

HL SERIES BOLT TENSIONING



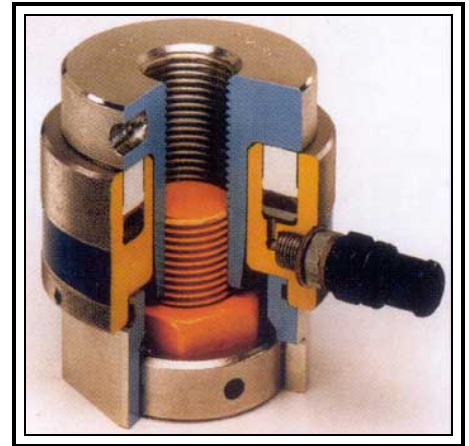
Bolt Tensioning has become the preferred method of tightening bolts on all critical applications throughout the world.

The HL Series of Bolt Tensioners are fast, accurate and versatile. They provide a simple and safe method of tightening bolted connections.

The tools utilize high-pressure hydraulics to stretch the bolt axially by the exact load required. Once the required stretch or load is achieved, the nut is run down to retain the load, the pressure is released, and the tool removed. Any number of tools can be connected to a common hydraulic system giving even and accurate load with minimum effort.

FEATURES

- Interchangeable Bridges, Sockets and Pullers
- Color coded Hydraulic Heads
- 15 mm (0.59") Ram Stroke
- 15,000 psi (1,034 Bar) Operating Pressure
- Minimum Stud Protrusion is 2 x Bolt Diameter



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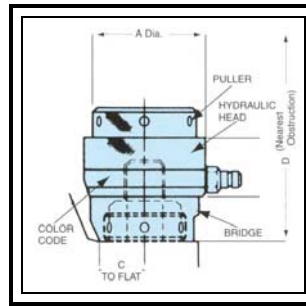
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Bolting and Machining the World's Critical Joints

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HL SERIES BOLT TENSIONING



Tool No.	Bolt Dia. (in.)	Bolt Dia. (mm)	Max Work Load		Hydraulic Pressure Area		A Effective O.D.		B Min. Pitch		C		D		Weight of Head & Bridge	
			lbs (Tons)	kN	in ²	mm ²	ln	mm	ln	mm	ln	mm	ln	mm	ln	mm
02 Maroon	3/4"	M16	30499 (13.61)	136	2.10	1 357	2.89	73.5	1.93	49	0.93	23.5	6.30	160	3.2	1.45
		M18							1.93	49	0.93	23.5	6.30	160	3.2	1.45
		M20							2.01	51	1.04	26.5	6.30	160	3.3	1.48
		M22							2.01	51	1.04	26.5	6.30	160	3.3	1.48
01 Dk. Green	1"	M24	51176 (22.85)	228	3.53	2 277	3.39	86	2.32	59	1.16	29.5	7.09	180	5.1	2.31
	1 1/8"	M27							2.36	60	1.26	32	7.28	185	5.2	2.34
1 Dk. Blue	1 1/4"	M30	78303 (34.96)	348	5.40	3 484	4.21	107	2.84	72	1.42	36	7.76	197	7.7	3.46
	1 3/8"	M33							2.87	73	1.42	36	7.76	197	7.7	3.46
	M36	2.99							76	1.54	39	7.87	200	7.6	3.42	
2 Orange	1 1/4"	M33	96103 (42.90)	428	6.63	4 276	4.53	115	3.03	77	1.42	36	7.83	199	8.8	3.93
	1 3/8"	M36							3.07	78	1.54	39	7.95	202	8.6	3.89
	1 1/2"	M39							3.15	80	1.65	42	8.39	213	9.7	4.40
3 Black	1 1/2"	M39	132805 (59.29)	591	9.16	5 909	5.28	134	3.50	89	1.65	42	8.35	212	11.5	5.36
	1 5/8"	M42							3.58	91	1.77	45	8.43	214	12.5	5.70
	1 3/4"	M45							3.70	94	1.93	49	8.54	217	13.2	5.80
		M48							3.90	99	1.77	45	8.50	216	15.4	6.90
4 Red	1 5/8"	M42	177126 (79.07)	788	12.21	7 881	5.91	150	3.98	101	1.93	49	8.62	219	15.4	7.00
	1 3/4"	M45							4.02	102	2.01	51	8.74	222	15.4	7.20
	1 7/8"	M48							4.13	105	2.13	54	8.86	225	16.5	7.50
	2"	M52							4.33	110	2.01	51	8.74	222	17.6	8.05
		M56							4.41	112	2.13	54	8.86	225	18.4	8.35
5 Gray	1 7/8"	M48	222346 (99.26)	989	15.33	9 893	6.57	167	4.69	119	2.32	59	9.09	231	19.8	9.12
	2"	M52							4.88	124	2.32	59	9.49	241	23.2	10.67
	2 1/4"	M56							5.16	131	2.56	65	9.76	248	25.4	11.27
6 White	2 1/2"	M60	286399 (127.86)	1 274	19.75	12 743	7.48	190	5.16	131	2.56	65	9.76	248	25.4	11.27
		M64							5.16	131	2.56	65	9.76	248	25.4	11.27
		M68							5.35	136	2.56	65	9.92	252	27.6	12.67
7 Brown	2 1/2"	M64	358343 (159.98)	1 594	24.71	15 944	8.19	208	5.75	146	2.80	71	10.16	258	30.9	14.15
		M68							5.75	146	2.80	71	10.16	258	30.9	14.15
		M72							5.91	150	2.80	71	10.16	258	30.9	14.15
8 Lt. Green	2 3/4"	M72	411765 (183.82)	1 832	28.40	18 321	8.74	222	6.18	157	3.03	77	10.43	265	37.5	17.80
	3"	M76							6.18	157	3.03	77	10.43	265	37.5	17.80
8.5 Lt. Blue	3"	M76	489462 (218.51)	2 178	33.75	21 778	9.41	239	6.34	161	3.03	77	10.51	267	46.3	20.80
		M80							6.42	163	3.03	77	10.51	274	46.3	20.80
	3 1/4"	M85							6.89	175	3.43	87	10.78	274	48.5	22.60
		M90							6.97	177	3.66	93	11.06	281	47.4	22.10
10 Gold	3 3/4"	M95	587655 (262.35)	2 615	40.53	26 147	10.87	276	7.95	202	3.90	99	11.65	296	110.0	50.00
	4"	M100							8.35	212	4.13	105	11.89	302	118.8	54.00

NOTES

- Ram stroke is 15mm (0.59") except 02 that is 6mm (0.24") and 01 that is 8mm (0.32"). Longer stroke is available upon request.
- The rigorously pressure tested and patented high-pressure seal arrangement is designed for longer life and easy maintenance.
- All tools except No. 8.5, 3 1/2", and No. 10, are designed to develop a minimum bolt stress of 432 N/mm² (28 ton/in²) before transfer of the load to the nut.
- Maximum working load is developed when an oil pressure of 1000 bar (14,500 psi) is applied.
- Thread engagement equals one x bolt diameter minimum and chart assumes nut height is equal to one diameter.

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