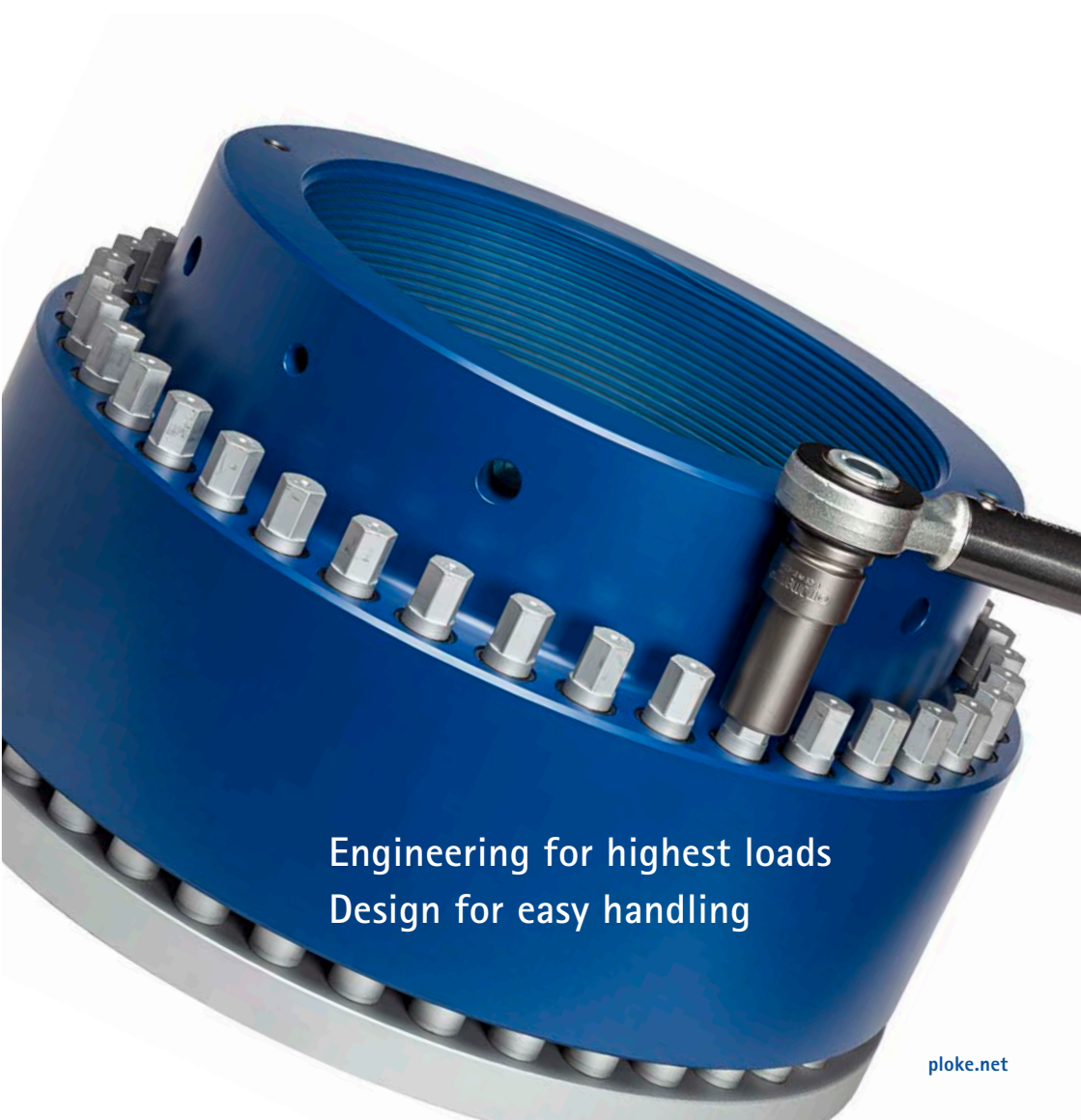


PLOKE ENGINEERING



Engineering for highest loads
Design for easy handling



Bolting solutions according to the MJP principle for highest loads with easiest handling



We are an experienced Swiss engineering company with a focus on globally unique bolting solutions based on the principle of mechanical Multi-Jackbolt Pretensioners (MJP) for absorbing the greatest forces.

Our field of activity covers all areas in which large, secure and, above all, releasable bolted connections are required. We calculate, develop, design and produce the best technical and economical bolting solutions for large dimensions and high, precisely adjustable and releasable pretensioning forces in accordance with the specific requirements of our customers and on the basis of our high-quality mechanical PM Multi-Jackbolt Pretensioners (MJP).

We offer our services and products throughout Europe. Our customers are advised personally and competently on site by our sales engineers and distribution partners and are also supported during the installation of their bolting solution or during maintenance work.

PLOKE Multi-Jackbolt Pretensioners (MJP) are the ideal solution for highly loaded bolted connections ($\geq M16$), where a defined pretensioning force is to be generated exactly and held reliably – and can also be released again without any problems! They are designed according to ISO 898-2 and are used for general bolting applications in all areas of industry.

PLOKE Radial Pretensioning Bolts (RPB) are the ideal solution on large couplings for the safe transmission of high torques.

The pretensioning and loosening of Multi-Jackbolt Pretensioners is done with torque wrenches. These simple hand tools allow effortless, controlled and precise generation of the desired tensioning torque on the Jackbolts and thus the achievement of the desired pretensioning force.

Founded in 2014 – Experience since 1988

Benefit from our many years of experience (formerly co-owner and managing director of P&S Vorspann-systeme AG) as a technology leader for highly stressed large diameter bolted joints.



Engineering for highest loads – Design for easy handling



PM Multi-Jackbolt Pretensioners (MJP) with *Mammoth*™ Jackbolts

Mechanical Multi-Jackbolt Pretensioners (MJP) are the perfect solution for purely axial pretensioning. MJP are designed according to ISO 898-2 and are used for general bolting applications in all areas of industry. Due to the captive mounted *Mammoth*™ Jackbolts they are best suited for highly dynamic applications such as turbine runners. The hexalobular head (Torx®) of the Jackbolts is extremely wear-resistant and safe to handle.

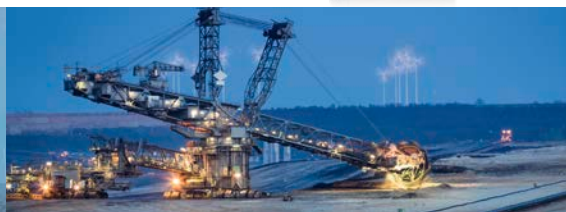
The pretension of the *Mammoth*™ Jackbolts generates a high thrust force. The small friction diameters guarantee a minimal torque M_A .

The Nut Body transfers the loads; it is positioned by hand on the threaded bolt.

The Thrust Washer protects the component from high stress.

The clamping force results from the thrust forces of the *Mammoth*™ Jackbolts and the reaction force of the threaded bolt.

The preload force F_v in the screw bolt corresponds to the sum of the Jackbolt forces; it is purely axial and therefore torsion-free.



PB Radial Pretensioning Bolts (RPB)

The unbeatable combination of all advantages for combined axial and radial pretensioning on large couplings:

– PM Multi-Jackbolt Pretensioners (MJP)

in conjunction with

– Conical Bolt and Conical Split Sleeve

Especially suitable for the positive pretensioning of highly dynamic components such as flange couplings or dynamically loaded foundations.

The MJP on the operator side is primarily used - especially with large bore diameters - to generate the desired radial preload.

For smaller bores, the axial and radial preload can be generated with only one Multi-Jackbolt Pretensioner.

The Conical Bolt, in combination with the Conical Split Sleeve, creates a controlled and releasable radial preload that even compensates for misalignments.

The mutual MJP is usually only required for large bore diameters and is used here to generate the desired axial pretension.

For smaller bores, a flex nut is usually sufficient.



International PCT Patent Application WO2018/065898



PM08 – universal MJP of steel property class 8 with *Mammoth™* Jackbolts

- steel property class 8 according to ISO 898-2
- operational temperature from -10 up to +250 °C
- standard diameters M16 ... M160
- for pretensioning forces F_y nom. 70 ... 6230 kN



PM10 – MJP of steel property class 10 for high-strength screw connections with *Mammoth™* Jackbolts

- steel property class 10 according to ISO 898-2
- operational temperature from -50 up to +250 °C
- standard diameters M16 ... M160
- for pretensioning forces F_y nom. 95 ... 7610 kN



PM12 – MJP of steel property class 12 for highly stressed bolted joints with *Mammoth™* Jackbolts

- steel property class 12 according to ISO 898-2
- operational temperature from -50 up to +250 °C
- standard diameters M16 ... M160
- for pretensioning forces F_y nom. 110 ... 8300 kN



The strongest standard series worldwide!

Multi-Jackbolt Pretensioners (MJP) made to measure

Where no solution can be found with our PM standard series or the PB basic series, we will develop an application-specific special solution for you, taking into account all the necessary parameters.



PLOKE Engineering AG is authorised distributor Switzerland for HEICO-TEC® Tensioning Systems

In order to provide you with an even better service in the field of large bolted connections, we are pleased to act as an authorised distributor for HEICO-TEC® Tension Nuts and Reaction Nuts as well as HEICO-LOCK® Wedge Locking Systems for HEICO Befestigungstechnik GmbH in Switzerland.

Most dimensions of the certified HEICO catalogue products are immediately available from stock, whether bare or coated.



HEICO-TEC Tension Nuts – ideal replacement for standard nuts on pressure equipment subject to approval

A frequently encountered case in the chemical industry is the replacement of standard nuts (hexagon nuts) on pressure equipment subject to acceptance by Multi-Jackbolt Pretensioners. Here, the certified HEICO-TEC Tension Nuts and Reaction Nuts available from stock offer a particularly economical and quick solution.

HEICO-TEC Tension Nuts and Reaction Nuts meet the requirements of the Pressure Equipment Directive (PED) as standard, offer the familiar advantages of Tensioning Elements with Multiple-Jackbolts and do not require more space than standard nuts.



If more stringent requirements are made, we develop the optimum bolting solution in close cooperation with the customer and ensure professional certification of the MJP in accordance with the Pressure Equipment Directive (PED), so that safe operation of the system is guaranteed.

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