

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact profile.

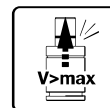
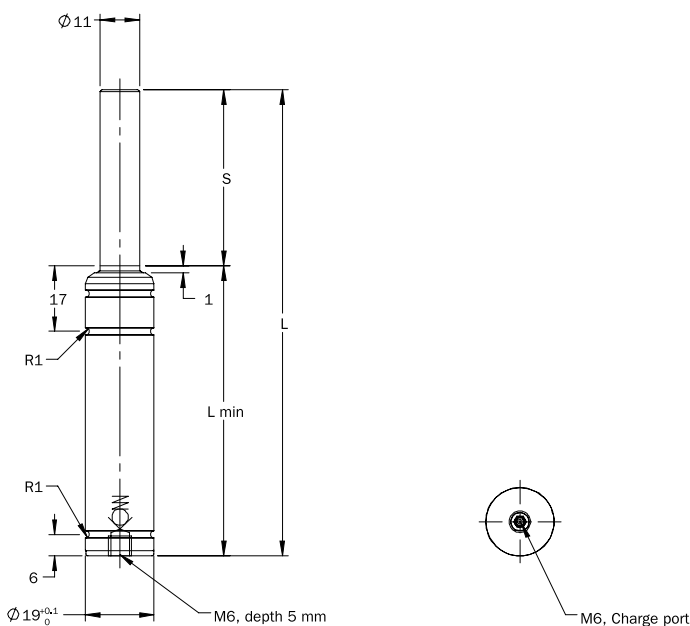
The Power Line springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. The X 170 has a bottom port for gas charging that can also be used to connect to a gas link system. The X 170 has an upper ISO Standard C-groove and a lower C-groove, which together with a threaded bottom hole offer various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	180 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 40-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	Non-repairable

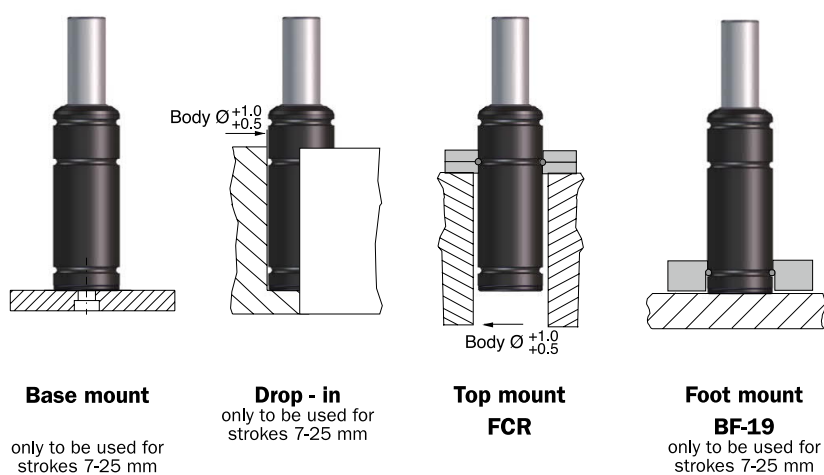
Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-1700, 39D997x,
B2 4005 21723xx, 04584xx, 39-673-020x, 90201401941,



Order No.	S stroke	Force in N at 180 bar/+20°C		Force in lbf at 180 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 170-007	7	1,700	2,800	382	630	44	37	0.002	0.06	
X 170-010	10					50	40	0.002	0.06	✓
X 170-015	15					60	45	0.004	0.07	✓
X 170-019	19					68	49	0.005	0.07	
X 170-025	25 ■					80	55	0.006	0.08	✓
X 170-032	32					94	62	0.008	0.08	
X 170-038	38 ■					106	68	0.009	0.09	✓
X 170-050	50 ■					130	80	0.012	0.10	✓
X 170-063	63 ■					156	93	0.015	0.12	✓
X 170-075	75					185	110	0.018	0.14	
X 170-080	80					195	115	0.019	0.14	✓
X 170-100	100					235	135	0.024	0.16	✓
X 170-125	125					285	160	0.030	0.19	✓

* Isothermal end force at full stroke. ■ Recommended stroke length for optimal delivery.

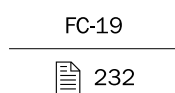
Mounting possibilities



Recommended mounts



Additional mounts



Note!

For dimensions on all mount options, refer to "Mounts" in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

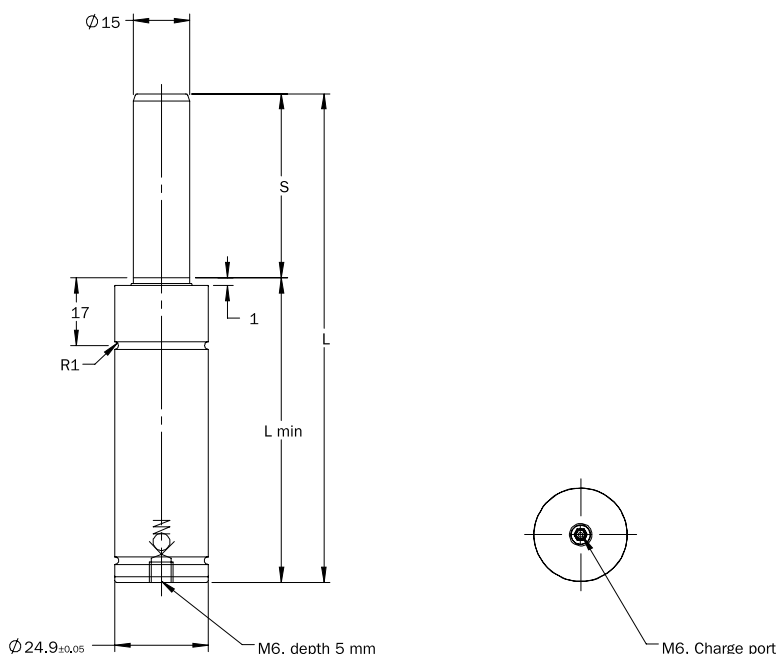
The Power Line springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. The X 320 has a bottom port for gas charging that can also be used to connect to a gas link system. The X 320 has an upper ISO Standard C-groove that together with a threaded bottom hole offers various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium Nitrogen
 Max. charging pressure (at 20°C) 180 bar
 Min. charging pressure (at 20°C) 25 bar
 Operating temperature 0 to +80°C
 Force increase by temperature 0.3%/°C
 Recommended max strokes/min (at 20°C) ~ 50-100
 Max piston rod velocity 1.6 m/s
 Rod surface Nitrided
 Tube surface Black oxide
 Repair kit Non-repairable

Automotive standard: 39D99710x, 90201407353

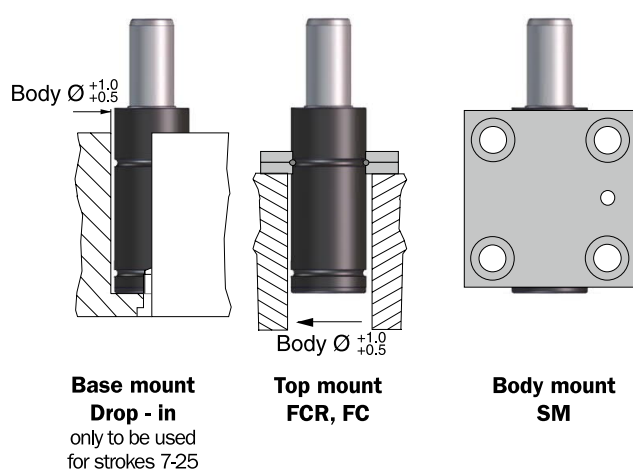


Order No.	S Stroke	Force in N at 180 bar/+20°C		Force in lbf at 180 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 320-007	7	3,200	4,800	720	1,080	44	37	0.004	0.10	
X 320-010	10		4,900		1,100	50	40	0.005	0.11	✓
X 320-015	15		5,100		1,150	60	45	0.007	0.12	✓
X 320-019	19		5,100		1,150	68	49	0.009	0.13	
X 320-025	25 ■		5,200		1,170	80	55	0.011	0.14	✓
X 320-032	32		5,300		1,190	94	62	0.014	0.15	
X 320-038	38 ■		5,300		1,190	106	68	0.017	0.16	✓
X 320-050	50 ■		5,300		1,190	130	80	0.022	0.19	✓
X 320-063	63 ■		5,300		1,190	156	93	0.028	0.21	✓
X 320-075	75		5,300		1,190	185	110	0.034	0.24	
X 320-080	80		5,300		1,190	195	115	0.036	0.25	✓
X 320-100	100		5,300		1,190	235	135	0.044	0.29	✓
X 320-125	125		5,300		1,190	285	160	0.055	0.33	✓

* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Recommended mounts



Additional mounts

FCN-150	SM-150
231	254

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

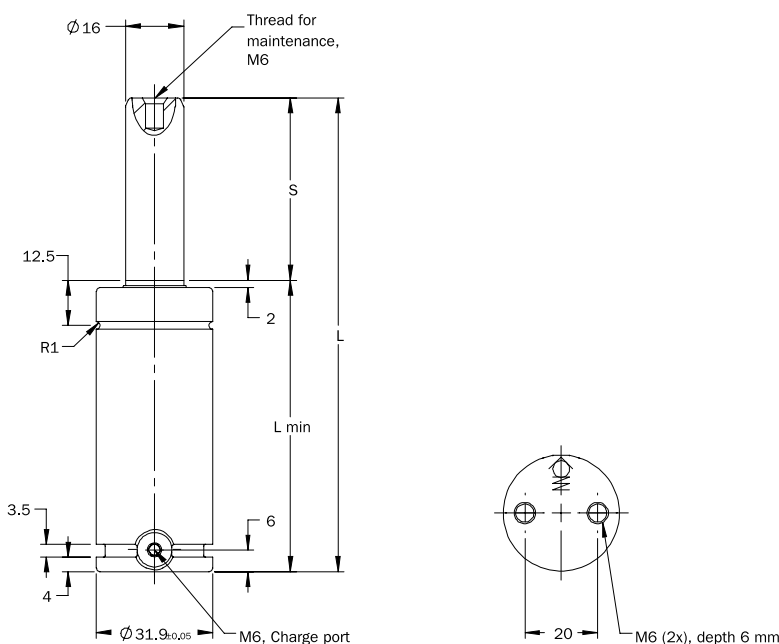
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a gas link system. An upper C-groove, lower U-groove together with two M6 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	180 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 50-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3018845

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-3500, WDX356204-03xxDMS, GMGDS 90.25.08-3.5, 39D99xx, B2 4005 21723xx, 04584xx, 39-673-021x, 39-673-0220, 304503x, 305074x

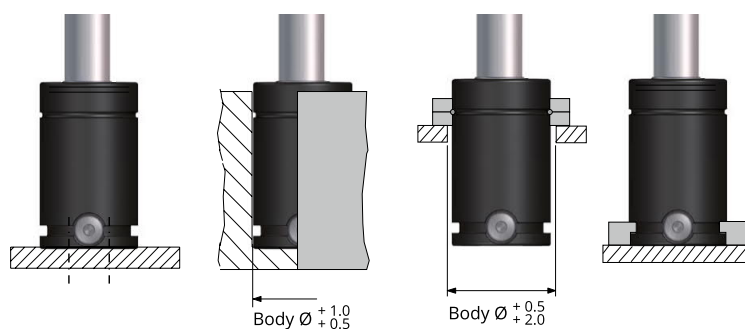


Order No.	S stroke	Force in N at 180 bar/+20°C		Force in lbf at 180 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 350-010	10	3,600	5,900	810	1,330	50	40	0.01	0.17	✓
X 350-013	13		5,200		1,190	56	43	0.01	0.18	✓
X 350-016	16		5,300		1,210	62	46	0.01	0.19	✓
X 350-019	19		5,600		1,260	68	49	0.01	0.20	
X 350-025	25 ■		5,500		1,260	80	55	0.02	0.22	✓
X 350-032	32		5,500		1,260	94	62	0.02	0.24	
X 350-038	38 ■		5,500		1,240	106	68	0.03	0.26	✓
X 350-050	50 ■		5,600		1,260	130	80	0.03	0.29	✓
X 350-063	63 ■		5,500		1,260	156	93	0.04	0.33	✓
X 350-075	75		5,500		1,260	180	105	0.05	0.37	
X 350-080	80		5,500		1,240	190	110	0.05	0.39	✓
X 350-100	100		5,500		1,240	230	130	0.06	0.45	✓
X 350-125	125		5,500		1,240	280	155	0.08	0.53	✓

* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount

Drop - in

Top mount
FC, FCSFoot mount
FFC

Recommended mounts



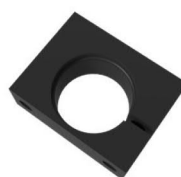
FC-MC-150

 231


FCS-32

 235


FFC-MC-150

 237


HMF-150

 246


S-MC

 252

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

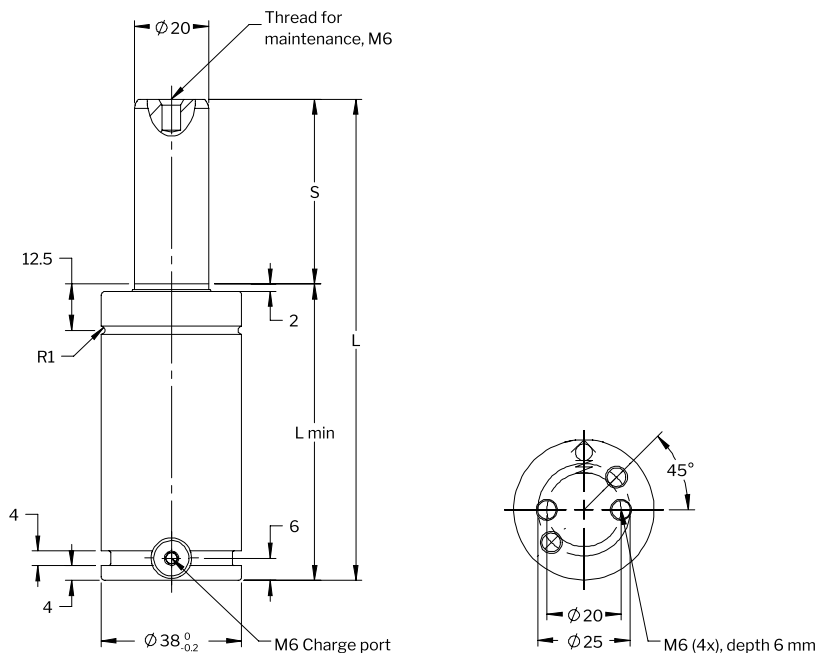
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with two sets of M6 threaded holes patterns allowing various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 50-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3018846

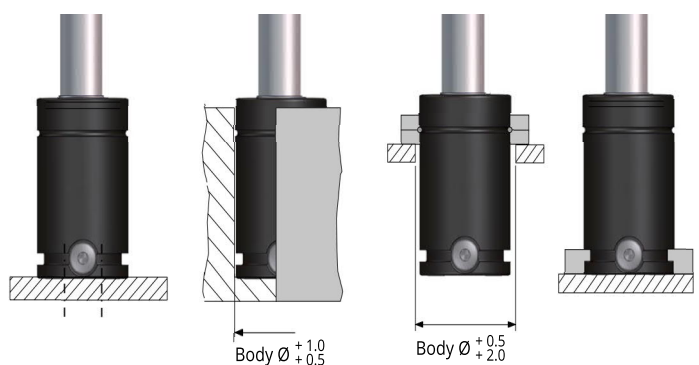
Automotive standard: VDI 3003-Blatt 3 ISO 11901-3-5000 WDX356204-05xxDMS
GMGDS 90.25.08-5 39D997xx B2 4005 21723xx 04584xx, Z0004590xx,
N000491555 , Z000504472, Z000416026, 39-673-022x, 39-673-023x, 305074x



Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 500-010	10	4,700	7,200	1,055	1,620	50	40	0.01	0.25	✓
X 500-013	13		7,100		1,600	56	43	0.01	0.26	✓
X 500-016	16		7,200		1,620	62	46	0.02	0.27	✓
X 500-019	19		7,400		1,660	68	49	0.02	0.29	
X 500-025	25 ■		7,300		1,640	80	55	0.03	0.31	✓
X 500-032	32		7,200		1,620	94	62	0.03	0.34	
X 500-038	38 ■		7,200		1,620	106	68	0.04	0.36	✓
X 500-050	50 ■		7,200		1,620	130	80	0.05	0.41	✓
X 500-063	63 ■		7,200		1,620	156	93	0.06	0.46	✓
X 500-075	75		7,100		1,600	180	105	0.07	0.50	
X 500-080	80		7,100		1,600	190	110	0.08	0.52	✓
X 500-100	100		7,100		1,600	230	130	0.10	0.60	✓
X 500-125	125		7,100		1,600	280	155	0.12	0.69	✓

* Isothermal end force at full stroke. ■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount

Drop - in

Top mount
FC, FCSFoot mount
K, FFC

Recommended mounts



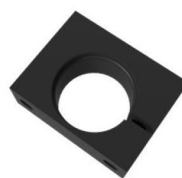
FC-250

 231


FCS-250

 235


FFC-250

 237


HMF-250

 246

Additional mounts

FCN-250

 231

K-250

 247

L-250

 248

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

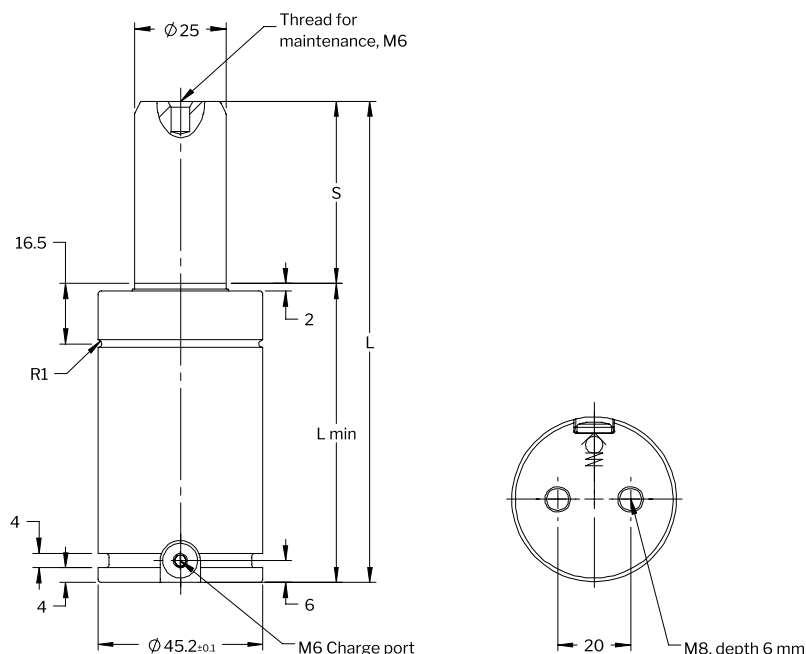
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with two M8 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 50-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3019903

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-7500, WDX356204-07xxDMS, GMGDS 90.25.08-7.5, 39D997xx, B2 4005 21749xx, 04585xx, N000491556, Z0004590xx

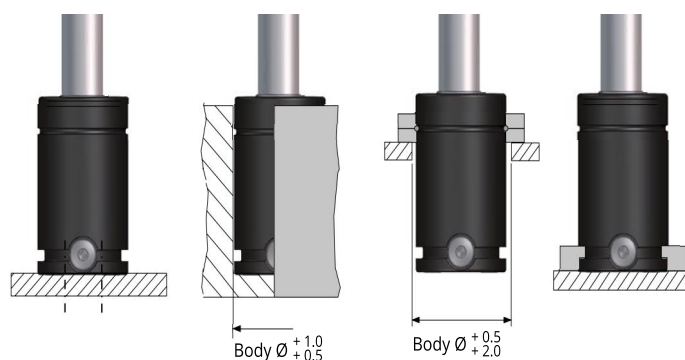


Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 750-010	10	7,400	12,100	1,665	2,720	52	42	0.02	0.37	
X 750-013	13		12,100		2,720	58	45	0.02	0.39	✓
X 750-016	16		12,100		2,720	64	48	0.03	0.41	
X 750-019	19		11,700		2,630	70	51	0.03	0.41	
X 750-025	25 ■		11,800		2,650	82	57	0.04	0.45	✓
X 750-032	32		11,800		2,650	96	64	0.05	0.50	
X 750-038	38 ■		11,800		2,650	108	70	0.05	0.53	✓
X 750-050	50 ■		11,800		2,650	132	82	0.07	0.61	✓
X 750-063	63 ■		11,800		2,650	158	95	0.09	0.69	✓
X 750-075	75		11,900		2,675	182	107	0.10	0.77	
X 750-080	80		11,900		2,675	192	112	0.11	0.80	✓
X 750-100	100		11,900		2,675	232	132	0.13	0.93	✓
X 750-125	125		11,900		2,675	282	157	0.17	1.09	✓

* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount

Drop - in

Top mount
FC, FCSFoot mount
K, FFC

Recommended mounts



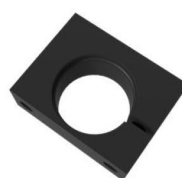
FC-500

 231


FCS-500

 235


FFC-500

 237


HMF-500

 246

Additional mounts

FCSC-500

 236

K-500

 247

L-500

 248

NMP-750

 250

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

2 | X 1000 and XMS 1000

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with two M8 threaded holes allows for various mounting possibilities using our standard mounts. The X 1000 model is also available equipped with an M16 threaded tap for mounting. When ordering this version XMS 1000-xxx must be stated on the order.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 15-40
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3018847

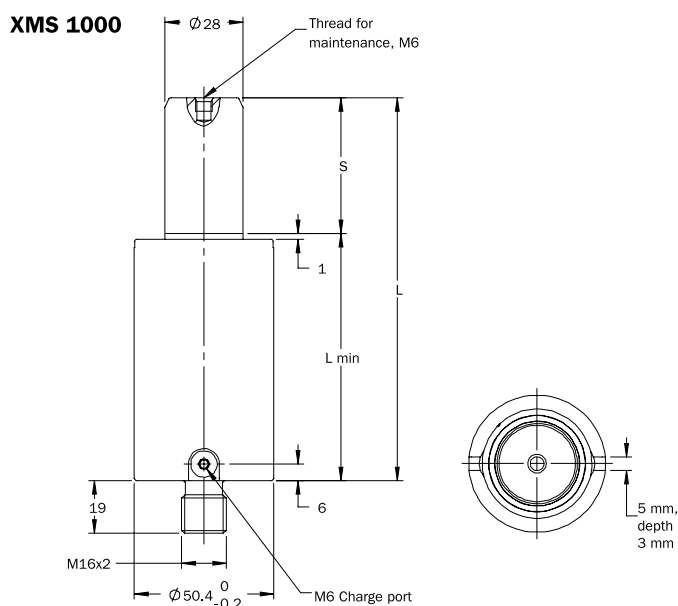
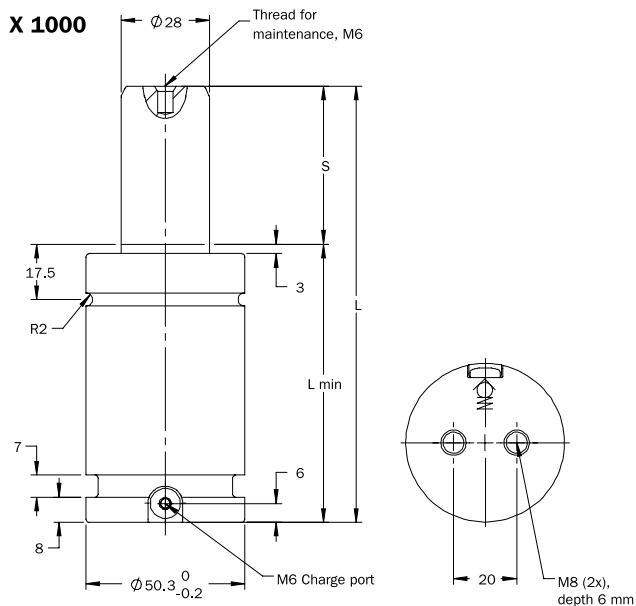
Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-10000, WDX356204-10xxDMS, GMGDS 90.25.08-10, 39D997xx, B2 4005 21749xx, 04585xx, Z0004591xx, Z000438717, Z000376302, 305075x, 305076x, 90201405890, 90201407787



X 1000



XMS 1000

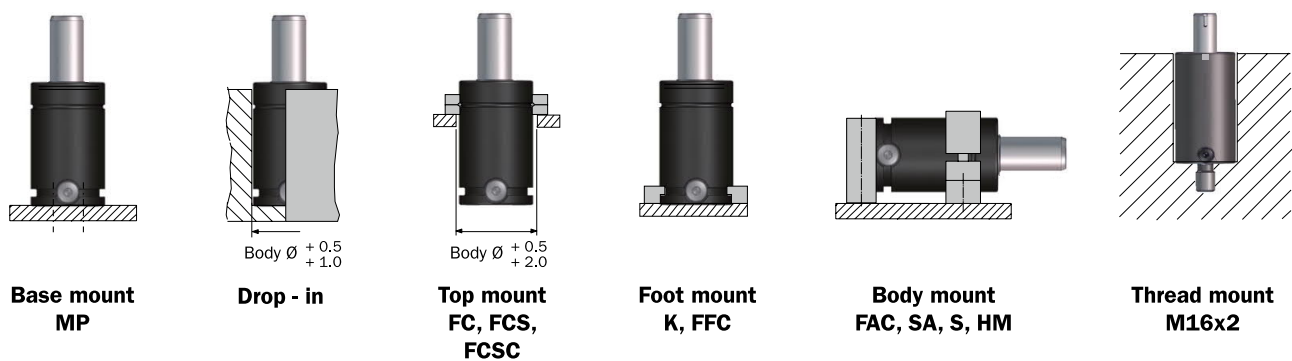


Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X/XMS 1000-013	13	9,200	13,800	2,068	3,103	64	51	0.03	0.50	✓
X/XMS 1000-016	16		13,800		3,103	70	54	0.04	0.52	
X/XMS 1000-019	19		14,000		3,147	76	57	0.04	0.54	
X/XMS 1000-025	25 ■		14,200		3,192	88	63	0.05	0.59	✓
X/XMS 1000-032	32		14,300		3,215	102	70	0.06	0.64	
X/XMS 1000-038	38 ■		14,500		3,260	114	76	0.07	0.70	✓
X/XMS 1000-050	50 ■		14,600		3,282	138	88	0.09	0.79	✓
X/XMS 1000-063	63 ■		14,700		3,305	164	101	0.11	0.89	✓
X/XMS 1000-075	75		14,700		3,305	188	113	0.13	0.99	
X/XMS 1000-080	80		14,800		3,327	198	118	0.14	1.03	✓
X/XMS 1000-100	100		14,800		3,327	238	138	0.17	1.19	✓
X/XMS 1000-125	125		14,800		3,327	288	163	0.21	1.39	✓

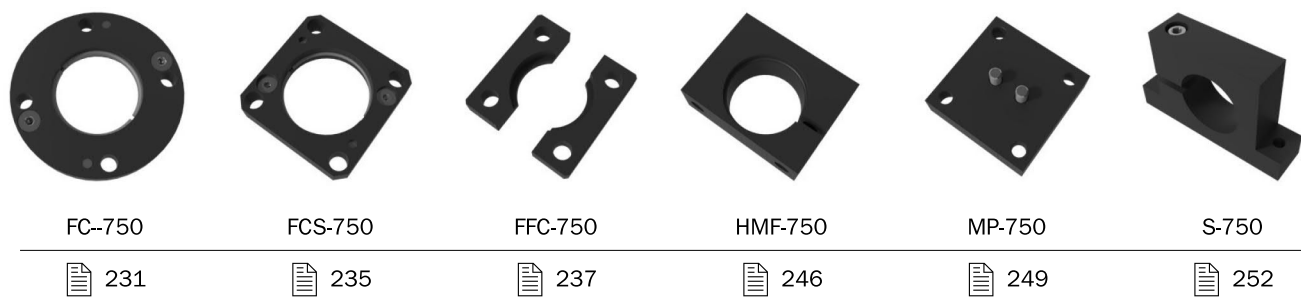
* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Recommended mounts



Additional mounts

FCSC-750	FFL-750	FSL-750	FSS-750	HM-750	K-750
236	238	241	243	245	247
L-750	RMX-1000				
248	251				

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

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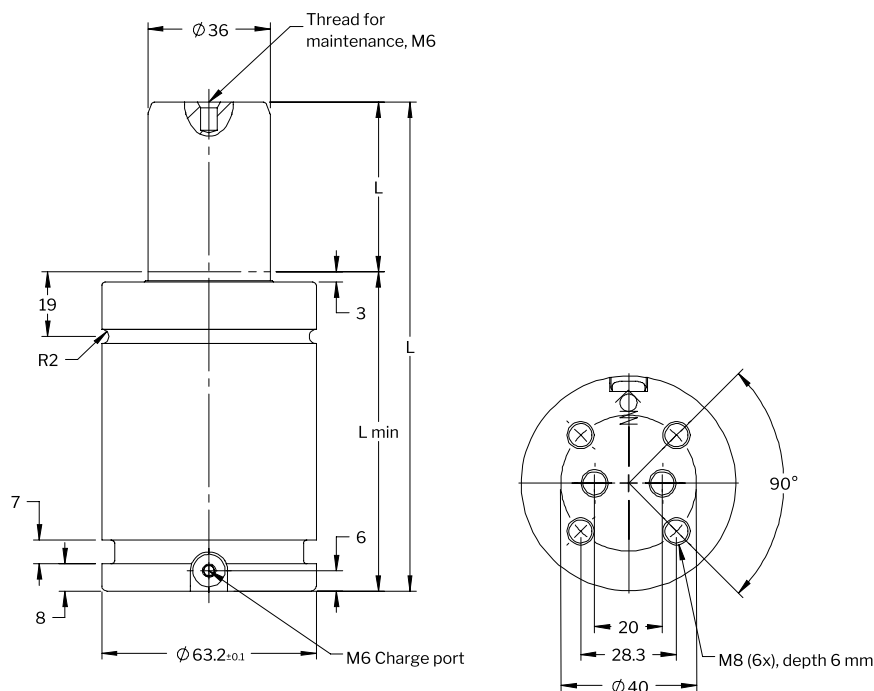
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with two sets M8 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 15-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3020434

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-15000,
WDX356204-15xxDMS, 39D997xx, B2 4005 21723xx, 04585xx, 1028888



Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 1500-013	13	15,000	24,000	3,375	5,395	70	57	0.05	0.89	✓
X 1500-016	16		24,100		5,420	76	60	0.06	0.93	
X 1500-019	19		24,200		5,440	82	63	0.07	0.96	
X 1500-025	25 ■		24,300		5,365	94	69	0.08	1.03	✓
X 1500-032	32		23,800		5,355	108	76	0.11	1.08	
X 1500-038	38 ■		23,900		5,375	120	82	0.12	1.15	✓
X 1500-050	50 ■		24,000		5,395	144	94	0.15	1.28	✓
X 1500-063	63 ■		24,100		5,420	170	107	0.19	1.43	✓
X 1500-075	75		24,200		5,440	194	119	0.22	1.57	
X 1500-080	80		24,200		5,440	204	124	0.24	1.63	✓
X 1500-100	100		24,300		5,465	244	144	0.29	1.86	✓
X 1500-125	125		24,300		5,465	294	169	0.36	2.15	✓

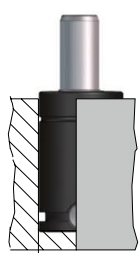
* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount
MPX



Body Ø +0.5
+1.0

Drop - in



Body Ø +0.5
+2.0

Top mount
FCX, FCSX,
XFC



Foot mount
KX, FFCX, FFX

Recommended mounts



FCSX-1500

 235



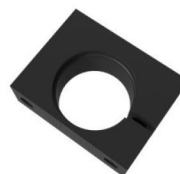
XFC-1500

 231



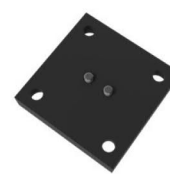
FFX-1500

 237



HMF-X1500

 246



MPX-1500

 249



FFCX-1500

 237

Additional mounts

FCX-1500

 235

FCSCX-1500

 236

FSLT-1500

 241

KX-1500

 247

LX-1500

 248

RMX-1500

 251

XFCJ-1500

 231

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

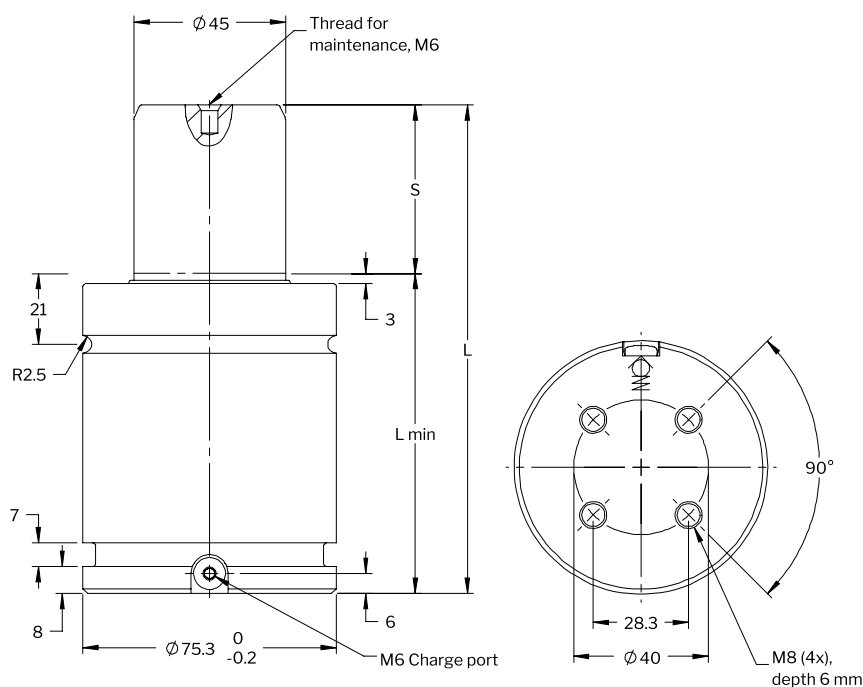
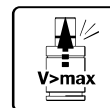
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with four M8 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium Nitrogen
 Max. charging pressure (at 20°C) 150 bar
 Min. charging pressure (at 20°C) 25 bar
 Operating temperature 0 to +80°C
 Force increase by temperature 0.3%/°C
 Recommended max strokes/min (at 20°C) ~ 40-100
 Max piston rod velocity 1.6 m/s
 Rod surface Nitrided
 Tube surface Black oxide
 Repair kit 3018848
 The X 2400-016 and X 2400-019 are not possible to repair.

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-24000, WDX356204-24xxDMS, GMGDS 90.25.08-24, 39D997xx, B2 4005 21723xx, 04585xx, Z000410552, Z000479498, Z0004591xx, Z000365402



Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 2400-016	16	24,000	38,300	5,396	8,611	77	61	0.09	1.34	
X 2400-019	19		38,500		8,656	83	64	0.10	1.38	
X 2400-025	25 ■		38,700		8,701	95	70	0.13	1.45	✓
X 2400-032	32		38,600		8,678	109	77	0.16	1.56	
X 2400-038	38 ■		38,400		8,633	121	83	0.18	1.65	✓
X 2400-050	50 ■		39,200		8,813	145	95	0.23	1.84	✓
X 2400-063	63 ■		39,200		8,813	171	108	0.28	2.20	✓
X 2400-075	75		39,200		8,813	195	120	0.33	2.26	
X 2400-080	80		39,200		8,813	205	125	0.35	2.32	✓
X 2400-100	100		39,300		8,835	245	145	0.43	2.66	✓
X 2400-125	125		39,300		8,835	295	170	0.54	3.05	✓

* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount
MP



Body Ø $+0.5$
 $+1.0$

Drop - in

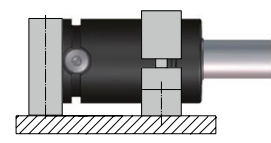


Body Ø $+0.5$
 $+2.0$

Top mount
FC, FCS



Foot mount
K, FFC



Body mount
FAC, SA, S, HM

Recommended mounts



FC-1500

 231



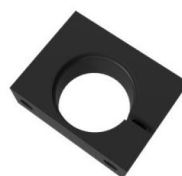
FCS-1500

 235



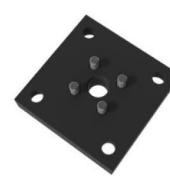
FFC-1500

 237



HMF-1500

 246



MP-1500

 249



S-1500

 252

Additional mounts

FCSC-1500

 236

FFL-1500

 238

FSL-1500

 241

FSS-1500

 243

HM-1500

 245

K-1500

 247

L-1500

 248

RMX-2400

 251

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

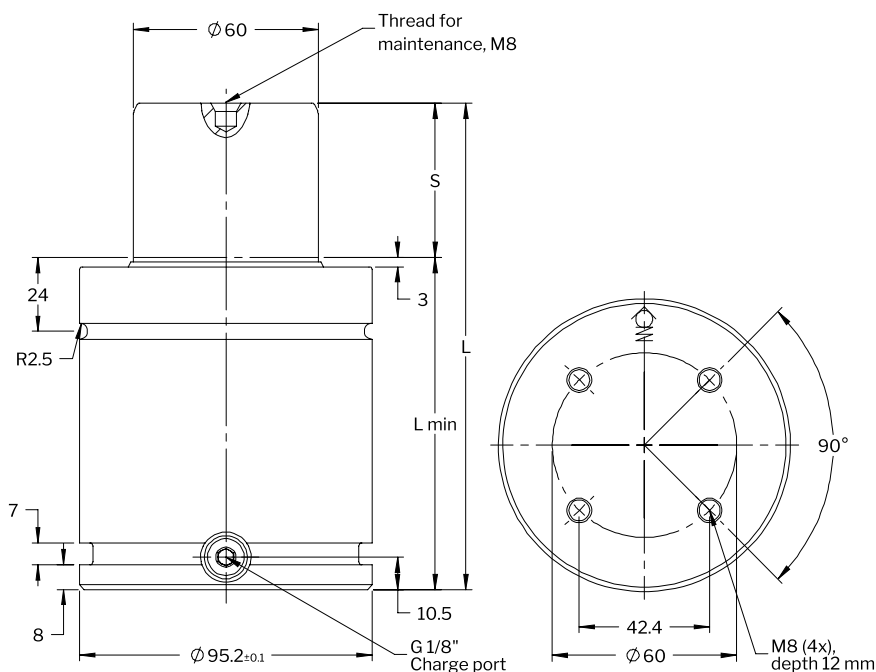
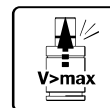
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with two M8 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 30-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3018849

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-42000, WDX356204-42xxDMS, GMGDS 90.25.08-42, 39D997xx, B2 4005 21723xx, 04585xx, Z000414099, Z0004591xx, Z00044337x, 39-673-026x, 39-673-027x, 305077x, 305078x, 90201404397, 90201404443, 90201405563



Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 4200-016	16	42,000	61,700	9,440	13,870	90	74	0.15	2.81	
X 4200-019	19		63,700		14,320	96	77	0.18	2.88	
X 4200-025	25		64,800		13,670	108	83	0.26	2.96	✓
X 4200-032	32		65,300		14,455	122	90	0.30	3.13	
X 4200-038	38		65,800		14,790	134	96	0.32	3.28	✓
X 4200-050	50 ■		67,000		15,060	158	108	0.40	3.57	✓
X 4200-063	63 ■		67,800		15,240	184	121	0.49	4.10	✓
X 4200-075	75		68,000		15,285	208	133	0.58	4.20	
X 4200-080	80 ■		68,600		15,420	218	138	0.61	4.32	✓
X 4200-100	100 ■		69,100		15,535	258	158	0.74	4.81	✓
X 4200-125	125		69,600		15,645	308	183	0.91	5.42	✓

* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount
MP



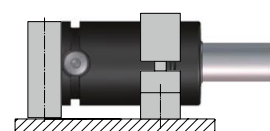
Body $\varnothing$ + 0.5
+ 1.0
Drop - in



Body $\varnothing$ + 0.5
+ 2.0
Top mount
FC, FCS, FCSC



Foot mount
K, FFC



Body mount
FAC, SA, S, HM

Recommended mounts



FC-3000

 231



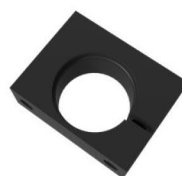
FCS-3000

 235



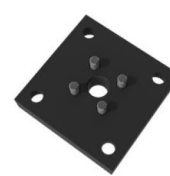
FFC-3000

 237



HMF-3000

 246



MP-3000

 249



S-3000

 252

Additional mounts

FCSC-3000

 236

FFL-3000

 238

FSL-3000

 241

FSS-3000

 243

HM-3000

 245

K-3000

 247

L-3000

 248

RM-3000

 251

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

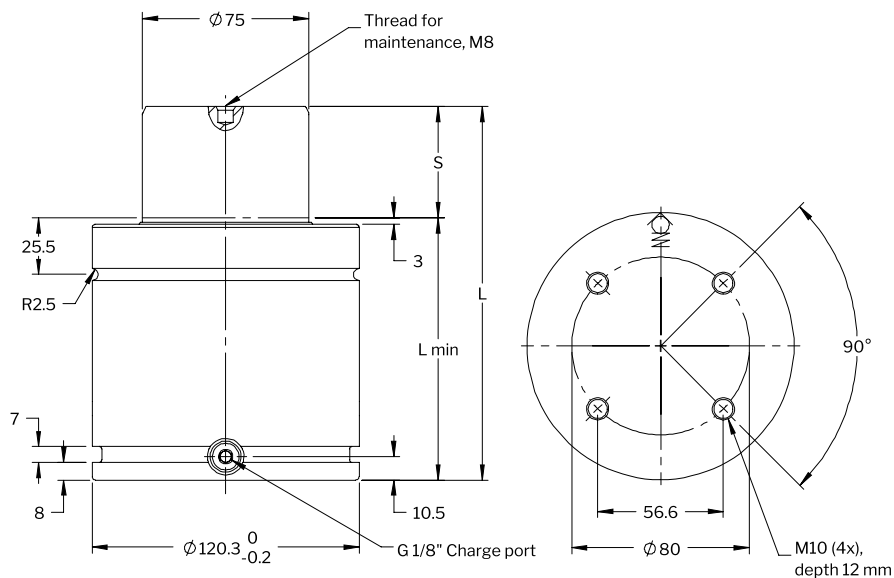
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with four M8 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 30-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3019912

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-66000, WDX356204-66xxDMS, GMGDS 90.25.08-66, 39D9977x, B2 4005 21723xx, B2 4005 21724xx, 04585xx, 39-673-027x, 39-673-028x, 305397x, 305398x, 90201404320, 90201405687, 90201405211, 90201406012

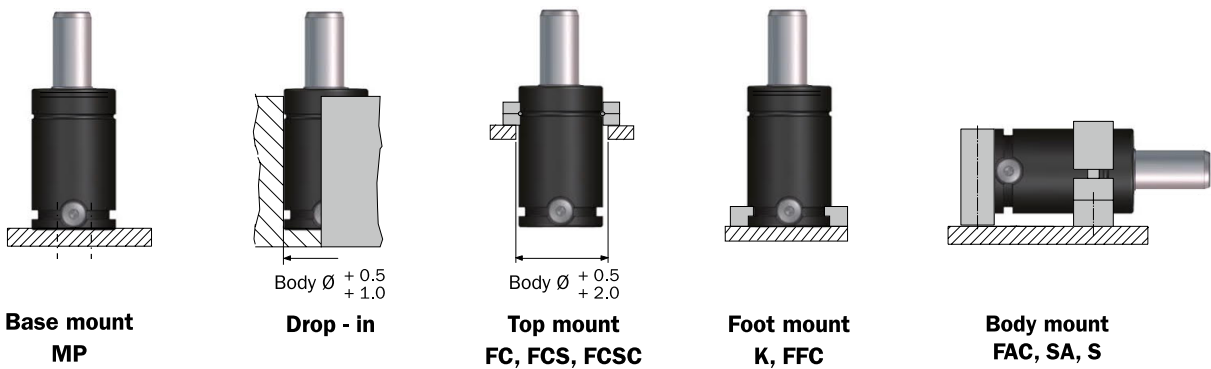


Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 6600-016	16	66,300	89,000	14,905	20,010	100	84	0.32	5.00	
X 6600-019	19		91,000		20,460	106	87	0.35	5.11	
X 6600-025	25		93,900		21,110	118	93	0.42	5.34	✓
X 6600-032	32		96,100		21,605	132	100	0.49	5.61	
X 6600-038	38		98,200		22,075	144	106	0.56	5.84	✓
X 6600-050	50 ■		100,600		22,615	168	118	0.69	6.31	✓
X 6600-063	63 ■		102,400		23,020	194	131	0.83	6.81	✓
X 6600-075	75		103,400		23,245	218	143	0.90	7.27	
X 6600-080	80 ■		104,100		23,400	228	148	1.01	7.46	✓
X 6600-100	100 ■		105,400		23,700	268	168	1.23	8.23	✓
X 6600-125	125		106,500		23,940	318	193	1.50	9.19	✓

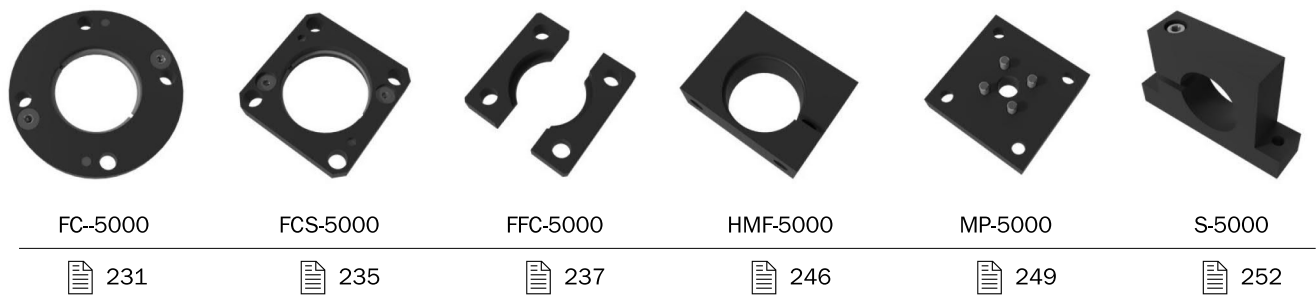
* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

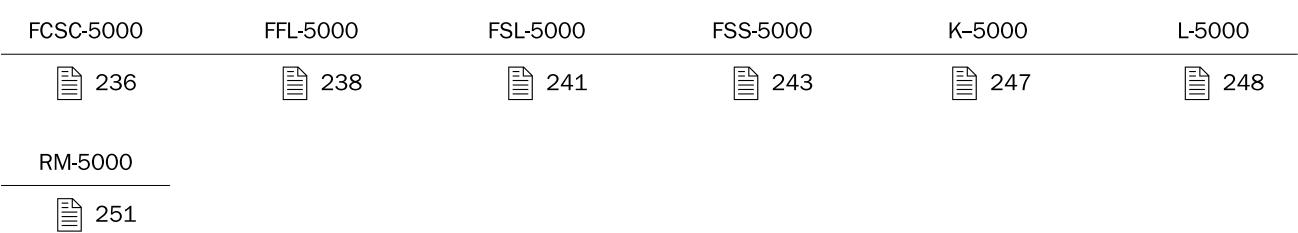
Mounting possibilities



Recommended mounts



Additional mounts



Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

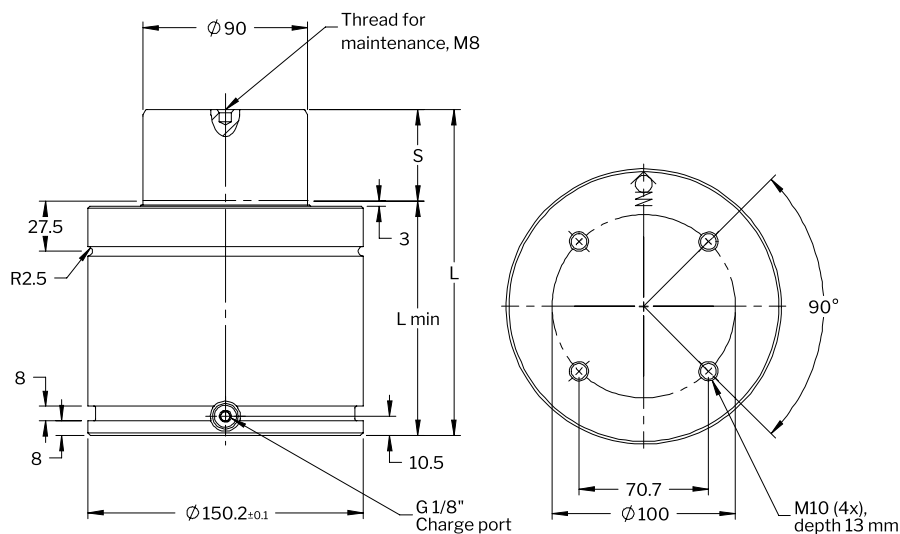
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with four M10 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see "About gas springs".

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 30-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3020614

Automotive standard: VDI 3003-Blatt 3, ISO 11901-3-95000, WDX356204-95xxDMS, GMGDS 90.25.08-95, 39D997xx, B2 4005 21724xx, 04585xx, 39-673-028x, 39-673-0290, MES E7231 PG230-PG24D-9A, 305398x, 305399x, SD116391-9500

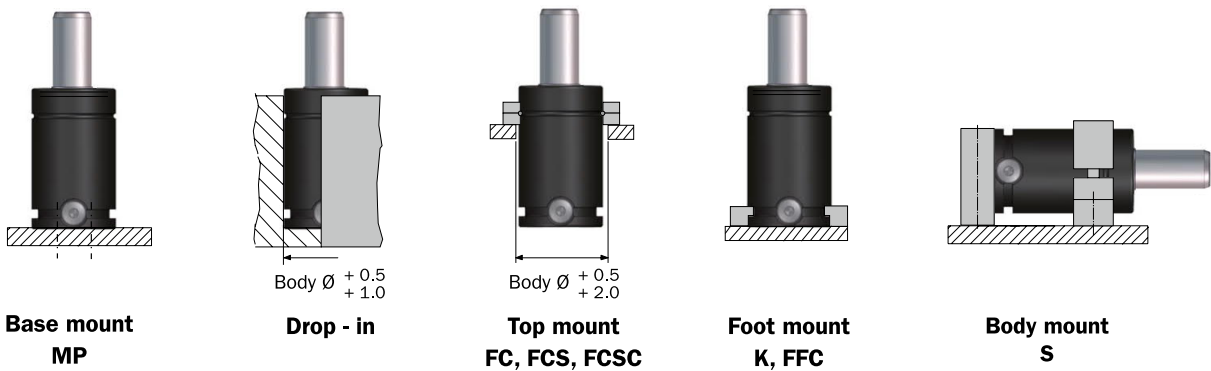


Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 9500-019	19	95,000	135,000	21,400	30,370	116	97	0.49	9.86	✓
X 9500-025	25		139,000		31,270	128	103	0.58	10.23	
X 9500-032	32		142,000		31,945	142	110	0.70	10.67	
X 9500-038	38		143,000		32,170	154	116	0.80	11.04	
X 9500-050	50 ■		146,000		32,845	178	128	0.99	11.79	
X 9500-063	63 ■		148,000		33,295	204	141	1.20	12.60	
X 9500-075	75		149,000		33,520	228	153	1.39	13.35	
X 9500-080	80 ■		150,000		33,745	238	158	1.47	13.66	
X 9500-100	100 ■		151,000		33,970	278	178	1.79	14.91	
X 9500-125	125		152,000		34,195	328	203	2.20	16.47	

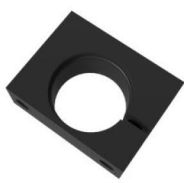
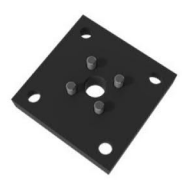
* Isothermal end force at full stroke.

■ Recommended stroke length for optimal delivery.

Mounting possibilities



Recommended mounts

					
FC-7500	FCS-7500	FFC-7500	HMF-7500	MP-7500	S-7500
 231	 235	 237	 246	 249	 252

Additional mounts

FCSC-7500	FFL-7500	FSL-7500	FSS-7500	K-7500	L-7500
 236	 238	 241	 243	 247	 248
RM-7500					
 251					

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.

The Power Line Series includes our shortest and most powerful piston rod sealed gas springs, offering impressive force in a very compact format.

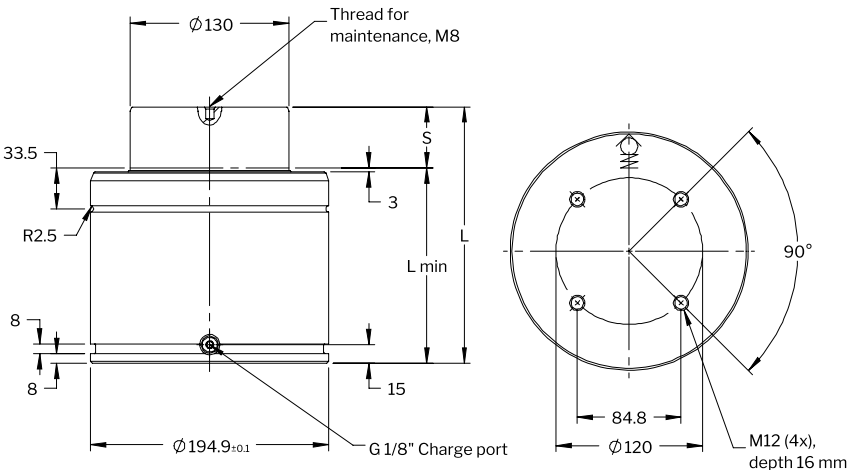
These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths up to 125 mm. There is a side port for gas charging that can also be used to connect to a hose system. An upper C-groove, lower U-groove together with four M12 threaded holes allows for various mounting possibilities using our standard mounts.

Basic information

For general information see “About gas springs”.

Pressure medium	Nitrogen
Max. charging pressure (at 20°C)	150 bar
Min. charging pressure (at 20°C)	25 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3%/°C
Recommended max strokes/min (at 20°C)	~ 15-40
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3022902

Automotive standard: ISO 11901-3-200000, GMGDS 90.25.08-199, 39-673-029x, 305467x, 305468x



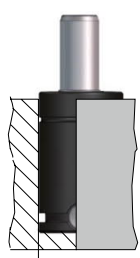
Order No.	S stroke	Force in N at 150 bar/+20°C		Force in lbf at 150 bar/+20°C		L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
		Initial	End force*	Initial	End force*					
X 20000-019	19	200,000	259,000	45,000	58,200	148	129	1.21	21.50	✓
X 20000-025	25		270,000		60,750	160	135	1.38	22.16	
X 20000-032	32		280,000		63,000	174	142	1.59	22.92	✓
X 20000-038	38		287,000		64,600	186	148	1.77	23.57	
X 20000-050	50 ■		298,000		67,000	210	160	2.12	24.87	✓
X 20000-063	63 ■		307,000		69,100	236	173	2.50	26.28	✓
X 20000-075	75		313,000		70,500	260	185	2.85	27.59	✓
X 20000-080	80 ■		315,000		70,900	270	190	3.00	28.13	
X 20000-100	100 ■		323,000		72,700	310	210	3.58	30.30	✓
X 20000-125	125		330,000		74,250	360	235	4.31	33.02	✓

* Isothermal end force at full stroke. ■ Recommended stroke length for optimal delivery.

Mounting possibilities



Base mount
MP



Body Ø $+0.5$
 $+1.0$

Drop - in



Body Ø $+0.5$
 $+2.0$

Top mount
FCS



Foot mount
K, FFC

Recommended mounts



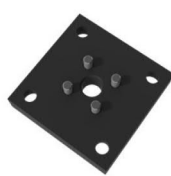
FCS-10000

 235



FFC-10000

 237



MP-10000

 249

Additional mounts

K-10000

 247

Note!

For dimensions on all mount options, refer to “Mounts” in chapter 3.