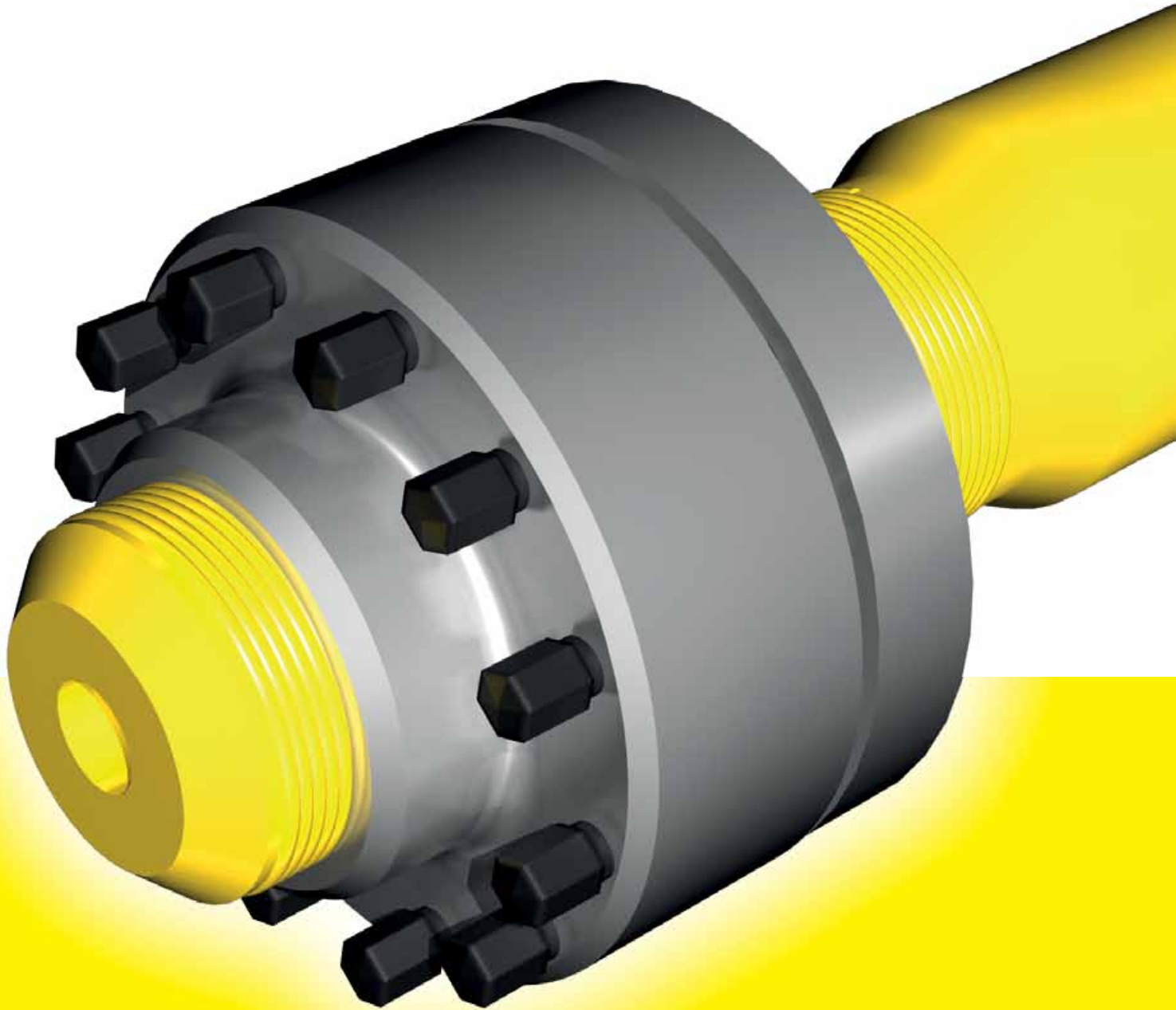


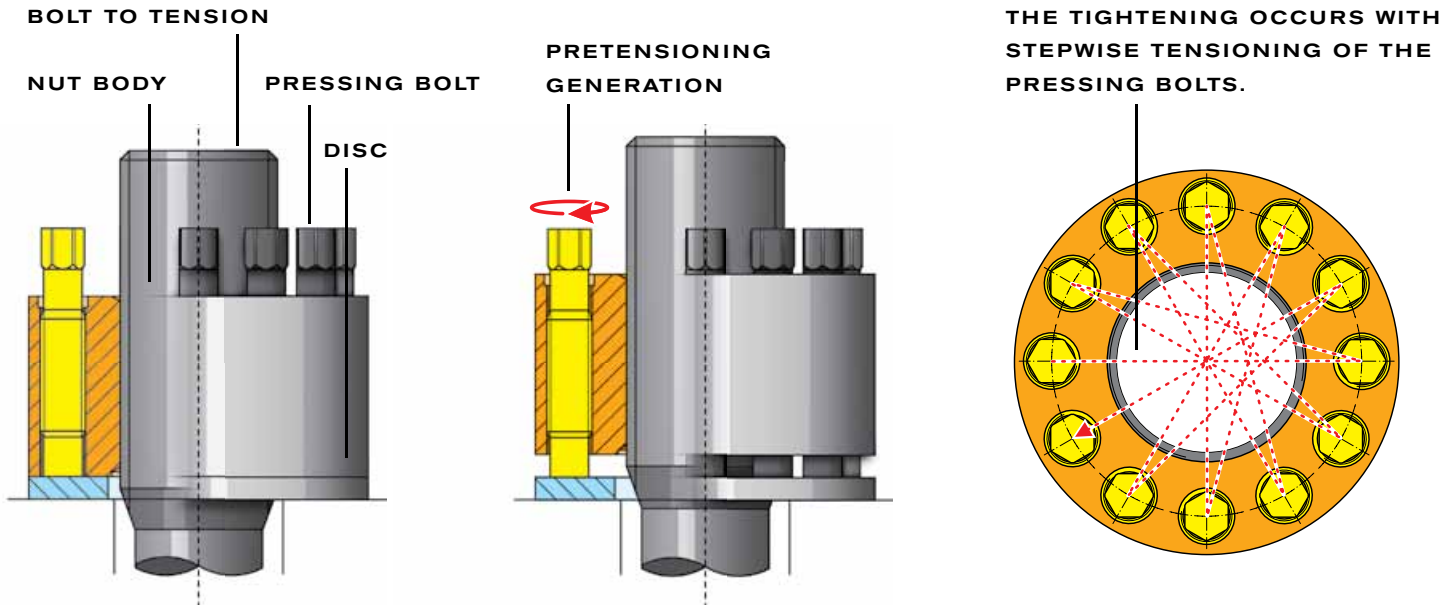
Multiple Stud Tensioning Multiple Stud Nut (MSN)



The Axial Bolt Tensioning
using torque

MSN

Function of a Multiple Stud Tensioning (MSN) PG 48 in simplified representation



After the pretensioning force generation, the MSN stays on the bolted respectively component connection. Due to mounting without further accessories, the MSN is an economic and effective axial bolt tensioner with little diffusion.

BASIC POSITION

The MSN is screwed onto the bolt being tightened until lying at the clamping disc. The pressing bolts are integrated into the nut body and ready for pretensioning generation.

ELONGATION AND COMPRESSION

Due to the stepwise turning of the pressing bolts with torque, the axial pretensioning force is generated. The bolt being tightened is elongated and by leading in the force into the disc the flange parts are compressed.

PRETENSIONING

After reaching the required torque, the pretensioning force of the bolt is achieved. The sum of the axial pressure forces of the pressing bolts is in accordance with the overall bolt pretensioning force (axial traction). The main bolt is pretensioned absolutely torsion-free. The Multiple Stud Nut automatically is protected against loosening.

TORSION-FREE GENERATION OF TENSION FORCE – ECONOMICAL USE OF BOLT MATERIAL CAPACITY

A bolt is designed to hold two or more components together. Axial bolt elongation is the only force at work here. Torsion, which is generated, due to friction in the threads and in the support surface, by using torque wrenching methods, means only unnecessary weakening of the components. This requires stronger bolt connections. This disadvantage is no longer existing when using FASTEC MSN to generate the axial pre-tension. This increases the economic utilisation factor. Axial tension force has been attained by using FASTEC MSN for bolts with a thread diameter from 16 mm up to 1800 mm.

SIMPLE PRETENSIONING

MSN-tensioning elements replace conventional nuts because of their universal and simple design. The nut body is screwed onto the thread and transfers the pretensioning force via the pressing bolts, which is tightened with simple hand tools.

INCREASED SAFETY

Due to the purely axial bolt tensioning force applied and as the safety factors given in bolt calculation instructions come down to a minimum, bolts can be higher tensioned for the same bolt thread cross section. The connection is more secure.

FIELDS OF APPLICATION

- General mechanical engineering
- Metal industry
- Structural and civil engineering
- Refineries, chemical industry
- Powerplant technology
- Research technology
- Onshore / Offshore



The MSN are the optimum solution wherever a safe and maintenance-free connection must be ensured.

ADVANTAGES

The FASTEC MSN – Multiple Stud Nuts offer you many advantages compared to conventional fixing devices and methods of mounting:

- Main bolt is pretightened 100 % torsion-free
- No torsion under load (no thread wear)
- Robust, durable and lightweight mode of construction
- Simple and easy mounting and dismantling
- Permanent maintenance-free connection
- Wide choice of sizes and designs
- Anytime quickest control possibility of the pretensioning force
- Mounting with many individuals possible
- Easy pretensioning control
- Tensioning locking at static, alternating and impact loads
- Improves the bolt lifetime because of gentle pretensioning force generation and pure axial load

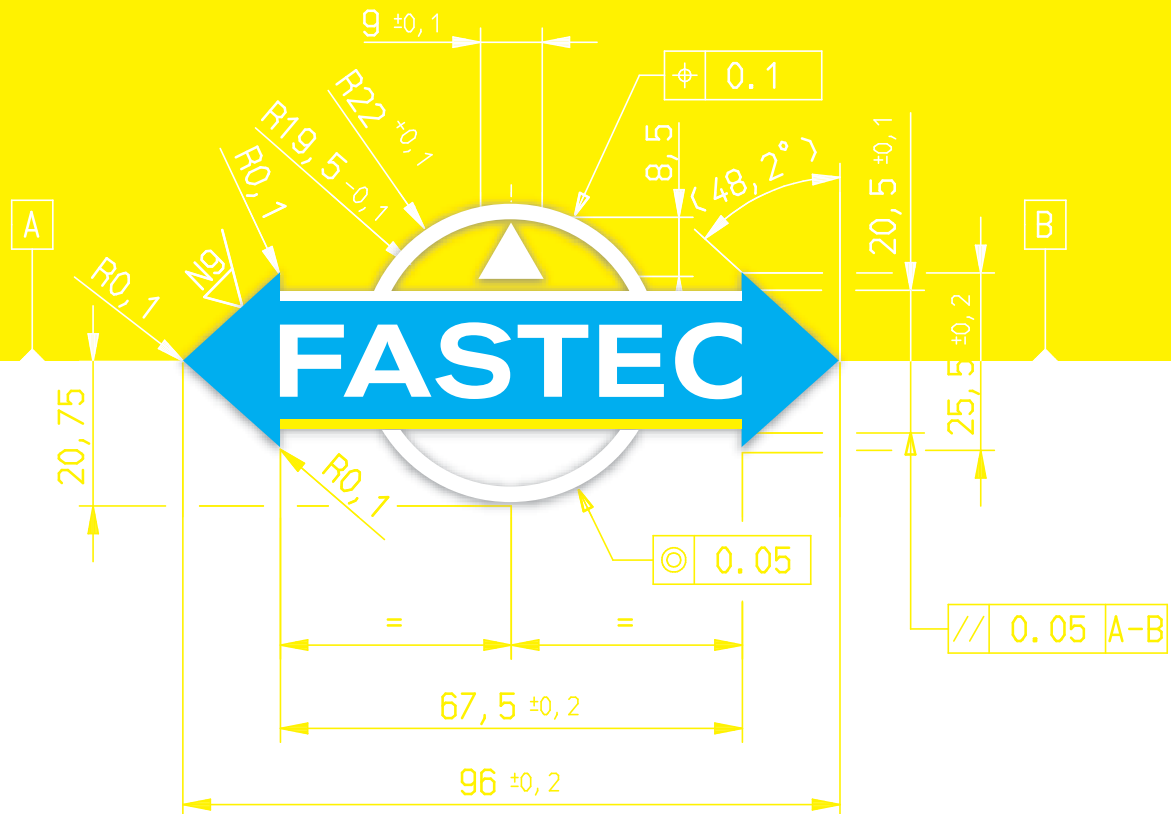
VERSIONS

The FASTEC MSN – Multiple Stud Nuts can be manufactured/supplied as follows:

- Construction
 - Compact design
 - Standard design
 - High-tensile design
 - Customer specific solutions up to Ø 1800 mm
 - All sorts of threads, standards and others
 - Power transmission elements as e. g. bayonet
- Materials
 - High-tensile steel
 - Rust and acid-resistant steels
 - Heat-resisting materials
 - High-strength aluminium alloys
 - Different material combinations
- Surface finish
 - Burnished, lacquered or chemically nickel-plated
 - Requested by the customer

User-defined special designs possible.

GIVE US A TRY! WE WILL WORK OUT A COMPREHENSIVE SOLUTION FOR YOU!



FASTEC ENGINEERS AND MANUFACTURES:

High pressure technology up to 4000 bar

- Hydraulic bolt tensioners
- Hydraulic nuts
- Hydraulic pumps (manual, air and electric-driven)
- Hydraulic accessories (high pressure hoses, couplings, adaptors)
- Special hydraulic tools

Fastening systems

- Hydraulic fitting bolts
- Friction-locked shaft couplings
- Fast-lock fasteners
- And much more ...

SWISS MADE QUALITY

FASTEC products are subject to a permanent and strict quality control during manufacturing and final assembly.

This guarantees that all FASTEC products meet the highest expectations for a reliable function, even after years of hardest working conditions.

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