

REISHAUER

Gear Grinding Technology

Part Loader System



MACHINES

PERIPHERAL SYSTEMS

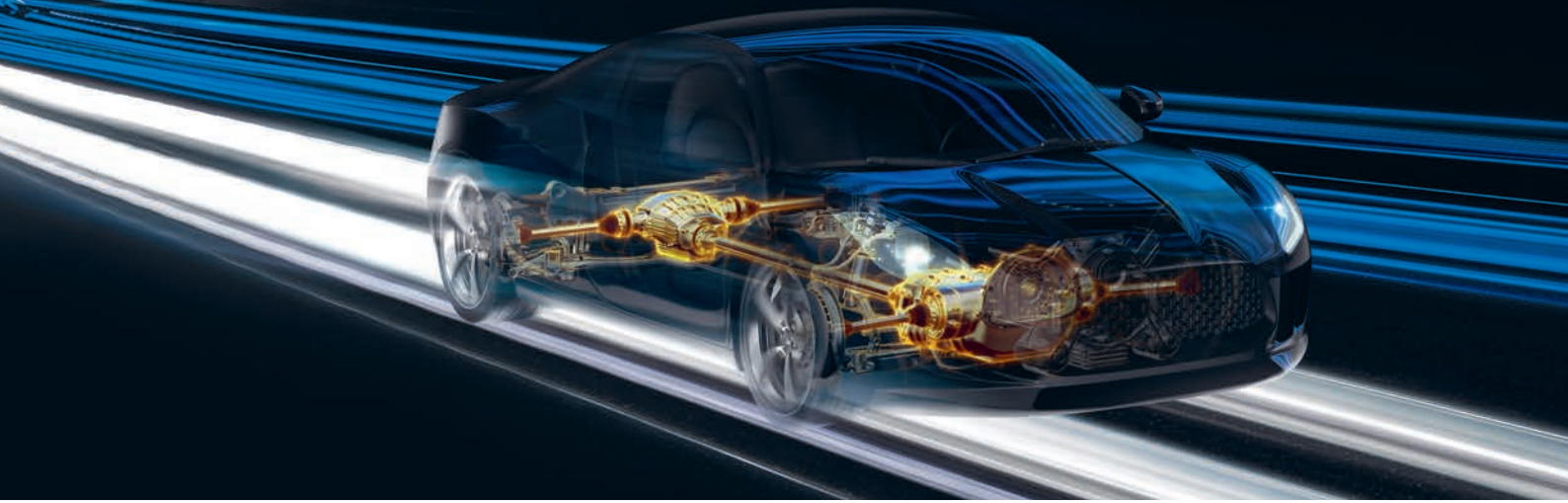
TOOLING

TECHNOLOGY

SERVICES

Automation

Generating Grinding: Invented and Refined to Perfection by Reishauer



Invented and refined to perfection by Reishauer – our gear grinding process offers valuable advantages:

- Maximum productivity due to high material removal rates and short idle times
- Excellent grinding results
- Extreme process reliability due to continuous shifting and dressing of the grinding worm on the spindle
- Low perishable costs due to long life of the dressing tool and grinding wheel
- CNC machine kinematics allow a wide range of gear flank modifications
- Application of Reishauer Low Noise Shifting technology to produce quiet running gears
- Short contact times between gear and grinding worm flank result in high compressive residual stresses
- Grinding of root to achieve optimum load capacity
- Reishauer TwistControl Grinding technology enables the setting of defined values for flank twist

Customer Benefits

Swiss precision. Made by Reishauer

The same engineering that drove Reishauer to become a world leader for gear grinding machines has driven the development of the part loader system. Hence, the part loader is completely matched to the gear grinding machines' performance level and is an integral part of Reishauer's Circle of Competence.

Your benefit:

- **Flexibility:**
Loader is suitable for disk and shaft type workpieces.
- **3D gantry with stationary X and Y-axes drives:**
The stationary drives reduce the moving mass. The lightweight design for the Z-axis allows high-dynamics and excellent energy efficiency. Full usage of available part loading space.
- **Modular design:**
Loader concept allows adaptation to future customer requirements.
- **Freely selectable part storage systems (modularity):**
Whether conveyor belts, stacking of workpieces on skewers, tray stacking or customer-specific solutions, the part loader can cope with any part feeding system.
- **Options:**
Oil centrifuge for drip-free workpieces, deburring with abrasive brushes running in parallel with oil centrifuging, measuring the gripping diameter, checking of helix angle, checking of part orientation, NOK stations, SPC stations, laser marking, and DMC reader.
- **Easy accessibility:**
Optimal accessibility to the grinding machine's workspindle via the loader door.
- **Repeatability:**
The loader design is capable of delivering trouble-free and accurate loading of hydraulic clamping arbours.
- **All from one source:**
Both systems, the grinding machine and the loader, share the same control logic to ensure easy usability.

A firm grip with one part loader...whether gear shafts, planet, ring or final drive gears

Reishauer's RZx60 high performance gear grinding machines are known for their high production output. These machines often work in multiple shifts, at times up to seven days a week. The new part loader, tailor-made for and fine-tuned to the RZx60 machine family, allows the user to utilise the full productivity potential of the Reishauer machine tool.

Additionally, the compact loader offers the user a new degree of freedom: it can deal effectively with disk or shaft types of gear parts, from small planet gears to heavy duty final drive gears. The loader's high flexibility ensures that users can quickly respond to future production requirements. Whatever the parts that have to be ground in future on RZx60 machines, the Reishauer loader is ready for them.

This user-friendly loader can be easily set-up and configured for new gear parts. The modular design offers a large range of customer specific solutions, among them, an oil centrifuge for drip-free workpieces, deburring with abrasive brushes running in parallel with oil centrifuging, checking of the helix angle and the workpiece orientation, NOK station(s), SPC station(s), two-flank rolling test, laser marking, and DMC reader.



User-friendliness

Easy access to the part loader and grinding machine tool.

Energy efficiency

Economical due to the small mass of the drive system and the recuperation of the kinetic energy. Only minimal pneumatics are required.

Reliability

A surprisingly simple drive system of two fixed motors ensures trouble-free long-term operation.

Modularity

Loader concept allows adaptations to new gear parts.



Flexibility

Suited to all workpiece geometries, independent of part feeding and part orientation.

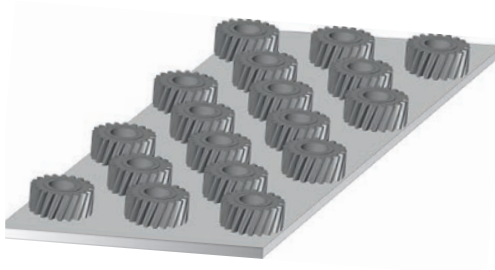
Positioning accuracy

Protects the machine's fixturing tools and increases their service life.

High productivity

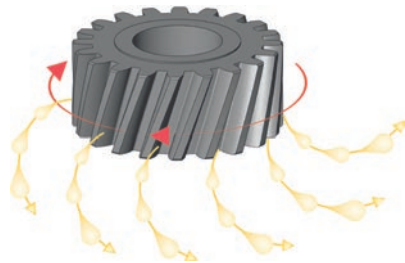
Geared to cope with the fast grinding cycles of the RZx60 family of machine tools.

Features



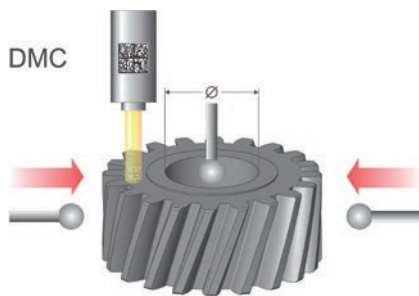
Part storage

Whether conveyor belt, single tray or stack of trays, the Reishauer part loader can cope with any part feeding system.



Statistical process control and oil centrifuge

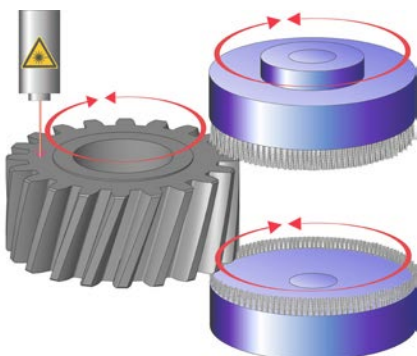
Statistical process control, separation of NOK parts, and an oil centrifuge are standard options.



Pre- and post-measurements options

Depending on customer requirements, the loader can be equipped with a range of measurement and control stations, such as for example:

- Measurement over balls
- Two-flank rolling test
- DMC reader
- Part orientation checking
- Chamfer recognition
- Contour checking
- Helix angle checking



Pre- and post-process options

If so required, further options are available. For example, workpiece deburring station with two simultaneously operating abrasive brushes and a laser workpiece marking system.

Circle of Competence



The Reishauer Circle of Competence

The gear grinding machine, both in qualitative and quantitative performance levels for the large volume production of high-accuracy gears, is at the core of the continuous generating grinding technology invented by Reishauer. To ensure a steady and high production output of our machines at constant quality, and at lower costs per piece, we have

continuously extended our technical competency and support structure in the areas of automation, tooling, application engineering and service. Hence, today we are a single source supplier, and thus we guarantee our customers a long service life of the machine system and lower life cycle costs.

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