Standard Load Cell

A DADCO Standard Load Cell may be used to check the internal pressure of a DADCO Nitrogen Gas Spring and quickly determine if the gas spring is charged to the desired pressure. To check the force of DADCO's smaller gas springs, use a DADCO Micro Load Cell; refer to bulletin B07108B.

Operating Instructions

1. While holding the load cell, place the gas spring beneath a DADCO Test Stand. Use the Mini Test Stand, 90.305.2, for up to 2 tons *(17.8 kN)* of force and the Standard Test Stand, 90.305.3, for up to 12 tons *(107 kN)* of force. An arbor press or another press may be used.
2. Position the DADCO Standard Load Cell with its counterbored base on top of the gas spring.
3. **Apply the load to the gas spring, depressing the gas spring rod only 2 mm** *(1/16")* (additional travel may damage the load cell) and read the gauge on the front of the load cell. The gauge reflects the precise pressure inside the spring. Reading should not exceed 2175 psi *(150 bar)* with the exception of the U.0400 and SCR Series which should not exceed 2600 psi *(180 bar)*.

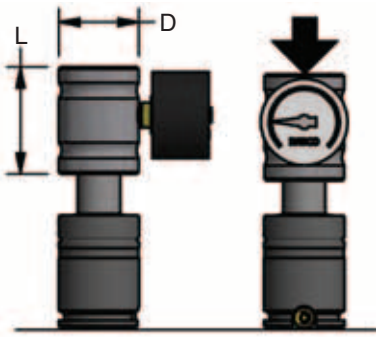
Determining Force

To determine the force (F) that a DADCO Nitrogen Gas Spring will deliver at the start of the stroke, use one of the following formulas: **F (lbs) = A (in²) x P (psi)** **F (N) = A (cm²) x P (bar) x 10**

U.S. Customary Unit Example:
Calculating a L.750 gas spring at 2000 psi:
0.761 in² x 2000 psi = 1522 lbs.

Metric Example:
Calculating a 90.10.05000 gas spring at 150 bar:
33.18 cm² x 150 bar x 10 = 49770 N or 49.77 kN.

Series	Model	DADCO Load Cell	Rod Dia. mm/in	Piston Area (A) cm²/in²	D mm/in	L mm/in
L, LJ	300	90.300.0300	16	1.97	38	51
U, UH	400		*0.63*	*0.306*	*1.50*	*2.01*
SCR	500	90.301.0500	18	2.54	38	51
			0.71	*0.394*	*1.50*	*2.01*
L, LJ, 90.10	500	90.300.0500	20	3.14	38	51
U, UH	600		*0.79*	*0.487*	*1.50*	*2.01*
L, LJ, 90.5B2, 90.8, 90.10	750	90.300.0750	25	4.91	38	51
U, UK, UH, UX, SCR	800		*0.98*	*0.761*	*1.50*	*2.01*
U, UK, UH, UT, UX	1000	90.300.1000	28	6.15	43	51
			1.10	*0.954*	*1.69*	*2.01*
U	1200	90.300.1200	30	7.05	43	51
			1.18	*1.093*	*1.69*	*2.01*
SCR	1900	90.300.1900	35	9.62	48	51
			1.38	*1.491*	*1.90*	*2.01*
90.5B2, 90.8, 90.10	1500	90.300.01500	36	10.18	48	51
U, UK, UH, UX	1600		*1.42*	*1.578*	*1.90*	*2.01*
U, UK, UH, UT, UX	2600	90.300.2600	45	15.90	64	70
SCR	3200		*1.77*	*2.465*	*2.52*	*2.75*
90.5B2, 90.8, 90.10, 90.10RX	3000	90.300.03000	50	19.63	64	70
			1.97	*3.043*	*2.52*	*2.75*
U, UH, UT, UX	4600	90.300.4600	60	28.30	83	70
			2.36	*4.390*	*3.27*	*2.75*
90.5B, 90.8, 90.10, 90.10RX	5000	90.300.05000	65	33.18	83	70
			2.56	*5.143*	*3.27*	*2.75*
U, UH, UT, UX	6600	90.300.6600	75	44.20	95	70
			2.95	*6.860*	*3.74*	*2.75*
90.5B, 90.8, 90.10, 90.10RX	7500	90.300.07500	80	50.27	95	70
			3.15	*7.791*	*3.74*	*2.75*
U, UT, UX	9600	90.300.9600	90	63.60	120	70
			3.54	*9.870*	*4.72*	*2.75*
90.10, 90.10RX	10000	90.300.10000	95	70.95	120	70
			3.74	*11.000*	*4.72*	*2.75*
U, UX	20000	90.300.20000	130	132.73	151.5	70
			5.12	*20.573*	*5.96*	*2.75*

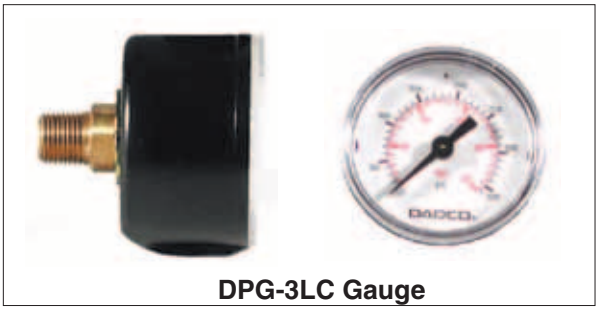


Side and front views of a standard DADCO Load Cell in testing position on top of a DADCO Nitrogen Gas Spring.

B16119A

Rebuild (Gauge Replacement) Instructions

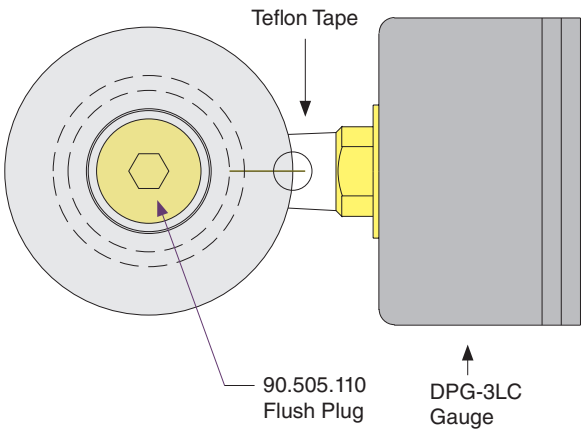
Order the appropriate replacement gauge. For questions on which gauge to order reference DADCO's Gauge Bulletin B18110.



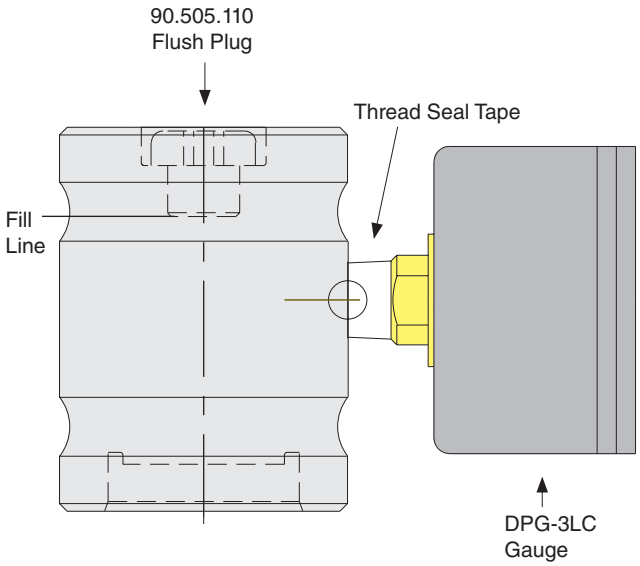
DPG-3LC Gauge

1. Remove the Flush Plug (90.505.110) and set aside for reassembly (Fig. 1).
2. Empty the oil out of the body and wipe with a lint-free cloth.
3. Unthread the old gauge and discard.
4. Apply thread seal tape to the new gauge thread. Ensure that the tape does not cover the access hole.
5. Thread the gauge onto the body approximately 2 turns past hand-tight (lettering should be right-side-up).
6. Noting the fill line, fill the body with oil (DADCO recommends ISO 32 hydraulic oil) until the oil level reaches the base of the flush plug (Fig. 2).
7. Install the Flush Plug (90.505.110) and watch for needle movement on the gauge, if movement occurs, stop and remove a small quantity of oil with an eye dropper. Repeat this step until the flush plug is installed with no needle movement.
8. Test the new gauge by using it on the appropriate spring with a known pressure; see Operating Instructions on reverse side.

Figures



Overhead View
Fig. 1



Side View
Fig. 2

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