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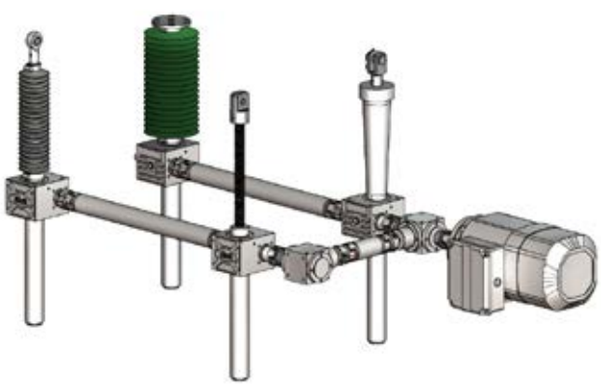
Worm Gear Screw Jack Applications

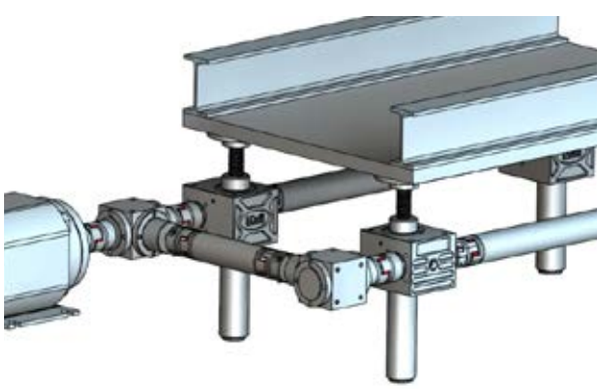
Worm gear screw jacks are ideal for various applications, regardless if you are lifting, lowering, tipping or moving. In each case, the different industries and the different power parameters require a powerful, reliable screw jack that is easy to adapt to the specific application, and to extend to a complete worm gear screw jack system.

Scissor-lift system

Four screw jacks in different configurations driven by a single motor



Lifting device for an automatic bar-machining installation



The Thomson Screw Jack Range

The Thomson MULI® and JUMBO® series worm gear screw jacks provide reliability in use and versatility in application. With its easy-to-mount, cubic housing, it can easily be extended to form wide-area jack systems with the help of its wide range of accessories. Thomson screw jacks are designed around a precision trapezoidal or ball screw drive engineered from Thomson for high accuracy and performance.

- The large product range offers a variety of worm gear screw jack designs and sizes. Heavy loads can be handled and high speeds can be achieved.
- The use of high quality materials and a modern manufacturing process ensures that Thomson screw jacks will be a reliable precision component in your machine.
- We offer complete calculation and sizing up to complete screw jack systems including drive technology. You save time-consuming choice of many single components.

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Worm Gear Screw Jack Selection Chart

MULI®0 - 5
(–100 kN)

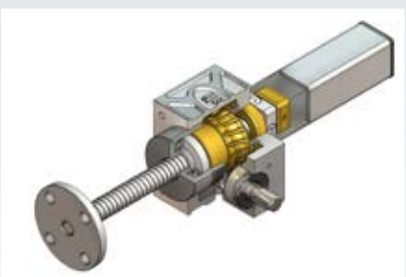
JUMBO®1 - 5
(–500 kN)

Axially travelling screw

The rotary motion of precision worm gearing (worm shaft and internally threaded worm wheel) is converted into axial linear motion of the screw, which travels through the gear box housing. The load is attached to the end of the screw.

N/V-TGS
N-KGS

V-KGS

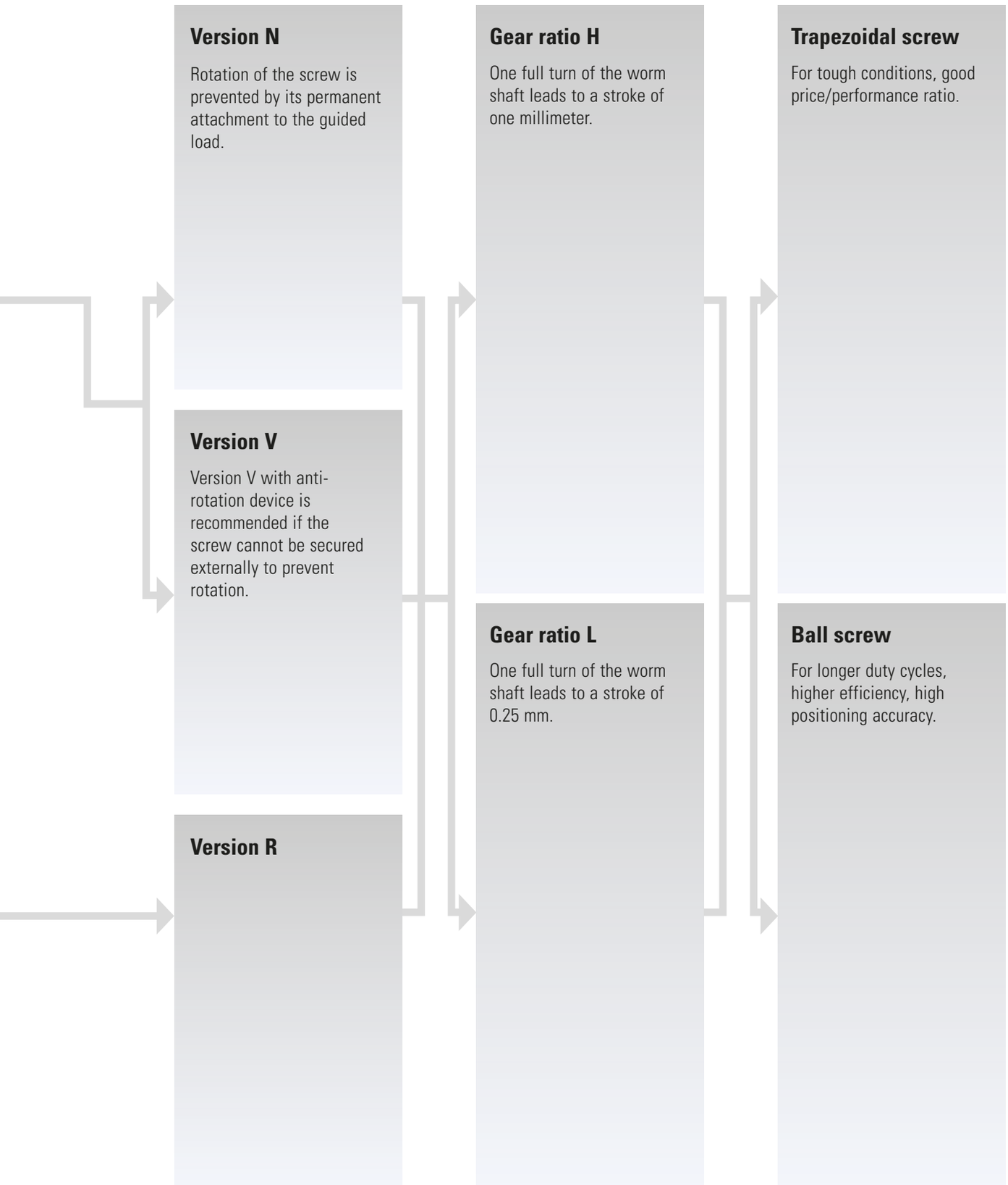


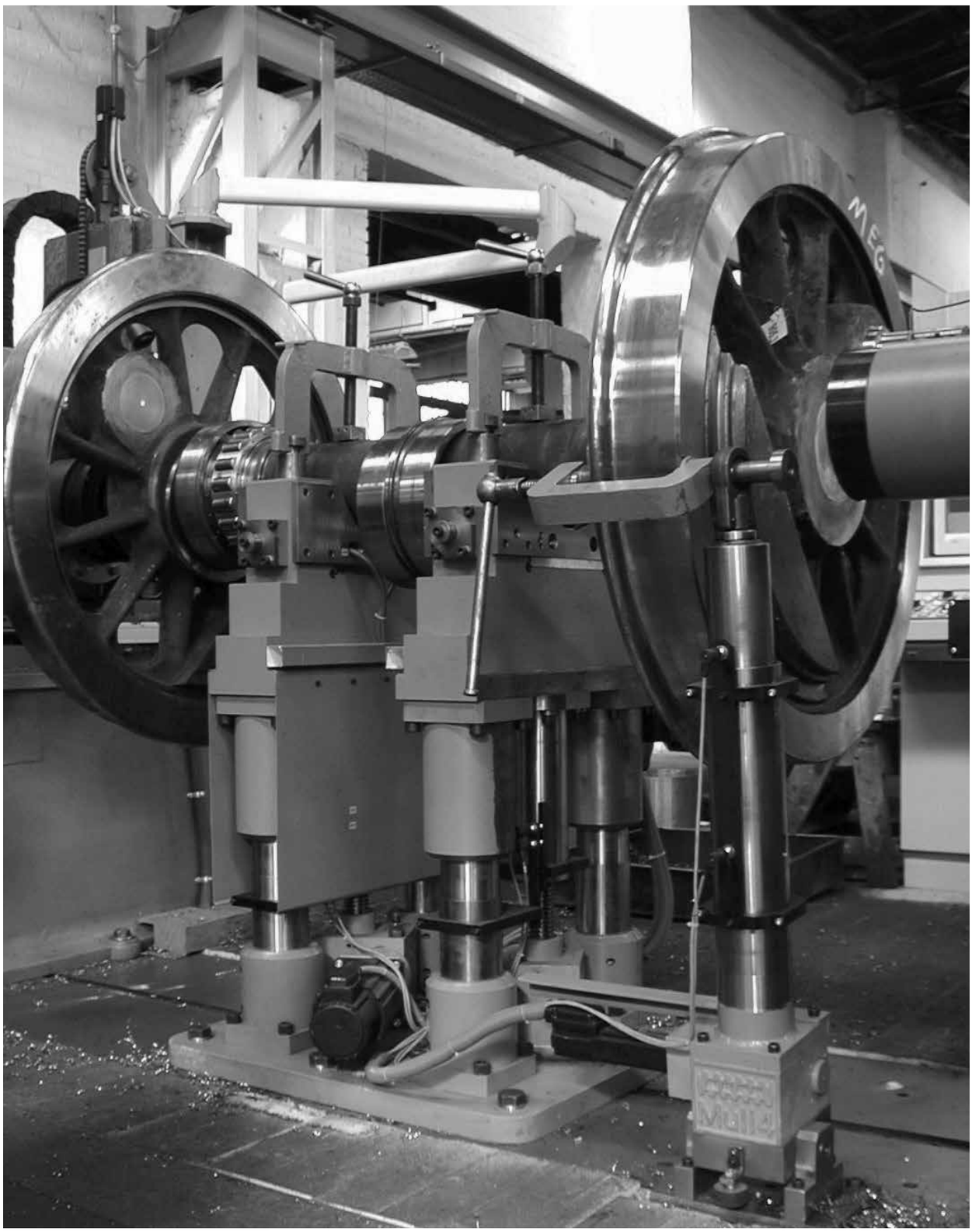
Rotating screw

Driven by a precision worm gearing (screw keyed to the worm wheel), the rotary motion of the screw is translated into linear motion of the travelling nut on the screw.

R-TGS/KGS

Worm Gear Screw Jack Selection Chart

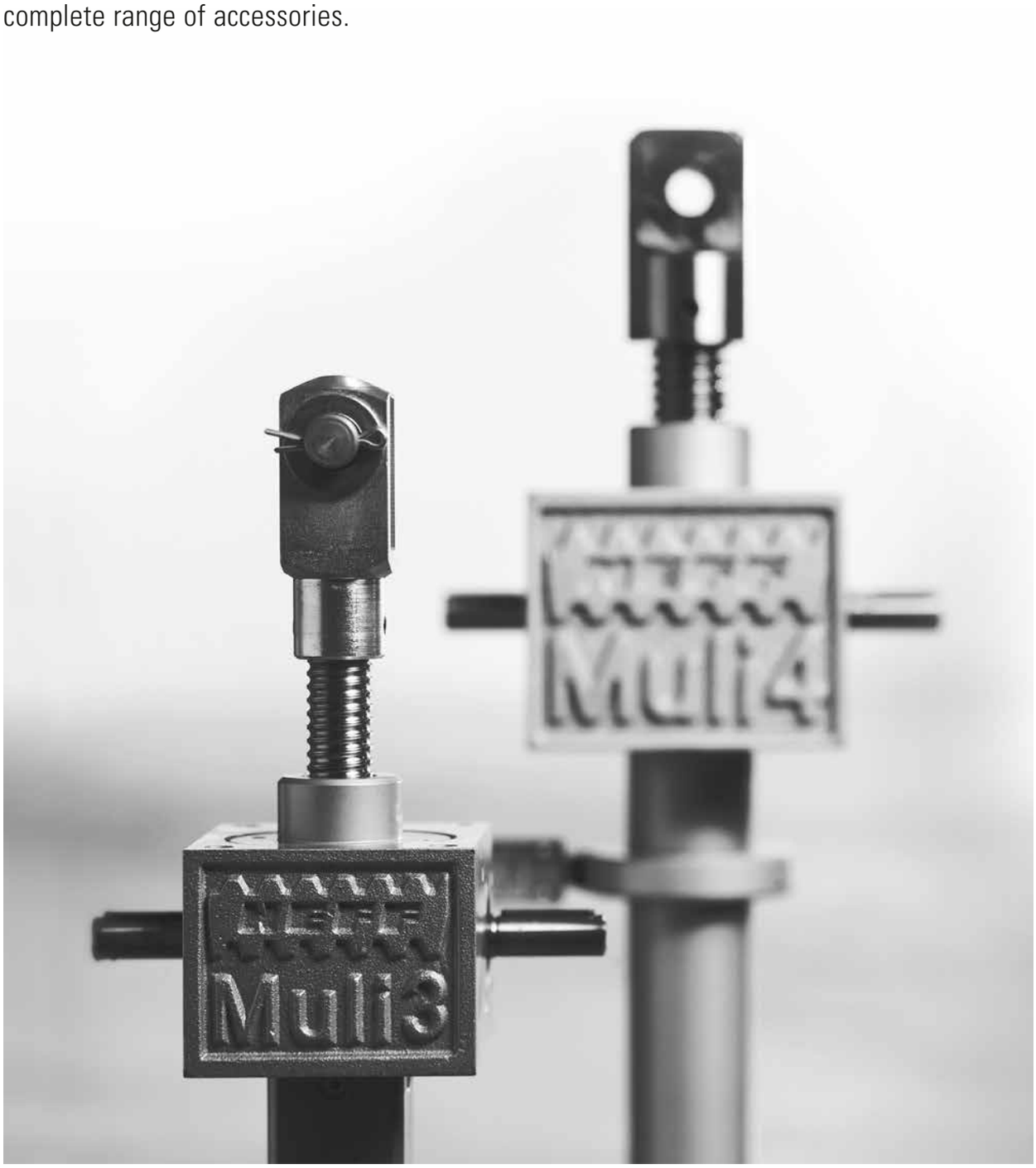




Surveying axles for rod locomotives, Hörmann Railway Technology, Germany

Presentation of the MULI® and JUMBO® Series

Thomson worm gear screw jacks of the MULI® and JUMBO® series are manufactured for loads from 2.5 to 500 kN. All models are designed for both pushing and pulling forces, and for position-independent functioning. The cubic housing, standardised mounting material and end-pieces, and pre-drilled flange holes permit the ideal installation of motor, gears and shaft encoder. Synchronisation of several worm gear screw jacks is simple with the complete range of accessories.



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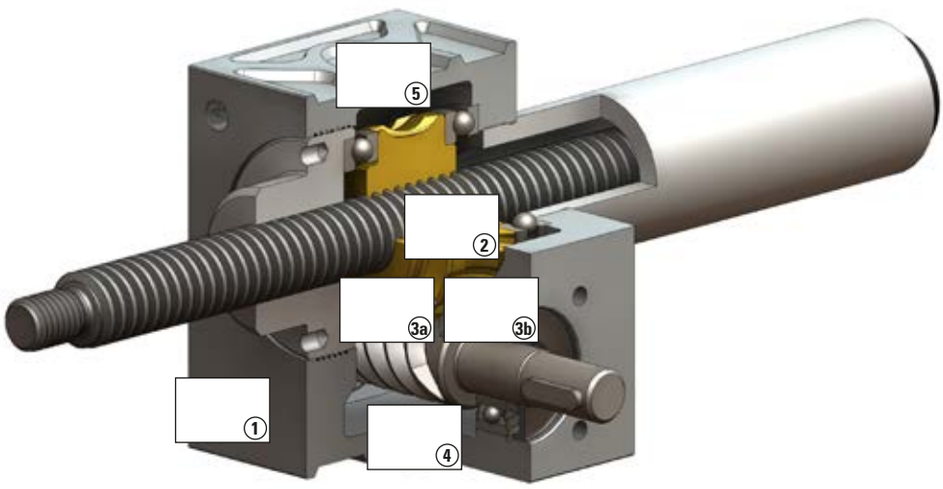
Design Versions

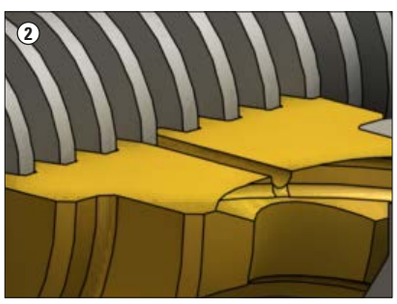
Axially travelling screw - version N or V

The rotary motion of precision worm gearing (worm shaft and internally threaded worm wheel) is converted into axial linear motion of the screw, which travels through the gear box housing. The load is attached to the end of the screw.



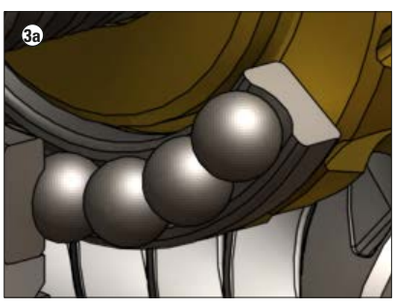
Functional Design

The cubic housing with its pre-drilled flange holes offers simple mounting, and allows longer power-on times. Longer lubricant lifetimes are ensured, because heat is more efficiently dissipated.



Lubrication of the Worm Wheel

Radial lubrication holes in the worm wheel grease the trapezoidal screw. The resultant lower friction and warming lead to an increased lifetime, especially in the case of longer strokes.



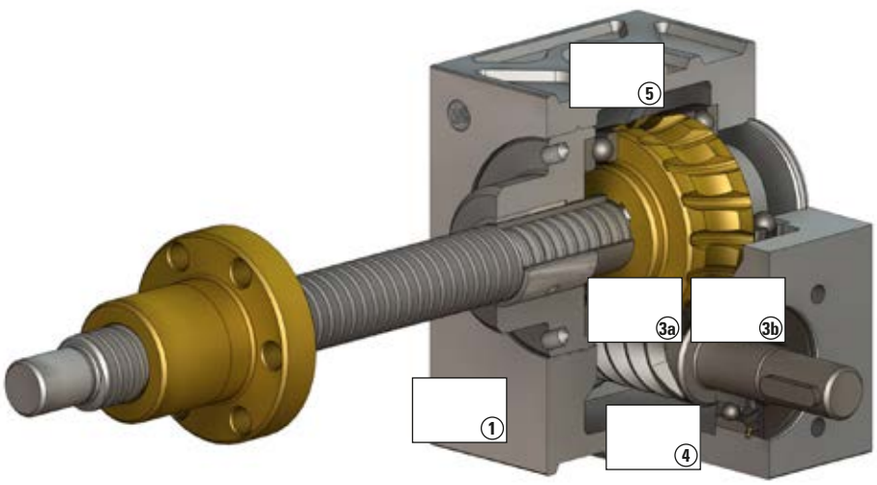
Heavy Duty Bearings

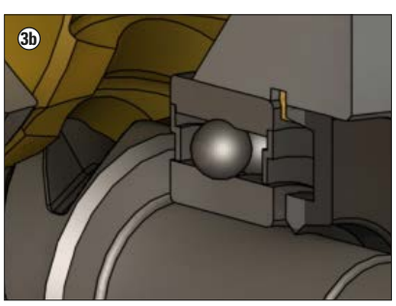
Axial ball bearings as the main pressure bearings (for all sizes) give a large safety margin, and increase the overall lifetime.

Design Versions

Rotating screw - version R

Driven by a precision worm gearing (worm shaft and worm wheel), the rotary motion of the screw is translated into linear motion of the travelling nut on the screw.





Heavy Duty Bearings
Radial deep-groove ball bearings (Muli® 0 – 3) and conical roller bearings (Muli® 4 + 5 and JUMBO® 1 – 5) on the worm shaft make it possible to handle heavy loads.

Lubrication
The worm gear screw jack is conveniently lubricated at one point. Maintenance – whether manual or automatic – is easy.

Housing Material
The housing in aluminium (Muli® 0 – 2) or highly stable spherical graphite cast iron (Muli® 3 and higher) provides more stability, especially at higher temperatures. This provides a safety margin, even under rugged conditions.