MAXIMUM POWER IN SMALL SPACES

LINK TO THE POWER PACKS

LINK TO THE TENSIONERS

TENSIONERS

POSSIBLE COMBINATIONS AT A GLANCE

PSE

PSD

PST

PSQ

TXP1 ECO

The pneumatic hydraulic pump for tensioners

The pneumatic hydraulic pump TXP1*eco* is ideal for simple tensioning applications

Robust and easy to use, up to 1,500 bar

- Tensioner mode

TXE1 ECO

The robust and reliable basic pump

The power pack is equipped with a powerful electric motor and can also be connected to large tension cylinders thanks to the 7 litre oil tank

Perfect for applications where no documentation is required

- Test mode
- Torque mode
- Tensioner mode

TXE1 DOCU

The smart upgrade to the *docu* version: ready for comprehensive documentation on digital devices

Automatic re-pumping in case of a pressure drop makes this unit extremely effective.
The remote control with colour display shows important operating parameters

- Documentation
- Test mode
- Torque mode
- Tensioner mode

TENSIONERS

1-STAGED

PSE

BOLT TENSIONING IN SMALL SPACES

Thanks to its flat design, the PSE single-stage hydraulic tension cylinder offers a distinct advantage, particularly in tight, axially confined spaces. The knurled attachment included in the scope of delivery also ensures that the tensioner can be turned open in the case of excessively long bolt protrusions.

The PSE also has all the relevant features of the PSD (see sectional model, next page).

1 CYCLE COUNTER
Prevention of damage and failures through preventive maintenance

2 FLEXIBLE
Knurled attachment for long bolt protrusions

3 HANDLING
Support bridge 360° rotatable

4 PERFECT FIT
Optimised support surface for tight spaces

5 ERGONOMIC
Quick and easy screw-on of the nut via toothed drive guaranteed

TENSIONERS

2-STAGED 3-STAGED 4-STAGED

PSD / PST / PSQ

QUICK, SAFE, EASY TO OPERATE

Thanks to their multi-stage design, the tension cylinders provide the required tensile forces with a minimal diameter. They are ideal for use in confined lateral installation spaces.

The preload force can be precisely adjusted, and the modular design allows for optimal customisation to suit your specific bolting application.

1 **SECURITY INDICATOR**

GREEN: A sufficient bolt insertion depth has been reached

RED: Maximum stroke of the draw bolt has been completed

2 **ERGONOMIC**

The removable handle provides optimum grip and protects the hose connections from damage

3 **FLEXIBLE**

Optimum handling: easy alignment thanks to rotatable support, regardless of the bolt arrangement

EFFECTIVENESS

- Easy to operate with the toothed drive:
  Ensures simple and fast nut tightening using a ratchet or torque wrench

PROCESS RELIABILITY

- Mechanical stroke limiter for enhanced safety:
  The end stop restricts piston lifting for maximum protection

HIGH TECH

- Prevention of assembly damage when fitting the tension cylinder: The rotating sleeve is axially flexible with spring support
- Automatic piston return moves the tension bolt quickly to the starting position after pressure relief

ERGONOMIC

- 'Fail safe system':
  Maximum safety through stroke limitation
- Visual indicator for the end stop
- Detachable handle and carrying strap for maximum comfort and safety

PERFORMANCE

- Suitable for parallel and series-connected tension cylinders
- Fast operation thanks to automatic piston reset
- Tensioning forces of up to 3,000 klb with the smallest dimension

UPGRADE

- Suitable for documenting the preload force when used in combination with Plarad power packs
- Additional rings ensure optimum adaptation to different bolt lengths

MODELS // DATA

MODULAR ASSEMBLY KIT
SPECIAL VARIANTS AVAILABLE

PSE

Typ *Type*	Zugkraft max. *Load max.*		max. Betriebsdruck *Pressure max.*		Regelgewinde *Bolt diameter*		Hub *Stroke*		Betriebszyklen Operation cycles	H1		D1		D2		Gewicht* *Weight**	
	kN	lbf	bar	psi	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	kg	lbs
PSE 20	212	47,659	1.500	21,756	20	0.79	8	0.31	8.000	100	3.94	64	2.52	48	1.89	2,1	4.63
PSE 24	305	68,567	1.500	21,756	24	0.94	8	0.31	8.000	95	3.74	80	3.15	72	2.83	3,2	7.05
PSE 30	482	108,358	1.500	21,756	30	1.18	10	0.39	8.000	79	3.11	98	3.86	74	2.91	5,1	11.24
PSE 33	573	128,816	1.500	21,756	33	1.30	8	0.31	8.000	125	4.92	106	4.17	90	3.54	6,4	14.11
PSE 36	681	153,095	1.500	21,756	36	1.42	10	0.39	8.000	125	4.92	114	4.49	95	3.74	7,1	15.65
PSE 42	980	220,313	1.500	21,756	42	1.65	10	0.39	8.000	135	5.31	135	5.31	115	4.53	11,1	24.47
PSE 48	1.235	277,639	1.500	21,756	48	1.89	10	0.39	8.000	144	5.67	152	5.98	130	5.12	15	33.07
PSE 52	1.458	327,771	1.500	21,756	52	2.05	10	0.39	8.000	151	5.94	163	6.42	137	5.39	17,6	38.80
PSE 56	1.676	376,780	1.500	21,756	56	2.20	10	0.39	8.000	159	6.26	175	6.89	147	5.79	21,0	46.30
PSE 64	2.259	507,843	1.500	21,756	64	2.52	10	0.39	8.000	197	7.76	205	8.07	170	6.69	27,8	61.29
PSE 72	2.960	665,434	1.500	21,756	72	2.83	10	0.39	8.000	208	8.19	245	9.65	180	7.09	42,5	93.70

PSD // PST // PSQ

Typ *Type*	Zugkraft max. *Load max.*		max. Betriebsdruck *Pressure max.*		Regelgewinde *Bolt diameter*		Hub *Stroke*		Betriebszyklen Operation cycles	H1		D1		D2		Gewicht* *Weight**	
	kN	lbf	bar	psi	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch	kg	lbs
PSD 20	220	49,458	1.350	19,580	20	0.79	8	0.31	4.500	162	6.4	51	2.01	48	1.89	3,2	7.1
PSD 24	313	70,365	1.350	19,580	24	0.94	8	0.31	4.500	196	7.7	58	2.28	55	2.17	4,8	10.6
PSD 27	397	89,249	1.370	19,870	27	1.06	8	0.31	4.500	218	8.6	66	2.60	65	2.56	5,7	12.6
PSD 30	471	105,885	1.500	21,756	30	1.18	8	0.31	4.500	196	7.7	71	2.80	70	2.76	5,7	12.6
PSD 33	581	130,614	1.500	21,756	33	1.30	10	0.39	4.500	215	8.5	79	3.11	80	3.15	7,2	15.9
PSD 36	678	152,420	1.500	21,756	36	1.42	10	0.39	4.500	228	9.0	83	3.27	83	3.27	8,1	17.9
PSD 39	808	181,646	1.500	21,756	39	1.54	10	0.39	4.500	250	9.8	92	3.62	92	3.62	10,4	22.9
PSD 42	937	210,646	1.500	21,756	42	1.65	10	0.39	4.500	263	10.4	98	3.86	98	3.86	12,3	27.1
PSD 45	1089	244,817	1.500	21,756	45	1.77	10	0.39	4.500	256	10.1	106	4.17	100	3.94	14,0	30.9
PSD 48	1278	287,306	1.500	21,756	48	1.89	10	0.39	4.500	269	10.6	112	4.41	112	4.41	16,0	35.3
PSD 52	1476	331,818	1.500	21,756	52	2.05	10	0.39	4.500	293	11.5	120	4.72	120	4.72	19,6	43.2
PSD 56	1695	381,051	1.500	21756	56	2.20	10	0.39	4.500	300	11.8	130	5.12	130	5.12	23,4	51.6
PSD 60	1959	440,401	1.500	21,756	60	2.36	10	0.39	4.500	343	13.5	140	5.51	140	5.51	30,0	66.1
PSD 64	2233	501,998	1.500	21,756	64	2.52	10	0.39	4.500	350	13.8	146	5.75	146	5.75	32,7	72.1
PSD 68	2825	635,085	1.500	21,756	68	2.68	10	0.39	4.500	424	16.7	167	6.57	167	6.57	52,6	116.0
PSD 72	2825	635,085	1.500	21,756	72	2.83	10	0.39	4.500	424	16.7	167	6.57	167	6.57	53,6	118.2
PSD 80	3587	806,390	1.500	21,756	80	3.15	10	0.39	4.500	457	18.0	188	7.40	180	7.09	71,4	157.4
PSD 90	4524	1,017,036	1.500	21,756	90	3.54	10	0.39	4.500	486	19.1	225	8.86	200	7.87	106,7	235.2
PST 48	1404	315,632	1.400	20,306	48	1.89	10	0.39	4.500	380	15.0	112	4.41	112	4.41	23,6	52.0
PST 56	1673	376,105	1.400	20,306	56	2.20	10	0.39	4.500	394	15.5	120	4.72	130	5.12	28,8	63.5
PST 64	2239	503,347	1.500	21,756	64	2.52	10	0.39	4.500	418	16.5	130	5.12	134	5.28	36,8	81.1
PSQ 36	748	168,157	1.400	20,306	36	1.42	10	0.39	4.500	315	12.4	77	3.03	75	2.95	10,3	22.7
PSQ 42	1090	245,042	1.400	20,306	42	1.65	10	0.39	4.500	343	13.5	91	3.58	85	3.35	14,6	32.2
PSQ 48	1450	325,973	1.400	20,306	48	1.89	10	0.39	4.500	372	14.6	105	4.13	98	3.86	20,7	45.6
PSQ 56	1959	440,401	1.400	20,306	56	2.20	10	0.39	4.500	428	16.9	123	4.84	110	4.33	31,5	69.4
PSQ 64	2705	608,108	1.400	20,306	64	2.52	10	0.39	4.500	471	18.5	141	5.55	126	4.96	44,6	98.3

Repeat accuracy: ≤ 4%, depending on the bolted joint. Technical data without guarantee.