

Perfection in detail is important.
Expertise in all is essential.



We are only satisfied with the best solution, not with the first one that comes to mind.

The internet-based GEARFOX software, specially developed by MS-Graessner, leaves nothing to chance. GEARFOX developer software is based on the claim to consider each design task as a challenge, with the ambition to find not just any possible solution, but the best solution – from the development and construction of an individual drive element to the calculation of a complete, perfectly coordinated drive train, including gearboxes.



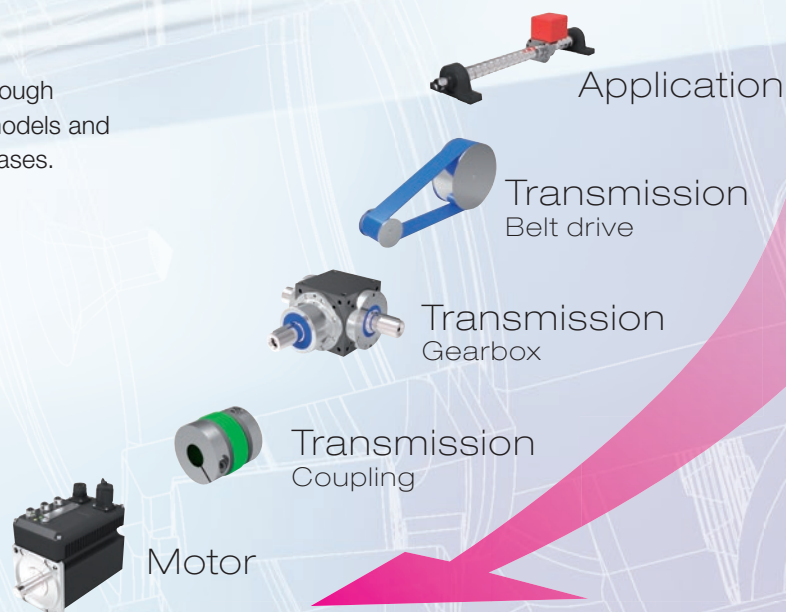
GEARFOX Software

What makes GEARFOX so remarkable is the versatility of the calculation options and the variety of parameters which influence these calculations and enable GEARFOX to calculate and perfectly dimension the entire drive train. This begins with the analysis of the customer needs, includes the definition of the product requirements, the calculation of applications as well as the gear design and culminates in an iterative gearbox optimisation, in close cooperation with the customer.

Further advantages:
Process acceleration through predefined calculation models and verified, extensive databases.



Calculation model



A small-sized, big success story: GEARFOX and KUKA KL 100.

Small robot, big impact! The KR AGILUS series with the new KL 100 linear unit from renowned robot specialist KUKA sets new standards in speed, precision and manufacturing quality in the most limited spaces. And right at the heart of the development and optimisation of the drive train: our GEARFOX developer software.



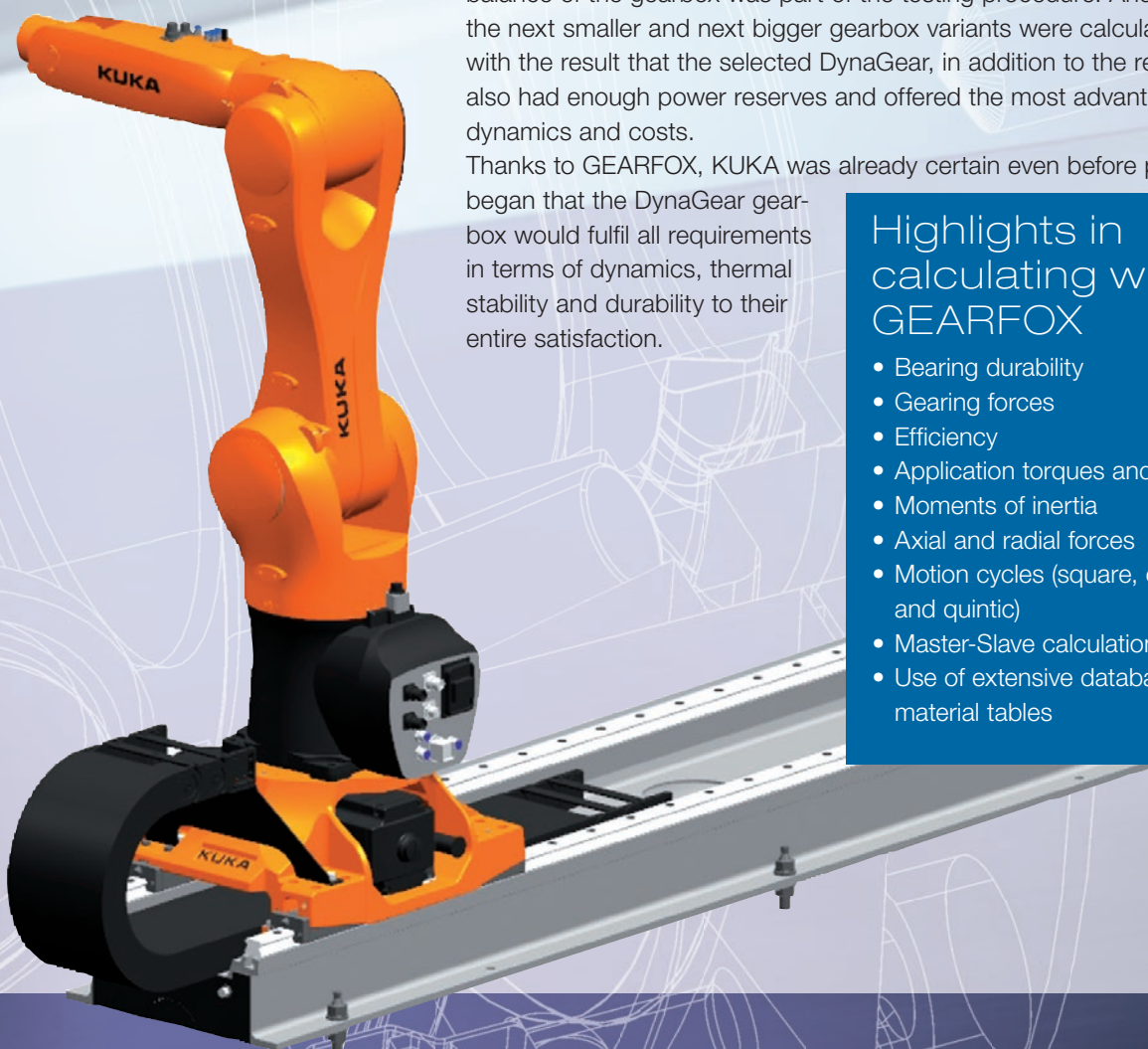
GEARFOX: Always the perfect solution for each application.

The highest demands on dynamics and positioning accuracy: A high-grade efficient, extremely compact gearbox was needed for the new KUKA KL 100 linear unit. GEARFOX was used to incorporate all the relevant operating conditions and all the design variations of the robot family into the calculation. Also the thermal balance of the gearbox was part of the testing procedure. And: Using GEARFOX, the next smaller and next bigger gearbox variants were calculated and tested – with the result that the selected DynaGear, in addition to the required durability, also had enough power reserves and offered the most advantages in terms of dynamics and costs.

Thanks to GEARFOX, KUKA was already certain even before permanent testing began that the DynaGear gearbox would fulfil all requirements in terms of dynamics, thermal stability and durability to their entire satisfaction.

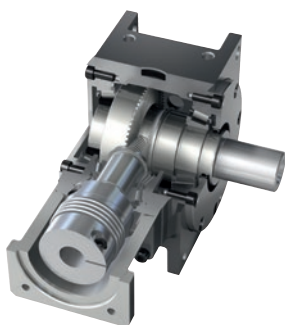
Highlights in calculating with GEARFOX

- Bearing durability
- Gearing forces
- Efficiency
- Application torques and speeds
- Moments of inertia
- Axial and radial forces
- Motion cycles (square, cubic, quartic and quintic)
- Master-Slave calculations
- Use of extensive databases and material tables



DYNA GEAR

The highly dynamic
servo right angle gearbox



DYNA GEAR^{Economy}

The cost-effective
servo right angle gearbox



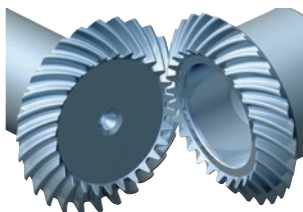
DESIGN GEAR

The customised gearbox



BEVEL GEAR

Spiral, Hypoid and
Zero Bevel Gears



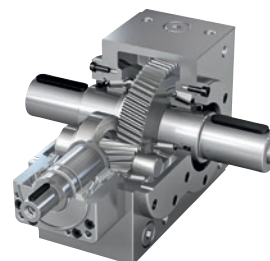
POWER GEAR

The high performance
bevel gearbox



KS TWIN GEAR

The bevel helical gearbox



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