

The R series was named because the tube is Rollformed and therefore permanently closed, making these springs non-repairable. R series springs are available with Ø12, Ø15, and Ø19 mm tube diameters and with stroke lengths up to 125 mm. There are 4 color-coded models, all with preset forces. An adjustable model (black) is also available. It can be ordered either set to a specific charge pressure or it can be adjusted by customers with the appropriate charging equipment and training.



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)	20 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



How to order

R12 - 7 - Blue

Model:

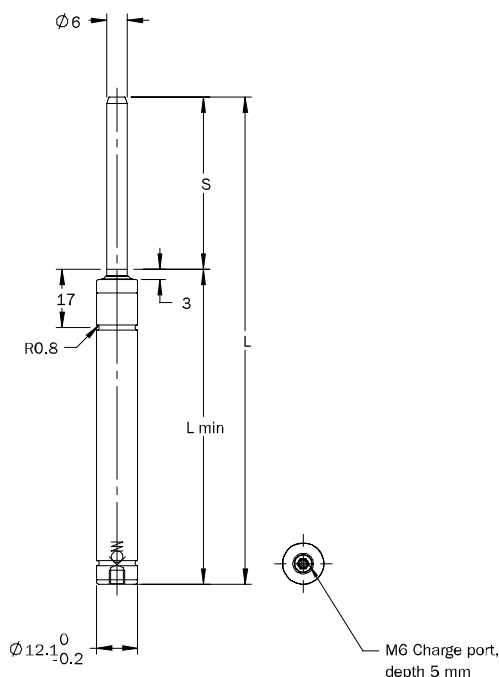
Force: Green, Blue, Red, Yellow, Black, state desire force in N

Stroke length: (mm)

(7, 10, 12.7, 15, 19, 25, 38, 50, 63.5, 75, 80, 100, 125)

Model	Force in N at +20°C	Force in lbf at +20°C	Color	Charging pressure (bar)
	in N	in lbf		
R12	130	29	Green	45
R12	250	56	Blue	90
R12	380	85	Red	135
R12	500	112	Yellow	180
R12 XX*	60-500	13-112	Black	20-180

* Force to be set by the customer. Delivered with a pre-charge of 5-10 bar.

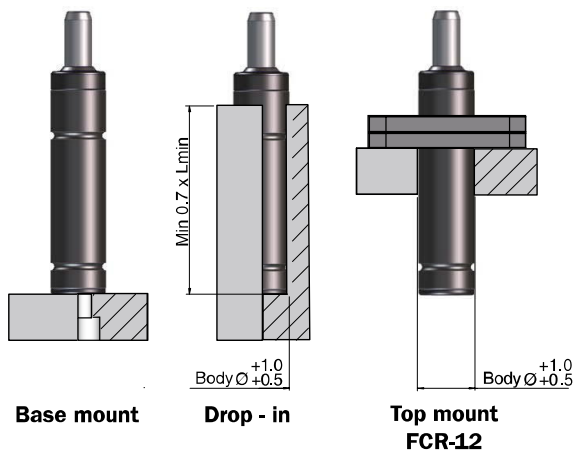


S stroke	Isothermal end force in N at +20°C **				Isothermal end force in lbf at +20°C **				L ±0.25	L min.	Gas vol. (l)	Weight (kg)
	R12	R12	R12	R12	R12	R12	R12	R12				
7	149	299	448	597	34	67	101	134	56	49	0.001	0.03
10	158	317	475	634	36	71	107	143	62	52	0.001	0.03
12.7	164	329	493	657	37	74	111	148	67.4	54.7	0.001	0.03
15 ■	168	335	503	670	38	75	113	151	72	57	0.002	0.03
19	172	344	517	689	39	77	116	155	80	61	0.002	0.04
25 ■	177	354	530	707	40	80	119	159	92	67	0.002	0.04
38 ■	183	365	548	730	41	82	123	164	118	80	0.003	0.04
50 ■	185	371	556	742	42	83	125	167	142	92	0.004	0.05
63.5	197	395	592	789	44	89	133	178	172	108.5	0.005	0.06
75	197	394	591	788	44	89	133	178	195	120	0.006	0.06
80	207	414	620	827	47	93	139	186	205	125	0.006	0.07
100	204	409	613	817	46	92	138	184	245	145	0.008	0.07
125	202	405	607	810	45	91	137	182	295	170	0.010	0.09

** at full stroke

■ Recommended stroke length for optimal delivery.

Mounting possibilities



only to be used for
strokes 7-25 mm

Recommended mounts



FCR-12

 233

Additional mounts

FC-12

 232

Note!

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

The R series was named because the tube is Roll-formed and therefore permanently closed, making these springs non-repairable. R series springs are available with Ø12, Ø15, and Ø19 mm tube diameters and with stroke lengths up to 125 mm. There are 4 color-coded models, all with preset forces. An adjustable model (black) is also available. It can be ordered either set to a specific charge pressure or it can be adjusted by customers with the appropriate charging equipment and training.



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)	20 bar
Operating temperature	0 to +80°C
Force increase by temperature	0.3 %/°C
Recommended max. strokes/min (at 20°C)	~100 – 150
Max. piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair Kit	Non-repairable

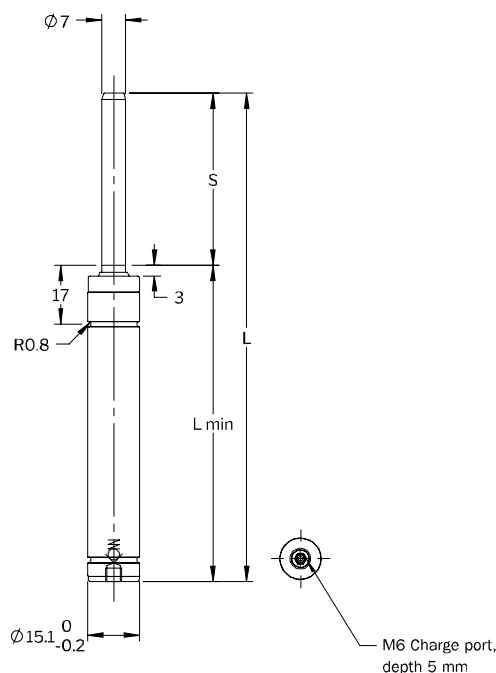


How to order

R15 - 10 - Green		
Model:		Force: Green, Blue, Red, Yellow, Black, state desire force in N
		Stroke length: (mm) (7, 10, 12.7, 15, 19, 25, 38.1, 50, 63.5, 75, 80, 100, 125)

Model	Force in N at +20°C	Force in lbf at +20°C	Color	Charging pressure (bar)
	in N	in lbf		
R15	180	40	Green	45
R15	350	80	Blue	90
R15	500	115	Red	135
R15	700	160	Yellow	180
R15 XX*	80-700	18-160	Black	20-180

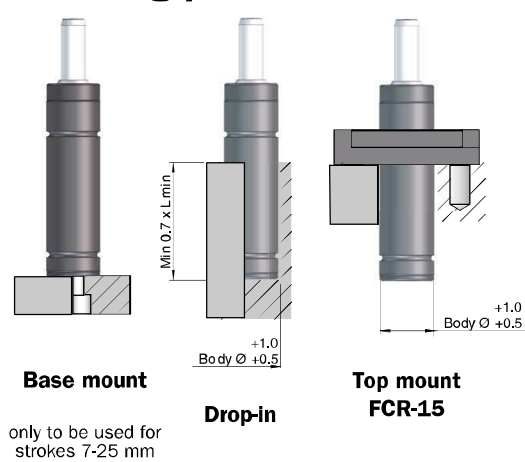
* Force to be set by the customer. Delivered with a pre-charge of 5-10 bar.



S stroke	Isothermal end force in N at +20°C **				Isothermal end force in lbf at +20°C **				L ±0.25	L min.	Gas vol. (l)	Weight (kg)
	R15	R15	R15	R15	R15	R15	R15	R15				
7	216	432	648	865	49	97	146	195	56	49	0.001	0.05
10	224	447	671	895	50	101	151	201	62	52	0.001	0.05
12.7	228	457	685	914	51	103	154	206	67.4	54.7	0.001	0.05
15	232	463	695	927	52	104	156	209	72	57	0.002	0.05
19	236	471	707	943	53	106	159	212	80	61	0.002	0.05
25	240	480	720	961	54	108	162	216	92	67	0.002	0.06
38.1	258	516	774	1,032	58	116	174	232	118.2	80.1	0.003	0.07
50	258	516	774	1,033	58	116	174	232	142	92	0.004	0.08
63.5	273	546	819	1,092	61	123	184	246	172	108.5	0.005	0.09
75	270	541	811	1,982	61	122	182	243	195	120	0.006	0.10
80	270	539	809	1,079	61	121	182	243	205	125	0.006	0.11
100	267	534	802	1,069	60	120	180	240	245	145	0.008	0.12
125	265	531	796	1,062	60	119	179	239	295	170	0.010	0.14

** at full stroke

Mounting possibilities



Recommended mounts



FCR-15

233

Additional mounts

FC-15

232

Note!

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

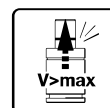
The R series get their name from the fact their tube is roll formed and therefore permanently closed, making them non-repairable. R series springs are available with Ø 12, Ø 15, and Ø 19 mm tube diameters and with stroke lengths up to 125 mm. There are 4 color-coded models, whose forces are preset. An adjustable model (black) is also available, that can be ordered to a specific charge pressure or adjusted by customers with the appropriate charging equipment and training.

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)	~ 100-150
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	Non-repairable

Automotive standard: VDI 3003-Blatt 2, ISO 11901-1-900, WDX35-80-3607xxx, WDX35-80-3615xxx, WDX35-80-3625xxx, WDX35-80-3638xxx, WDX35-80-3650xxx, 39D878xx, B2 4005 21712xx, B2 4005 21680xx, B2 4005, 21729xx, 03326xx, 0529565, 0332739, 05755xx, 39-670-67xx, WDX35-80-19xxx



How to order

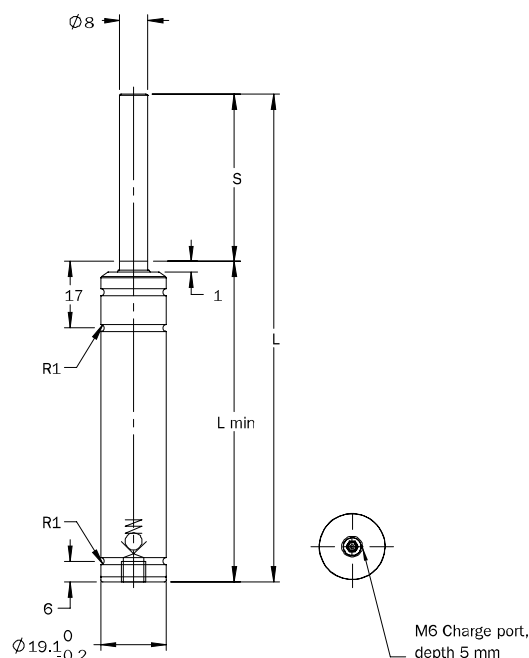
R19 - 7 - Yellow

Model: _____ **Force:** Green, Blue, Red, Yellow, Black, state desire force in N

Stroke length: (mm)
(7, 10, 15, 25, 38.1, 50, 63.5, 80, 100, 125)

Model	Force in N at +20°C	Force in lbf at +20°C	Color	Charging pressure (bar)
	in N	in lbf		
R19	300	67	Green	60
R19	500	112	Blue	100
R19	700	157	Red	140
R19	900	202	Yellow	180
R19 XX *	125-900	67-202	Black	25-180

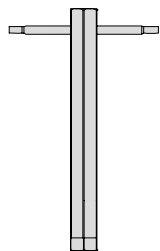
* Force to be set by the customer. Delivered with a pre-charge of 5-10 bar.



S stroke	Isothermal end force in N at +20°C **				Isothermal end force in lbf at +20°C **				L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
	R19	R19	R19	R19	R19	R19	R19	R19					
7	530	880	1,200	1,600	119	199	270	360	56	49	0.003	0.07	
10	470	780	1,100	1,400	105	175	247	315	62	52	0.003	0.08	
12	444	740	1,040	1,330	100	166	233	299	66	54	0.004	0.08	
15 ■	440	730	1,000	1,300	99	164	225	292	72	57	0.004	0.08	✓
25 ■	420	700	980	1,300	94	157	220	292	92	67	0.006	0.08	✓
38.1 ■	410	690	970	1,200	92	155	218	270	118.2	80.1	0.009	0.10	✓
50 ■	410	680	960	1,200	92	152	216	270	142	92	0.011	0.12	✓
63.5	410	680	950	1,200	92	152	214	270	172	108.5	0.014	0.13	✓
80	410	680	950	1,200	92	152	214	270	205	125	0.018	0.14	✓
100	410	670	940	1,200	92	152	214	270	245	145	0.022	0.17	✓
125	410	670	940	1,200	92	152	214	270	295	170	0.027	0.20	✓

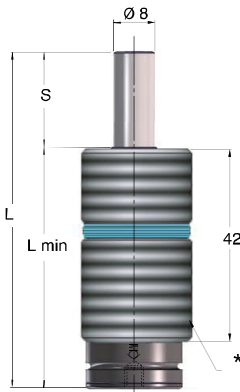
** at full stroke ■ Recommended stroke length for optimal delivery.

Installation tool



Installation Tool
for threaded sleeve
Order No. 3020618

R19



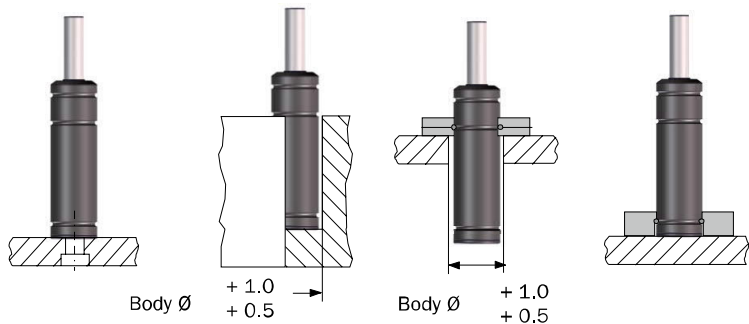
Also available with
threaded sleeve -TM or -TI

Order no. example
R19-Stroke-Color-TM
R19-Stroke-Color-TI

* TM = M24 x 1,5
or TI = 1" - 8 UNC

* Please note that when the threaded sleeve is used, the max
stroke length is reduced by 3 mm and Lmin is increased by 3 mm.

Mounting possibilities



Base mount

only to be used for
strokes 7-25 mm

Drop - in

Top mount
FCR

Foot mount
BF-19

only to be used for
strokes 7-25 mm

Recommended mounts



BF-19

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FCR-90

234

FCR-19 VDI2

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Additional mounts

FC-19

232

Note!

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

The M2 is available in four preset models, with initial forces from 500 to 2000 N. The gas spring is designed to meet the ISO-dimension found in ISO 11901 as well as in VDI 3003. Each spring is color-coded for easy identification of force rating. This gas spring is also available with adjustable force (black) that can be customized to meet individual force requirements.

The adjustable model may be set to desired pressure when ordered. The M2 spring can in many cases directly replace mechanical die springs of 25 mm (1 inch) diameter. All M2 springs can be repaired and recharged. The spring can be attached to the tool, using a mount (FCR or SM). The M6 thread in the base of the spring is used for charging and is also a mounting option.



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).....	~ 80-100
Max piston rod velocity	1.6 m/s
Rod surface	Nitrided
Tube surface	Black oxide
Repair kit	3016385

Automotive standard: VDI 3003-Blatt 2, ISO 11901-1-2000, 39D878xx, B2 4005 2172962, B2 4005 21680xx, 03326xx, 0529566, 0332740, 05295xx, Z000351514, Z000213263, Z000260312, N000739808, 39-670-18xx, 304502x, 304503x

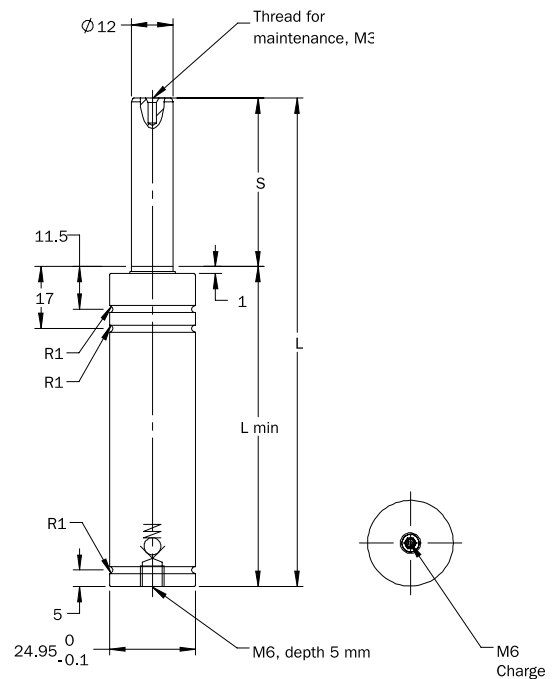


How to order

M2 - 10 - Green		
Model:		Force: Green, Blue, Red, Yellow, Black, state desire force in N
		Stroke length: (mm) (10, 12.7, 15, 16, 25, 38.1, 50, 63.5, 80, 100, 125)

Model	Force in N at +20°C	Force in lbf at +20°C	Color	Charging pressure (bar)
	in N	in lbf		
M2	500	110	Green	45
M2	1,000	225	Blue	90
M2	1,500	340	Red	135
M2	2,000	450	Yellow	180
M2 XX*	280-2,000	63-450	Black	25-180

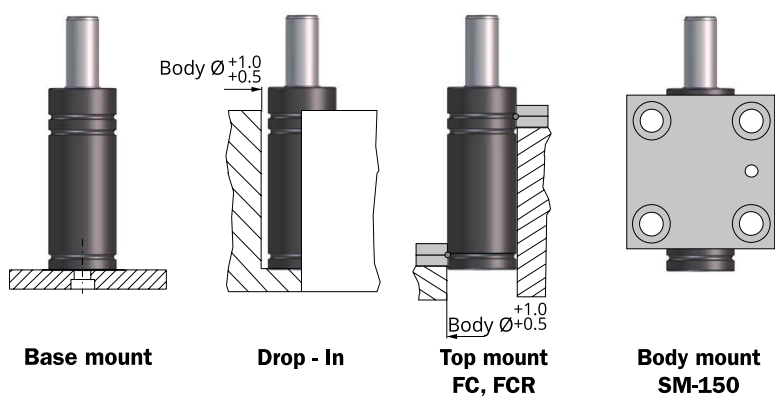
* Force to be set by the customer. Delivered with a pre-charge of 5-10 bar.



S stroke	Isothermal end force in N at +20°C **				Isothermal end force in lbf at +20°C **				L ±0.25	L min.	Gas vol. (l)	Weight (kg)	ISO
	M2	M2	M2	M2	M2	M2	M2	M2					
10	770	1,530	2,300	3,060	173	344	689	689	62	52	0.005	0.14	
12.7	770	1,530	2,300	3,070	173	344	690	690	67.4	54.7	0.006	0.15	
15	770	1,540	2,310	3,070	173	346	690	690	72	57	0.007	0.16	✓
16	770	1,540	2,310	3,070	173	346	690	690	74	58	0.007	0.16	
25	770	1,540	2,310	3,080	173	346	692	692	92	67	0.010	0.18	✓
38.1	770	1,540	2,320	3,090	173	346	695	695	118.2	80.1	0.015	0.20	✓
50	770	1,540	2,320	3,090	173	346	695	695	142	92	0.019	0.22	✓
63.5	760	1,520	2,270	3,020	171	342	679	679	172	108.5	0.024	0.26	✓
80	760	1,520	2,280	3,040	171	342	683	683	205	125	0.029	0.30	✓
100	760	1,520	2,290	3,050	171	342	686	686	245	145	0.036	0.33	✓
125	760	1,530	2,290	3,060	171	344	689	689	295	170	0.044	0.39	✓

** at full stroke

Mounting possibilities



Recommended mounts



Additional mounts



Note!

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