

REISHAUER

Gear Grinding Technology

RZ 60



MACHINES

PERIPHERAL SYSTEMS

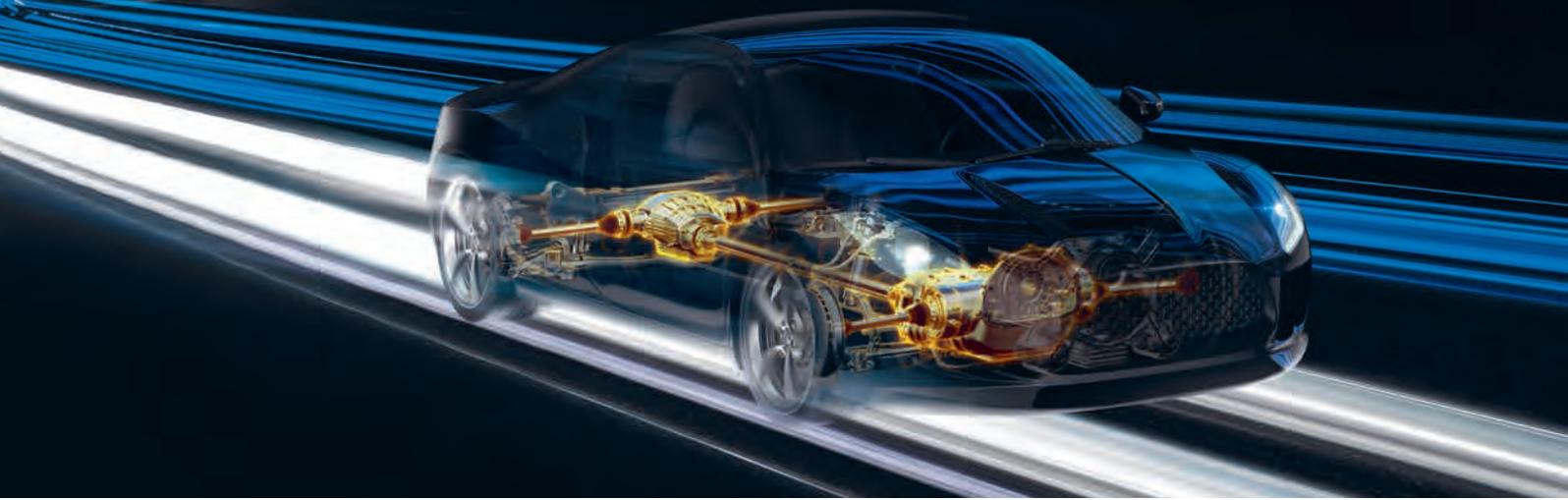
TOOLING

TECHNOLOGY

SERVICES

Gear Grinding Machines

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 value is the focus of our innovation

Swiss precision made by Reishauer

For over 70 years, Reishauer generating gear grinding machines have enjoyed an outstanding worldwide reputation. These machines guarantee the most reliable and efficient gear grinding processes.

The series RZ 60, RZ 160 and RZ 260 combines all technical highlights utilized in Reishauer Gear Grinding Technology. It is a scalable product and its modularity provides maximum productivity in large production series and maximum flexibility in small series. The machines are configurable to individual needs and can be adapted to changing boundary conditions.

Your benefit:

- Common layout for all gear grinding machines
- Common interfaces to all peripheral systems
- Consistent operation, set-up and maintenance
- Common spare parts
- Operators that have been trained one type of the RZ 60 / 160 / 260 series are instantly familiar with the full range of these machines
- Exchangeable tooling
- Compatibility to other, even older Reishauer Gear Grinding Machines
- Hybrid design of machine bed and spindles for high stiffness and damping
- Multiply sealed guideways and drives for long lifetime and value retention
- Acoustic emission analysis for automatic set-up and dressing
- Reishauer balancing system for automatic balancing and monitoring of the grinding wheel
- Reishauer PrecisionDrive for adaptive control of the workspindles
- Reishauer Operator Interface with intuitive operator guidance

Productivity without compromise

Mass production? No problem!

If the demand for gears and lot sizes has increased to the extent that productivity is the highest priority, the RZ 60 is the perfect choice. This machine is designed for production of precise and quiet planetary pinions in automotive transmissions – as well as for mass productions of other small gears.

100 m/s – a technological leap

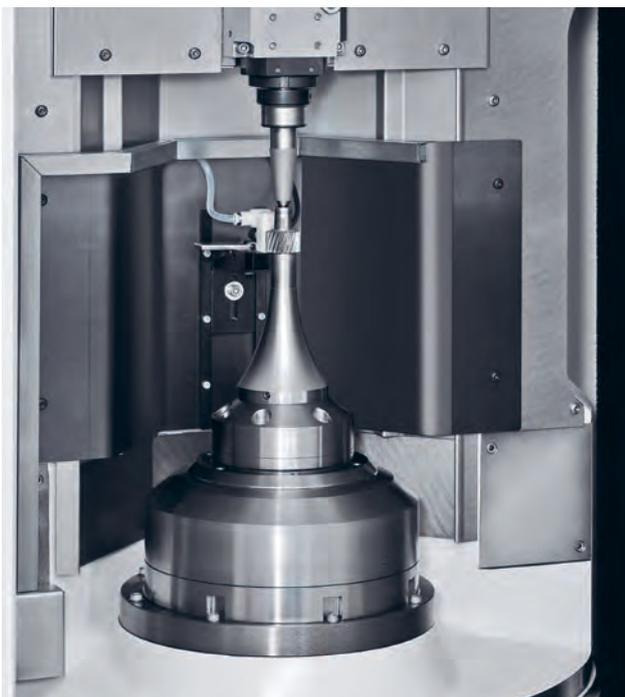
With the RZ 60, Reishauer presents a unique and trend-setting high speed technology. An increased maximum grinding speed of 100 m/s allows an increase in productivity more reliably than with high feed rates or number or starts – of course without modifying the micro or macro geometry of the gears or causing any grinding burn. The internationally well-respected GS Certificate for the machine as well as for the grinding wheels made by Reishauer assure the required safety in industrial practice.



10 seconds – faster than anything else

The RZ 60 adapts the basic set-up of the RZ 160 and always features a two-workspindle design. Two extremely quick meshing sensors are responsible for precise synchronization of grinding wheel and gear. Above all, it is the streamlined architecture of the control unit together with the highly sophisticated software routine that ensure the unique performance of this machine.

The Reishauer PrecisionDrive works in perfect harmony with all the NC units such that all procedures are running in parallel which eliminates secondary times almost completely. In this way, even at short cycle times of 10 seconds, there is sufficient time for spinning off the oil while the part is still in the machine. Extra-wide grinding wheels together with multi-rib full profile rolls minimize the dressing time component per gear part.



Perfect accessibility and user-friendliness



Technical Data

Technical Data*	
Gear outside diameter	0 – 94 mm
Module	1 – 4 mm
Swivel angle (grinding head)	+/- 48°
Grinding stroke (max.)	180 mm
Shaft length (max.)	490 mm
Workspindle speed (max.)	3000 min ⁻¹
Workpiece weight (max., incl. fixture)	30 kg
Grinding speed (max.)	100 m/s
Grinding wheel outside diameter (max.)	275 mm
Face width of grinding wheel (max.)	125 / 160 mm
Diameter of dressing tool	123 / 140 mm

*Out of range dimensions can be verified upon request

Options (Extract)
CNC tailstocks (W1- & W2-axis)
Meshing sensor on each work spindle
Polish grinding
Integrated oil spinning
Reishauer ECO-Mode

Control
Siemens Sinumerik 840D Solution Line
Reishauer PrecisionDrive
Reishauer operating software

All technical specifications are subject to change.



The RZ 60 is a very compact machine. The operator's panel can be easily moved from the grinding to the dressing position.

All service components are easily accessible and located in a central position, making the machine very user-friendly and efficient to operate.

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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