

Hydraulischer / Hydraulic

# Spannzylinder *Tensioners*



Technische Daten, metrisch /  
*Technical data, metric*

**PLARAD**<sup>®</sup>  
Torque & Tension Systems



## Single Stage



- Ideal for low overhead clearance applications
- Compact, single stage design for minimal installation height

Bolt Diameter		Maximum Load		Tensioner Diameter		Tensioner Height		Tensioner Stroke	
Imperial	Metric	lbf	kN	in	mm	in	mm	in	mm
1"	M24	65,192	290	3.35	85	3.86	98	0.31	8
1-1/8"	M27	84,300	375	3.58	91	4.09	104	0.31	8
1-1/8"	M30	103,408	460	3.86	98	4.21	107	0.31	8
1-1/4"	M33	128,136	570	4.29	109	4.53	115	0.31	8
1-3/8"	M36	150,616	670	4.49	114	4.65	118	0.31	8
1-1/2"	M39	179,840	800	5.04	128	4.88	124	0.39	10
1-5/8"	M42	206,816	920	5.20	132	5.20	132	0.39	10
1-3/4"	M45	242,784	1080	5.59	142	5.28	134	0.39	10
1-7/8"	M48	274,256	1220	5.94	151	5.43	138	0.39	10
2"	M52	325,960	1450	6.38	162	5.51	140	0.39	10
2-1/4"	M56	376,540	1675	6.73	171	5.91	150	0.39	10
2-1/2"	M64	494,560	2200	7.17	182	6.38	162	0.47	12

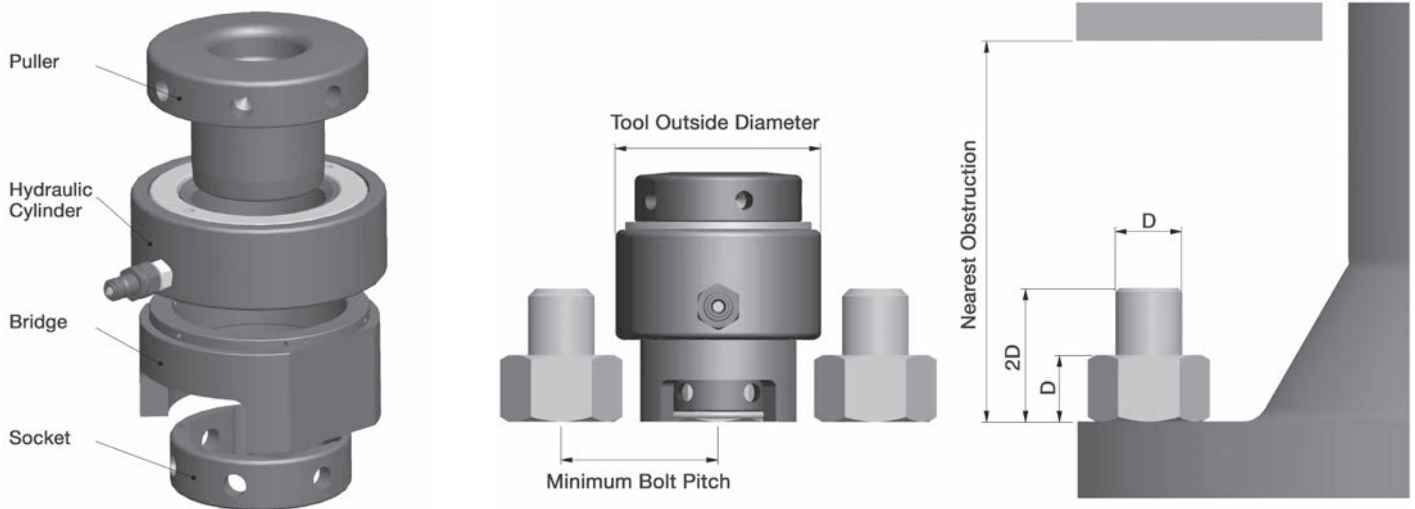
## Multi Stage



- Ideal for low radial clearance applications
- Multi stage design for easy installation into narrow apertures

Bolt Diameter		Maximum Load		Tensioner Diameter		Tensioner Height		Tensioner Stroke	
Imperial	Metric	lbf	kN	in	mm	in	mm	in	mm
1"	M24	64,742	288	2.36	60	7.40	188	0.28	7
1-1/8"	M27	84,300	375	2.60	66	7.62	193.5	0.28	7
1-1/8"	M30	103,858	462	2.83	72	7.91	201	0.28	7
1-1/4"	M33	128,586	572	3.07	78	8.50	216	0.31	8
1-3/8"	M36	150,616	670	3.25	82.5	9.04	229.5	0.39	10
1-1/2"	M39	180,290	802	3.62	92	10.31	263	0.39	10
1-5/8"	M42	206,928	920.5	3.86	98	10.31	262	0.39	10
1-3/4"	M45	243,234	1082	4.13	105	10.91	281.5	0.39	10
1-7/8"	M48	274,706	1222	4.37	111	11.56	293.5	0.39	10
2"	M52	326,410	1452	4.72	120	12.80	325	0.39	10
2-1/4"	M56	376,540	1675	5.04	128	12.99	330	0.39	10
2-1/2"	M64	494,560	2200	5.83	148	14.23	361.5	0.47	12

### Hydraulic Bolt Tensioning Tools (1500 bar) · Metric sizes



Tool No	Bolt Diameters	Stroke	Hydraulic Area	Max Load		Tool Outside Dia	Min Bolt Pitch	Nearest Obstruction
				kN	lbf			
	metric	mm	mm <sup>2</sup>	kN	lbf	mm	mm	mm
21	M16	12	1,555	233	52,380	73	53	145
	M20						53	
	M22						53	
	M24						62	
	M27						62	
22	M27	15	2,884	433	97,342	105	62	175
	M30						73	
	M33						73	
	M36						81	
	M39						83	
23	M39	15	5,271	791	177,823	136	83	200
	M42						93	
	M45						96	
	M48						101	
	M52						104	
24	M52	15	8,445	1,267	284,832	172	104	230
	M56						123	
	M64						129	
25	M64	15	12,197	1,830	411,400	200	129	255
	M72						150	
	M76						154	
26	M76	15	16,682	2,502	562,471	235	154	288
	M80						176	
	M90						185	
27	M90	15	17,530	2,629	593,270	245	185	320
	M95						191	
	M100						197	

- Notes:**
- Maximum load is generated at the maximum operating pressure of 1500 bar.
  - For hoses fittings and pumps request data sheets 601, 602, and 603
  - Unless specified inch size tooling will be threaded UNC up to 1 inch and UN8 for 1-1/8 inch upwards.
  - Equivalent metric sizes are also available. Specify diameter and thread pitch when ordering.
  - This range of tooling has been designed to suit most standard flanges used in the oil and gas industry
  - Each tool comprises one hydraulic cylinder, bridge, puller and socket.
  - Extra bridges, pullers and sockets can be purchased to adapt the hydraulic cylinder to fit other bolt sizes.
  - All tools are assembled, filled with oil, pressure tested and a test certificate issued prior to despatch.
  - Each tool is marked with the maximum operating pressure, load and stroke. All tools are CE marked.
  - Any number of tools can be connected together for simultaneous operation.
  - Pullers can be machined with other thread forms - specify when ordering.
  - Larger bolt sizes are available. Send application details.
  - Tools are fitted with self sealing quick connectors.
  - Due to continuous product development dimensions may change without notice.
- Options available:**
- Twin hydraulic connections
  - Other thread forms
  - Special designs

### Hydraulic Bolt Tensioning Tools (1500 bar) · Inch sizes

Tool No	Bolt Diameters	Stroke	Hydraulic Area	Max Load		Tool Outside Dia	Min Bolt Pitch	Nearest Obstruction
				kN	lbf			
	inches	mm	mm <sup>2</sup>			mm	mm	mm
21	3/4 7/8 1 1-1/8	12	1,555	233	52,380	73	53 53 62 62	145
22	1-1/8 1-1/4 1-3/8 1-1/2	15	2,884	433	97,342	105	62 73 81 83	175
23	1-1/2 1-5/8 1-3/4 1-7/8 2	15	5,271	791	177,823	136	83 93 96 101 104	200
24	2 2-1/4 2-1/2	15	8,445	1,267	284,832	172	104 123 129	230
25	2-1/2 2-3/4 3	15	12,197	1,830	411,400	200	129 150 154	255
26	3 3-1/4 3-1/2	15	16,682	2,502	562,471	235	154 176 185	288
27	3-1/2 3-3/4 4	15	17,530	2,629	593,270	245	185 191 197	320

### Additions to Standard Range

Tool No	Bolt Diameters	Stroke	Hydraulic Area	Max Load		Tool Outside Dia	Min Bolt Pitch	Nearest Obstruction
				kN	lbf			
	inch/metric	mm	mm <sup>2</sup>			mm	mm	mm
23B	1-5/8 1-3/4 1-7/8 2	15	6,320	948	213,118	144	87 90 95 98	200
23B	M42 M45 M48 M52	15	6,320	948	213,118	144	87 90 95 98	200
29	1-7/8 2 2-1/4	15	6,983	1,047	235,374	156	112 115 120	230
29	M48 M52 M56	15	6,983	1,047	235,374	156	73 81 83	230



... a successful connection!

**Maschinenfabrik Wagner GmbH & Co. KG**  
 Birrenbachshöhe · 53804 Much · Germany

**Tel. national:** (02245) 62-0  
**Fax national:** (02245) 62-66  
**Phone international:** +49 (0)2245 62-10  
**Fax international:** +49 (0)2245 62-22

info@plarad.com · www.plarad.com

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