax. (Mpa)	Pmax. (bar)
AZZURRO BLUE	3.75	37.5
VERDE GREEN	7.5	75
ROSSO RED	10.5	105
GIALLO YELLOW	15	150

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

PI-22-ITA GIALLO

PI-22-ESP	SPANISH
PI-22-ENG	ENGLISH
PI-22-ITA	ITALIAN
PI-22-FRE	FRENCH
PI-22-POR	PORTUGUESE

PI-22-POL	POLISH
PI-22-SER	SERBIAN
PI-22-TUR	TURKISH
PI-22-RUS	RUSSIAN
PI-22-CHI	CHINESE

PI-31

EM24.54.700

145 / 5.71

100
3.94

MATRICOLE OUTIL PARTIE SUP INF

CEST OUTILAGE EST EQUIPE DE RESSORTS A GAZ GONFLES A 15 MPa MAX. CES ELEMENTS DOIVENT ETRE PROTEGES DES CHOC, DE LA CHAULEUR ET DE TOUTES PROJECTIONS (SOUDURES, EMERI ...)

QUANTITE DE RESSORTS A GAZ, DE PORTER A CAME ET D'ARRACHEUR PAR TYPE ET PAR COURSE

RESSORTS A GAZ	10	16	25	50	80	100	125	150	180	200
750										
1500										
3000										
5000										
10000										
15000										
20000										
25000										
30000										
35000										
40000										
45000										
50000										
55000										
60000										
65000										
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150000										
155000										
160000										
165000										
170000										
175000										
180000										
185000										
190000										
195000										
200000										

PREVENTIF

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

PI-31-FRE

PI-31-ESP	SPANISH
PI-31-ENG	ENGLISH
PI-31-FRE	FRENCH
PI-31-POR	PORTUGUESE
PI-31-ROM	ROMANIAN

PI-31-TUR	TURKISH
PI-31-RUS	RUSSIAN
PI-31-CHI	CHINESE
PI-31-JAP	JAPANESE
PI-31-KOR	KOREAN

PI-32

EM24.54.700

125 / 4.92

71
2.80

PRESSION DE TRAVAIL
MPa

PRESSION D'ARRET
MPa

ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO

PI-32-FRE

PI-32-ESP	SPANISH
PI-32-ENG	ENGLISH
PI-32-FRE	FRENCH
PI-32-POR	PORTUGUESE
PI-32-ROM	ROMANIAN

PI-32-TUR	TURKISH
PI-32-RUS	RUSSIAN
PI-32-CHI	CHINESE
PI-32-JAP	JAPANESE
PI-32-KOR	KOREAN

DIE INFORMATION TAGS

Hosed Systems



PI-41

E24.54.815



ENG	ORDER
DEU	BESTELL
FRA	COMMANDE
ITA	ORDINE
ESP	PEDIDO
POR	PEDIDO



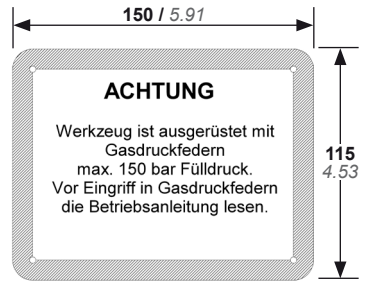
PI-41-FRE

PI-41-ESP	SPANISH
PI-41-ENG	ENGLISH
PI-41-FRE	FRENCH
PI-41-POR	PORTUGUESE
PI-41-SLK	SLOVAK

PI-41-TUR	TURKISH
PI-41-RUS	RUSSIAN
PI-41-CHI	CHINESE
PI-41-JAP	JAPANESE
PI-41-KOR	KOREAN

PI-42

VW 39D 578



ENG	ORDER
DEU	BESTELL
FRA	COMMANDE
ITA	ORDINE
ESP	PEDIDO
POR	PEDIDO



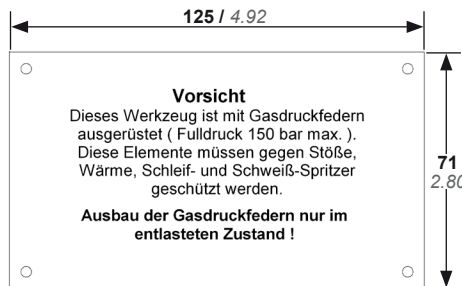
PI-42-GER

PI-42-ESP	SPANISH
PI-42-ENG	ENGLISH
PI-42-GER	GERMAN
PI-42-POR	PORTUGUESE
PI-42-CZE	CZECH
PI-42-POL	POLISH

PI-42-SLK	SLOVAK
PI-42-HUN	HUNGARIAN
PI-42-BOS	BOSNIAN
PI-42-RUS	RUSSIAN
PI-42-UKR	UKRANIAN
PI-42-CHI	CHINESE

PI-51

VDI 3003



ENG	ORDER
DEU	BESTELL
FRA	COMMANDE
ITA	ORDINE
ESP	PEDIDO
POR	PEDIDO



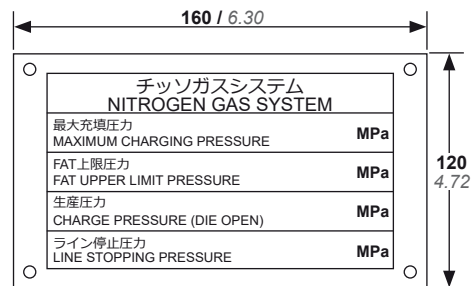
PI-51-GER

PI-51-ESP	SPANISH
PI-51-ENG	ENGLISH
PI-51-GER	GERMAN
PI-51-POR	PORTUGUESE
PI-51-ITA	ITALIAN
PI-51-CZE	CZECH

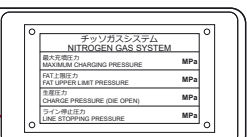
PI-51-POL	POLISH
PI-51-SLK	SLOVAK
PI-51-HUN	HUNGARIAN
PI-51-RUS	RUSSIAN
PI-51-CHI	CHINESE
PI-51-JAP	JAPANESE

PI-52

SMS DKH 321 1n



ENG	ORDER
DEU	BESTELL
FRA	COMMANDE
ITA	ORDINE
ESP	PEDIDO
POR	PEDIDO



PI-52-JAP

PI-52-ESP	SPANISH
PI-52-JAP	JAPANESE
PI-52-ENG	ENGLISH
PI-52-POR	PORTUGUESE
PI-52-FRE	FRENCH

PI-52-TUR	TURKISH
PI-52-RUS	RUSSIAN
PI-52-THA	THAI
PI-52-INS	INDONESIAN

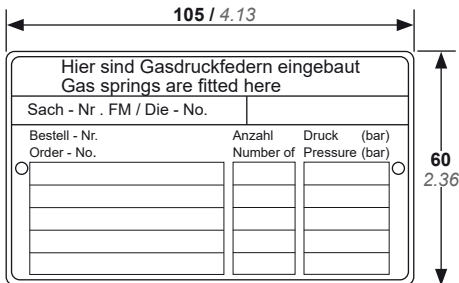


DIE INFORMATION TAGS

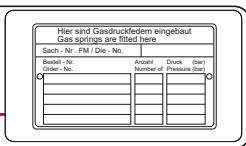
Hosed Systems

PI-53

B2 5707



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



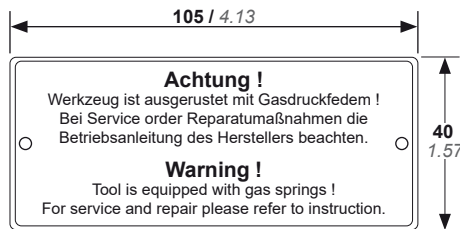
PI-53-GER

PI-53-ESP	SPANISH
PI-53-GER	GERMAN
PI-53-ENG	ENGLISH
PI-53-RUS	RUSSIAN

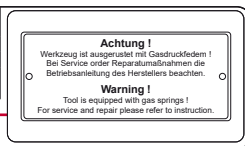
PI-53-CHI	CHINESE
PI-53-THA	THAI
PI-53-MAL	MALAYSIAN
PI-53-INS	INDONESIAN

PI-54

B2 5707



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



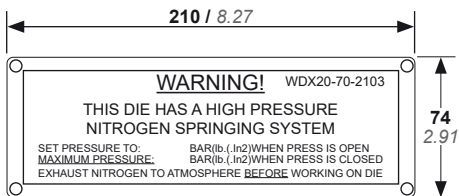
PI-54-GER

PI-54-ESP	SPANISH
PI-54-GER	GERMAN
PI-54-ENG	ENGLISH
PI-54-RUS	RUSSIAN

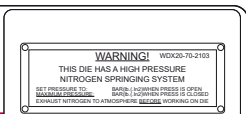
PI-54-CHI	CHINESE
PI-54-THA	THAI
PI-54-MAL	MALAYSIAN
PI-54-INS	INDONESIAN

PI-55

WDX20-70-2



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



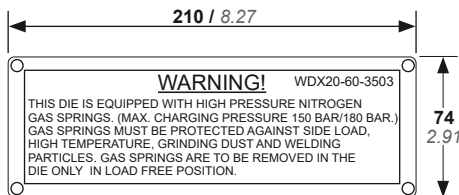
PI-55-ENG

PI-55-GER	GERMAN
PI-55-DUT	DUTCH
PI-55-ENG	ENGLISH
PI-55-ESP	SPANISH
PI-55-POR	PORTUGUESE
PI-55-ROM	ROMANIAN

PI-55-FRE	FRENCH
PI-55-TUR	TURKISH
PI-55-RUS	RUSSIAN
PI-55-CHI	CHINESE
PI-55-THA	THAI
PI-55-MAL	MALAYSIAN

PI-56

WDX20-70-35



ENG ORDER
DEU BESTELL
FRA COMMANDE
ITA ORDINE
ESP PEDIDO
POR PEDIDO



PI-56-ENG

PI-56-GER	GERMAN
PI-56-DUT	DUTCH
PI-56-ENG	ENGLISH
PI-56-ESP	SPANISH
PI-56-POR	PORTUGUESE
PI-56-ROM	ROMANIAN

PI-56-FRE	FRENCH
PI-56-TUR	TURKISH
PI-56-RUS	RUSSIAN
PI-56-CHI	CHINESE
PI-56-THA	THAI
PI-56-MAL	MALAYSIAN

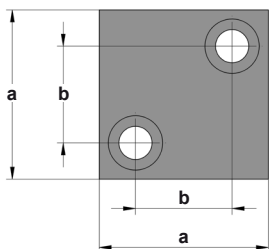
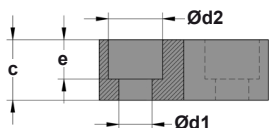
STRIKER PLATES

Hosed Systems

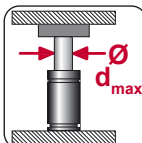


SPFI

STQ.70040



ORDER	\varnothing d_{max}	a mm inch	b mm inch	c mm inch	$\varnothing d1$ mm inch	$\varnothing d2$ mm inch	e mm inch
SPFI 001	15 0.59	40 1.57	21 0.83	15 0.59	9 0.35	15 0.59	10 0.39
SPFI 002	25 0.98	56 2.20	32 1.26	20 0.79	11 0.43	18 0.71	13 0.51
SPFI 003	50 1.97	71 2.80	48 1.89	20 0.79	11 0.43	18 0.71	13 0.51
SPFI 004	65 2.56	90 3.54	67 2.64	20 0.79	11 0.43	18 0.71	13 0.51
SPFI 005	95 3.74	140 5.51	110 4.33	20 0.79	11 0.43	18 0.71	13 0.51

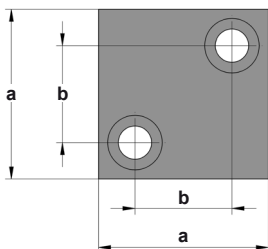
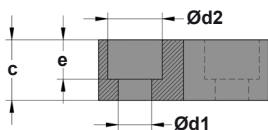


	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
	POR PEDIDO	

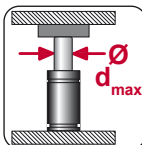
SPFI 001

SPVD

VDI 3003



ORDER	\varnothing d_{max}	a mm inch	b mm inch	c mm inch	$\varnothing d1$ mm inch	$\varnothing d2$ mm inch	e mm inch
SPVD 001	15 0.59	40 1.57	24 0.94	15 0.59	7 0.28	11 0.43	7 0.28
SPVD 002	50 1.97	70 2.76	50 1.97	15 0.59	9 0.35	15 0.59	9 0.35
SPVD 003	80 3.15	90 3.54	70 2.76	15 0.59	9 0.35	15 0.59	9 0.35

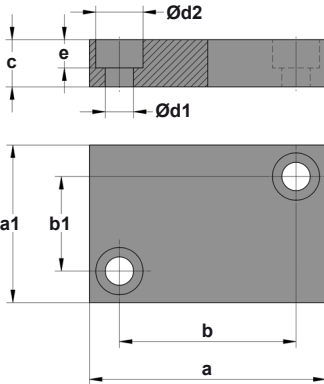


	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
	POR PEDIDO	

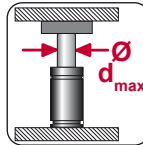
SPVD 001

SPFI

STQ.70040

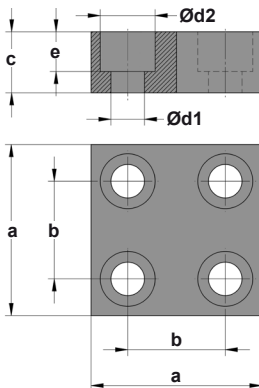


ORDER	Ø _{d_{max}}	a (mm)	a1 (mm)	b (mm)	b1 (mm)	c (mm)	Ød1 (mm)	Ød2 (mm)	e (mm)
SPFI 010	15 0.59	50 1.97	25 0.98	32 1.26	8 0.31	12 0.47	7 0.28	11 0.43	7 0.28
SPFI 011	20 0.79	55 2.17	30 1.18	40 1.57	14 0.55	12 0.47	7 0.28	11 0.43	7 0.28
SPFI 012	25 0.98	70 2.76	35 1.38	48 1.89	14 0.55	15 0.59	9 0.35	15 0.59	9 0.35
SPFI 013	36 1.42	75 2.95	50 1.97	56 2.20	30 1.18	15 0.59	9 0.35	15 0.59	9 0.35
SPFI 014	50 1.97	85 3.35	60 2.36	66 2.60	40 1.57	15 0.59	9 0.35	15 0.59	9 0.35
SPFI 015	65 2.56	100 3.94	80 3.15	72 2.83	56 2.20	20 0.79	11 0.43	18 0.71	11 0.43
SPFI 016	95 3.74	110 4.33	100 3.94	85 3.35	75 2.95	20 0.79	11 0.43	18 0.71	11 0.43
SPFI 017	95 3.74	130 5.12	110 4.33	100 3.94	80 3.15	20 0.79	11 0.43	18 0.71	11 0.43

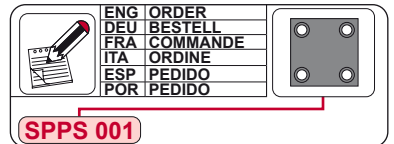
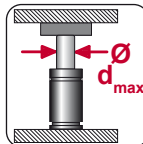


SPPS

E24.54.815



ORDER	Ø _{d_{max}}	a (mm)	b (mm)	c (mm)	Ød1 (mm)	Ød2 (mm)	e (mm)
SPPS 001	15 0.59	40 1.57	21 0.83	15 0.59	9 0.35	15 0.59	10 0.39
SPPS 002	25 0.98	56 2.20	32 1.26	20 0.79	11 0.43	18 0.71	13 0.51
SPPS 003	65 2.56	90 3.54	67 2.64	20 0.79	11 0.43	18 0.71	13 0.51
SPPS 004	95 3.74	140 5.51	110 4.33	20 0.79	11 0.43	18 0.71	13 0.51
SPPS 005	130 5.12	155 6.10	125 4.92	20 0.79	11 0.43	18 0.71	13 0.51



STRIKER PLATES

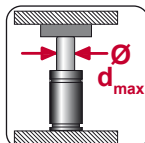
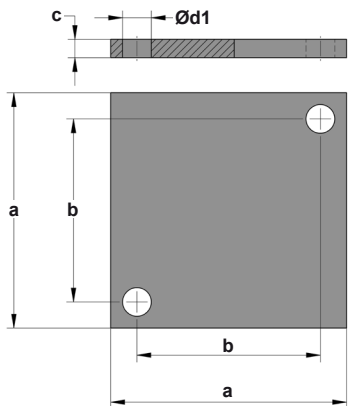
Hosed Systems



SPRE

EM24.54.700

ORDER	\varnothing d_{max}	a mm inch	b mm inch	c mm inch	$\varnothing d1$ mm inch
SPRE 010	45 1.77	70 2.76	50 1.97	3 0.12	11 0.43
SPRE 011	60 2.36	90 3.54	70 2.76	3 0.12	11 0.43



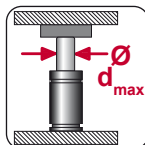
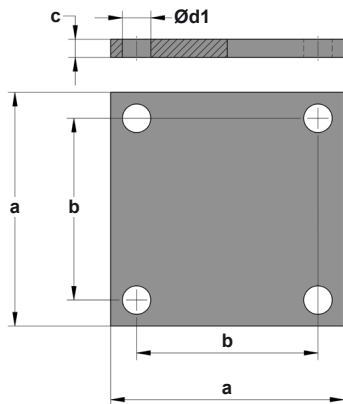
	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
POR PEDIDO		

SPRE 010

SPRE

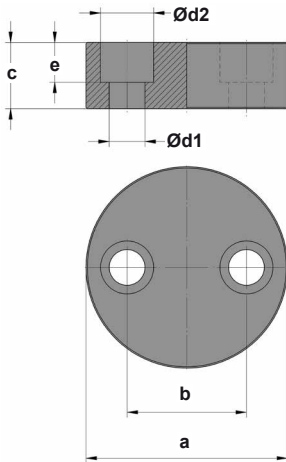
EM24.54.700

ORDER	\varnothing d_{max}	a mm inch	b mm inch	c mm inch	$\varnothing d1$ mm inch
SPRE 001	80 3.15	105 4.13	85 3.35	3 0.12	11 0.43
SPRE 002	95 3.74	125 4.92	105 4.13	3 0.12	11 0.43
SPRE 003	100 3.94	150 5.91	125 4.92	3 0.12	13 0.51
SPRE 004	130 5.12	190 7.48	165 6.50	3 0.12	13 0.51

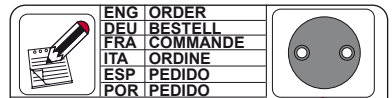
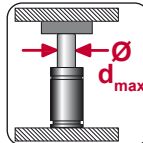
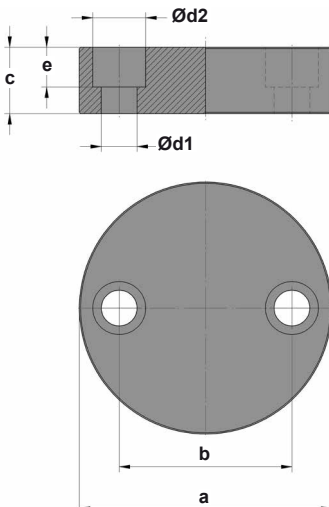


	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
POR PEDIDO		

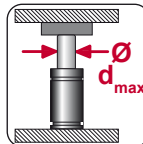
SPRE 001

SPFO
WDX35-80-3576


ORDER	Ø d _{max}	a mm inch	b mm inch	c mm inch	Ød1 mm inch	Ød2 mm inch	e mm inch
SPFO 001	25 0.98	76 2.99	45 1.77	25 0.98	13.5 0.53	20 0.79	15 0.59
SPFO 002	25 0.98	76 2.99	45 1.77	28 1.10	13.5 0.53	20 0.79	18 0.71
SPFO 003	25 0.98	76 2.99	45 1.77	31 1.22	13.5 0.53	20 0.79	21 0.83
SPFO 004	25 0.98	76 2.99	45 1.77	34 1.34	13.5 0.53	20 0.79	24 0.94
SPFO 005	25 0.98	76 2.99	45 1.77	37 1.46	13.5 0.53	20 0.79	27 1.06
SPFO 006	25 0.98	76 2.99	45 1.77	40 1.57	13.5 0.53	20 0.79	30 1.18


SPFO 001
SPFO
WDX35-80-3595


ORDER	Ø d _{max}	a mm inch	b mm inch	c mm inch	Ød1 mm inch	Ød2 mm inch	e mm inch
SPFO 010	45 1.77	95 3.74	65 2.56	25 0.98	13.5 0.53	20 0.79	15 0.59
SPFO 011	45 1.77	95 3.74	65 2.56	28 1.10	13.5 0.53	20 0.79	18 0.71
SPFO 012	45 1.77	95 3.74	65 2.56	31 1.22	13.5 0.53	20 0.79	21 0.83
SPFO 013	45 1.77	95 3.74	65 2.56	34 1.34	13.5 0.53	20 0.79	24 0.94
SPFO 014	45 1.77	95 3.74	65 2.56	37 1.46	13.5 0.53	20 0.79	27 1.06
SPFO 015	45 1.77	95 3.74	65 2.56	40 1.57	13.5 0.53	20 0.79	30 1.18


SPFO 010

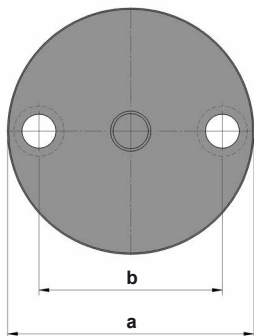
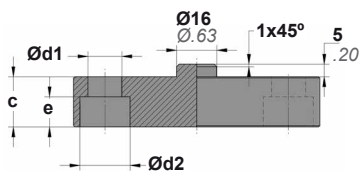
STRIKER PLATES

Hosed Systems

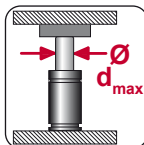


SPVW

39D 847



ORDER	Ø d _{max}	a mm inch	b mm inch	c mm inch	Ød1 mm inch	Ød2 mm inch	e mm inch
SPVW 001	50 1.97	98 3.86	73 2.87	20 0.79	13.5 0.53	20 0.79	12 0.47
SPVW 002	65 2.56	113 4.45	88 3.46	20 0.79	13.5 0.53	20 0.79	12 0.47
SPVW 003	80 3.15	128 5.04	103 4.06	20 0.79	13.5 0.53	20 0.79	12 0.47
SPVW 004	95 3.74	143 5.63	118 4.65	20 0.79	13.5 0.53	20 0.79	12 0.47

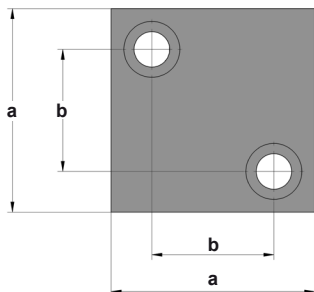
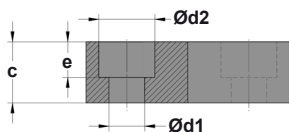


	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
	POR PEDIDO	

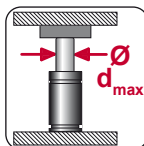
SPVW 001

SPVW

39D 847



ORDER	Ø d _{max}	a mm inch	b mm inch	c mm inch	Ød1 mm inch	Ød2 mm inch	e mm inch
SPVW 010	20 0.79	40 1.57	24 0.94	12 0.47	7 0.28	11 0.43	7 0.28
SPVW 011	36 1.42	60 2.36	40 1.57	15 0.59	9 0.35	15 0.59	9 0.35
SPVW 013	80 3.15	100 3.94	74 2.91	20 0.79	11 0.43	18 0.71	11 0.43



	ENG ORDER	
	DEU BESTELL	
	FRA COMMANDE	
	ITA ORDINE	
	ESP PEDIDO	
	POR PEDIDO	

SPVW 010

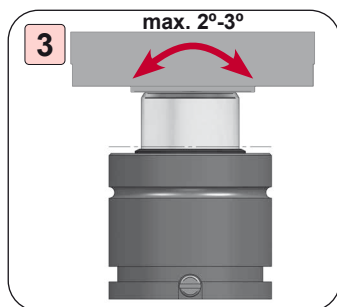
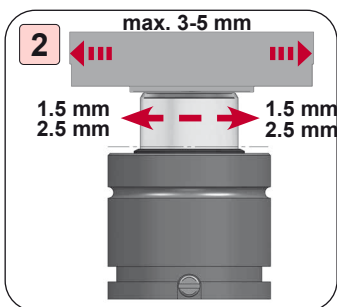
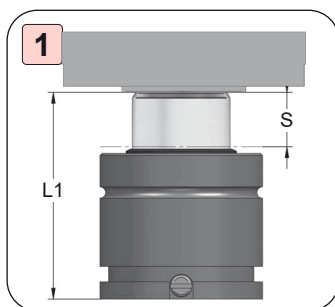


FP (FLEX PLATE)

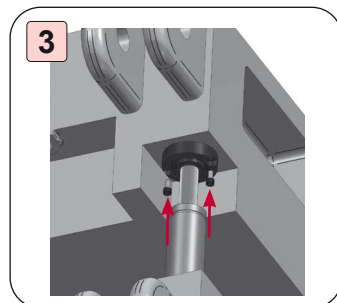
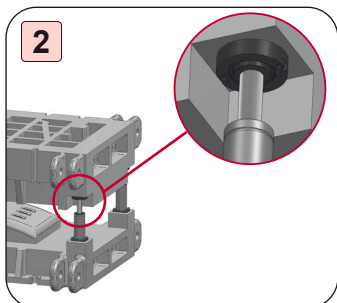
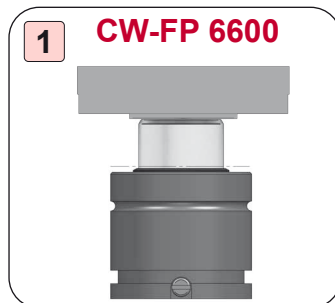
Hosed Systems

**AZOL
GAS** **TECHNICAL DATA**

- Range forces 1500 - 20000 daN.
- Fix with screws.
- Compact plate.
- Flexible support.

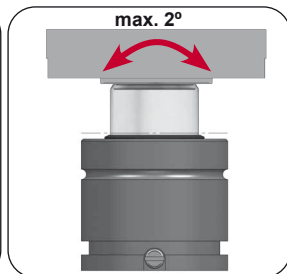
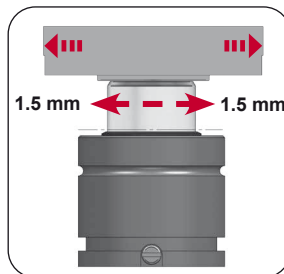
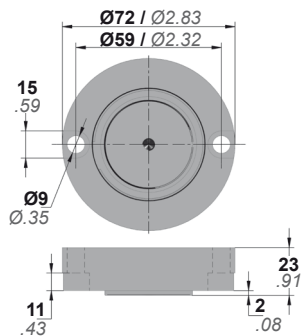
FLEX PLATE (SLIDING & SWINGING)

1. The use of FP system does not involve a variation of the dimensions of the gas spring, the location of the plate is inserted in the die itself.
2. Allows sideloads up to 3-5 mm.
3. Allows deviations from perpendicularity up to 2°-3°.

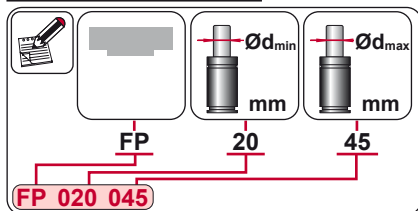
HOW TO ASSEMBLE

1. Check the gas spring model is suitable for use with the FP plate.
2. Verify that there is space enough to fit the FP plate into the tool.
3. Fix the FP plate to the die with screws.

FP 020 045



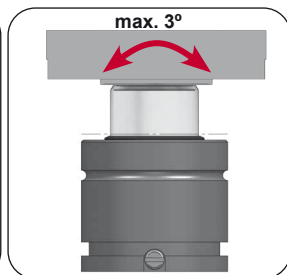
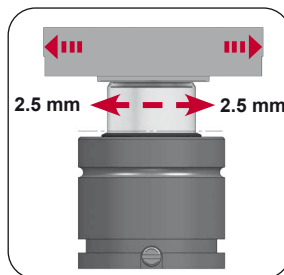
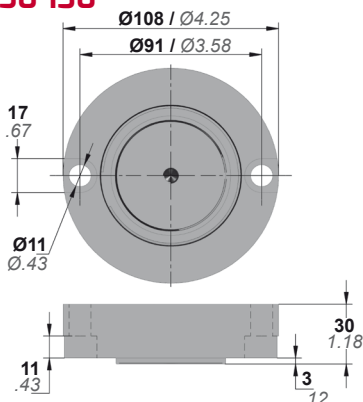
HOW TO ORDER



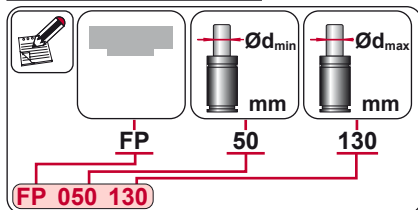
MODELS

MODEL	MODEL	MODEL	MODEL
AG 500	AG 750	KZ 1000 V1	KZ 1500 V1
CD 500 V1	GN 750	CW 1000 V2	CW 1500 V1
FD 500	FD 750 V1	CK 1000 V3	CD 2400
KZ 500	CK 750 V2	AG 1500	KT 2400
CM 500 V1	KZ 750 V1	CD 1500 V2	KZ 2400
CM 500 V2	CW 750 V1	CM 1500 V2	CW 2400 V1
CT 500	CT 750	GN 1500	CM 2500 V1
CK 500	CD 1000 V1	FD 1500 V2	CK 2500 V1
CM 600 V1	CM 1000 V1	CK 1500 V2	
CD 700	CT 1000 V1	CT 1500 V1	
CT 700	KT 1000	KT 1500	

FP 050 130



HOW TO ORDER

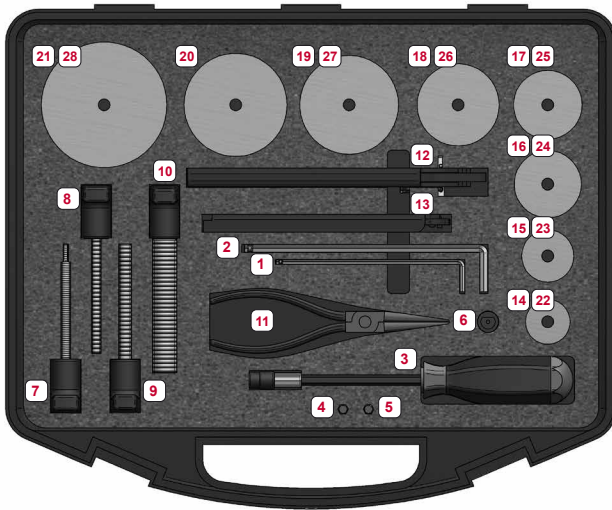


MODELS

MODEL	MODEL	MODEL
CT 2500	CW 4200 V1	AG 7500
AG 3000	AG 5000	GN 7500
GN 3000	GN 5000	CD 9600
FD 3000	FD 5000 V1	KT 9500
CT 3000	CT 5000	CW 9500
CM 4000 V1	CM 6500 V1	CM 10000
CK 4000 V1	CD 6600	AG 10000
CD 4200	KZ 6600	CW 11800
KT 4200	KT 6600	CD 18500
KZ 4200	CW 6600	CW 20000

SERVICE EQUIPMENT

Hosed Systems

**AZOL
GAS****MR**

- | | | | |
|-----------|-------------------------------------|-----------|---------------------------|
| 1 | DALL 3 (Tool Allen 3) | 16 | PU 25 (Tool Ø 25) |
| 2 | DALL 5 (Tool Allen 5) | 17 | PU 28 (Tool Ø 28) |
| 3 | DMNL (Tool) | 18 | PU 36 (Tool Ø 36) |
| 4 | ABXP (Adapter DIN 7757) | 19 | PU 45 (Tool Ø 45) |
| 5 | XTCP (Adapter XTC M6) | 20 | PU 50 (Tool Ø 50) |
| 6 | A 550 1/8-M6 (Draining Tool) | 21 | PU 60 (Tool Ø 60) |
| 7 | LM 3 (Tool M3) | 22 | VTL 16 (Tool Ø 16) |
| 8 | LM 6 (Tool M6) | 23 | VTL 20 (Tool Ø 20) |
| 9 | LM 8 (Tool M8) | 24 | VTL 25 (Tool Ø 25) |
| 10 | LM 16 (Tool M16) | 25 | VTL 28 (Tool Ø 28) |
| 11 | A 800 (Tool) | 26 | VTL 36 (Tool Ø 36) |
| 12 | LRP 1 (Tool) | 27 | VTL 45 (Tool Ø 45) |
| 13 | LRP 2 (Tool) | 28 | VTL 60 (Tool Ø 60) |
| 14 | PU 16 (Tool Ø 12-16) | | |
| 15 | PU 22 (Tool Ø 20-22) | | |

<p>1</p>	<p>2</p>	<p>3</p>	<p>4</p>	<p>5</p>
<p>6</p>	<p>7</p>	<p>8</p>	<p>9</p>	<p>10</p>
<p>11</p>	<p>12</p>	<p>13</p>	<p>14</p>	<p>15</p>
<p>16</p>	<p>17</p>	<p>18</p>	<p>19</p>	<p>20</p>
<p>21</p>	<p>22</p>	<p>23</p>	<p>24</p>	<p>25</p>
<p>26</p>	<p>27</p>	<p>28</p>		

SERVICE EQUIPMENT

Hosed Systems

**AZOL
GAS** **PU 16****Ø 12-16****GAS SPRING SERIES**

ASP 250	KZ 350
ASP 300	CW 350 V1
AG 150	
AG 250	
CD 300 V1	
CM 300	
CM 350 V1	
FD 300	

PU 22**Ø 20-22****GAS SPRING SERIES**

ASP 500 V1	KZ 500
AG 500	CW 500 V1
CD 500 V1	
CM 500 V2	
CM 600 V1	
FD 500	
CK 500	
CT 500	

PU 25**Ø 25****GAS SPRING SERIES**

CD 700	CWC 750 V2
AG 750	
CD 700	
GN 750	
FD 750 V1	
CK 750 V2	
KZ 750 V1	
CW 750 V1	

PU 28**Ø 28****GAS SPRING SERIES**

CD 1000 V1	
CM 1000 V1	
CK 1000 V3	
CT 1000 V1	
KT 1000	
KZ 1000 V1	
CW 1000 V2	
CWC 1000 V2	

PU 36**Ø 36****GAS SPRING SERIES**

AG 1500	KZ 1500 V1
CD 1500 V2	CW 1500 V1
CM 1500 V2	CWC 1500
GN 1500	
FD 1500 V2	
CK 1500 V2	
CT 1500 V1	
KT 1500	

PU 45**Ø 45****GAS SPRING SERIES**

CD 2400	
CM 2500 V1	
CK 2500 V1	
KT 2400	
KZ 2400	
CW 2400 V1	
CWC 2400 V2	

PU 50**Ø 50****GAS SPRING SERIES**

AG 3000	
GN 3000	
FD 3000	
CT 3000	
CTN 2500	
CTN 3000	

PU 60**Ø 60****GAS SPRING SERIES**

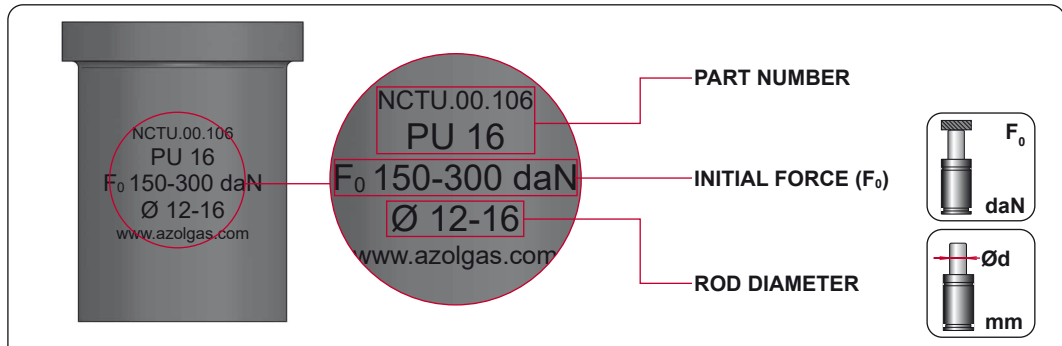
CD 4200	
CM 4000 V1	
CK 4000 V1	
KT 4200	
KZ 4200	
CW 4200 V1	

PU 75**Ø 65-75****GAS SPRING SERIES**

AG 5000	CW 6600
CD 6600	
CM 6500 V1	
GN 5000	
FD 5000 V1	
CT 5000	
KT 6600	
KZ 6600	

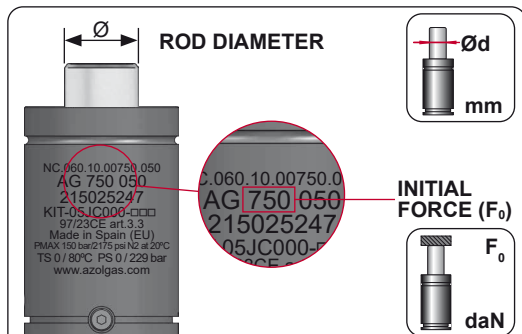
PU 95**Ø 80-95****GAS SPRING SERIES**

AG 7500	
AG 10000	
CD 9600	
CM 10000	
GN 7500	
CW 9500	
KT 9500	



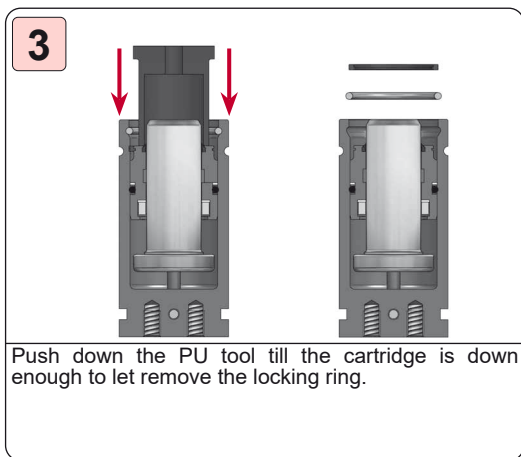
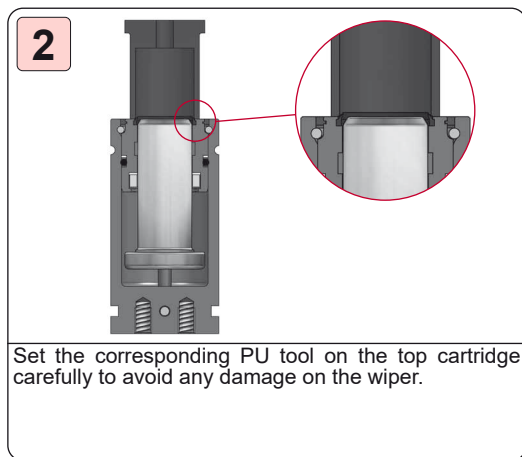
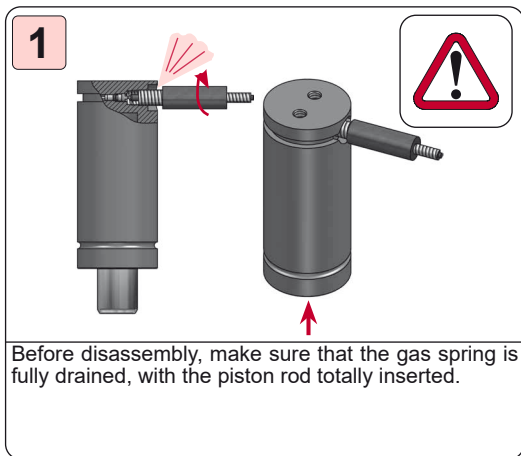
Example of how are marked the tools PU

- Part number
- Initial Force
- Piston rod diameter



Make the right choice of the PU tool for each gas spring series, according to:

- Piston rod diameter
- Initial Force

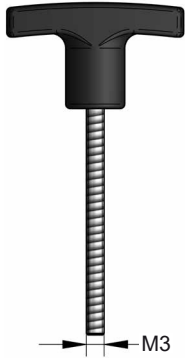


SERVICE EQUIPMENT

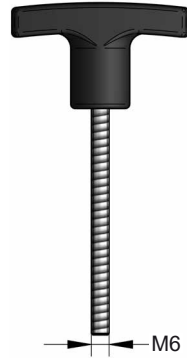
Hosed Systems



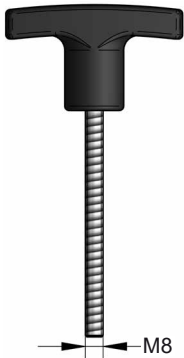
LM 3



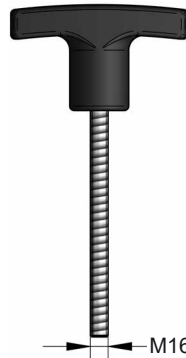
LM 6



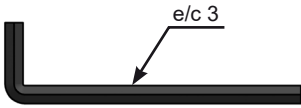
LM 8



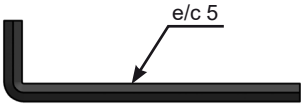
LM 16



DALL 3



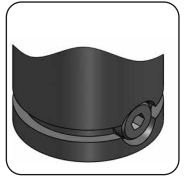
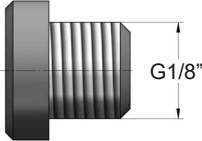
DALL 5



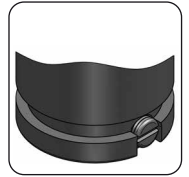
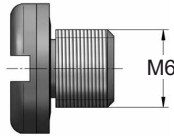
DPA 5



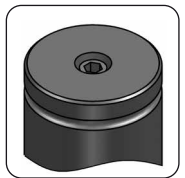
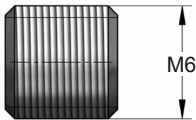
T 1/8



T M6



TR M6



A 550 1/8-M6



LRP 1



LRP 2

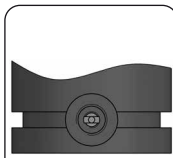
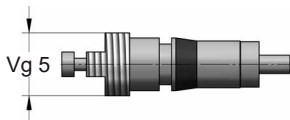


SERVICE EQUIPMENT

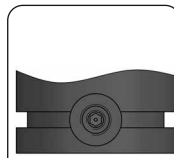
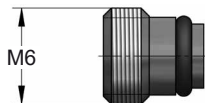
Hosed Systems



DIN 7757



XTC-M6



A 800



The tool A 800 is only intended to be used to remove the filling valve DIN 7757.

ALXTC



WARNING: ALXTC is only intended to be used to remove the valve XTC-M6 when it is damaged and it cannot be removed with the tool DMNL (XTCP).

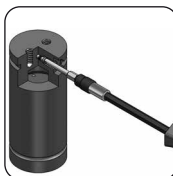
DMNL



ABXP



XTCP



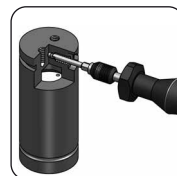
DDNM



ABXP



XTCP



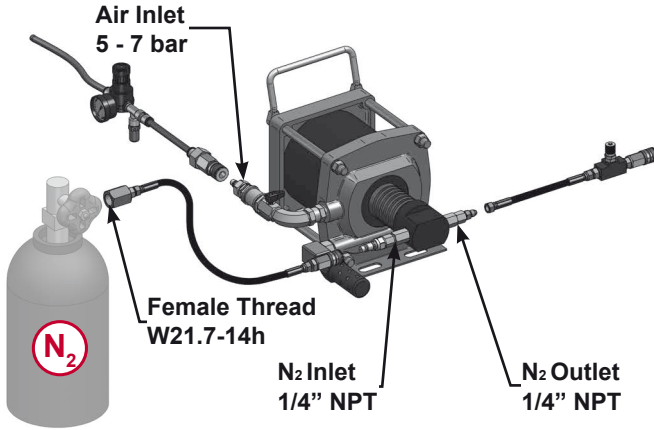


SERVICE EQUIPMENT

Hosed Systems

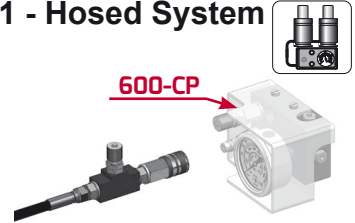


DBNA

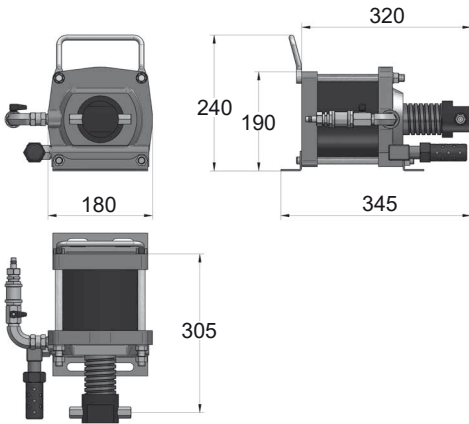
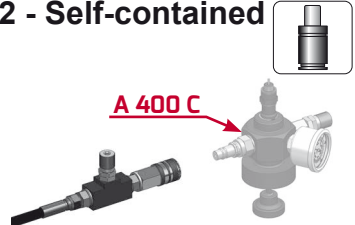


OPTIONS

1 - Hosed System



2 - Self-contained



ADVANTAGES



• Maximum safety.



• Easy boosting.



• Save costs.



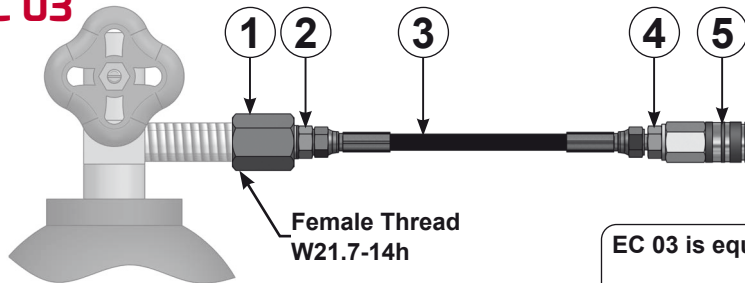
• Increases productivity.

BOOSTER UNIT

DBNA gas booster enables to charge gas springs and manifold systems from your supply tank. The booster is a solution to low pressure supply tank to a minimum of 20 bar (when the tank pressure is lower than the gas springs filling pressure).

TECHNICAL DATA

Max. Outlet Pressure (N ₂)	200 bar
Pneumatic pressure (Air)	5 - 7 bar
Pump ratio (N ₂ /Air)	30:1
Flow	2.8 l/min
Weight	12 Kg

EC 03

Female Thread
W21.7-14h

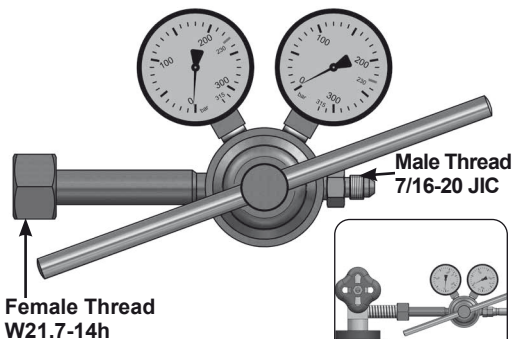


Only to be used
with a gauge



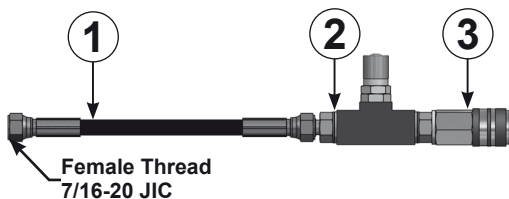
EC 03 is equipped with:

- 1-Adapter **AC 500**
- 2-Adapter **7RM2**
- 3-Hose **TFRR 3000**
- 4-Adapter **7RM4**
- 5-Female Quick Coupling **QCF 1/4**

LTH 600

Female Thread
W21.7-14h

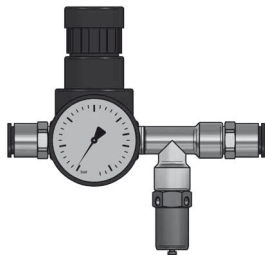
Male Thread
7/16-20 JIC

EC 38

Female Thread
7/16-20 JIC

EC 38 is equipped with:

- 1-Hose **TFRR 3000**
- 2-Shut off valve **EC VP**
- 3-Female Quick Coupling **QCF 1/4**

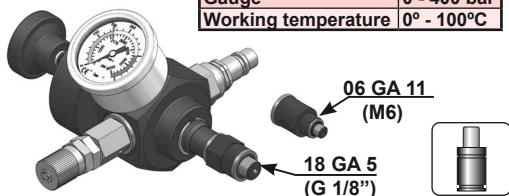
DBN-VS

Safety device to prevent over-pressure.

DBN VS limits Air Inlet flow at a maximum of 6 bar.

A 400 C

TECHNICAL DATA	
Fluid	N ₂
Max pressure	210 bar
Gauge	0 - 400 bar
Working temperature	0° - 100°C



A 400 C Filling & Control Unit is used to:

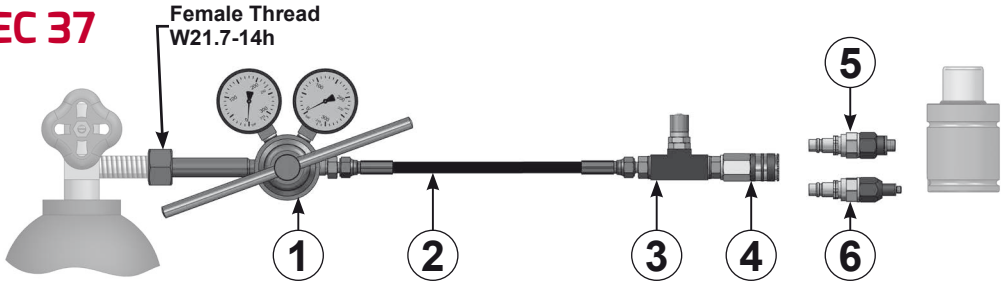
- Verify the pressure
 - Fill and drain the pressure
 - Vary (up / down) the pressure
- Self-contained gas springs

SERVICE EQUIPMENT

Hosed Systems



EC 37



CHARGING UNIT

The Charging Unit EC 37 let you:

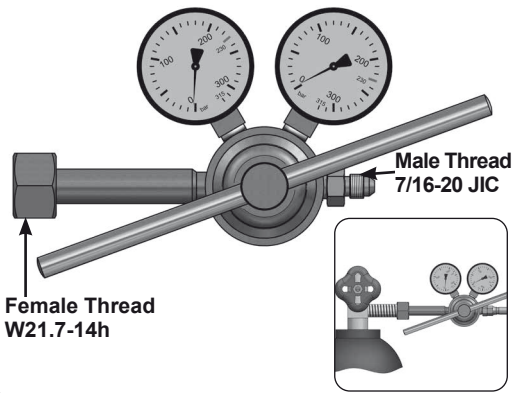
- Check the pressure from the nitrogen tank.
- Charging pressure to self-contained gas springs.
- Charging pressure to hoses systems.

EC 37 is equipped with:

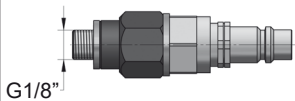
- 1-Pressure regulator **LTH 600**
- 2-Hose **TFRR 3000**
- 3-Shut off valve **EC VP**
- 4-Female Quick Coupling **QCF 1/4**
- 5-Charging adapter **18 CG 1-Q (G1/8")**
- 6-Charging adapter **06 CG 2-Q (M6)**

NITROGEN TANK		MALE THREAD		NITROGEN TANK		FEMALE THREAD	
THREAD		TANK ADAPTER		THREAD		TANK ADAPTER	
W24,32x1/14"	AC 210		W24,32x1/14" / W21,7x1/14"	W22x1/14"	AC 220		W22x1/14" / W21,7x1/14"
G3/4"	AC 340		G3/4" / W21,7x1/14"	W24,32x1/14"	AC 230		W24,32x1/14" / W21,7x1/14"
G5/8"	AC 585		G5/8" / W21,7x1/14"	W21,7x1/14"	AC 270		W21,7x1/14" / W21,7x1/14"
				G3/8"	AC 380		G3/8" / W21,7x1/14"
				G5/8"	AC 580		G5/8" / W21,7x1/14"

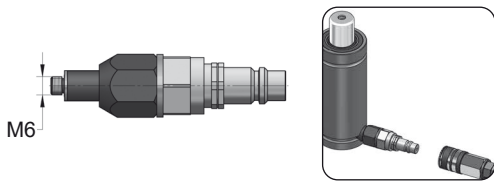
LTH 600



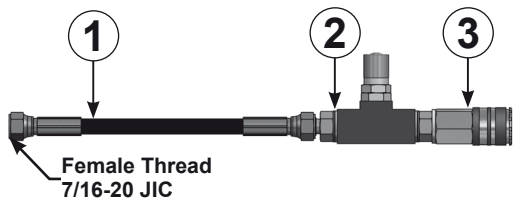
18 CG 1-Q



06 CG 2-Q



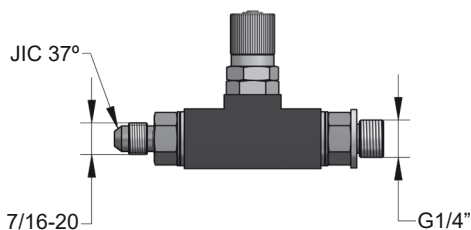
EC 38



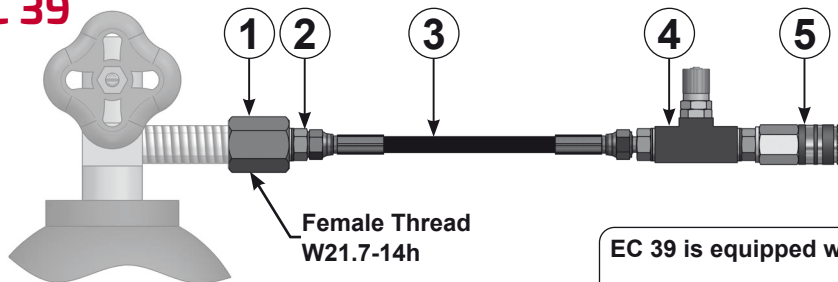
EC 38 is equipped with:

- 1-Hose **TFRR 3000**
- 2-Shut off valve **EC VP**
- 3-Female Quick Coupling **QCF 1/4**

EC VP



EC 39

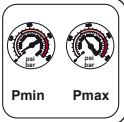


EC 39 is equipped with:

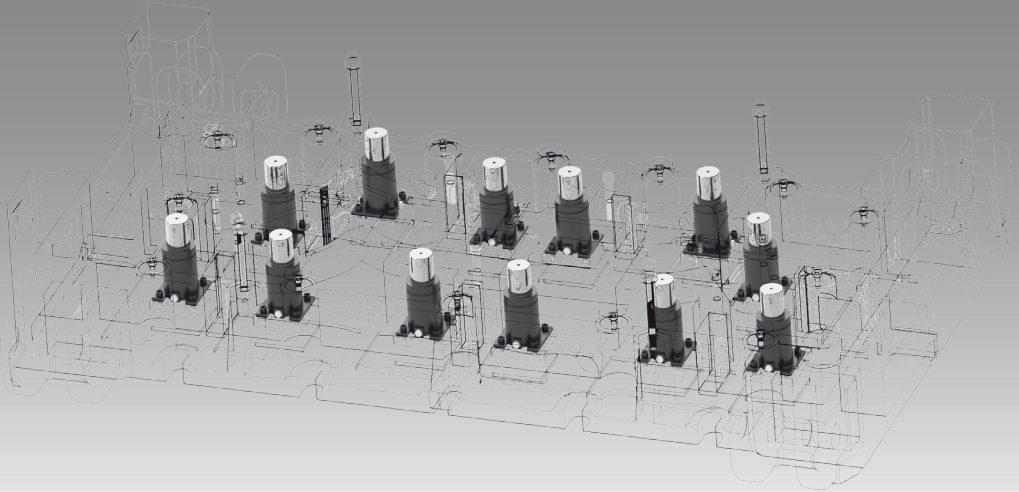
- 1-Adapter **AC 500**
- 2-Adapter **7RM2**
- 3-Hose **TFRR 3000**
- 4-Shut off valve **EC VP**
- 5-Female Quick Coupling **QCF 1/4**



Only to be used with a gauge



MOUNTS



- Use AZOLGAS mounts for gas springs safer and longer life performance
- Fasten the gas springs into the tool through the appropriate mount
- Follow the operating instructions about mount assembling and installation
- Ensure the correct mount installation by regular inspections during lifetime use
- Most of recommended AZOLGAS mounts meet automotive standards
- Special mounts are also manufactured by customer's request

ROUND GROOVE MOUNT

A



BASE PLATE MOUNT

B



SQUARE GROOVE MOUNT

C



SUPPORT MOUNT

D



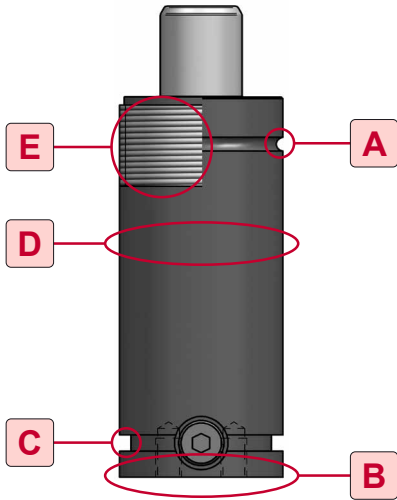
THREADED MOUNT

E



MOUNTING GUIDELINES

Flange Mounts



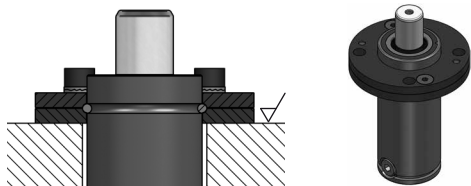
	ENG ORDER			
	DEU BESTELLUNG			
	FRA COMMANDE			
	ITA ORDINE			
	ESP PEDIDO			
	POR PEDIDO			

A TYPE **14** MODEL **50** Ø

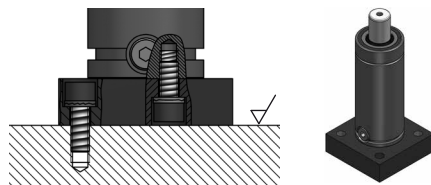
A 14 050

MOUNT SAFETY GUIDELINES

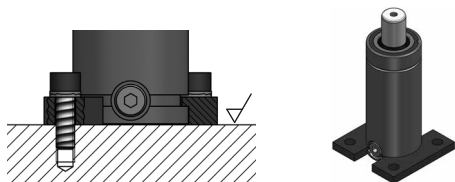
ENG	<ul style="list-style-type: none"> • Mount installation is critical to achieve safety working performance of gas springs. • Fix the gas spring into the tool through the appropriate mount. • Follow the operating instructions about mount assembling and mount installation. • Make sure the correct mount installation by regular inspections during the lifetime use.
DEU	<ul style="list-style-type: none"> • Einbausituation ist kritisch, um eine sichere Arbeitsweise der Gasdruckfeder zu gewährleisten. • Die Gasdruckfeder ist mit einem angemessenen Flansch am Werkzeug zu befestigen. • Den Betriebsanleitungen zum Zusammen- und Einbau der Flansche ist Folge zu leisten. • Die korrekte Flanschbefestigung ist während der Gdf-Lebensdauer durch regelmäßige Überprüfungen sicherzustellen.
FRA	<ul style="list-style-type: none"> • L'installation des brides est essentielle pour garantir la sécurité de fonctionnement des ressorts à gaz. • Fixez le ressort à gaz dans l'outil par la bride appropriée. • Suivez les instructions concernant le montage des brides et l'installation des brides. • Assurez-vous que l'installation des brides est correcte par des inspections régulières pendant la durée de vie.
ITA	<ul style="list-style-type: none"> • L'installazione di flange è fondamentale per ottenere prestazioni di lavoro di sicurezza di molle a gas. • Fissare i cilindri ad azoto solamente con gli specifici elementi di fissaggio. • Seguire le istruzioni per il fissaggio di flange e l'installazione di flange. • Assicurarsi che l'installazione di flange è corretta mediante ispezioni regolari durante l'uso.
ESP	<ul style="list-style-type: none"> • La instalación de las bridas es crítica para lograr un funcionamiento de trabajo seguro. • Fijar el cilindro de gas al útil mediante las bridas adecuadas. • Sigla las instrucciones de montaje de las bridas e instalación de las bridas. • Asegurarse de la correcta instalación de las bridas mediante inspecciones periódicas durante su uso.
POR	<ul style="list-style-type: none"> • A instalação das montagens é fundamental para garantir a segurança do funcionamento das molas a gás. • Fixe o cilindro na ferramenta com a flange adequada. • Sigla as instruções sobre montagem de flange e instalação de flange. • Certifique-se de que a instalação do flange esteja correta por meio de inspeções regulares durante o uso da vida útil.

**A**

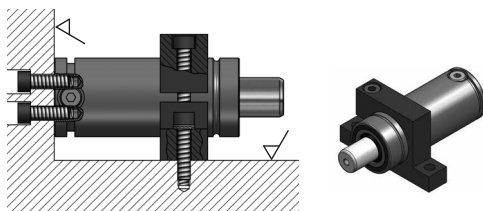
ENG	UPPER ROUND GROOVE FLANGE
DEU	BUNDFLANSCH
FRA	COLLERETTE POUR GORGE RONDE SUPÉRIEURE
ITA	FLANGIA PER SCANALATURA ROTONDA SUPERIORE
ESP	BRIDA PARA CAJERA SUPERIOR REDONDA
POR	FLANGE PARA O SULCO REDONDO SUPERIOR

B

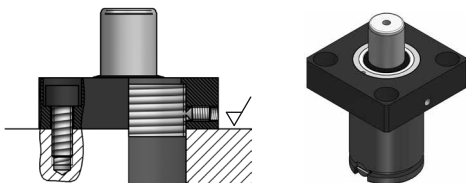
ENG	BOTTOM MOUNT PLATE
DEU	BODENBEFESTIGUNGSPLATTE
FRA	PLAQUE FIXATION INFÉRIEURE
ITA	BASE INFERIORE DI FISSAGGIO
ESP	BASE INFERIOR DE FIJACIÓN
POR	PLACA INFERIOR DA MONTAGEM

C

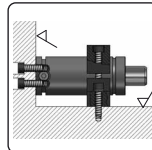
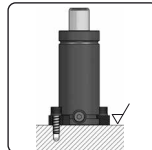
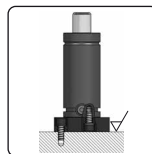
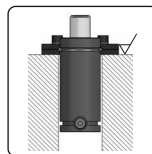
ENG	LOWER SQUARE GROOVE FLANGE
DEU	FUSSFLANSCH
FRA	FLASQUE-BRIDE POUR GORGE CARRÉE INFÉRIEURE
ITA	SEMI-FLANGIA PER SCANALATURA QUADRATA INFERIORE
ESP	BRIDA PARA CAJERA INFERIOR CUADRADA
POR	FLANGE PARA O SULCO QUADRADO INFERIOR

D

ENG	SUPPORT MOUNT
DEU	KLEMMFLANSCH
FRA	SUPPORT AVANT
ITA	SUPPORTI ANTERIORI
ESP	BRIDA DE APOYO
POR	FLANGE DE SUSTENTAÇÃO

E

ENG	THREADED BODY FLANGE
DEU	KÖRPERGEWINDEFLENSCH
FRA	BRIDE VISSÉE SUR LE CORPS FILETÉ
ITA	FLANGIA FILETTATA PER IL CORPO
ESP	BRIDA ROSCADA SOBRE EL CUERPO
POR	FLANGE ROSQUEADA DO CORPO



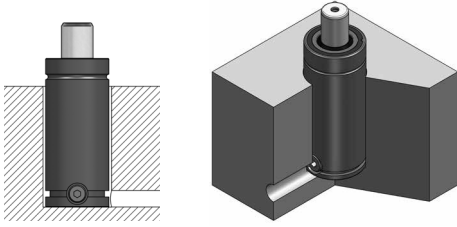
- Fix the gas spring through the appropriate mount.
- The bottom should be supported at all the times.
- A flat surface against the base is always required.

MOUNTING GUIDELINES



Flange Mounts

DROP-IN



ENG	DROP-IN MOUNTING
DEU	EINBAU IN KAVERNE
FRA	MONTAGE DANS POCHÉ
ITA	MONTAGGIO NELLA SEDE
ESP	MONTAJE EN CAJERA
POR	FIXAÇÃO NO ALOJAMENTO

Protect the gas springs from solid or liquid contaminants.

Provide adequate drainage in gas springs pockets.

$S < 25$

$S > 25$

When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1mm larger than the gas spring body diameter. And the bore pocket depth must be minimum 80% of L.

Screws on the base should be always used for strokes lengths > 25 mm.

The base should be supported at all the times. A flat surface against the base is always required. Do not mount a gas spring in a pocket upside down.

Inadequate pockets (with higher diameter or shorter length) could cause structural damages and reduce the life expectancy of the gas springs.



MOUNTING GUIDELINES

Flange Mounts

1

Groove

Gas springs must be firmly fastened at all the time, special attention is required when installed into a bored pocket (groove).

2 INCIDENT

If significant side-load push gas spring against one side of the groove, the gas springs are constantly moving inside the groove on every press cycle.

Marks of impacts are shown on gas springs bodies.

3

A flat surface supporting the whole gas spring base is required, but in the mentioned side-loads application the base is not fully supported all the time in the whole base surface.

4

Gas spring base is only supported on a partial surface in contact with the die.

Finally premature wearing or damages on gas spring reduce its life expectancy.

5 SOLUTION

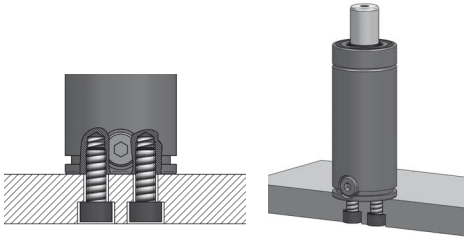
If detected gas spring is not firmly and properly fitted, a guide bushing should be used to prevent not desired movements of gas spring during press working operations.

MOUNTING GUIDELINES

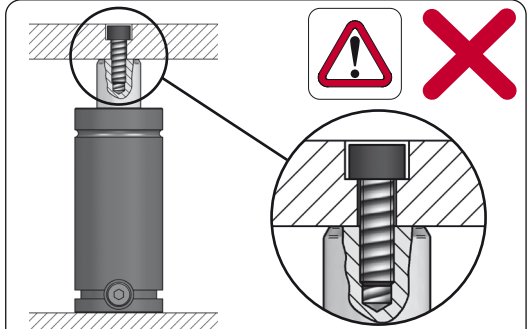


Flange Mounts

SCREWS



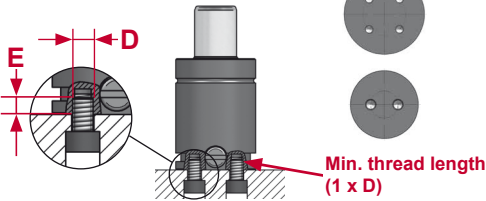
ENG	SCREWS MOUNTING
DEU	BEFESTIGUNG MIT SCHRAUBEN
FRA	MONTAGE AVEC VIS
ITA	MONTAGGIO CON VITI
ESP	MONTAJE CON TORNILLOS
POR	MONTAGEM COM PARAFUSOS



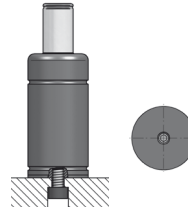
Do not use the piston rod threaded hole for fixing the gas spring into the tool.

This hole is only to be used for maintenance operations.

Multiple base thread



Single base thread



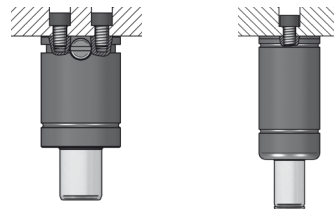
When mounting gas springs directly to the tool by screws it is important to follow the instructions about quality of screws, thread length, safety washers and torque. Use thread locking if the gas spring base threads length (E) are < thread diameter (D), for example CW series.

Gas springs with only a single base thread should not be mounted by screws.

Min. thread length (1 x D)



The rod threaded hole is only to be used for maintenance operations or transport. (Gas springs heavier than 15 kgs are marked according to VDI).

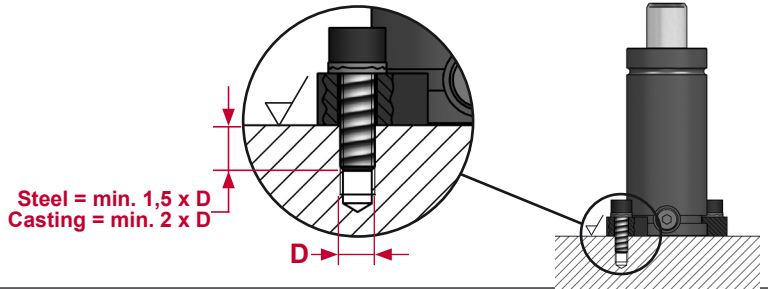


Mounting gas springs directly to the tool by screws it is not recommended when gas springs are upside down.

Special attention is required for gas springs whose base threads length (E) are < thread diameter (D).





THREAD LENGTH

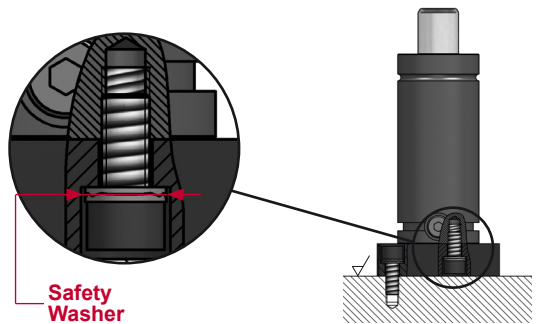


The screws must keep a thread length of:

- thread diameter x1,5 if fixed in steel
- thread diameter x2 if fixed in casting



WASHERS

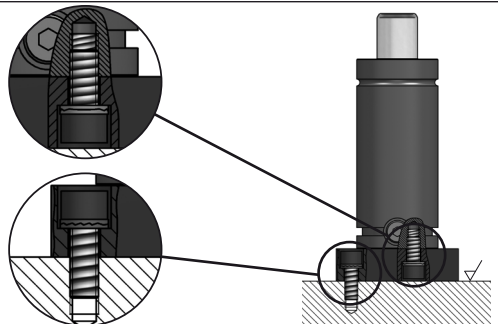
 DIN 912 - 12.9	 Safety Washer
Thread	Dimensions
M6	Ø10,8 x 1,8
M8	Ø13,5 x 2,5
M10	Ø16,6 x 2,5
M12	Ø19,5 x 2,5
M16	Ø25,4 x 3,4



We recommend using safety washers of the mentioned quality when fixing the fitting screws.
Screws DIN 912 - 12.9

SCREWS

 DIN 912 - 12.9	 Torque
Thread	Nm
M6	15
M8	38
M10	75
M12	128
M16	311



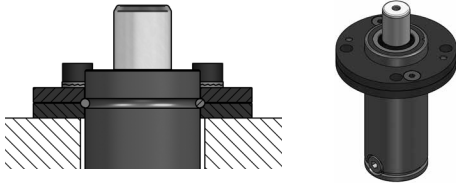
Use screws with the mentioned quality and respect the corresponding torque by using a dynamometric tool.

MOUNTING GUIDELINES



Flange Mounts

MOUNT TYPE A



ENG	UPPER ROUND GROOVE FLANGE
DEU	BUNDFLANSCH
FRA	COLLERETTE POUR GORGE RONDE SUPÉRIEURE
ITA	FLANGIA PER SCANALATURA ROTONDA SUPERIORE
ESP	BRIDA PARA CAJERA SUPERIOR REDONDA
POR	FLANGE PARA O SULCO REDONDO SUPERIOR

Do not use mounts type A when the mounting screws have to support the full compression force of the gas spring.

✓

When using mount type A into a bored pocket, the bored pocket diameter (B) should not exceed 1mm larger than the gas spring body diameter 32 mm and not exceed 2 mm larger than gas spring body diameter > 32 mm.

✓

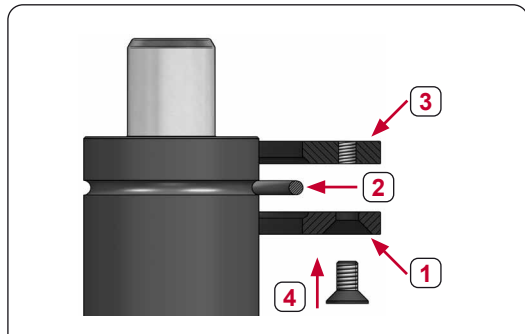
Following the mounting guidelines, mounts type A are intended to be used both vertically right and upside down.

When using CS gas springs series we recommend the base to be supported at all the times, a flat surface against the base is always required.

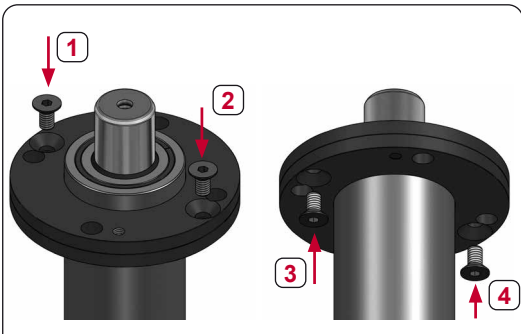


MOUNTING GUIDELINES

Flange Mounts



- Mount fitting sequence type A:
 -STEP 1: insert the inferior part
 -STEP 2: place the locking ring
 -STEP 3: set the superior part
 -STEP 4: fit both parts with screws



When threading the screws follow the steps as shown on the pictures, with a progressive torque on each screw.

MOUNT / MOUNT		MOUNT / TOOL	
DIN 7991	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M3	1	M6	15
M4	3	M8	38
M5	6	M10	75
M6	10	M12	128
---	---	M16	311

Use screws with the mentioned quality and respect the corresponding torque.

Ø BODY	Gap between parts (h)	
	Minimum	Maximum
≤ Ø45	0,10 mm	0,40 mm
Ø50	0,10 mm	0,55 mm
≥ Ø63	0,20 mm	0,75 mm

Both parts of the mount (superior and inferior) should never contact once assembled, keep always the minimum gap indicated.

MOUNTS "A" INFERIOR GROOVE (CS)
A19-038
A54-050
A54-075
A54-095
A19-120
A19-150

MOUNTS "A" INFERIOR GROOVE (MINI-CW)
A19-019
A19-025

- Fitting sequence for mounts type A on inferior groove:
 -STEP 1: place the locking ring
 -STEP 2: set the mount
 -STEP 3: fit both parts with screws

Only to be used for strokes 7-25 mm

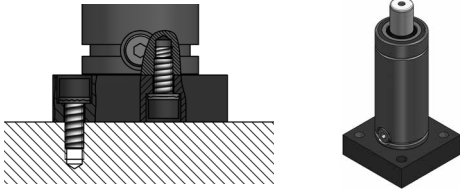


MOUNTING GUIDELINES



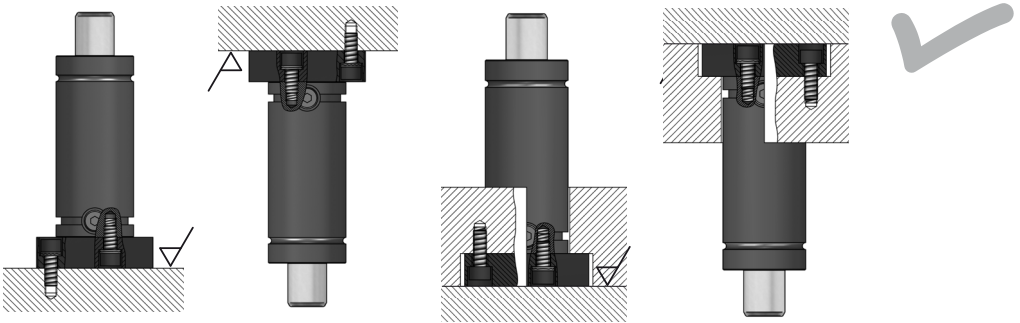
Flange Mounts

MOUNT TYPE B

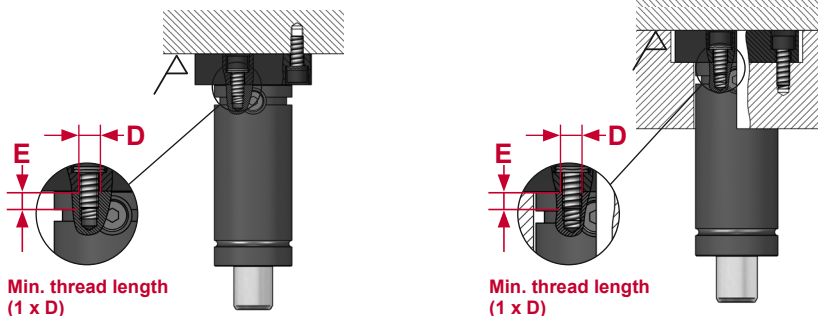


When using mounts type B the base must be supported at all the times to avoid full compression force of the gas spring being transferred through the mounting screws.

ENG	BOTTOM MOUNT PLATE
DEU	BODENBEFESTIGUNGSPLATTE
FRA	PLAQUE FIXATION INFÉRIEURE
ITA	BASE INFERIORE DI FISSAGGIO
ESP	BASE INFERIOR DE FIJACIÓN
POR	PLACA INFERIOR DA MONTAGEM



Following the mounting guidelines, mounts type B are intended to be used both vertically right and upside down.

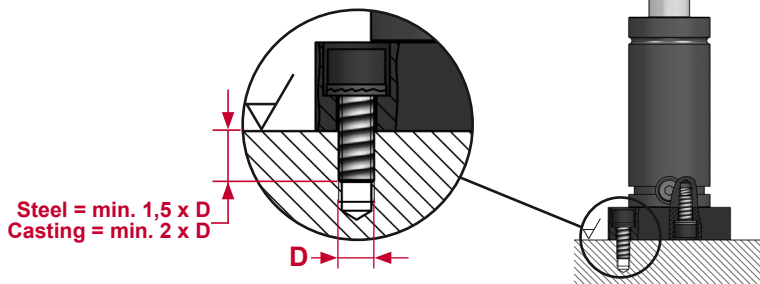


When mounting gas springs upside down by mounts B it is important to follow the instructions about quality of screws, thread length, safety washers and torque.

Use thread locking if the gas spring base threads length (E) are < thread diameter (D), for example CW series.





THREAD LENGTH

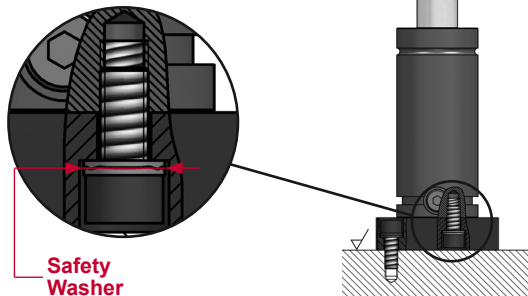


The screws must keep a thread length of:

- thread diameter x1,5 if fixed in steel
- thread diameter x2 if fixed in casting



WASHERS

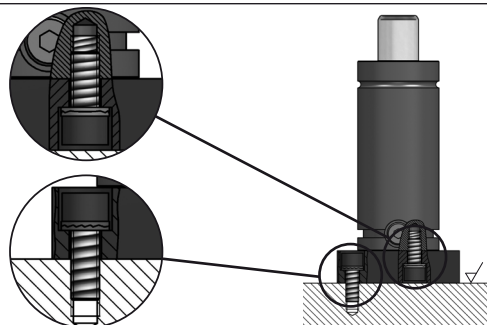
 DIN 912 - 12.9	 Safety Washer
Thread	Dimensions
M6	Ø10,8 x 1,8
M8	Ø13,5 x 2,5
M10	Ø16,6 x 2,5
M12	Ø19,5 x 2,5
M16	Ø25,4 x 3,4



We recommend using safety washers of the mentioned quality when fixing the fitting screws.
Screws DIN 912 - 12.9

SCREWS

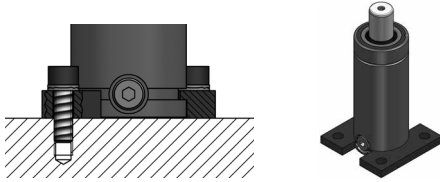
 DIN 912 - 12.9	 Torque
Thread	Nm
M6	15
M8	38
M10	75
M12	128
M16	311



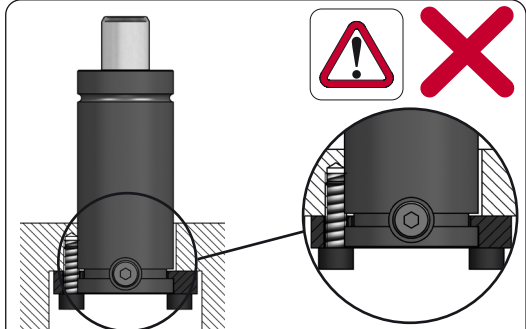
Use screws with the mentioned quality and respect the corresponding torque by using a dynamometric tool.

MOUNTING GUIDELINES**AZOL
GAS**

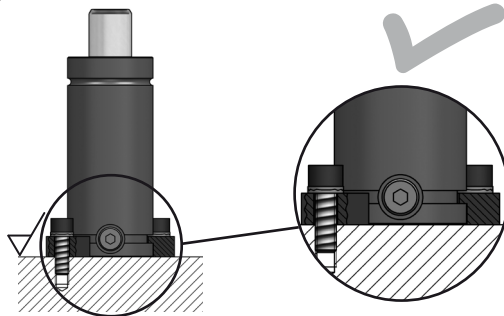
Flange Mounts

MOUNT TYPE C

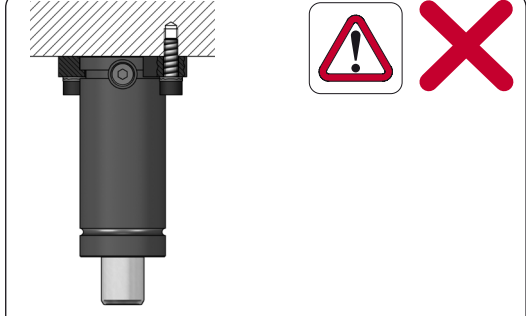
ENG	LOWER SQUARE GROOVE FLANGE
DEU	FUSSFLANSCH
FRA	FLASQUE-BRIDE POUR GORGE CARRÉE INFÉRIEURE
ITA	SEMI-FLANGIA PER SCANALATURA QUADRATA INFERIORE
ESP	BRIDA PARA CAJERA INFERIOR CUADRADA
POR	FLANGE PARA O SULCO QUADRADO INFERIOR



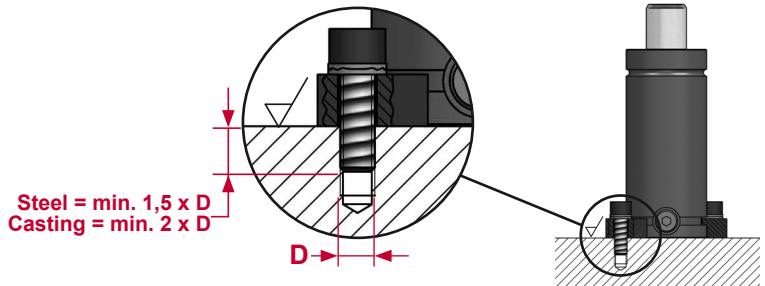
When using mounts type C the base must be supported at all the times to avoid full compression force of the gas spring being transferred through the mounting screws.



Following the mounting guidelines, mounts type C are intended to be used vertically right.



Mounting gas springs by using mount type C it is not recommended when gas springs are upside down.

THREAD LENGTH

The screws must keep a thread length of:

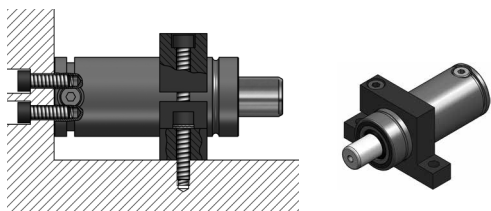
- thread diameter x1,5 if fixed in steel
- thread diameter x2 if fixed in casting



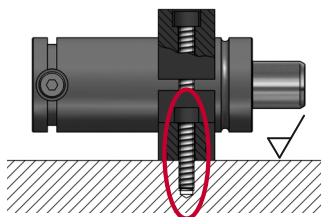
MOUNTING GUIDELINES

Flange Mounts

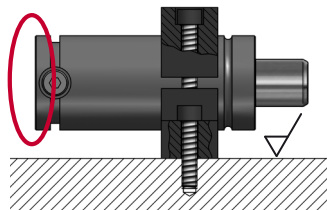
MOUNT TYPE D



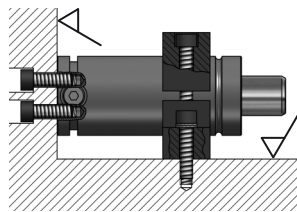
ENG	SUPPORT MOUNT
DEU	KLEMMFLANSCH
FRA	SUPPORT AVANT
ITA	SUPPORTI ANTERIORI
ESP	BRIDA DE APOYO
POR	FLANGE DE SUSTENTAÇÃO



Do not use mounts type D when the mounting screws have to support the full compression force of the gas spring.

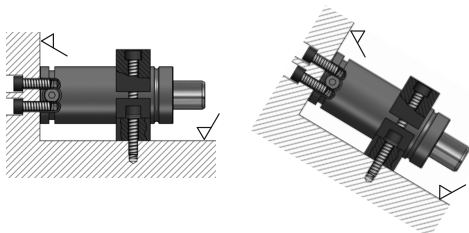


The base should be supported at all the times. A flat surface against the base is always required.

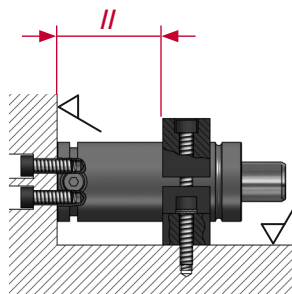


Example of correct mounting type D.

Use always screws on the base to fix the gas spring.



Following the mounting guidelines, mounts type D are intended to be used both vertically right and upside down.












Make sure the gas spring fits parallel to mounting surface to minimize the impact of side loads.

MOUNTING GUIDELINES










Flange Mounts

MOUNT TYPE A

	 MOUNT / MOUNT		 MOUNT / GAS SPRING		 MOUNT / TOOL	
MOUNT	 THREAD	 TORQUE(Nm)	 THREAD	 TORQUE(Nm)	 THREAD	 TORQUE(Nm)
A14-012	M5 (x2)	6	---	---	M6 (x2)	15
A59-012	M3 (x4)	1	---	---	M6 (x2)	15
A14-015	M4 (x2)	3	---	---	M6 (x2)	15
A49-015	M3 (x4)	1	---	---	M6 (x2)	15
A14-019	M5 (x2)	6	---	---	M6 (x2)	15
A19-019	---	---	---	---	M6 (x2)	15
A44-019	---	---	---	---	M6 (x4)	15
A59-019	M3 (x4)	1	---	---	M6 (x2)	15
A14-025	M5 (x2)	6	---	---	M6 (x4)	15
A19-025	---	---	---	---	M6 (x2)	15
A44-025	M5 (x2)	6	---	---	M6 (x4)	15
A49-025	M5 (x4)	6	---	---	M6 (x2)	15
A14-032	M5 (x4)	6	---	---	M6 (X4)	15
A34-032	M3 (x4)	1	---	---	M6 (x4)	15
A44-032	M5 (x2)	6	---	---	M6 (x4)	15
A14-038	M5 (x4)	6	---	---	M6 (x4)	15
A19-038	---	---	---	---	M6 (x4)	15
A34-038	M4 (x4)	3	---	---	M6 (x4)	15
A14-045	M6 (x4)	10	---	---	M8 (x4)	38
A34-045	M5 (x4)	6	---	---	M8 (x4)	38
A14-050	M6 (x4)	10	---	---	M8 (x4)	38
A34-050	M5 (x4)	6	---	---	M8 (x4)	38
A54-050	---	---	---	---	M8 (x4)	38
A59-050	M5 (x4)	6	---	---	M8 (x4)	38
AX9-050	---	---	---	---	M8 (x4)	38
AY4-050	M6 (x2)	10	---	---	M10 (x4)	75
A14-063	M6 (x4)	10	---	---	M10 (x4)	75
A39-063	M6 (x4)	10	---	---	M10 (x4)	75
A69-063	M5 (x4)	6	---	---	M10 (x4)	75
AY4-063	M6 (x2)	10	---	---	M10 (x4)	75
A14-075	M6 (x4)	10	---	---	M10 (x4)	75
A34-075	M6 (x4)	10	---	---	M10 (x4)	75
A54-075	---	---	---	---	M10 (x4)	75
A59-075	M6 (x4)	10	---	---	M10 (x4)	75
AX9-075	---	---	---	---	M10 (x4)	75
AY4-075	M6 (x2)	10	---	---	M12 (x4)	128
A14-095	M6 (x4)	10	---	---	M12 (x4)	128
A34-095	M6 (x4)	10	---	---	M12 (x4)	128
A54-095	---	---	---	---	M12 (x4)	128
A59-095	M6 (x4)	10	---	---	M12 (x4)	128
AX9-095	---	---	---	---	M12 (x4)	128
AY4-095	M6 (x2)	10	---	---	M12 (x4)	128
A14-105	M6 (x4)	10	---	---	M12 (x4)	128
A14-120	M6 (x4)	10	---	---	M12 (x4)	128
A19-120	---	---	---	---	M12 (x4)	128
A34-120	M6 (x4)	10	---	---	M12 (x4)	128
AY4-120	M6 (x2)	10	---	---	M12 (x4)	128
A14-150	M6 (x4)	10	---	---	M16 (x4)	311
A19-150	---	---	---	---	M16 (x4)	311
A34-150	M6 (x4)	10	---	---	M16 (x4)	311
AY4-150	M6 (x2)	10	---	---	M16 (x4)	311
A14-195	M6 (x4)	10	---	---	M16 (x4)	311
A34-195	M6 (x4)	10	---	---	M16 (x4)	311



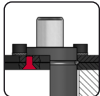
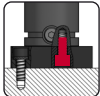
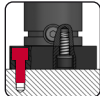






MOUNT TYPE B

	 MOUNT / MOUNT		 MOUNT / GAS SPRING		 MOUNT / TOOL	
	 THREAD	 TORQUE(Nm)	 THREAD	 TORQUE(Nm)	 THREAD	 TORQUE(Nm)
B21-045	---	---	M8 (x2)	38	M8 (x4)	38
B43-045	---	---	M8 (x2)	38	M8 (x2)	38
B76-045	---	---	M8 (x2)	38	M8 (x4)	38
B21-050	---	---	M8 (x2)	38	M8 (x4)	38
B33-050	---	---	M10 (x2)	75	M12 (x2)	128
B43-050	---	---	M8 (x2)	38	M12 (x2)	128
B76-050	---	---	M8 (x2)	38	M8 (x4)	38
B91-050	---	---	M10 (x2)	75	M10 (x4)	75
B21-063	---	---	M8 (x2)	38	M8 (x4)	38
B76-063	---	---	M8 (x2)	38	M8 (x4)	38
B21-075	---	---	M8 (x4)	38	M10 (x4)	75
B33-075	---	---	M12 (x4)	128	M12 (x2)	128
B43-075	---	---	M8 (x4)	38	M12 (x2)	128
B76-075	---	---	M8 (x4)	38	M10 (x4)	75
B91-075	---	---	M12 (x4)	128	M12 (x4)	128
B16-095	---	---	M8 (x4)	38	M12 (x4)	128
B21-095	---	---	M8 (x4)	38	M12 (x4)	128
B33-095	---	---	M12 (x4)	128	M12 (x2)	128
B43-095	---	---	M8 (x4)	38	M12 (x2)	128
B76-095	---	---	M8 (x4)	38	M12 (x4)	128
B91-095	---	---	M12 (x4)	128	M16 (x4)	311
B21-105	---	---	M8 (x4)	38	M12 (x4)	128
B76-105	---	---	M8 (x4)	38	M10 (x4)	75
B16-120	---	---	M10 (x4)	75	M12 (x4)	128
B21-120	---	---	M10 (x4)	75	M12 (x4)	128
B33-120	---	---	M12 (x4)	128	M12 (x2)	128
B43-120	---	---	M10 (x4)	75	M12 (x2)	128
B76-120	---	---	M10 (x4)	75	M12 (x4)	128
B16-150	---	---	M10 (x4)	75	M16 (x4)	311
B21-150	---	---	M10 (x4)	75	M16 (x4)	311
B76-150	---	---	M10 (x4)	75	M16 (x4)	311
B21-195	---	---	M12 (x4)	128	M16 (x4)	311
B76-195	---	---	M12 (x4)	128	M16 (x4)	311

MOUNTING GUIDELINES

Flange Mounts

MOUNT TYPE C

	 MOUNT / MOUNT		 MOUNT / GAS SPRING		 MOUNT / TOOL	
MOUNT	 THREAD	 TORQUE(Nm)	 THREAD	 TORQUE(Nm)	 THREAD	 TORQUE(Nm)
C05-032	---	---	---	---	M6 (x4)	15
C20-032	---	---	---	---	M6 (x4)	15
C05-038	---	---	---	---	M6 (x4)	15
C20-038	---	---	---	---	M6 (x4)	15
C05-045	---	---	---	---	M8 (x4)	38
C20-045	---	---	---	---	M8 (x4)	38
C05-050	---	---	---	---	M8 (x4)	38
C20-050	---	---	---	---	M8 (x4)	38
C05-063	---	---	---	---	M10 (x4)	75
C30-063	---	---	---	---	M10 (x4)	75
C35-063	---	---	---	---	M10 (x4)	75
C05-075	---	---	---	---	M10 (x4)	75
C20-075	---	---	---	---	M10 (x4)	75
C05-095	---	---	---	---	M12 (x4)	128
C20-095	---	---	---	---	M12 (x4)	128
C05-120	---	---	---	---	M12 (x4)	128
C20-120	---	---	---	---	M12 (x4)	128
C05-150	---	---	---	---	M16 (x4)	311
C20-150	---	---	---	---	M16 (x4)	311
C05-195	---	---	---	---	M16 (x4)	311
C20-195	---	---	---	---	M16 (x4)	311

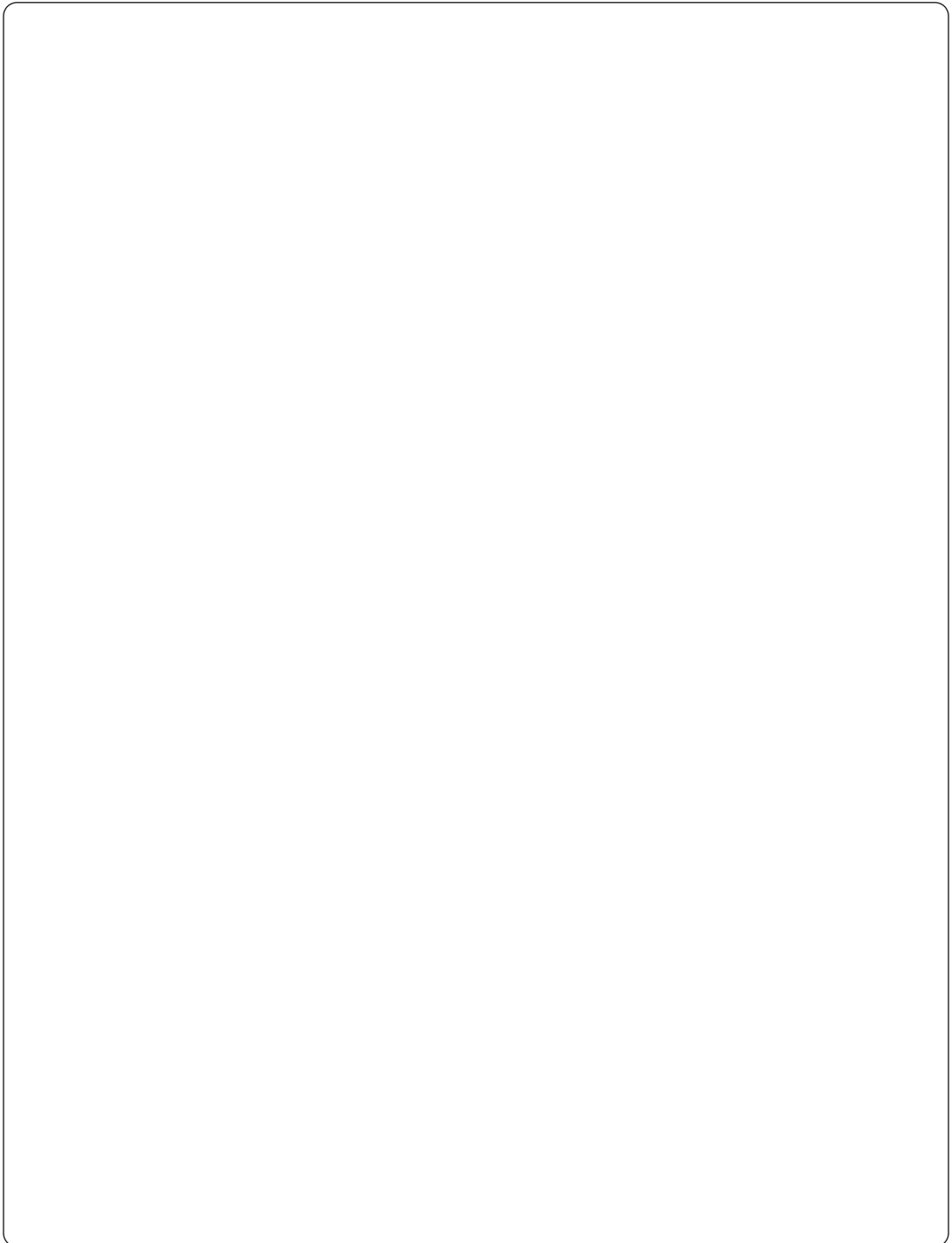
MOUNT TYPE D

D02-025	---	---	---	---	M8 (x4)	38
D02-032	M8 (x1)	38	---	---	M8 (x2)	38
D67-032	---	---	---	---	M8 (x2)	38
D02-038	M8 (x1)	38	---	---	M8 (x2)	38
D67-038	---	---	---	---	M8 (x2)	38
D02-045	M8 (x1)	38	---	---	M8 (x2)	38
D67-045	---	---	---	---	M8 (x2)	38
D02-050	M8 (x1)	38	---	---	M8 (x2)	38
D67-050	---	---	---	---	M10 (x2)	75
D02-063	M10 (x1)	75	---	---	M10 (x2)	75
D67-063	---	---	---	---	M10 (x2)	75
D02-075	M10 (x1)	75	---	---	M10 (x2)	75
D67-075	---	---	---	---	M12 (x2)	128
D02-095	M12 (x1)	128	---	---	M12 (x2)	128
D67-095	---	---	---	---	M12 (x2)	128
D02-120	M12 (x1)	128	---	---	M12 (x2)	128
D67-120	---	---	---	---	M12 (x2)	128
D02-150	M12 (x1)	128	---	---	M12 (x2)	128
D67-150	---	---	---	---	M12 (x2)	128
D02-195	M12 (x1)	128	---	---	M12 (x2)	128



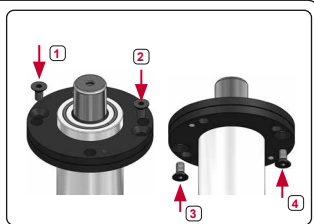
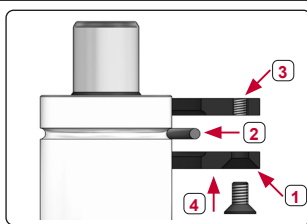
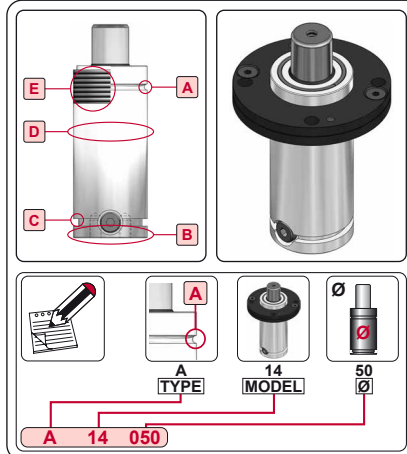
MOUNTING GUIDELINES

Flange Mounts



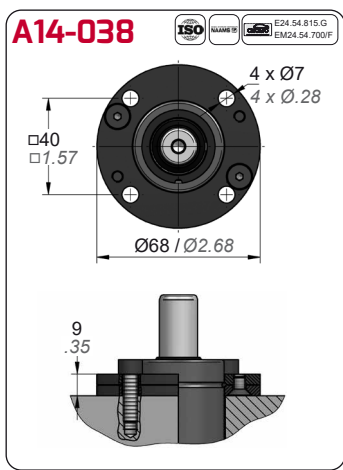
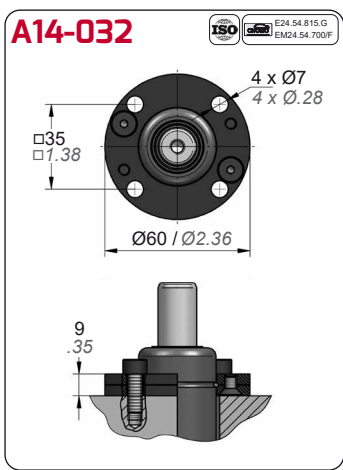
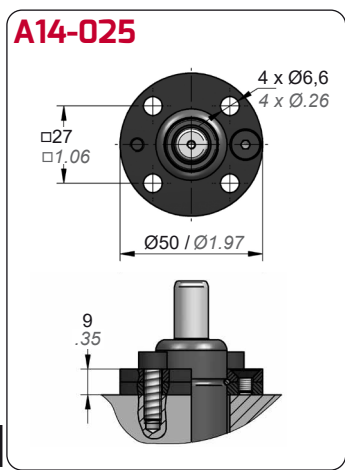
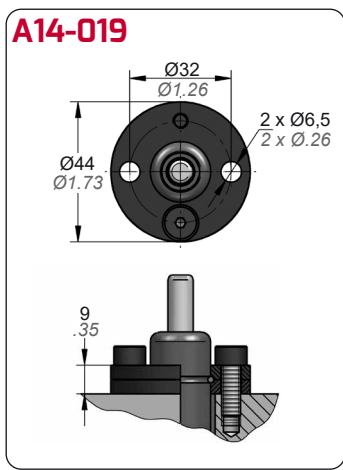
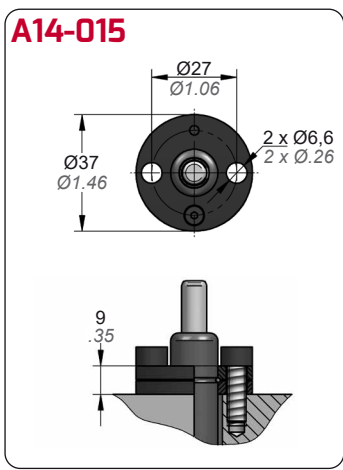
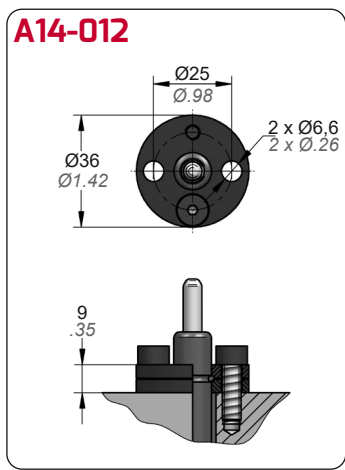
A14

Flange Mounts

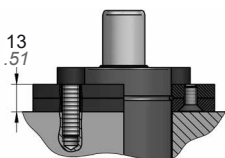
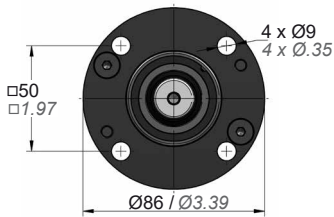


MOUNT / MOUNT		MOUNT / TOOL	
DIN 7991	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M4	3	M6	15
M5	6	M8	38
M6	10	M10	75
---	---	M12	128
---	---	M16	311

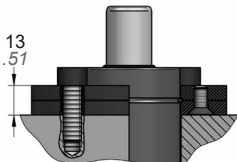
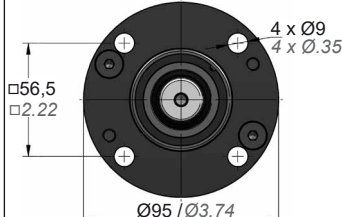
Ø BODY	Gap between parts (h)	
	Minimum	Maximum
≤ Ø45	0.10 mm	0.40 mm
Ø50	0.10 mm	0.55 mm
≥ Ø63	0.20 mm	0.75 mm



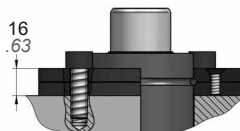
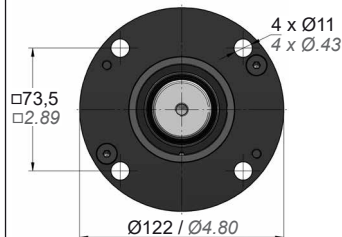
A14-045



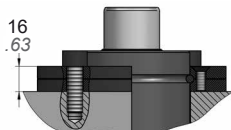
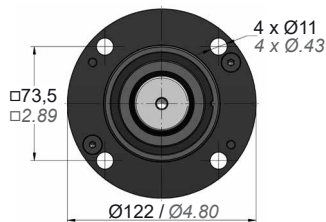
A14-050



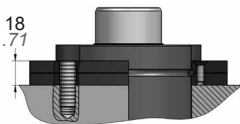
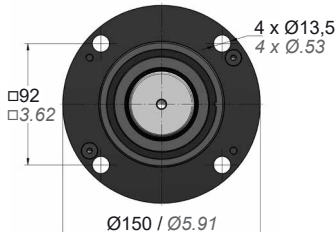
A14-063



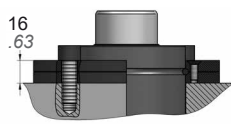
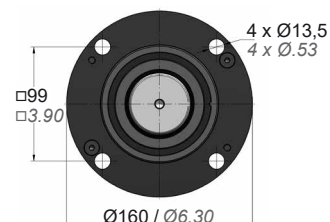
A14-075



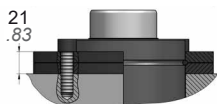
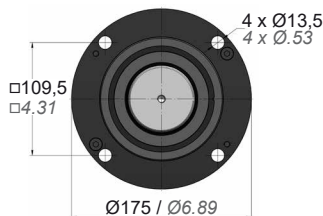
A14-095



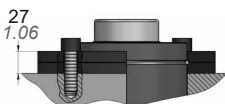
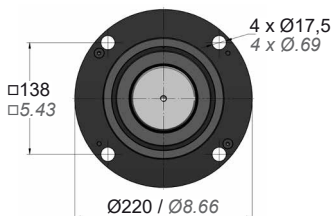
A14-105



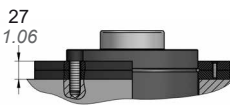
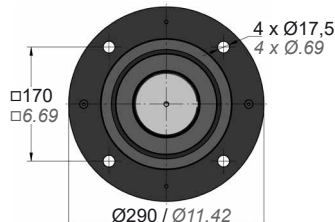
A14-120



A14-150



A14-195



A34

Flange Mounts



A TYPE
34 MODEL
50 Ø

A 34 050

MOUNT / MOUNT

DIN 7991	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M3	1	M6	15
M4	3	M8	38
M5	6	M10	75
M6	10	M12	128
***	***	M16	311

Ø BODY	Gap between parts (h)	
	Minimum	Maximum
≤ Ø45	0.10 mm	0.40 mm
Ø50	0.10 mm	0.55 mm
≥ Ø63	0.20 mm	0.75 mm

A34-032

ISO VDI

A34-038

ISO VDI

A34-045

ISO VDI

A34-050

ISO VDI

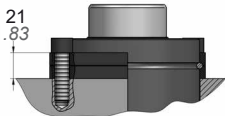
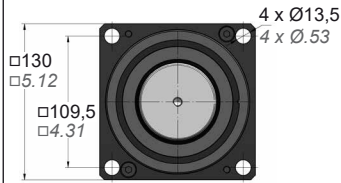
A34-075

ISO VDI

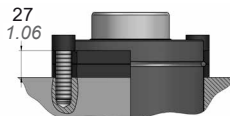
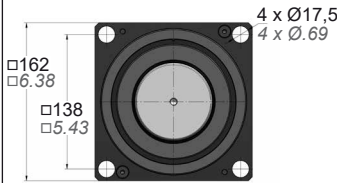
A34-095

ISO VDI

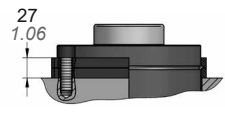
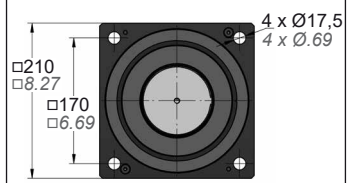
A34-120



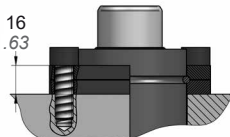
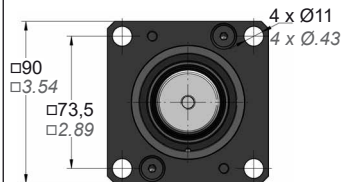
A34-150



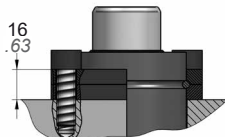
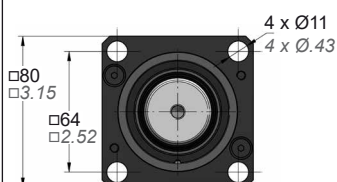
A34-195



A39-063



A69-063



A44 / A49

Flange Mounts



A TYPE

44 MODEL

32 Ø

A 44 032

MOUNT / MOUNT		MOUNT / TOOL	
DIN 7991	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M3	1	M6	15
M5	6	M8	38
M6	10	M10	75
---	---	M12	128
---	---	---	---

Ø BODY	Gap between parts (h)	
	Minimum	Maximum
≤ Ø45	0.10 mm	0.40 mm
Ø50	0.10 mm	0.55 mm
≥ Ø63	0.20 mm	0.75 mm

A44-019

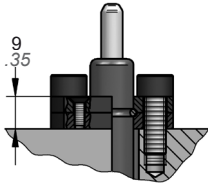
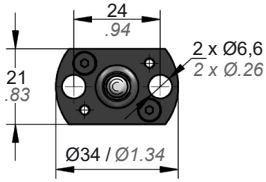
A44-025

A44-032

A49-015

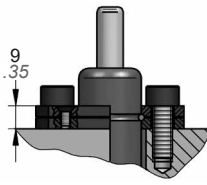
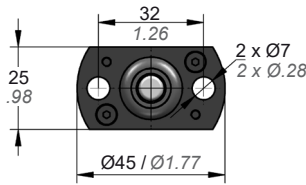
A49-025

A59-012

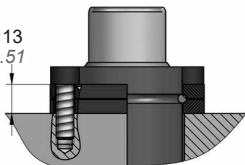
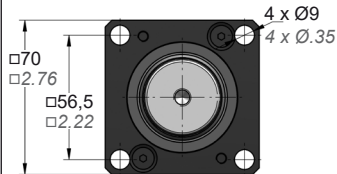


A59-019

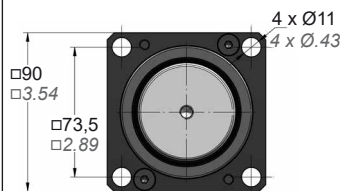
VDI



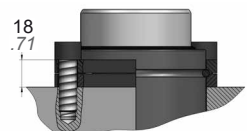
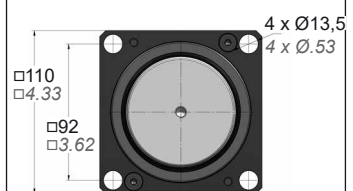
A59-050



A59-075



A59-095



A19

Flange Mounts



Thread	Torque Nm
M6	15
M8	39
M10	75
M12	128
M16	311

A19-019

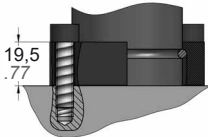
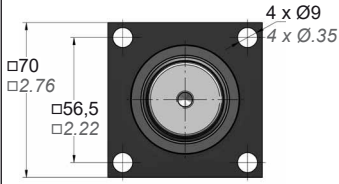
A19-025

A19-038

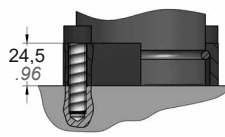
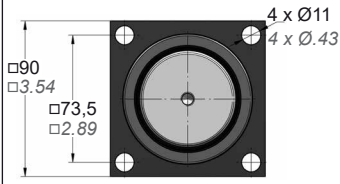
A19-120

A19-150

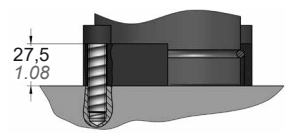
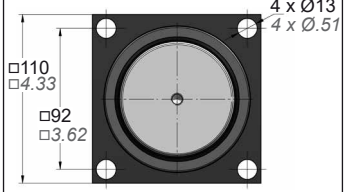
A54-050



A54-075



A54-095



AY4

Flange Mounts



A Y4 050

MOUNT / MOUNT		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M8	10	M10	75
***	***	M12	128
***	***	M16	311
***	***	***	***

Ø BODY	Gap between parts (h)	
	Minimum	Maximum
≤ Ø45	0.10 mm	0.40 mm
Ø50	0.10 mm	0.55 mm
≥ Ø63	0.20 mm	0.75 mm

AY4-050

4 x Ø17
4 x Ø.67
4 x Ø11
4 x Ø.43

□75
□2.95
□53.9
□2.12

30
1.18

11
.43
25.5
1.00
0.5
.02

AY4-063

4 x Ø17
4 x Ø.67
4 x Ø11
4 x Ø.43

□100
□3.94
□73.5
□2.89

30
1.18

11
.43
25.5
1.00
0.5
.02

AY4-075

4 x Ø20
4 x Ø.79
4 x Ø13
4 x Ø.51

□100
□3.94
□76.2
□3.00

30
1.18

13
.51
25.5
1.00
0.5
.02

AY4-095

4 x Ø20
4 x Ø.79
4 x Ø13
4 x Ø.51

□125
□4.92
□98.3
□3.87

30
1.18

25.5
1.00
13
.51
0.5
.02

AY4-120

4 x Ø20
4 x Ø.79
4 x Ø13
4 x Ø.51

□140
□5.51
□114.3
□4.50

30
1.18

25.5
1.00
13
.51
0.5
.02

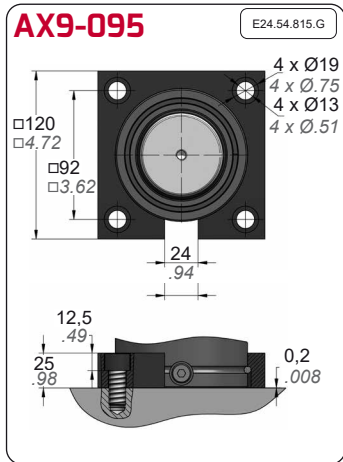
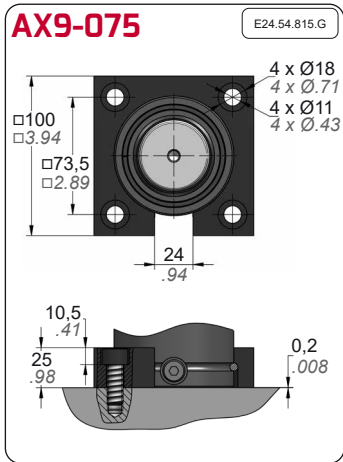
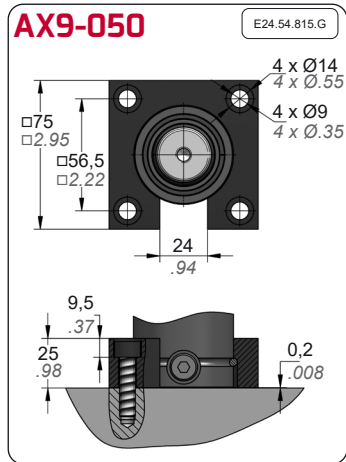
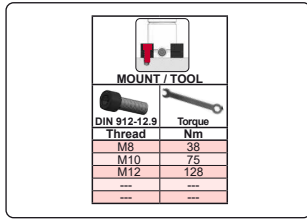
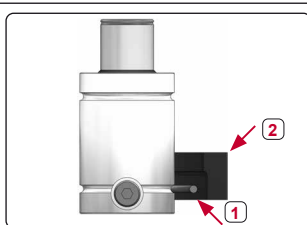
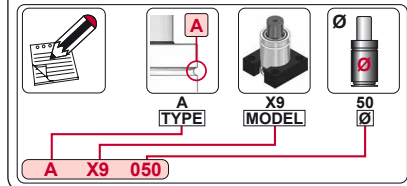
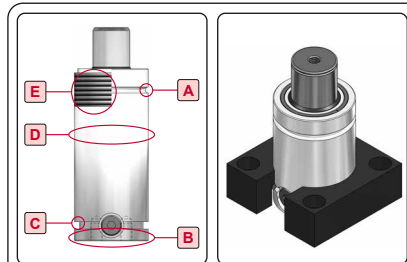
AY4-150

4 x Ø25
4 x Ø.98
4 x Ø17
4 x Ø.67

□175
□6.89
□139.7
□5.50

30
1.18

25.5
1.00
18.8
.74
0.5
.02



B21

Flange Mounts



B 21 050

MOUNT / GAS SPRING		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
M8	38	M8	38
M10	75	M10	75
M12	128	M12	128
---	---	M16	311
---	---	---	---

WASHER	
DIN 912-12.9	Safety Washer
Thread	Dimensions
M8	Ø13.5 x 2.5
M10	Ø16.6 x 2.5
M12	Ø19.5 x 2.5
---	---
---	---

B21-045

B21-050

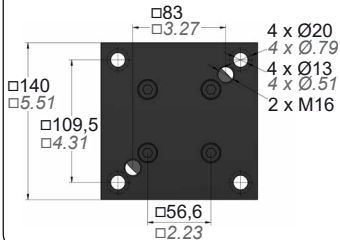
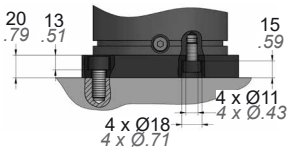
B21-063

B21-075

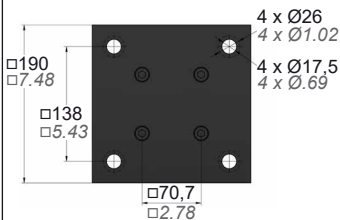
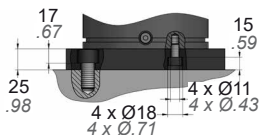
B21-095

B21-105

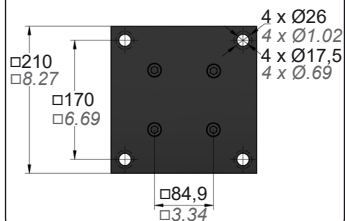
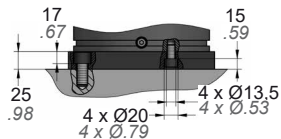
B21-120



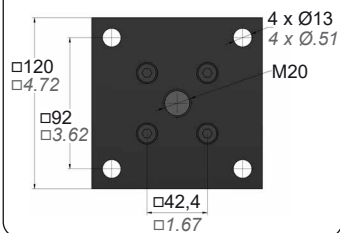
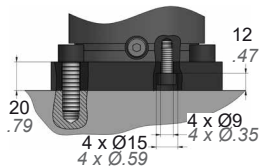
B21-150



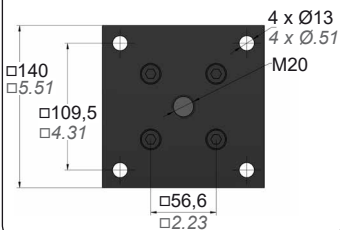
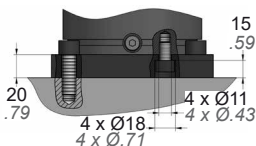
B21-195



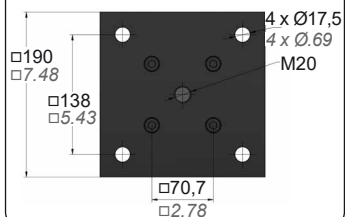
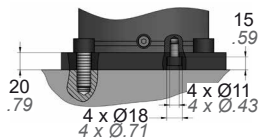
B16-095



B16-120

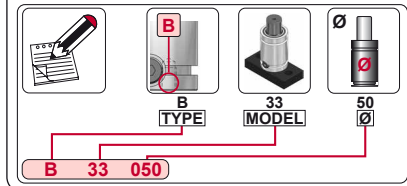
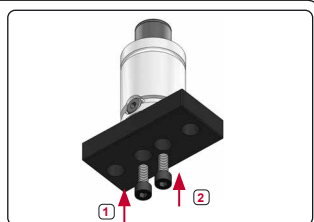
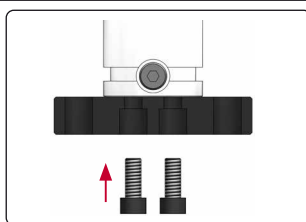
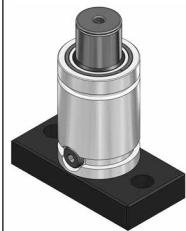
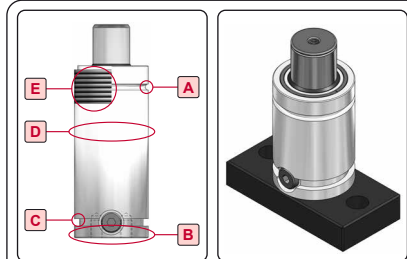


B16-150

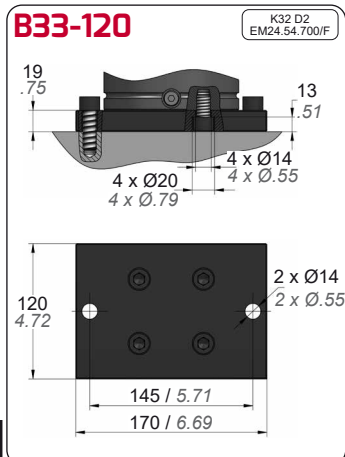
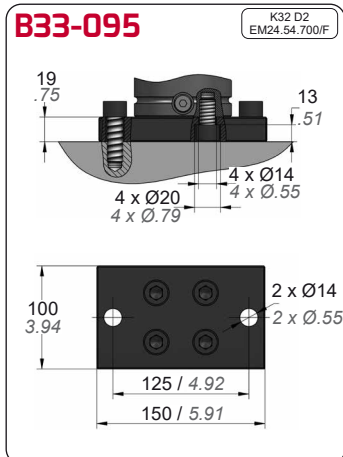
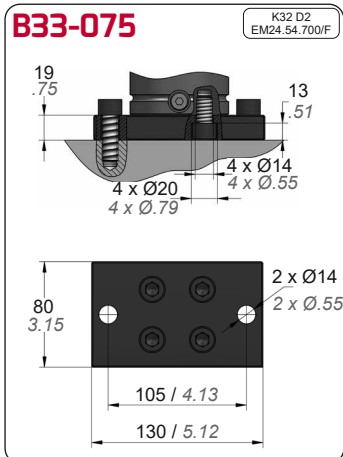
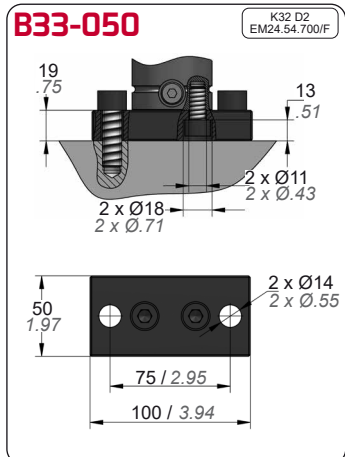


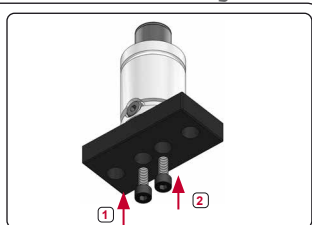
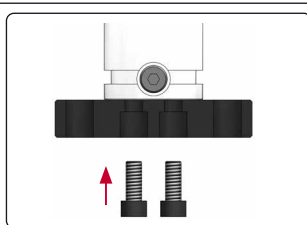
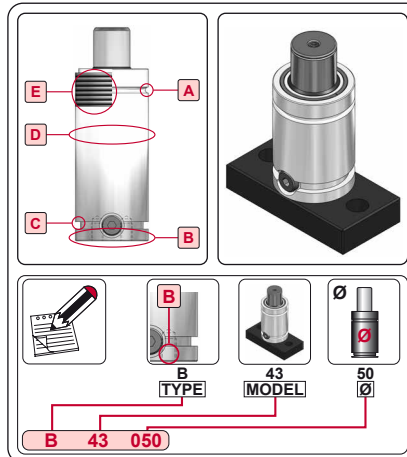
B33

Flange Mounts

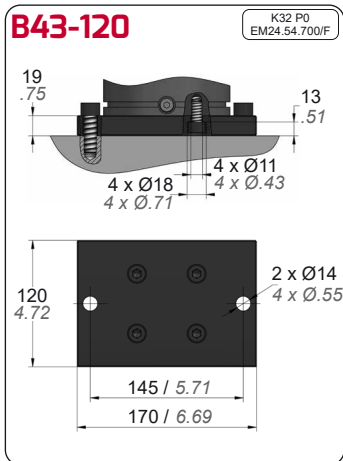
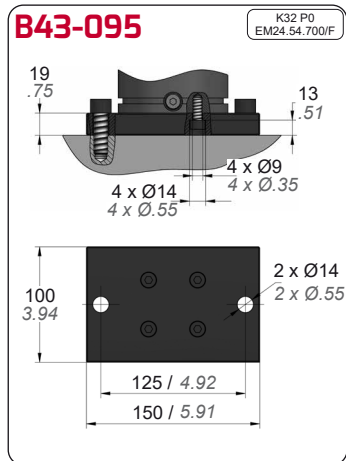
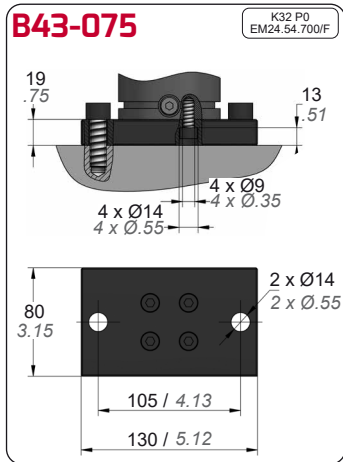
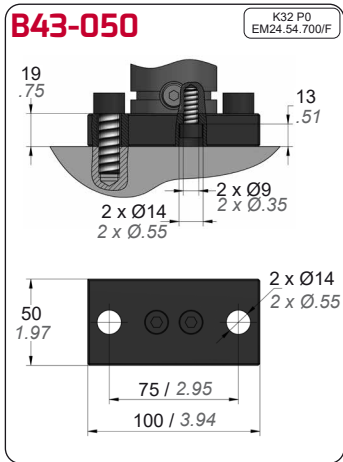
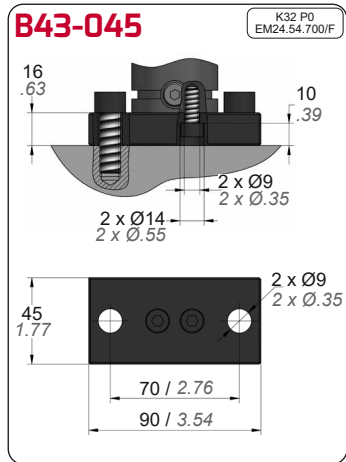


MOUNT / MOUNT		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M10	75	M12	128
M12	128
...
...





MOUNT / GAS SPRING		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M8	38	M8	38
M10	75	M12	128
***	***	***	***
***	***	***	***



B76

Flange Mounts



B TYPE

76 MODEL

50 Ø

B 76 050

MOUNT / GAS SPRING		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M8	38	M8	38
M10	75	M10	75
M12	128	M12	128
---	---	M16	311
---	---	---	---

WASHER	
DIN 912-12.9	Safety Washer
Thread	Dimensions
M8	Ø13.5 x 2.5
M10	Ø16.6 x 2.5
M12	Ø19.5 x 2.5
---	---

B76-045

ISO 9001 ISO 14001 E24.54.815.G EM24.54.700/F

20
.79

12
.47

6 x Ø15
6 x Ø.59
4 x Ø9
4 x Ø.35

□70
□2.76

□50
□1.97

2 x M10

20
.79

B76-050

ISO 9001 ISO 14001 E24.54.815.G EM24.54.700/F

20
.79

12
.47

6 x Ø15
6 x Ø.59
4 x Ø9
4 x Ø.35

□75
□2.95

□56.5
□2.22

2 x M10

20
.79

B76-063

ISO 9001 ISO 14001 E24.54.815.G EM24.54.700/F

20
.79

12
.47

6 x Ø15
6 x Ø.59
4 x Ø9
4 x Ø.35
2 x M10

□75
□2.95

□56.5
□2.22

20
.79

B76-075

ISO 9001 ISO 14001 E24.54.815.G EM24.54.700/F

20
.79

12
.47

15
.59

4 x Ø9
4 x Ø.35
4 x Ø15
4 x Ø.59

4 x Ø18
4 x Ø.71
4 x Ø11
4 x Ø.43

□100
□3.94

□73.5
□2.89

M20

□28.3
□1.11

B76-095

ISO 9001 ISO 14001 E24.54.815.G EM24.54.700/F

20
.79

12
.47

13
.51

4 x Ø9
4 x Ø.35
4 x Ø15
4 x Ø.59

4 x Ø20
4 x Ø.79
4 x Ø13
4 x Ø.51

□120
□4.72

□92
□3.62

M20

□42.4
□1.67

B76-105

ISO 9001 ISO 14001 E24.54.815.G EM24.54.700/F

20
.79

12
.47

13
.51

4 x Ø9
4 x Ø.35
4 x Ø15
4 x Ø.59

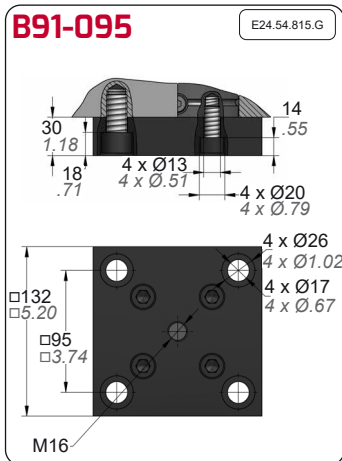
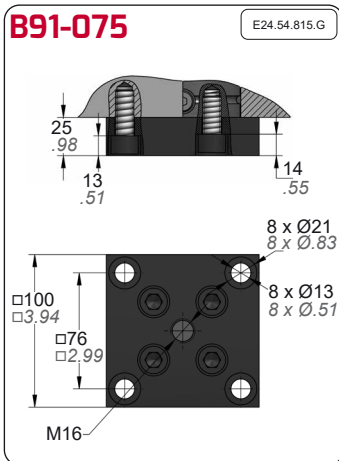
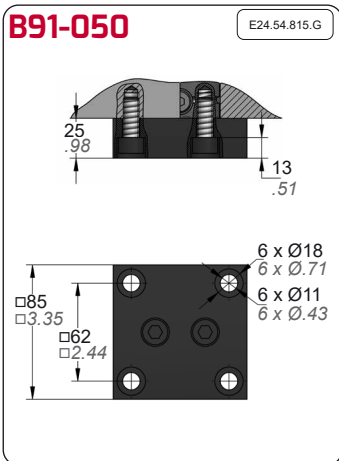
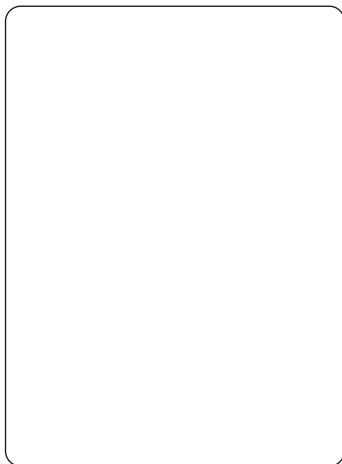
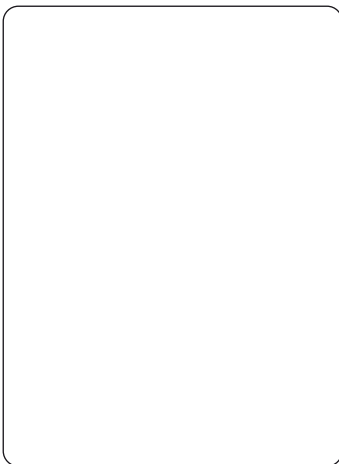
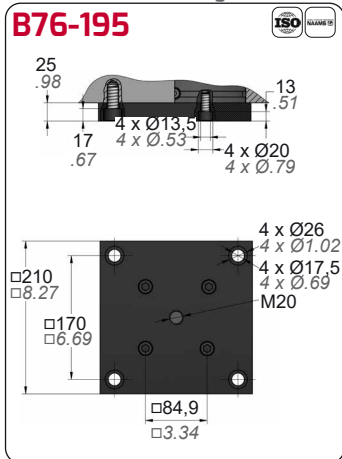
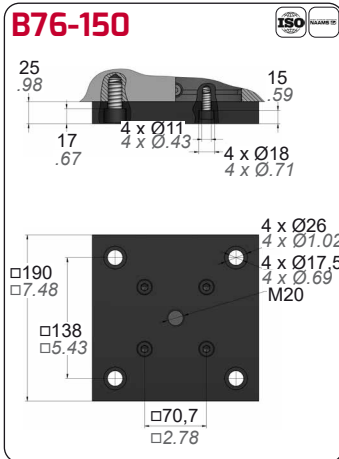
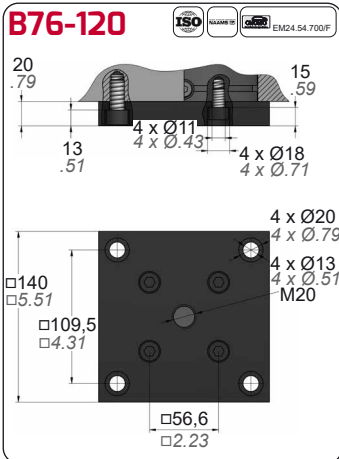
4 x Ø20
4 x Ø.79
4 x Ø13
4 x Ø.51

□120
□4.72

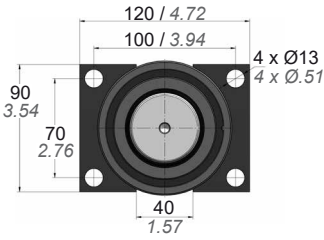
□92
□3.62

M20

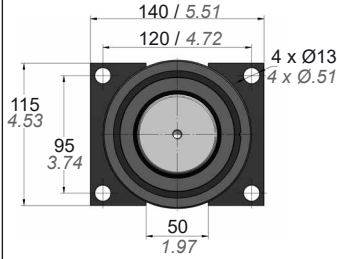
□42.4
□1.67



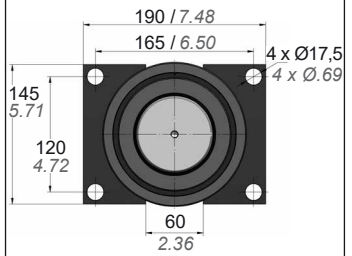
C05-095



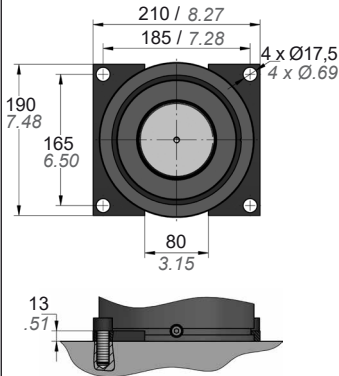
C05-120



C05-150

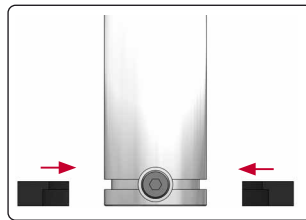
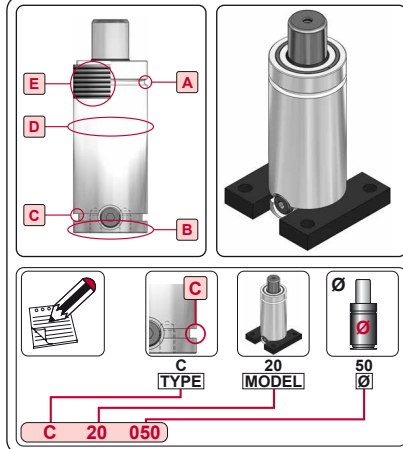


C05-195



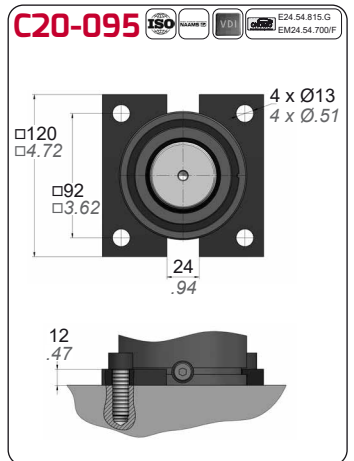
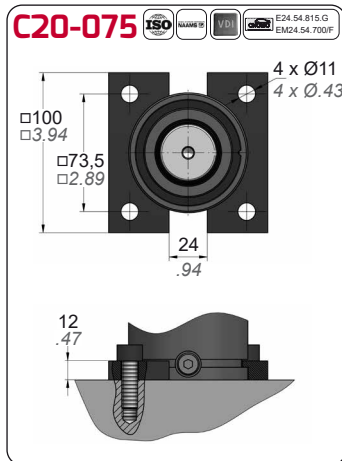
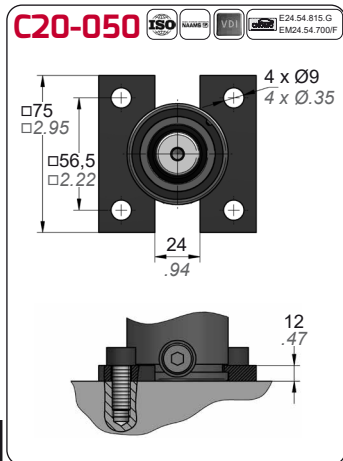
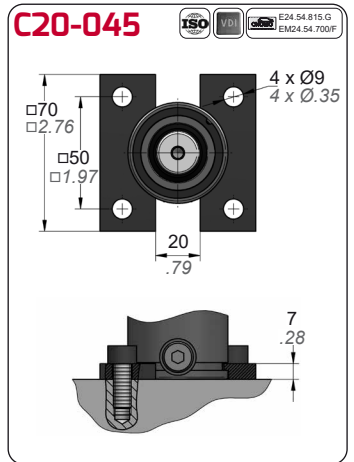
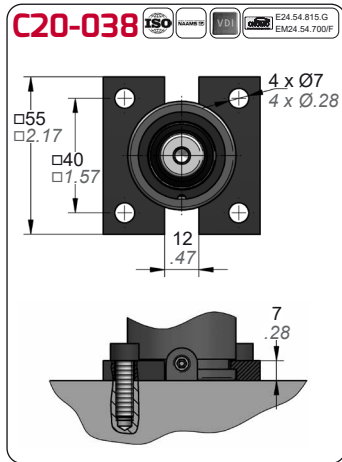
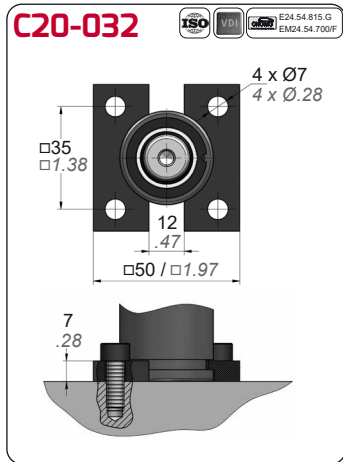
C20

Flange Mounts

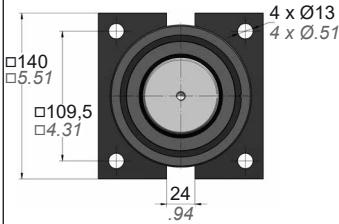


MOUNT / TOOL

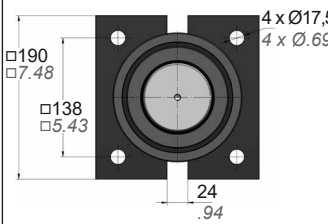
Thread	Torque Nm
M3	15
M8	38
M10	75
M12	128
M16	311



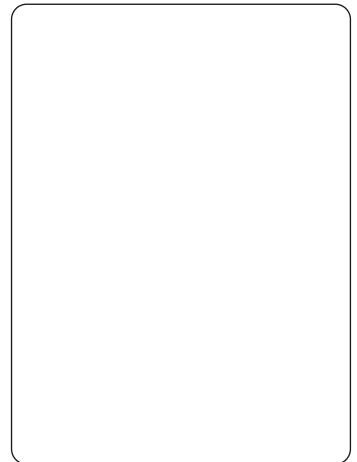
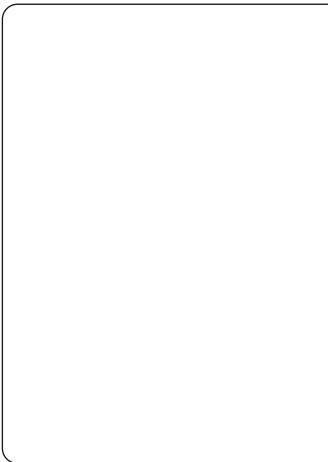
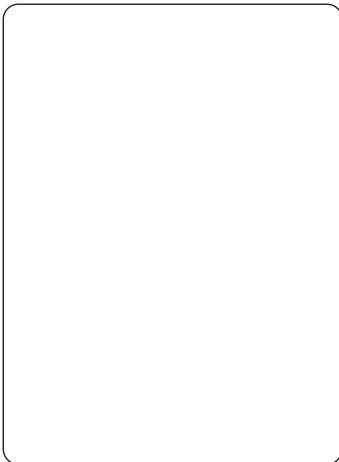
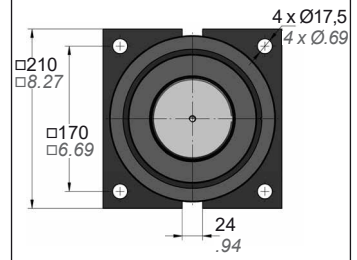
C20-120     



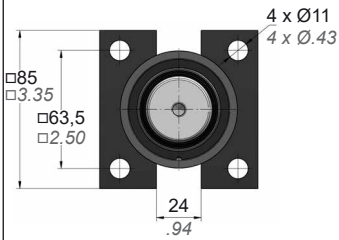
C20-150     



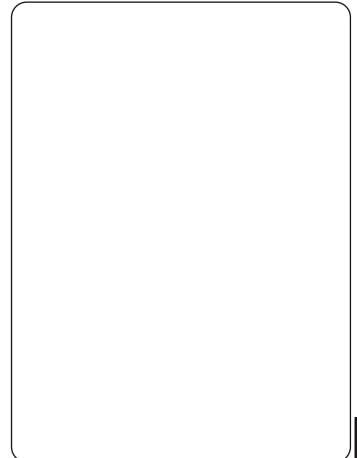
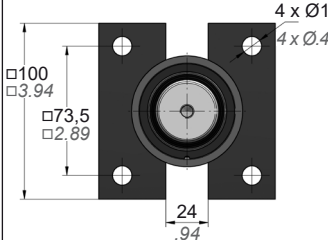
C20-195     



C30-063

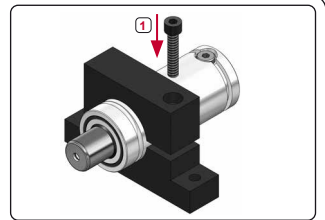
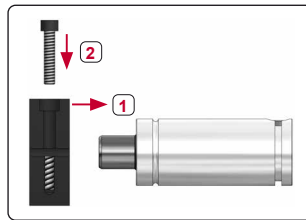
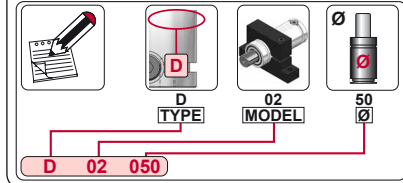
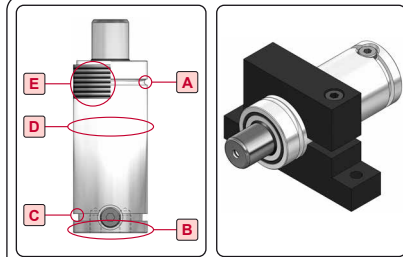


C35-063 

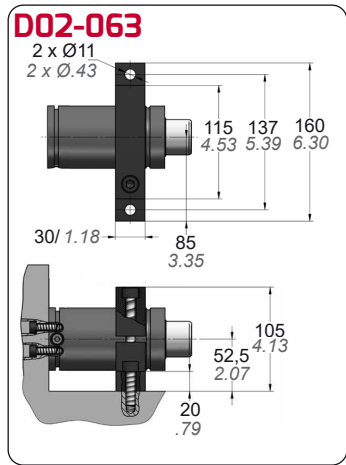
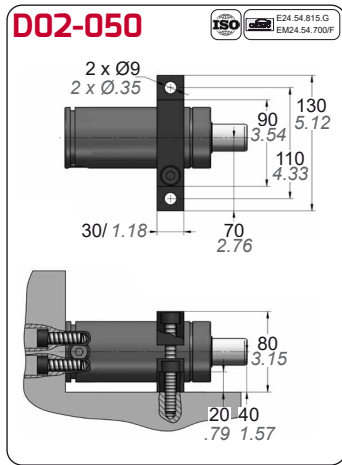
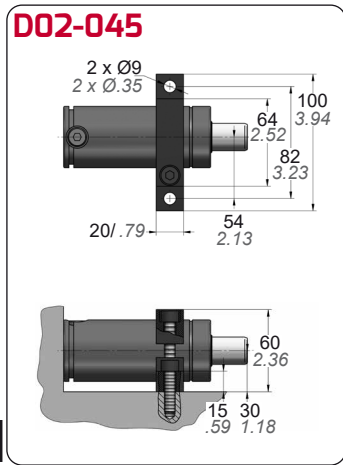
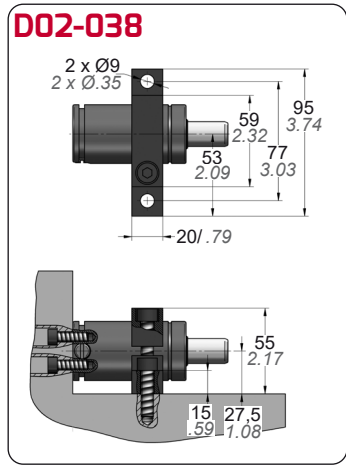
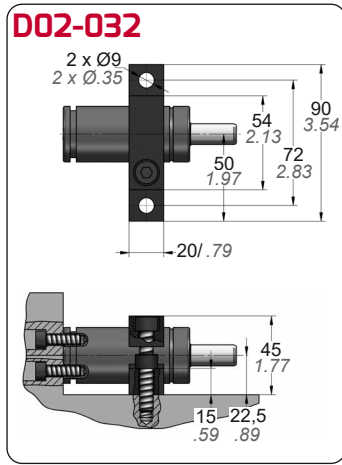
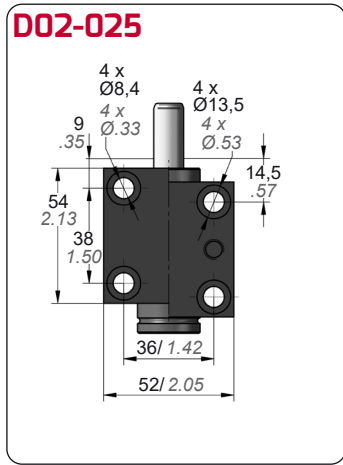


D02

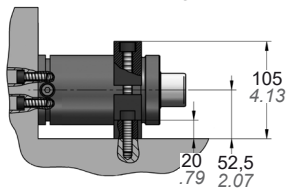
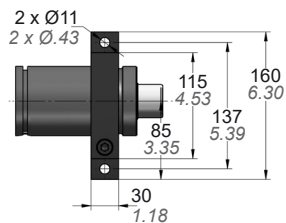
Flange Mounts



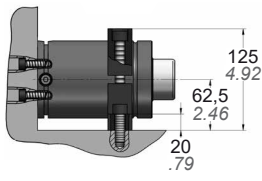
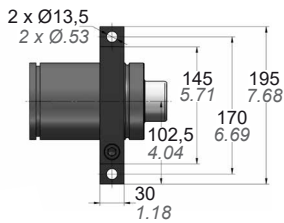
MOUNT / MOUNT		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M8	38	M8	38
M10	75	M10	75
M12	128	M12	128
---	---	---	---



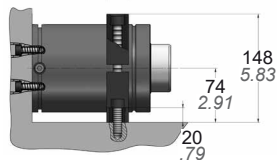
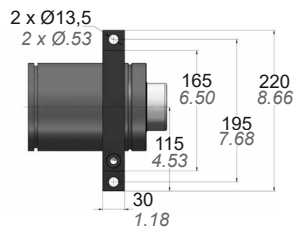
DO2-075



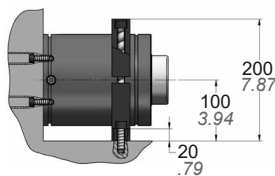
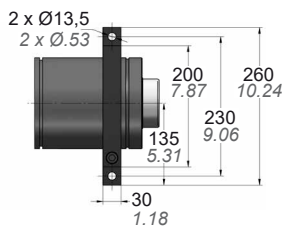
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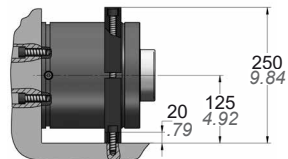
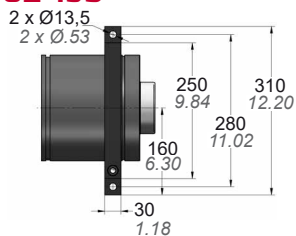
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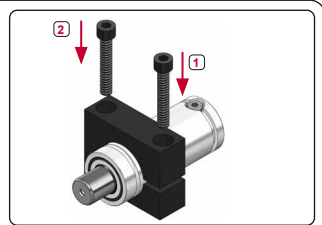
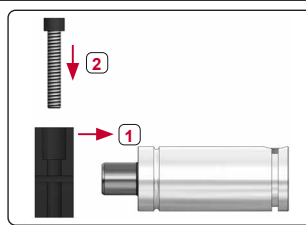
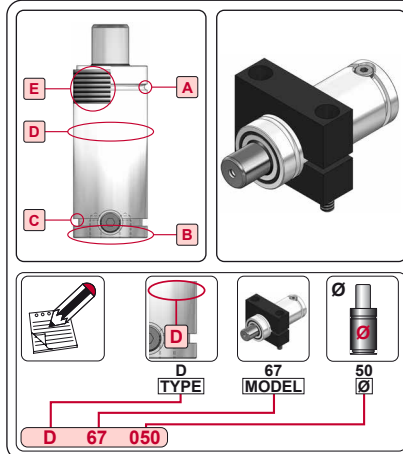


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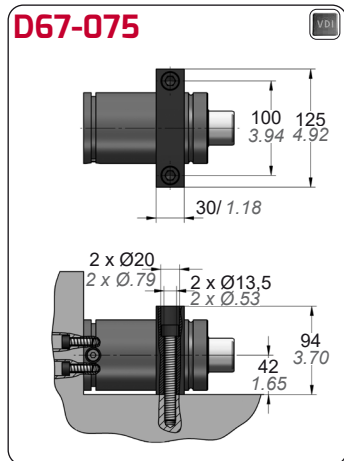
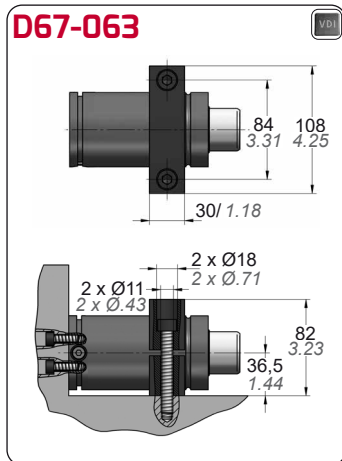
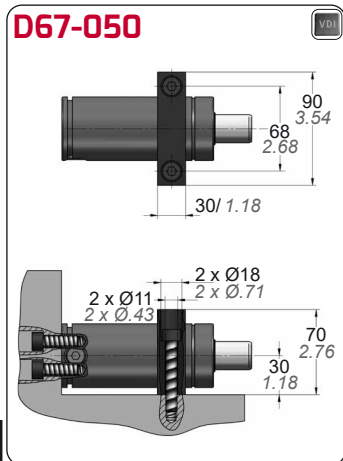
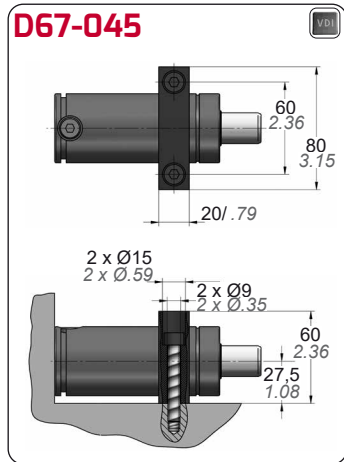
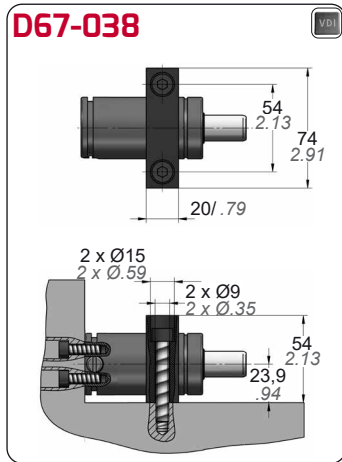
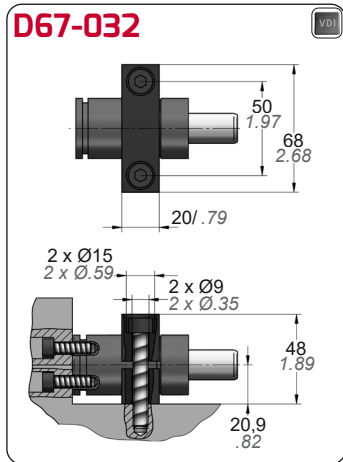
D67

Flange Mounts

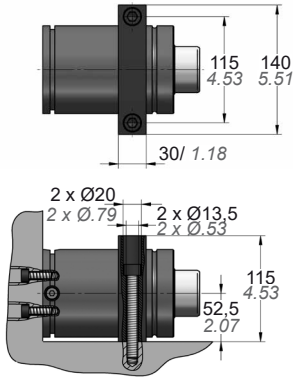


MOUNT / TOOL

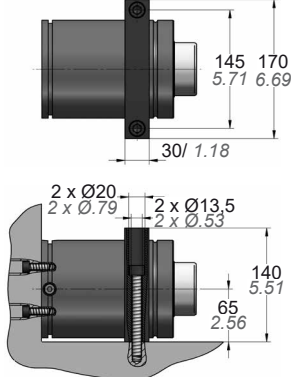
DIN 912-12.9	Torque
Thread	Nm
M8	38
M10	75
M12	128
****	****
****	****



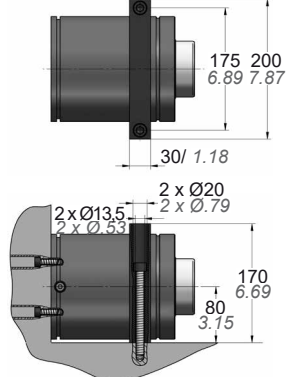
D67-095



D67-120



D67-150



E03 / E08 / E68 / E58



Flange Mounts

E TYPE
MODEL
Ø

E 03 045

MOUNT / TOOL

DIN 912-12.9	Torque
Thread	Nm
M8	38

E03-036

E03-045

E08-038

E68-038

E58-028

E58-038

E 23 016

E23-016

HEX 24
HEX .94

8
.37

M16x1,5

E23-024

HEX 36
HEX 1.42

10
.39

M24x1,5

E63-016

HEX 24
HEX .94

8
.37

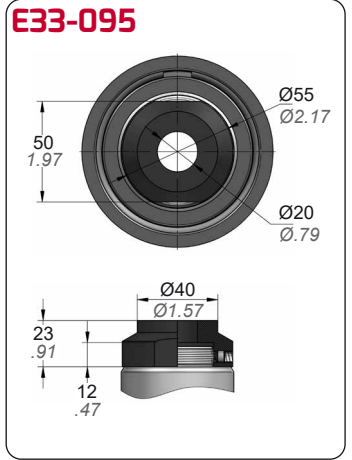
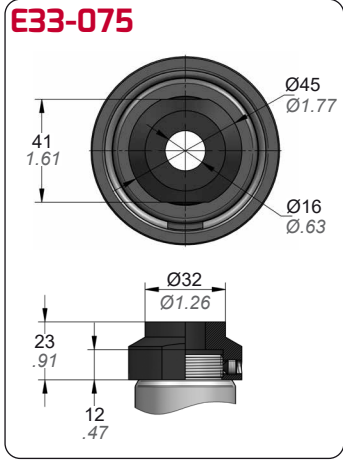
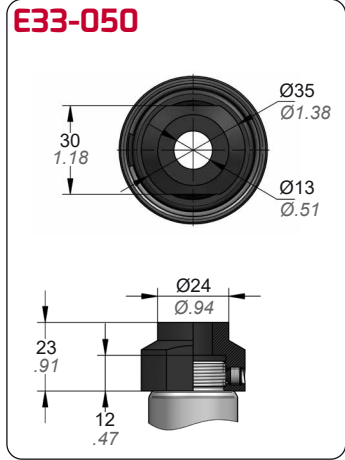
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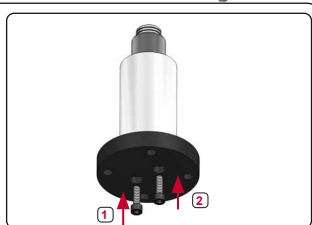
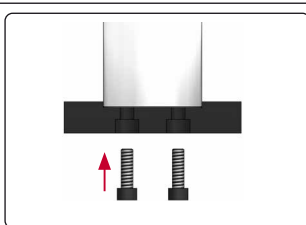
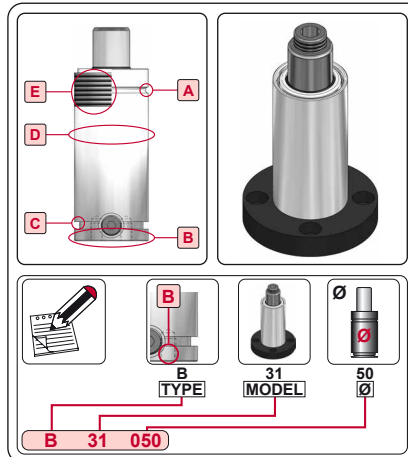
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AZOL GAS

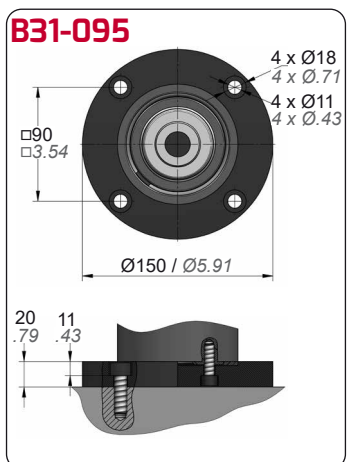
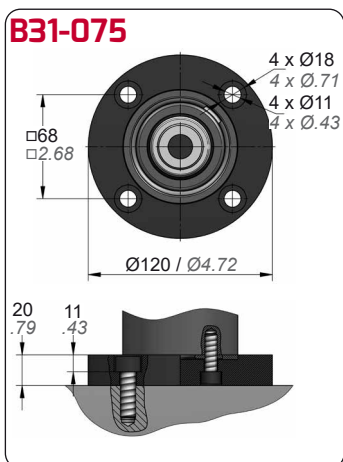
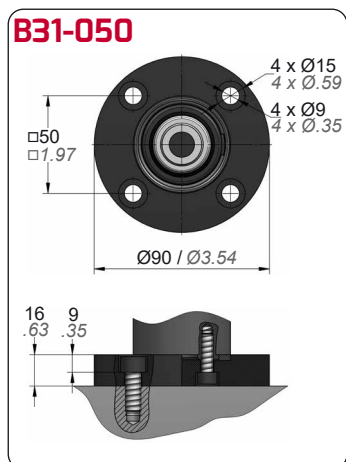
Flange Mounts

E 33 050





MOUNT / GAS SPRING		MOUNT / TOOL	
DIN 912-12.9	Torque	DIN 912-12.9	Torque
Thread	Nm	Thread	Nm
M8	15	M8	38
M8	38	M10	75
...
...







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	CK 200 V1	120	CW-HT 500 V1	322	KT 1500	176			
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	CW 320 V2	190		ASP 300	23	CWC 1500 V1		206	
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	HF 300	292	CD 700		52	CS 3000 V3		270	
	M28x1.5	AS 50	20		CM 600 V1	78		CS-KC 3000 V3	272
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	CK 4000 V1	134						
	KZ 4200	168						
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	CW 4200 V1	212						
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	AFK 25 V1	8		ASP 300	23		ROT 750	331
30	AFJ 30 V1	6		CD 300 V1	48		ART 750	345
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