

# REISHAUER

Gear Grinding Technology

## Reishauer RZ 1000



MACHINE

AUTOMATION

TOOLING

TECHNOLOGY

DIGITAL

SERVICES

## Generating Gear Grinding Machines



# Swiss precision. Made by Reishauer.

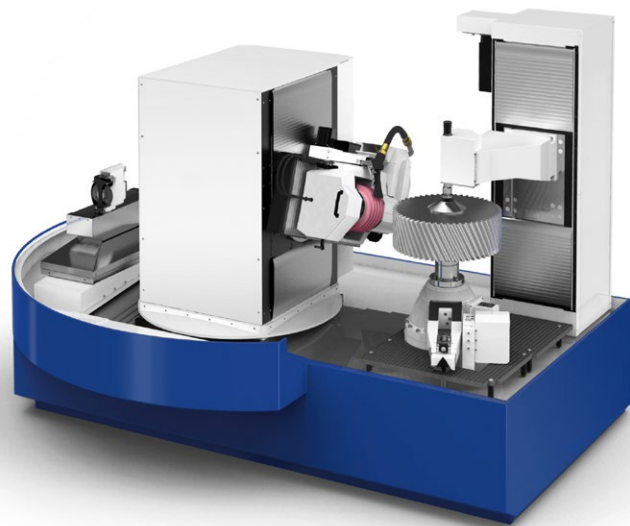


Since it developed the world's first generating gear grinding machine, and with its constant drive for innovation, Reishauer has had a decisive influence on modern gear manufacturing. Reishauer's high-tech gear grinding machines, pioneering digital applications, economical tools and modern clamping devices make the manufacture of hard-wearing, efficient, low-noise gears possible.

# Customer value is the focus of our innovation

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 RZ 1000 combines advanced technologies in order to provide excellent results over the entire life cycle of the machine.



## Your benefit:

- Hybrid design of machine bed and spindles manufactured for maximum stiffness and dampening
- Complex acoustic emission analysis for automatic set-up and dressing
- Highly accurate Reishauer balancing system for fully automatic balancing of the grinding wheel on the spindle of the machine
- Highly accurate Reishauer generating module for best possible gear quality
- Multiple sealed guideways for long life and high value retention
- CNC tailstock for accurately programmable quill forces and optimum reproducibility
- Rotating machine column for change of gear and clamping fixtures during dressing of the grinding wheel

# High efficiency for a wide range of gears

## Reishauer generating grinding of large gears

With the RZ 1000 the advantages of the Reishauer generating grinding process can be applied to manufacture large gears.

## Quick changeover

The unique architecture of the RZ 1000 provides optimum accessibility during operation and changeover. By using a turret, the grinding spindle can be rotated between grinding position, dressing position and wheel-changing position. During the changeover this configuration allows the operator to change the clamping fixture while the grinding wheel is being dressed on the opposite side of the column.



Optimum accessibility: Grinding position, wheel changing position, dressing position



Due to the large variety of options, the RZ 1000 is easily adapted to the wide ranging needs of different customers and industries. Many of these options can be added to the machine after it has been installed at the customer's plant.

## Your choice

The RZ 1000 can be equipped with a CNC tailstock. When using this option (W-axis), the stroke of the tailstock can be adjusted accurately, allowing precise and reproducible clamping forces.

Reishauer Gear Grinding stands for continuous generating grinding with dressable grinding wheels. You can choose between two different dressing devices for fully automatic set-up and an optimized dressing process.



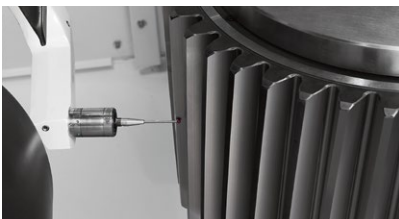
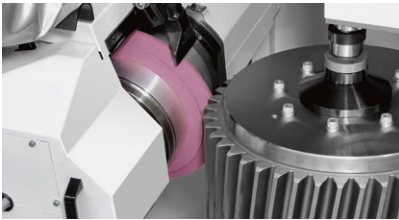
# Technical Data



	RZ 410	RZ 550	RZ 630	RZ 800	<b>RZ 1000</b>
Workpiece diameter (max.)	410 mm*	560 mm	630 mm	800 mm	1 000 mm
Number of teeth	5 – 800	5 – 800	5 – 800	5 – 800	5 – 800
Module range	0.5 – 10 mm	0.5 – 10 mm	0.5 – 10 mm	0.5 – 10 mm	0.5 – 10 mm
Swivel angle (wheel head)	± 45°	± 45°	± 45°	± 45°	± 45°
Grinding stroke (max.)	300 mm	300 mm	300 mm	300 mm	300 mm
Shaft length (max.)	700 mm	700 mm	700 mm	700 mm	700 mm
Workpiece rpm (max.)	600 min <sup>-1</sup>	600 min <sup>-1</sup>	600 min <sup>-1</sup>	600 min <sup>-1</sup>	600 min <sup>-1</sup>
Workpiece weight (max., incl. fixture)	600 kg	600 kg	1 200 kg	1 200 kg	1 200 kg
Operating speed (max.)	80 m/s	80 m/s	80 m/s	80 m/s	80 m/s
Grinding wheel outside diameter (max.)	300 mm	300 mm	300 mm	300 mm	300 mm
Grinding wheel width	145 / 160 mm	145 / 160 mm	145 / 160 mm	145 / 160 mm	145 / 160 mm
Diameter of dressing tools	123 – 160 mm	123 – 160 mm	123 – 160 mm	123 – 160 mm	123 – 160 mm
Weight	11 700 kg	11 700 kg	15 500 kg	15 500 kg	15 500 kg

\* max. 500 mm on request; all technical specifications are subject to change

# Equipment



## Standard Features

Single workpiece spindle
Two options for the dressing unit
Direct-driven tool spindle
Indirect-driven workpiece spindle
Linear encoder measuring systems on all linear axes
Stepped setup of the grinding nozzles
Reishauer LowNoise Shifting
Meshing device
Fully automatic balancing device
Acoustic contact monitoring
Emergency retraction to protect machine and tooling
Grease lubrication, scheduled
Lifetime lubrication of all rotary axes
Remote maintenance

## Options (extract)

Tailstock
Gear inspection device
Profile grinding
Polish grinding
Reishauer TwistControl Grinding Technology – generation of specific twist
Grinding of beveloid gears
Grinding of non-involute gears
Line dressing
Reishauer ECO mode
CO <sub>2</sub> -fire extinguishing system

## Control

Siemens SINUMERIK 840D sl
Reishauer PrecisionDrive
Reishauer operating software

all technical specifications are subject to change

# The Reishauer Circle of Competence

The Reishauer Circle of Competence describes the entirety of our offering. Reishauer offers products and services around the grinding process completely from one source and thus guarantees a long service life of the machine system at low life cycle costs.

## Machine

A broad portfolio, future-oriented controls, and interface concepts, and state-of-the-art grinding technologies – for decades, our machines have guaranteed the highest possible output with maximum precision, consistent quality, and unmatched machine availability.

## Automation

Automation "Made by Reishauer". Our automation solutions are perfectly matched to our machines and keep pace with their high output. Modular in design, they can be flexibly tailored to your production needs.

## Tooling

Perfectly matched, consistent in quality, and with guaranteed availability: Together with the machine, Reishauer tooling forms the backbone for your successful grinding processes.

## Technology

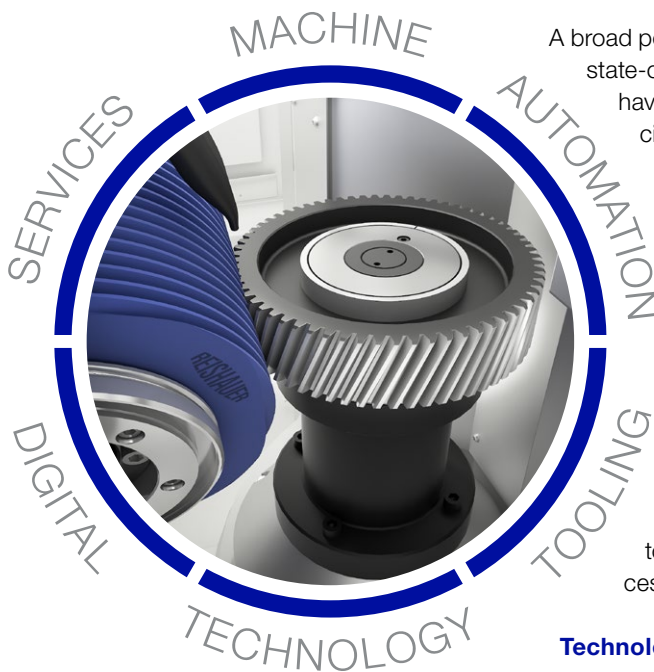
With the development of powerful e-drives, the requirements for quality, surface finishes, and efficient gear geometries have increased significantly. Reishauer grinding technologies enable you to meet your customers' most demanding requirements and help you remain competitive. Our technology experts are at your side with advice and support.

## Digital

System integration, in-depth process analyses, predictive maintenance – the requirements for Industry 4.0 solutions are extremely complex and diverse. Reishauer offers you a constantly growing portfolio of digital services to maximize the potential of your machine.

## Services

The reliability of our machines, and thus machine availability, is of central importance for your competitiveness. Shortest reaction time, a worldwide extended network of service engineers, and decentralized spare parts stores guarantee you maximum availability.



# Reishauer worldwide

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