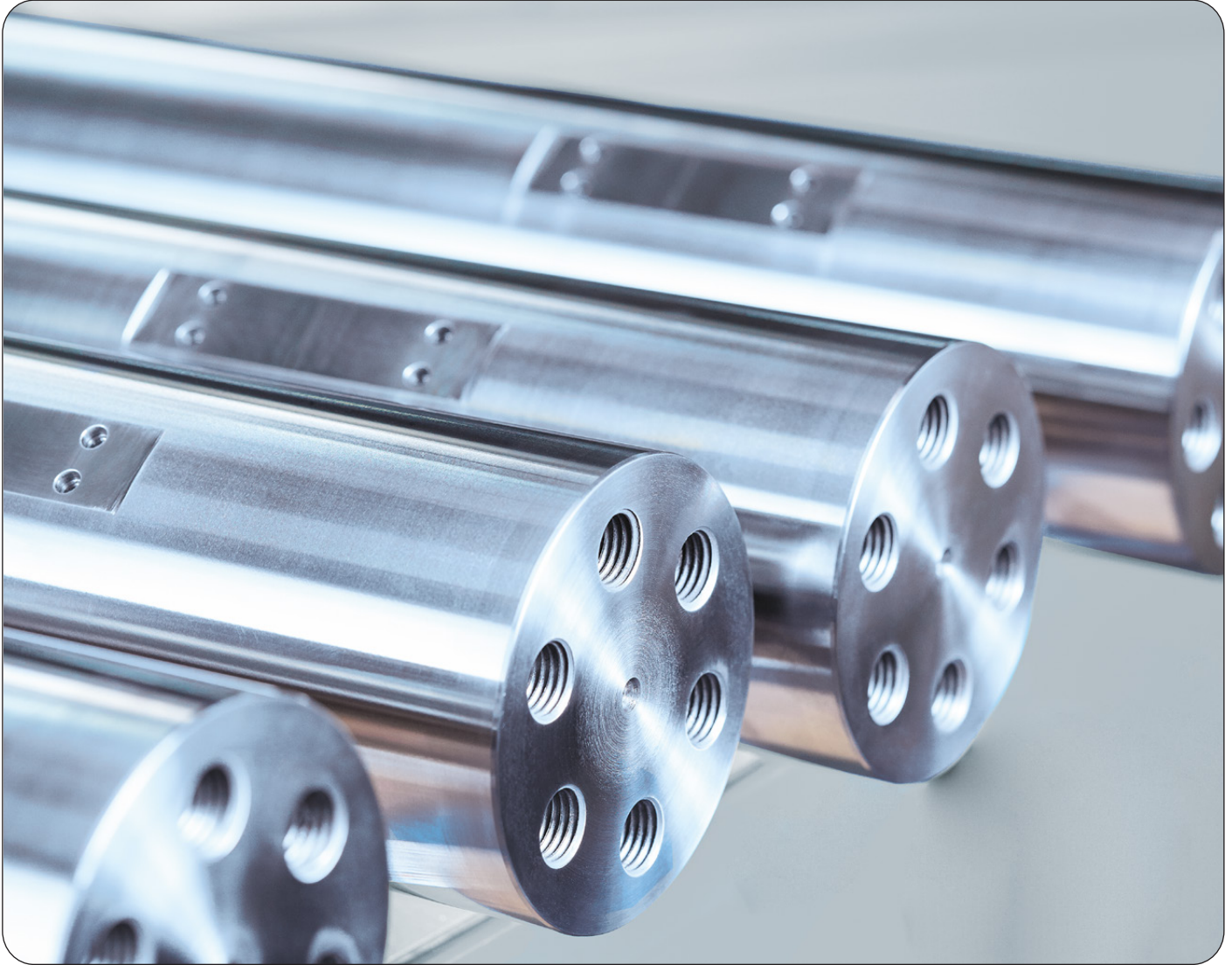


Product overview



Shafts and rollers

COMPETENCES - MANUFACTURING OPTIONS

Shafts and rollers for all applications and areas of use

No matter how different the fields of application and uses may be, we offer you the right shaft and roller solution. We manufacture individual pieces (prototypes) and small batches.

Geometry | Manufacturing possibilities

- Turning and grinding up to a maximum length of 4,000 mm
- Machined diameters from 8 mm to 500 mm
- Hardening up to 3,000 mm / larger dimensions or special geometries by arrangement

Material

- All commercial shaft materials available
- Also special materials such as Cf53, 90MnCrV8
- Or according to specific customer requirements

Surface finish | Tolerances

- Surface finish up to $Ra\ 0.025\ \mu\text{m}$ possible
- Diameters in h6 are standard
- Diameters in h5 and h4 available
- Straightness up to $5\ \mu\text{m}/\text{m}$
- Surface finish Ra up to $0.025\ \mu\text{m}$, $Rz\ 0.1\ \mu\text{m}$
- Concentricity up to $3\ \mu\text{m}$

Heat treatment | Coating

- Inductive surface hardening, hardening depth 4 - 6 mm
- Tempering and stress relieving
- Various coating options for improvement of the properties



SHAFTS AND ROLLERS

Focus on efficiency and precision

Whether it is a matter of material selection, surface finish or processing, we manufacture shafts and rollers and rollers precisely tailored to your requirements.

Shafts

- Shafts in all designs
- A variety of different heat treatments - also partial hardening
- Manufactured from soft or hardened primary material
- High precision turning, milling, drilling and grinding operations
- Designs with journals, threads, milled surfaces, face bores n
- Deep-hole drilled versions

Rollers

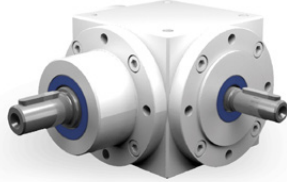
- Work rolls (e.g. skin pass rolls, scale break rolls, feed or back-up rolls)
- Straightening rolls (e.g. intermediate rolls, draw-in or stretching rolls)
- Partial hardening possible
- High-precision turning, milling, drilling and grinding operation
- High dimensional accuracy with simultaneous adherence to shape and position tolerances



FLOHR-PRODUCT OVERVIEW

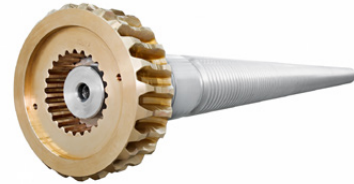
Gear Technology

- *Bevel gearboxes*
- *Right angle-planetary gearboxes*
- *Worm gearboxes*
- *Cam-drives and indexing units*
- *Indexing units (cam, cam followers)*
- *Special gearboxes*



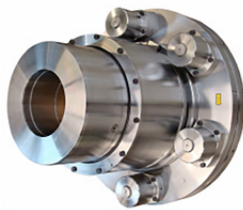
Gears

- *Spiral bevel gears*
- *Bevel gears*
- *Worm gears*
- *Spur gears*
- *Special gears*



Couplings

- *Rigid and flexible couplings*
- *Frictional connections*
- *Drum-coupling*
- *Gear-couplings*
- *Safety couplings*



Sensor systems

- *Incremental encoders*
- *Magnetic encoders*
- *Absolute encoders*
- *Electronic speed switches*
- *Electronic position switches*
- *Universal encoder systems*



Manufacturing

- *Turning, milling, grinding*
- *Grooving and broaching*
- *Balancing*
- *Calculation and design*
- *Installation*
- *Service und repairs*

Fly-Wheels, Pulleys

- *V-belt- & flat belt pulleys*
- *Flywheels*
- *Special pulleys*
- *Motor slide parts (systems)*
- *Supplies for drive belts*
- *Drive belts*
- *Customer cast*




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