

TSR+ FEATURES

FASTEST AUTO RETURN TENSIONER ON THE MARKET

The all new TSR+ auto return tensioner range has been designed to ensure fast, simple, safe and reliable operation. With a focus on productivity and a reduction in downtime we have implemented state of the art materials and technology resulting in significant time saving during operation.



INTERCHANGEABLE

TSR+ load cells have exactly the same overall dimensions and hydraulic specification as the existing TSR load cells. This ensures interchangeability and ease of customer upgrades to the new range.



DURABLE

Operational performance does not degrade during the life of the tool. TSR+ completed more than 10,000 full pressure / stroke cycles during in-house testing.



INCREASED SAFETY

TSR+ Load cells have a relief valve to prevent accidental overstroke of the tool. This safety mechanism prevents seal blow outs and the users exposure to ejected oil.



PREMIUM SURFACE TREATMENT

All load cells have a unique surface finish which provides a long lasting finish against harsh environments.

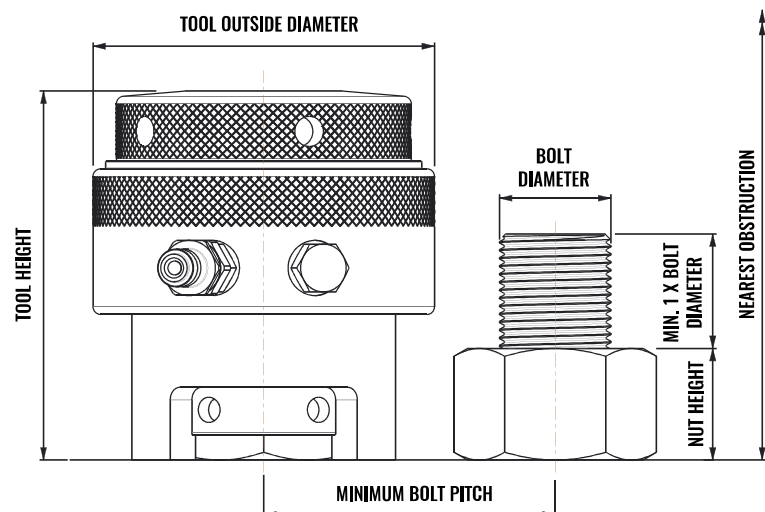


IMPROVED SEAL TECHNOLOGY

Latest design eases seal changeouts and enhances general performance throughout high cycle usage.

OPTIONS

- Twin port hydraulic connections
- Oversized threads
- Gear drive nut rotation
- Swivel connectors
- Special designs



TECHNICAL & DIMENSIONAL SPECIFICATION

Tensioner Design	Single acting cylinder, auto return
Maximum Operating Pressure	1500bar (21750psi)
Stroke	10mm (0.375") except TSR+ O – 8mm (0.315")
Hydraulic Oil Type	ISO 32 or equivalent

Tool No.	Bolt Diameter		Hydraulic Area	Max. Load		Tool Outside Diameter		Tool Height		Distance to Nearest Obstruction		Total Tool Weight		Load Cell Weight	
	mm	inch		mm ²	kN	Lbf	mm	inch	mm	inch	mm	inch	kg	lbs	kg
TSR+ 0*	M20	3/4	1,070	160	35,970	66	2.60	93	3.66	142	5.59	1.4	3.1	1	2.2
	M22	7/8						93	3.66	144	5.67				
TSR+ 1	M24	1	1,870	280	62,950	87	3.43	117	4.61	175	6.89	4	8.8	2.4	5.3
	M27	1-1/8						117	4.61	178	7.01				
								120	4.72	178	7.01				
TSR+ 2	M24	1	3,000	450	101,160	103	4.06	117	4.61	175	6.89	5.8	12.8	3.3	7.3
	M27	1-1/8						117	4.61	178	7.01				
	M30	1-1/4						120	4.72	184	7.24				
	M33	1-3/8						123	4.84	190	7.48				
	M36							126	4.96	196	7.72				
TSR+ 3	M33	1-1/4	4,400	660	148,370	118	4.65	123	4.84	192	7.56	7.7	17	4.2	9.3
	M36	1-3/8						126	4.96	198	7.80				
	M39	1-1/2						130	5.12	204	8.03				
	M42	1-5/8						133	5.24	211	8.31				
TSR+ 4	M39	1-1/2	6,670	1,000	224,810	141	5.55	132	5.20	212	8.35	12	26.5	6.1	13.4
	M42	1-5/8						135	5.31	218	8.58				
	M45	1-3/4						139	5.47	225	8.86				
	M48	1-7/8						142	5.59	231	9.09				
		2						145	5.71	231	9.09				
TSR+ 5	M52	2	10,000	1,500	337,210	176	6.93	148	5.83	248	9.76	19.4	42.8	9.5	21
	M56	2-1/4						154	6.06	258	10.16				
	M60	2-1/2						161	6.34	262	10.31				
	M64	2-3/4						161	6.34	273	10.75				
	M68							167	6.57	283	11.14				
TSR+ 6	M72	2-3/4	16,670	2,500	562,020	219	8.62	167	6.57	297	11.69	34.5	76	14.7	32.4
	M76	3						171	6.73	308	12.13				
	M80	3-1/4						180	7.09	312	12.28				
	M85	3-1/2						180	7.09	323	12.72				
	M90							186	7.32	334	13.15				
TSR+ 7	M90	3-1/2	21,340	3,200	719,390	252	9.92	186	7.32	341	13.43	47	103.6	19.4	42.8
	M95	3-3/4						186	7.32	346	13.62				
	M100	4						192	7.56	356	14.02				
								199	7.83	356	14.02				

*TSR+ 0 is not an auto return tensioner.