



POWERTOOLS
HYDRAULICS

Bolt tensioners
HBS



Bolt tensioners: Friction-free for both joint and wallet

Now you can be absolutely sure your bolted joint is correctly tightened. Our ingenious bolt tensioners are a very cost-effective solution to help you avoid hard-to-calculate frictional forces required by conventional bolt tightening. Check out the animation on our website.

Previously, obtaining tolerances of +/-5% of pull value required considerably more expensive equipment. But not now! When the hand pump pressure is released and the nut removed, you have an optimum joint where the bolt has reached the ideal 90% strain value.

The secret is that the bolt is tensioned without torque. The friction that occurs in an ordinary screwed joint is eliminated – all power goes straight into the bolt instead, and creates a secure, vibration-resistant joint. Also, because the strength is used to the maximum, fewer bolts

than usual are needed, and holding-up tools are not needed at all.

The bolt tensioner is simple, quiet, quick, precise, and ergonomic. No physical strain is required, and you reduce time wasted in operational stops. This is a remarkably good investment, provided you make it early in your production. In addition to the standard design, we can also offer various special solutions.

- **For M20–M100 bolts**
- **Working pressure 1000 bar**
- **Piston stop for full load**
- **Manufactured for standard nuts and bolts**
- **Spring return**
- **Special designs on request**



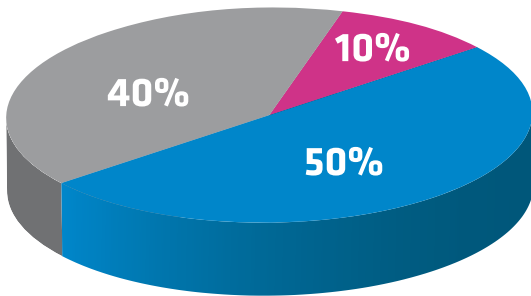
POWERTOOLS
HYDRAULICS

Bolt tensioners
HBS

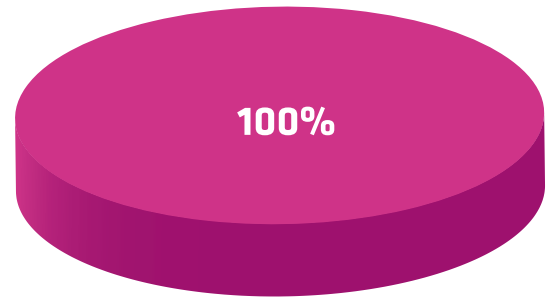
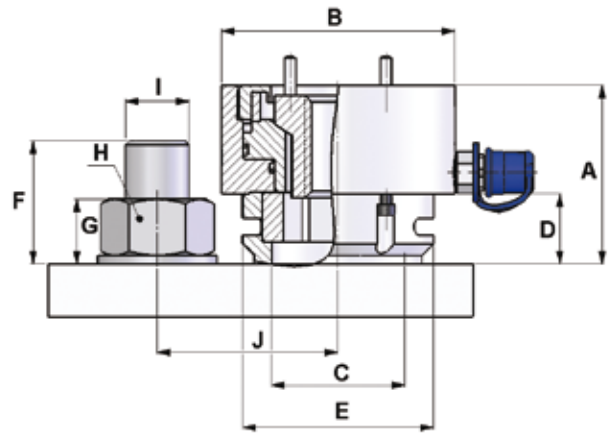
Manual bolt tensioning ...

Do you want your bolted joints to depend on the human factor? Probably not. Yet many still choose to tighten bolts quite randomly. Reference is often made to 'as hard as I can /dare', with the result that the bolt fractures or the joint works loose.

Quite apart from safety considerations, there is also unwanted waste. Only 10% of torque force is transferred to the bolt – the rest is lost in overcoming friction in the thread and the bolt contact faces, creating both stresses in the joint and unnecessary strain for the operator.



- Approx 50% of torque force is wasted in overcoming friction between bolt head, washer, and nut.
- Approx 40% is wasted in overcoming friction in the thread.
- Only about 10% is used in extending the bolt to generate clamping force.



- Without friction, 100% of the force goes straight into the bolt as clamping force.

... versus the bolt tensioner

When the bolt is stretched with hydraulics, completely without torque, there is no friction at all. Instead, practically all the tensioning force goes straight into the bolt and creates an elastic and flexible joint with optimum strength.

Just place the bolt-tensioner over the bolt, fit the thread sleeve (should be slacked half a turn) and pump up to the desired pressure. The bolt is stretched and the nut forced against the surface by the turning moment. When the pressure is then removed, you have a perfect bolted joint.

Bolt tensioners - HBS

Article number	Capacity	Stroke	Oil volume	Height	Outer Ø	Washer max Ø	Height of turning device	Turning device Ø	Minimum bolt height	Maximum nut height	Width of jaws	Thread	Minimum bolt distance	Weight														
															Ton*/kN	mm	cm ³	Dimension in mm										Kg
															A	B	C	D	E	F	G	H	I	J				
HBS 20	16 / 157	4	6.3	73	76	38	23	66	39	19	30	20	52	2.0														
HBS 24	23 / 225.8	5	11.3	76	87	52	28	73	47	23	36	24	59	2.3														
HBS 30	35 / 353.4	6	21.2	85	110	63	34	90	58	28	46	30	73	4.0														
HBS 36	48 / 481	6	28.9	94	127	71	40	100	70	34	55	36	84	5.6														
HBS 42	76 / 759.9	6	45.6	112	153	82	47	112	83	41	65	42	100	9.7														
HBS 48	90 / 903.2	6	54.2	117	164	96	52	130	94	46	75	48	109	13.2														
HBS 56	132 / 1319.5	6	79.2	146	195	107	60	144	110	54	85	56	128	20.6														
HBS 64	180 / 1796.6	6	108	165	215	118	66	155	124	60	95	64	142	27.7														
HBS72	226 / 2262	8	181	183	250	132	76	190	140	68	105	72	163	44.5														
HBS 80	290 / 2898.1	8	231	203	284	142	84	218	156	76	115	80	184	72.0														
HBS 90	361 / 3612.8	10	361	227	318	167	94	232	174	84	130	90	206	90.4														
HBS 100	440 / 4406.1	10	441	279	350	178	104	267	194	94	145	100	227	132.6														

* Rounded value, see kN for exact value

For further information, please see our price list or browse www.powertools.se.