

DYWIDAG Jacks

DYWIDAG Jacks are characterized by their robustness and multiple applications. Thanks to different interchangeable parts, the jacks can be adapted to different sizes of tendons. DYWIDAG Jacks are made of high-strength construction materials (steel and / or aluminum alloy).

The sealing and slide faces are precision finished, surface hardened and hard chrome plated. The exterior of the equipment is chromed or galvanized for protection against atmospheric influence. Consequently, all prerequisites for a long service life are fulfilled.

DYWIDAG Equipment is characterized by its robust design and has proven itself for decades in rough on-site use. In our internal workshop, the equipment is assembled, regularly maintained, checked and repaired quickly and economically if needed. Our high standards with regards to material, manufacturing quality and practicable application always ensure the availability of appropriate equipment at the right place.

Post-tensioning jacks are used for tensioning strands and bar anchors, tightening tie rods or carrying out test loads or proof tests on anchors, piles and nails. They are equipped with the matching mounting parts for each application.

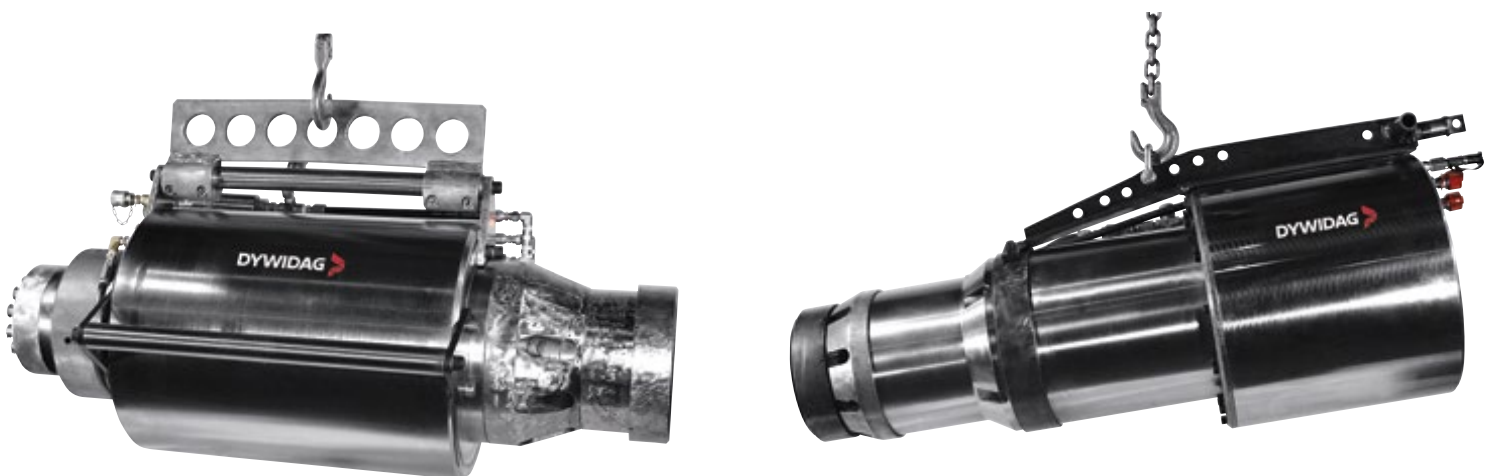
Key Features

- Steel or aluminum design
- Low prices
- Extremely long-lasting in on-site use
- Maximum loads up to 15,000kN

Technical Data

Jack	Nom. str. force	Length	Outer diameter	Stroke	Clear passage	Weight	Standard equipment for				Hydraulic power unit ¹⁾
							Strands	GEWI®	GEWI® Plus	Reinforcing steel	
Type	[kN]	[mm]	[mm]	[mm]	[mm]	[kg]	No.	Ø [mm]	Ø [mm]	Ø [mm]	
HOZ 250	250	580	125	50	33	13		16 - 28			① ⑤
25 Mp	250	550	125	100	48	25					② ⑤
60 Mp	600	600	190	50/100	60	45				26.5	② ⑤
110 Mp	1,100	750	267	50/150	86	55	3 - 5	16 - 50	18 - 43	26.5 - 40.0	② ⑤
1500 kN	1,500	870	310	250	100	125	3 - 7				② ⑤
HOZ 2000	2,000	880	325	150	140	210		63.5	57.5 - 63.5	47	② ③ ⑤
HOZ 3000	3,000	1,200	385	250	162	400	8 - 12			57 - 65	③ ④ ⑤
HOZ 5400	5,400	1,470	482	250	187	600	13 - 22			57 - 75	④
6800 kN	6,800	1,500	560	300	225	1,400	23 - 27				④
9750 kN	9,750	1,600	680	300	260	2,000	28 - 37				④
15000 kN	15,000	3,300	980	500	420	7,000	38 - 61				④

1) for details regarding the recommended hydraulic power units, please see table at the bottom of page 49



Additional Information

Brochure / operating manuals

DYWIDAG Equipment

Hollow-Piston CFRP Cylinders

Carbon Fiber Reinforced Hollow-Piston (CFRP) Cylinders are an optimum alternative to conventional hollow-piston cylinders made of aluminum and steel with weight savings of 60% and more. In most cases, tensioning work can be carried out by one to two workers without the need for lifting tools.

Despite their light weight design, Hollow-Piston CFRP Cylinders are robust and durable and are suitable for tensioning and testing anchors. Thanks to a large variety of different accessories, they can be universally used.

Key Features

- Low weight
- Can be handled by a single person
- No need for lifting tools
- Fast application

Technical Data

Capacity	Jack	max. Strength	Stroke	Clear passage	Weight	Standard equipment for				Hydraulic power unit
						Strands	GEWI®	GEWI® Plus	Reinforcing steel	
[t]	Type	[kN]	[mm]	[mm]	[kg]	No.	Ø [mm]	Ø [mm]	Ø [mm]	
80	L-HK-DZ 080-100-083	897	100	90	17	3	20-40	18-35	26.5-32	⑤ ⑥ ⑦
100	L-HK-DZ 100-150-083	1,018	150	90	24	3-4	25-50	18-43	26.5-36	⑤ ⑥ ⑦
125	L-HK-DZ 125-180-090	1,264	180	90	28	3-7	25-50	18-43	26.5-40	⑤ ⑥ ⑦
140	L-HK-DZ 140-250-105	1,438	250	105	36	3-7	50-63.5	30-57.5	36-47	⑤ ⑥ ⑦
180	L-HK-DZ 180-250-110	1,829	250	110	50	5-9	63.5	57.5-63.5	47	⑤ ⑥ ⑦
200	L-HK-DZ 200-250-130	2,006	250	130	60	7-12		63.5-75	47-57	⑤ ⑥ ⑦
250	L-HK-DZ 250-250-130	2,511	250	130	85	7-12		75	47-65	⑤ ⑥ ⑦
320	L-HK-DZ 320-300-150	3,208	300	150	106	12-15			57-65	⑤ ⑥ ⑦
420	L-HK-DZ 420-250-110	4,219	250	110	99				75	⑤ ⑥ ⑦



Recommended Hydraulic Power Units

Number	Hydraulic power unit	Max. operating pressure	Flow rate	Oil filling	Weight including oil filling	Dimensions L x W x H
	Type					
①	Manual pump P39	700	–	1	6	600 x 150 x 140
②	77-193	600	3	13	60	420 x 380 x 480
③	R 6.4	600	6.4	100	315	1,400 x 700 x 1,100
④	R 11.2	550/600	22.4/11.2	125	630	2,000 x 800 x 1,300
⑤	P06-10	700	2.1	10	45	430 x 360 x 480
⑥	77-193/700	700	3.0	13	60	420 x 380 x 480
⑦	P06-25	700	2.1	25	60	430 x 360 x 480



Additional Information

Brochure / operating manuals

Tensioning Accessories

For the daily use of our jacks and equipment, we offer accessories that are robust, easy to use and perfectly suitable for on-site use.

They are perfectly adapted to individual applications and the equipment used, thus facilitating work and ensuring a fast construction progress.

For clamping the strands easily and safely, our equipment either includes an in-built self-clamping device or a clamping bush that is mounted directly behind the jack.

Additionally, the jack can be equipped with a wedging device for actively force-fitting the anchor wedges of strand anchors.

Special stressing chairs ensure an easy positioning of the jacks as well as permanent control of the wedge seating and allowance for tolerances during the tensioning and tying down of the anchors. When used on bar systems, the anchor nuts can be tightened using a hand ratchet or screwed inside the stressing chair using a driver sleeve.



Re-Stressing Device/Lift-Off Device

With ground anchors, it is sometimes necessary to determine the existing force after installation and lock-off.

If this measure was already taken into account during the manufacture of the anchor and the wedge plate of strand anchors has an external thread, or bar anchors were installed with a corresponding projection, this is technically feasible with little effort.

Occasionally, however, it happens that for strand anchors, the existing anchor force is to be determined later, although this was not originally intended.

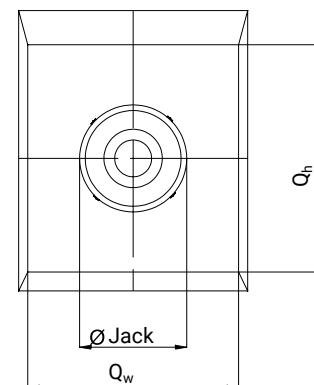
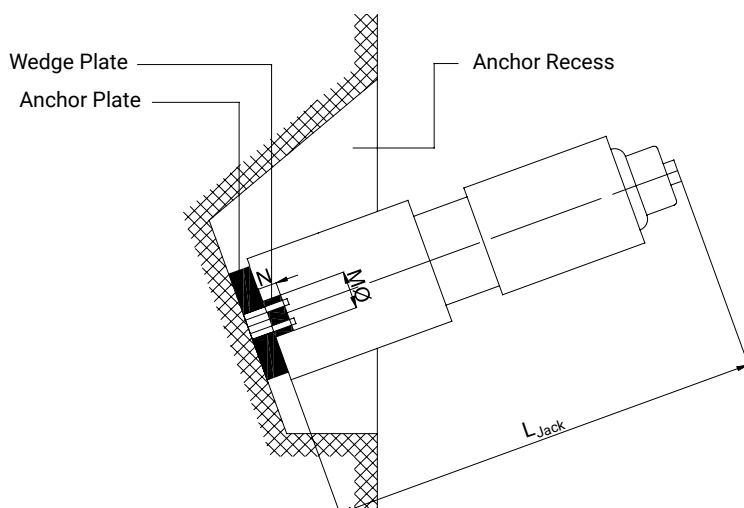
With our patented Lift-Off Device, we can now carry out a lift-off test on strand anchors with smooth wedge plate to determine the anchor force. The wedge plate is gripped with a clamping bell and a stressing jack with tensioning spindle is mounted on top.

The applied force is determined either with a load cell, or calculated using the hydraulic pressure on the hydraulic pump and the piston area of the calibrated stressing jack.

The load steps are determined depending on the expected anchor load.

The anchor-head displacement is measured with a precision dial gauge. During stressing, initially only the tensioning spindle between the anchor head and the nut on top of the stressing jack is stretched. When the existing anchor force is exceeded, the wedge plate lifts off the anchor plate.

As the force increases further, the entire tendon of the anchor in the free length up to the grout body is stretched. For evaluation, a force-displacement diagram can be created. This results in two differently inclined lines whose intersection corresponds to the current anchor force.



Additional Information

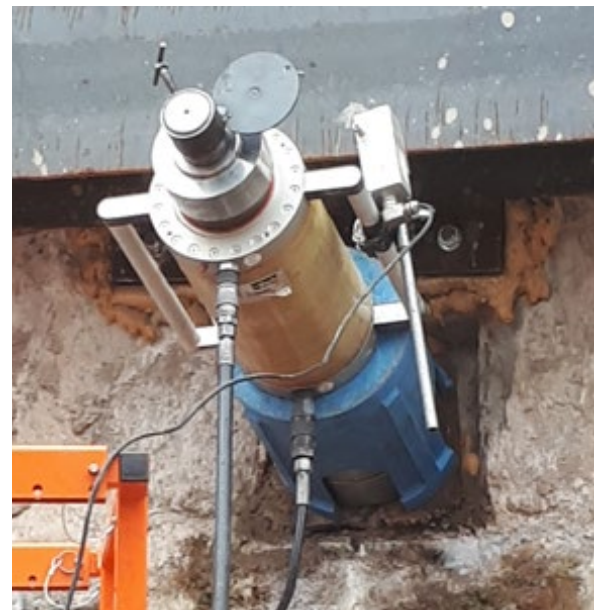
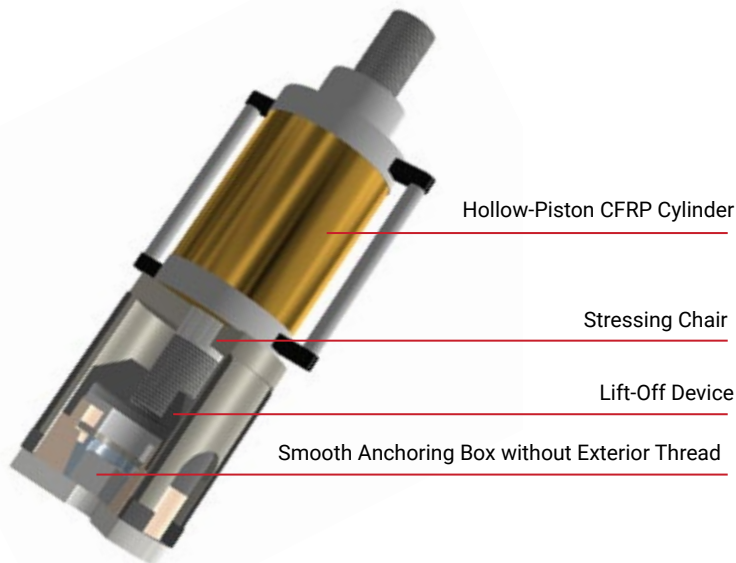
Brochure / operating manuals

Dimensions of the Wedge Plate

Ultimate Force	[kN]	up to 744 kN	up to 1,302 kN	up to 2,232 kN	up to 3,534 kN
Anchor Head M Ø	[mm]	80 - 90	"90, 95, 105, 110, 115"	145 - 155	175 - 185
Anchor Head N	[mm]	min. 40	min. 45	min. 50	min. 65

Required Space for Lift-Off-Device

Pocket $Q_w \times Q_n$	[mm]	330x330	380x380	460x460	560x560
Ø Stressing Jack	[mm]	220	270	330	400
L_{Jack}	[mm]	700	900	900	1,000



Lift-off Tests: Stadtarchiv Koeln, Germany



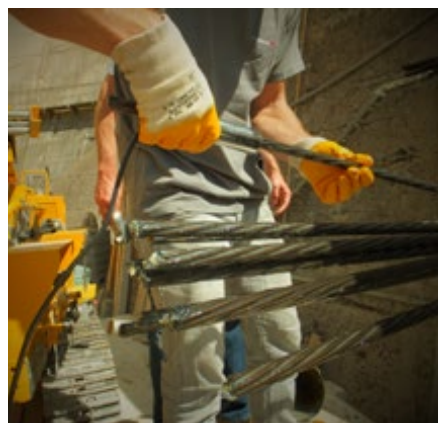
Force / Displacement Measurement

For monitoring installation, tensioning for performance and proof tests and for the long-term controlling of forces, we offer a comprehensive range of measuring equipment such as analog and digital load

cells and length gauges of up to 750mm elongation.

Our special force measuring system DYNA Force® allows an extremely precise readout

of the anchor forces in strands and bars. The contact-free measuring is carried out inside the anchor so that no troublesome external devices have to be placed at the anchor head.



DYWIDAG Equipment

Torque Equipment

Anchorage elements and coupler connections can be countered for minimizing slippage in anchorages and threadbar connections and for increasing fatigue resistance. By defined tightening, the *GEWI®* and *GEWI® Plus* screw parts are tensioned against each other so that the spliced bars cannot be distinguished from non-spliced bars with regards to stress-strain behavior.

In addition, systems for alternating loads can be developed so deformation resistant by countering that a large number of load changes does not have any influence on the load-bearing behavior of the connections and anchorages.

DSI offers manual torque wrenches and hydraulic impact wrenches that cover the complete force range.

In conjunction with specially developed extension and adapter designs, these tools ensure trouble-free installation and efficient work flows. Regular inspections guarantee highest safety standards to eliminate possible risks for the operator and the environment. In our internal workshops, the equipment is regularly maintained, checked and repaired quickly and economically if needed.

Technical Data

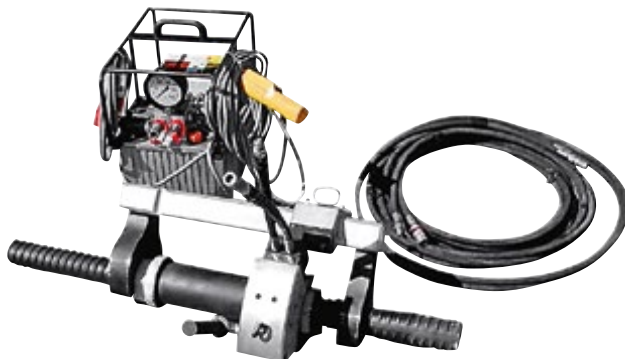
Torque Equipment	Type	Force range	Standard equipment for	
			<i>GEWI®</i>	<i>GEWI® Plus</i>
		[kNm]	Ø [mm]	Ø [mm]
DSG 4	manual	max. 0.4	12 - 20	
DSG 5	manual	0.4 - 1.2	20 - 28	18-25
DSG 7	manual	0.8 - 2.0	28 - 32	28 - 30
Type 60	hydraulic	0.3 - 3.0	40	35
Type 150	hydraulic	1.1 - 8.0	50	43
Type 200	hydraulic	2.0 - 16.0	63	57.5 - 63.5
Type 300	hydraulic	3.0 - 25.0		75

Hydraulic torque equipment is supplied as a complete set including matching hydraulic power unit

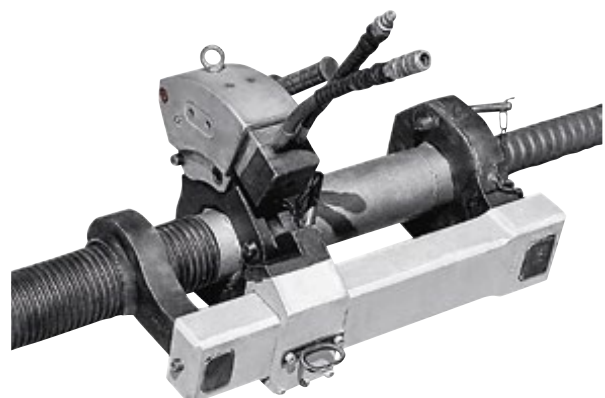
Manual Type DSG Torque Wrench



Hydraulic Torque Equipment, Type 200, complete



High Power Wrench with Bridge, Type 200



Additional Information

Brochure / operating manuals