

# DAPCO®

Cushion Series Nitrogen Gas Springs

FCL Series



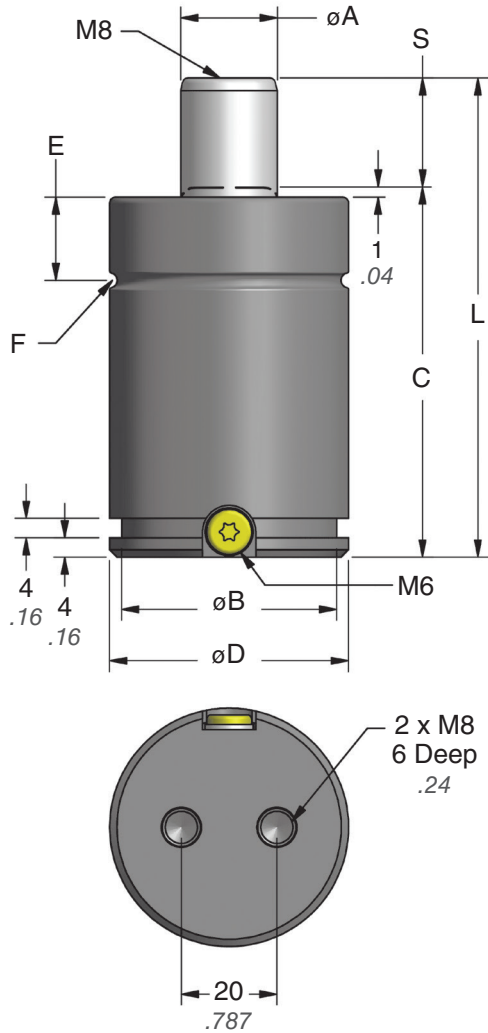
FCL.503.050.TO.150

FCL.755.050.TO.150

## ***Mini Gas Springs with Cushioned Return***

- Reduced return force, ideal for press driven cams
- Reduced force increase during travel
- Stroke lengths up to 125 mm





**TO – Basic Model**

Model	FCL.503	FCL.755
A	16 .63	20 .79
B	40 1.58	45 1.77
D	44.5 1.750	50 1.968
E	16.5 .65	17.5 .68
F	R1 .04	R1.5 .06

Part No.	S* mm inch	C	L ±0.25 ±0.010
FCL.____.025	24 0.94	76.5 3.01	100.5 3.957
FCL.____.038	36.5 1.44	89 3.50	125.5 4.941
FCL.____.050	49 1.93	101.5 4.00	150.5 5.925
FCL.____.063	61.5 2.42	114 4.49	175.5 6.909
FCL.____.075	74 2.91	126.5 4.98	200.5 7.894
FCL.____.080	79 3.11	131.5 5.18	210.5 8.287
FCL.____.100	99 3.90	151.5 5.96	250.5 9.862
FCL.____.125	124 4.88	176.5 6.95	300.5 11.831

\*Gas Spring has a 1 mm stroke reduction.

**Ordering Example:**

**FCL.503.025. TO. 150**

**Part Number:** Includes Series, Model (503 or 755) and Stroke Length.

**Mount Option:** TO = Basic Model. When not specified, default is TO. See page 3 for mount options.

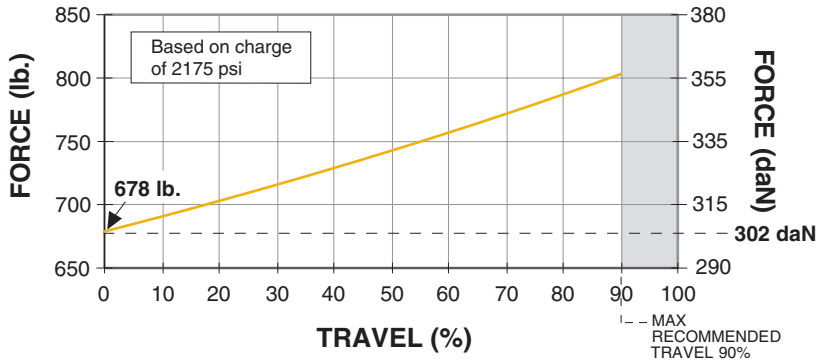
**Charging Pressure:** 15–150 bar (220–2175 psi). When not specified, default is 150 bar.

FCL Series

Force Charts  
FCL.503

On-Contact Force

psi	lb.
2175	678
2000	623
1750	545
1500	467
1000	312
500	156
250	78



On-Contact Force

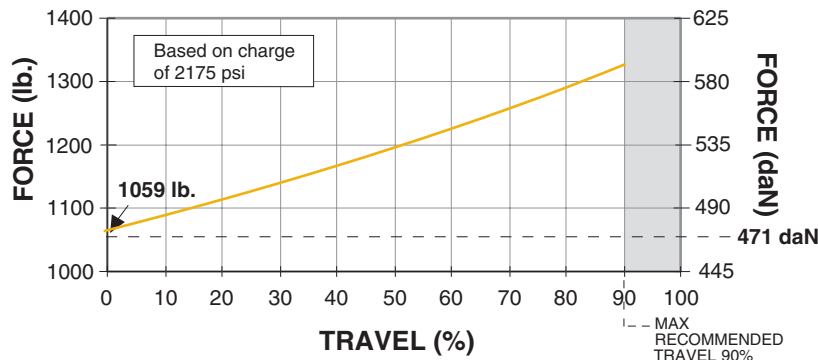
bar	daN
150	302
125	251
100	201
75	151
50	101
25	50
15	30

Note: Pressure rise is lower than a typical  $\varnothing 44.5$  mm gas spring.

FCL.755

On-Contact Force

psi	lb.
2175	1059
2000	974
1750	852
1500	730
1000	487
500	243
250	122



On-Contact Force

bar	daN
150	471
125	393
100	314
75	236
50	157
25	79
15	47

Note: Pressure rise is lower than a typical  $\varnothing 50$  mm gas spring.

Mount Options

B27 90.27				B312 90.312			B322 90.322					
Part No.	A	B	C	Part No.	A	B	Part No.	A	B	C	D	E
90.27.00500 (FCL.503)	63.5 2.500	44.9 1.768	82.6 3.25	90.312.00500 (FCL.503)	50 1.969	70 2.76	90.322.00500 (FCL.503)	52 2.047	70 2.76	20 .79	5.5 .22	22 .87
90.27.00750 (FCL.755)	76.2 3.000	53.9 2.121	95.3 3.75	90.312.00750 (FCL.755)	56.5 2.224	75 2.95	90.322.00750 (FCL.755)	55 2.165	75 2.95	25 .98	12.5 .49	29.5 1.16

Additional mount options available, refer to the Mini Nitrogen Gas Spring Catalog.

# FCL Series – Cushion Nitrogen Gas Springs

## Operating Specifications

Charging Medium: Nitrogen Gas      Maximum Speed: 500 mm/sec (20 in/sec)\*  
 Charging Pressure Range: 15 – 150 bar (220 – 2175 psi)      \*For FCL.755 models charged >100 bar (>1500 psi),  
 Operating Temperature: 4°C – 71°C (40°F – 160°F)      maximum speed is 330 mm/sec (13 in/sec).

DO NOT EXCEED 90% OF STROKE

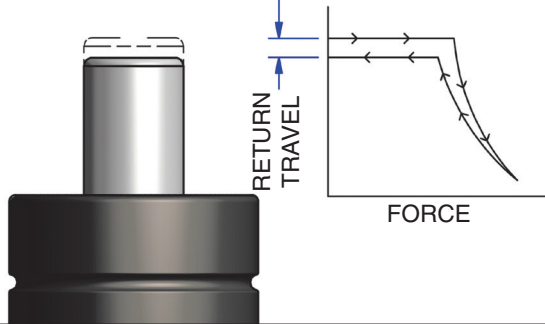
## Repair Kits

**FCL.RK.503**  
**FCL.RK.755**

FCL Repair Kits include dust cover, cushion collar assembly, cartridge assembly, bottle of assembly oil and a maintenance manual.

### Internal Cushion

Distance of cushion  
 on return travel:  
 2 mm – 4 mm  
 .08" – .16"

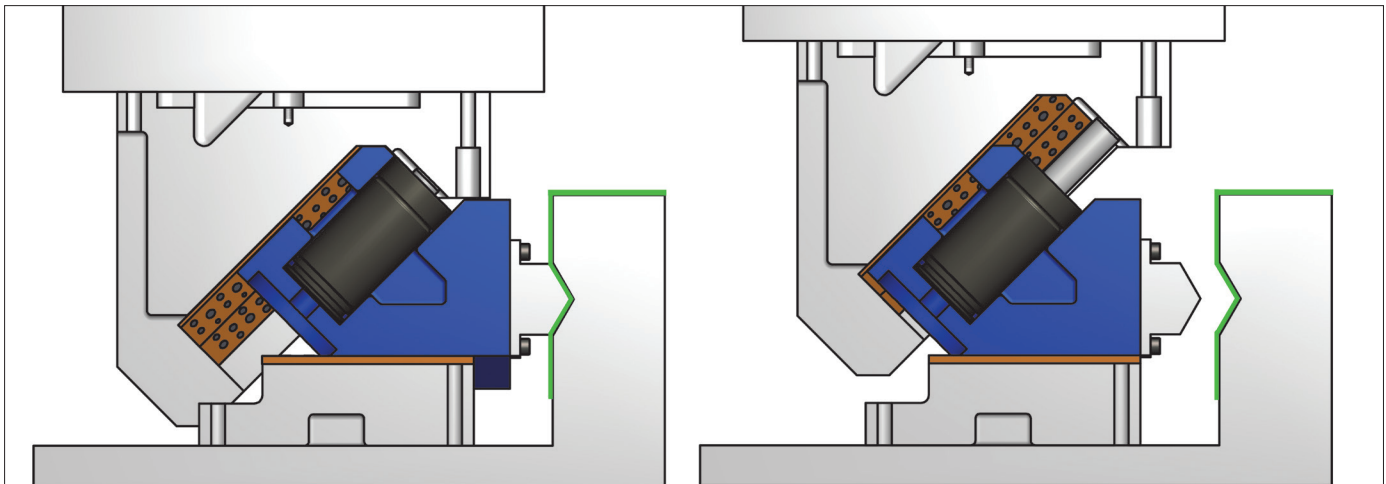


### Maximum Strokes Per Minute

bar charging pressure	psi charging pressure	strokes per minute
150	2175	42
125	1800	50
100	1450	60
75	1100	60*

\*Do not exceed 60 strokes per minute.

### Application Example



A FCL.755 cushioned nitrogen gas spring is installed in a cam that forms a part with a tool attached to the cam slide, illustrated above. FCL series gas springs are well suited for die driven cam applications. The built-in cushion provides a decelerated force on the return travel and a reduction in the overall pressure rise during operation.

# DADCO®

The global leader in nitrogen gas spring technology  
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