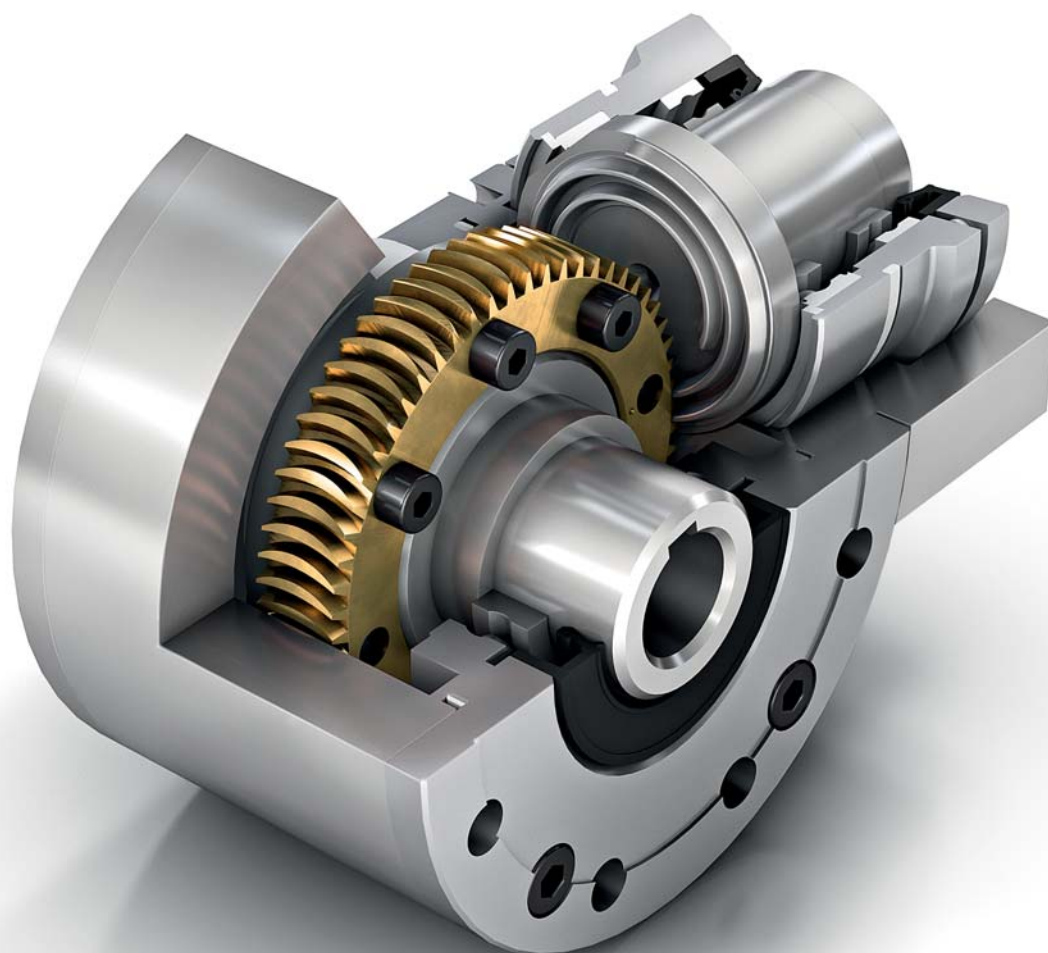


TORUSGEAR **NEW**

The Planar Spiral Gearbox

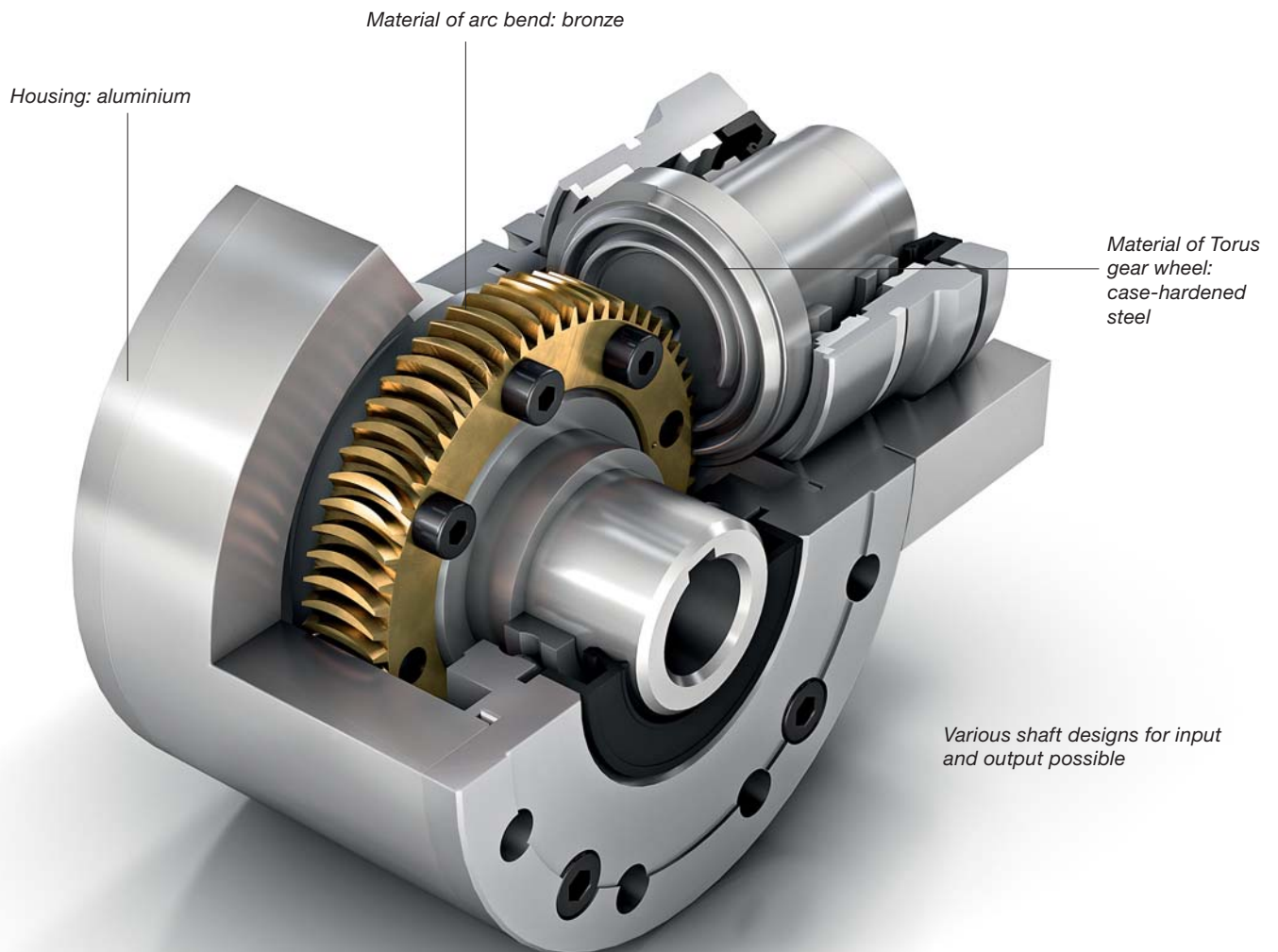


Plainly and simply: unrivalled.

TORUSGEAR

We are careful in using the word “innovation”. But in this case, it is appropriate. This is because the entire development of the TorusGear system sets new standards: smaller, more efficient, and more variable than any other gearbox in its class. TorusGear can be designed so compact that talking about its “installation space” almost sounds like an exaggeration. And this is combined with a new type of planar spiral gearing, which is designed for high and efficient force transmission through the use of optimal contact geometry. Design engineers are also all delighted: the options for gear ratios and performance are simply limitless.

- Compact, more compact, TorusGear: exceptionally compact design
- High rigidity sets new standards
- Zero backlash
- Raise it? Double it! With almost twice the torque
- Take it easy: significant weight reduction
- Gear ratio perfected: high ratios in a single stage up to $i = 400:1$
- Unheard of: there are virtually zero noise emissions
- It goes and goes and goes: high operating reliability and long service life

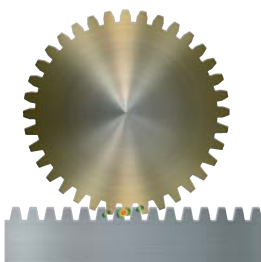
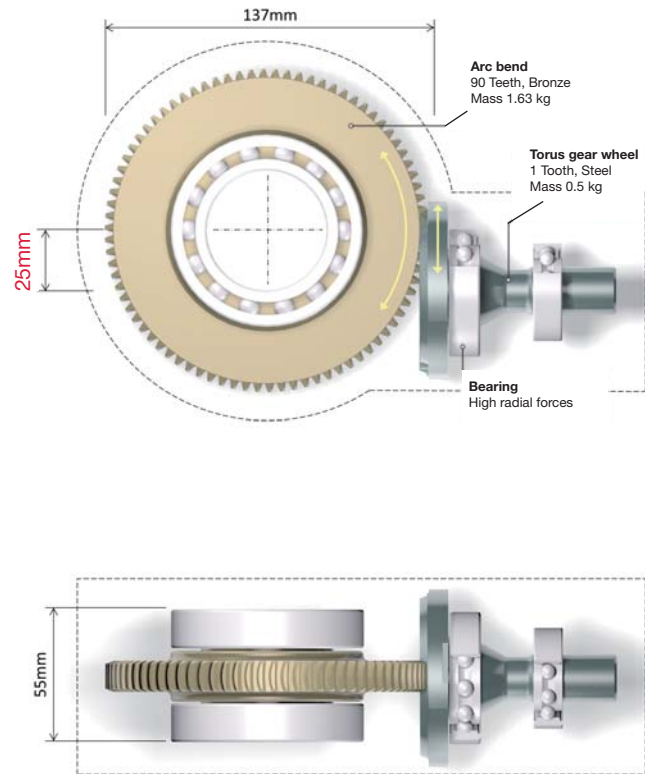
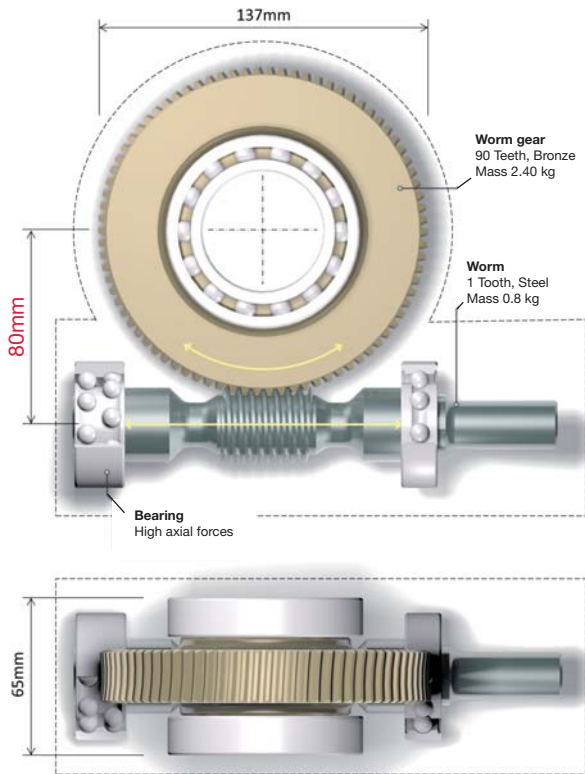


TorusGear is not afraid of comparison.

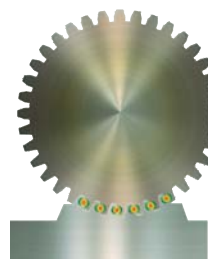
TORUSGEAR

Less is more. Much more. Direct comparison with a conventional worm gearbox (left image) clearly illustrates the advantages of TorusGear. Lighter thanks to significant material savings – and simultaneously increased service life.

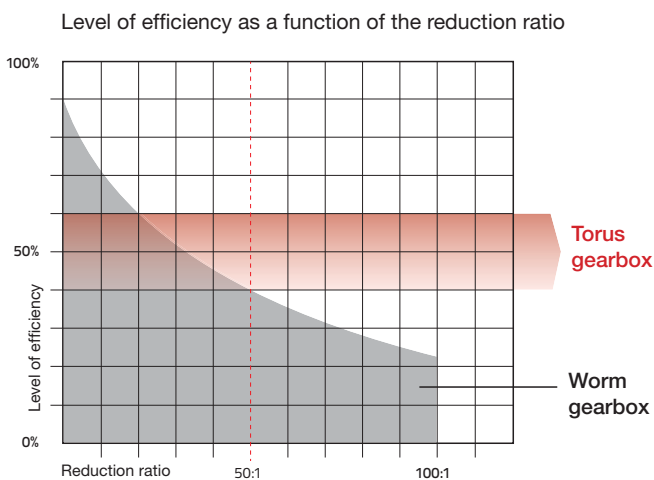
Compact world champion: this significantly reduces the installation space required, and simplifies the shaft bearing. The significantly smaller centre distance is also noteworthy, at 25 mm in the TorusGear compared to 80 mm in the worm gearbox.



Worm gearbox:
Only a few contact points that are subject to different loads, resulting in higher loading of the material. This results in a lower level of efficiency and higher noise generation.



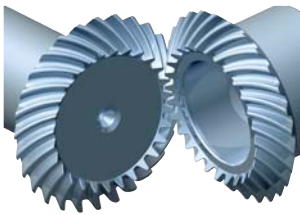
TorusGear:
A spiral-shaped tooth mounted on the planar side of the pinion meshes with the gearing of the output gear in such a way that multiple identical contact points are created. This means that the load is optimally distributed and the material subject to less loading.



Optimal level of efficiency:

The magic word for designers is: innovative planar spiral gearing. Thanks to optimised contact geometry, this permits higher force transmission. The gear components can consequently be reduced in their dimensions, which in turn directly results in significant reduction in weight and material costs. The bearing of the drive shaft can also be designed to be significantly simpler and more cost effective. And not least, the TorusGear offers greater freedom in the dimensional design of the gearbox housing.

BEVEL GEAR



Spiral, Hypoid and Zerol Bevel Gears

- Standard range of products and custom-made versions
- Module ms from 0.5 to 12
- Diameters up to 410 mm
- Shaft angles from 10° to 170°
- More than 60 years of experience
- In-house gearing calculations
- We manufacture to your drawing or advise you of possible alternatives
- Milled or ground gear tooth cutting

POWER GEAR



The high performance bevel gearbox

- High torque, small size
- For highest input speeds
- Ratios from $i = 1:1$ to $5:1$
- Torques up to 7000 Nm
- Output via solid and hollow shaft
- Motor mounting either directly or via coupling and lantern
- Variable ratios and uniform dimensions

DYNA GEAR



The highly dynamic servo right angle gearbox

- Hypoid gearing
- High input speeds at medium to high torques
- Ratios single-stage $i = 3:1$ to $30:1$
- Ratios, two-stage, up to $150:1$
- Torques up to 1440 Nm
- Flexible motor mounting via coupling and lantern
- Low backlash < 2 arcmin
- Variable ratios and uniform dimensions

DYNA GEAR^{Economy}



The cost-effective servo right angle gearbox

- Hypoid gearing
- High input speeds at medium torques
- Ratios single-stage $i = 5:1, 8:1, 10:1$ and $15:1$
- Torques up to 260 Nm
- Flexible motor mounting via coupling and flange
- Backlash < 6 arcmin
- Variable ratios and uniform dimensions

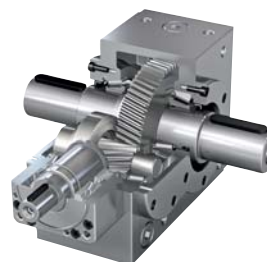
DESIGN GEAR



The customised gearbox

- Single-stage gearbox available as gear-change or reversing gearbox
- Forced oil circulation lubrication system gearbox for high speeds and torques
- Labyrinth sealed gearbox with an efficiency of > 99%
- Special gearbox with additional functional elements
- Endless possibilities on request

KS TWIN GEAR



The bevel helical gearbox

- Two-stage bevel helical gearbox with ratios of up to $75:1$
- Torques up to 7500 Nm
- Torsional backlash < 6 arcmin
- Compact design
- Motor mounting either directly or via coupling and lantern
- High torsional stiffness
- High input speeds at high torques