



LIVESTAR LIVELOADINGSYSTEM

New Generation encapsulated Disc Spring System with defined compression length

Advantages

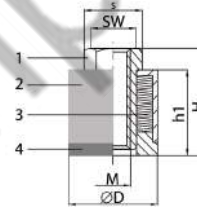
- Disc springs slide on an even machined surface rather than on a bolt thread
- Disc springs are encapsulated by outer cylinder against environmental impact
- Disc springs never get over-compressed
- No torque measuring tools necessary
- Relaxation of the springset by volumeloss of the packing stack will show on an inspection gap. Simply tighten the nut until the gap closes
- LIVESTAR Live Loading System acts as a prevention against mechanical destruction of packing
- Extended nut screws on the existing valve bolt and eliminates the need for new longer bolts

Main application

- Valves
- Sootblowers

Material of Construction

Pos.	Part	Material specification
1	Nut/Boltextension	1.4301
2	Springcup	1.4305
3	Spring	1.8159 galCd
4	Springcover	1.4305



Dimensions								
M in (mm)	Order-Type	D in (mm)	H in (mm)	h ₁ in (mm)	SW	s in (mm)	Bolt center to stem min (mm)	ME (µm)
M8	L8	22	20.2	14.5	13	14.8	15	5
M8	L8HI	22	20.2	14.5	13	14.8	15	11
M10	L10	26	23	16	17	19.6	18	9
M10	L10HI	26	30.5	23.3	17	19.4	18	19
M10	L10RB	26	30.5	23.3	17	19.4	18	9
M12	L12	32	24	17.2	19	21.9	22	18
M12	L12HI	32	32	25.2	19	21.9	22	40
M12	L12RB	32	32	25.2	19	21.9	22	18
M14	L14	38	28	18	22 o. 24	25.3	26	42
M14	L14HI	38	36	26	22 o. 24	25.3	26	84
M16	L16	38	28	18	24	27.6	27	48
M16	L16HI	38	36	26	24	27.6	27	96
M18	L18	45	63.5	48.5	30	34.5	31.5	119
M18	L18HI	45	63.5	48.5	30	34.5	31.5	159
M20	L20	45	63.5	48.5	30	34.5	32.5	121
M20	L20HI	45	63.5	48.5	30	34.5	32.5	175
M22	L22	60	72	57	41	47	41	132
M22	L22HI	60	72	57	41	47	41	176
M24	L24	60	72	57	41	47	42	145
M24	L24HI	60	72	57	41	47	42	193
M27	L27	89	79	53.6	46	53	58	215

Dimensions								
M in (inch)	Order-type	D in (inch)	H in (inch)	h ₁ in (inch)	s in (inch)	Bolt center to stem min (inch)	ME (ftlb)	
5/16"	L5/16	0.87	0.80	0.57	0.58	0.59	3.7	
5/16"	L5/16HI	0.87	0.80	0.57	0.58	0.59	8.1	
3/8"	L3/8	1.02	0.91	0.63	0.77	0.71	6.6	
3/8"	L3/8HI	1.02	1.20	0.92	0.76	0.71	14.0	
3/8"	L3/8RB	1.02	1.20	0.92	0.76	0.71	6.6	
7/16" o. 1/2"	L7/16 o. L1/2	1.26	0.98	0.68	0.86	0.87	14.0	
7/16" o. 1/2"	L7/16HI o. L1/2HI	1.26	1.31	0.99	0.86	0.87	29.5	
1/2"	L1/2"RB	1.26	1.31	0.99	0.86	0.87	14.0	
9/16"	L9/16	1.50	1.10	0.71	1.00	1.02	31.0	
9/16"	L9/16HI	1.50	1.42	1.02	1.00	1.02	62.0	
5/8"	L5/8	1.50	1.10	0.71	1.09	1.06	35.4	
5/8"	L5/8HI	1.50	1.42	1.02	1.09	1.06	70.8	
3/4"	L3/4	1.77	2.30	1.91	1.36	1.28	89.2	
3/4"	L3/4HI	1.77	2.30	1.91	1.36	1.28	129.1	
7/8"	L7/8	2.36	2.83	2.24	1.85	1.61	106.7	
7/8"	L7/8HI	2.36	2.83	2.24	1.85	1.61	142.2	
1"	L1	2.36	2.83	2.24	1.85	1.65	106.7	
1"	L1HI	2.36	2.83	2.24	1.85	1.65	142.2	

For best functionality and longlasting performance use White Assembly Paste.

All technical information and advice is based on our experience and will be given most conscientiously but without any liability.

Indication and figures are for guidance only and need to be examined by the user. All sizes are subject to manufacturing tolerances. We reserve the right to modify specifications at any time.

Please note that the technical values cannot be used all at the same time in their maximum values.

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Typical problem

The stack of disc springs is too long for the of the available bolt length.

As a result usually the bolts need to be replaced which is time and cost consuming.



Solution

The LIVESTAR Live Loading System screws on top of the bolt in a kind of cup form and giving thereby plenty of extra length to accommodate the uncompressed disc spring stack. This incorporates also an equal load of compression for thermal expansion of the valve. The springs cannot be overcompressed as the optimum compression length is set by the LIVESTAR housing dimension.

A sideeffect of the system is that the disc springs slide instead on a thread on a smooth machined surface. Further they are encapsulated and protected against dirt and environmental impact.



Functional Description

When the packing or gasket settles in operation the springs maintain the gland pressure and the sealing force constant. The settling is shown by a small inspection gap at the bottom of the housing. At a routine inspection the LIVESTAR Live Loading System is simply torqued down till the gap is closed.

The full load and compensation length of the disc springs is now available. No torque measuring tools are needed!

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