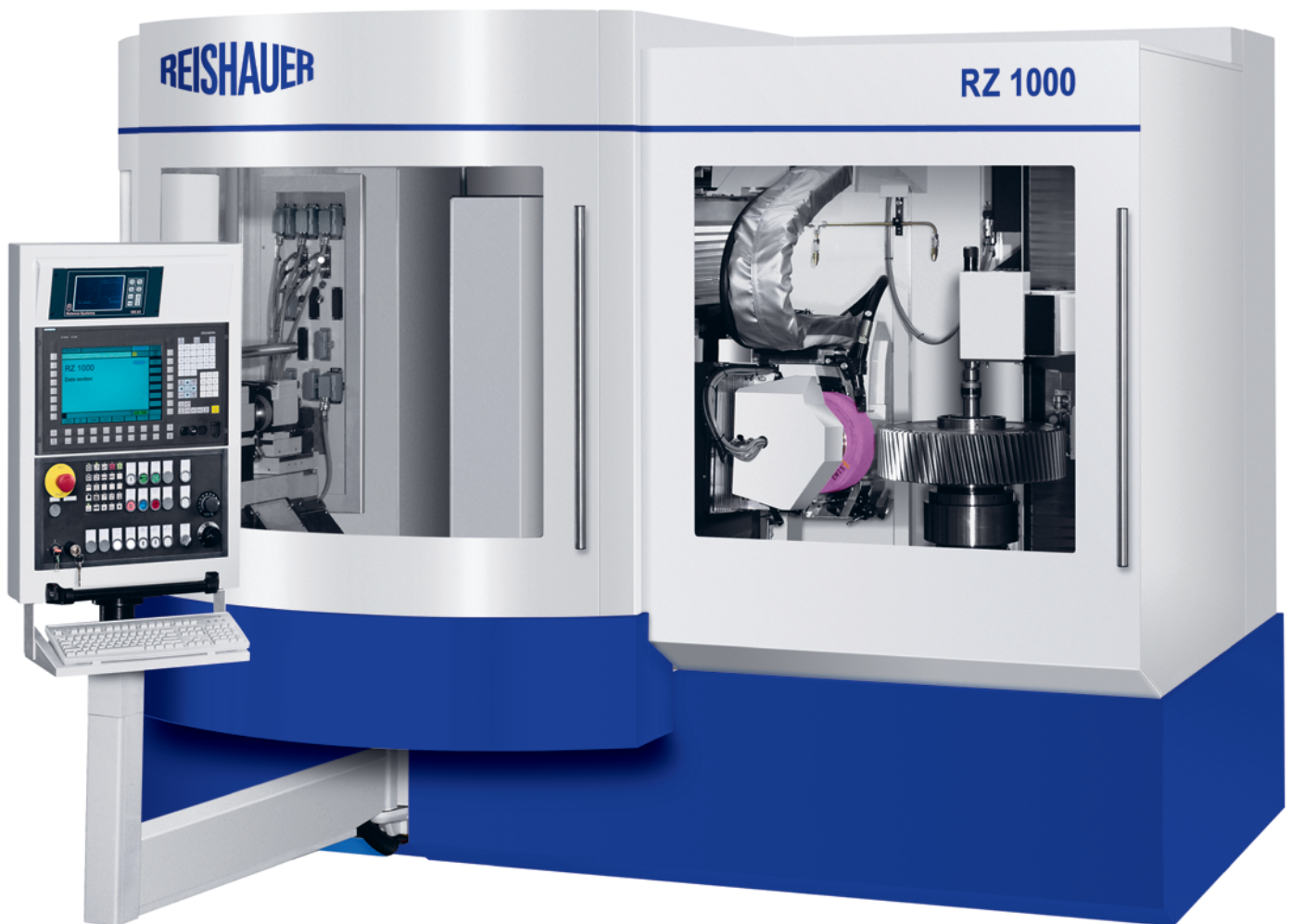


# REISHAUER

Gear Grinding Technology

## RZ 1000



**MACHINES**

PERIPHERAL SYSTEMS

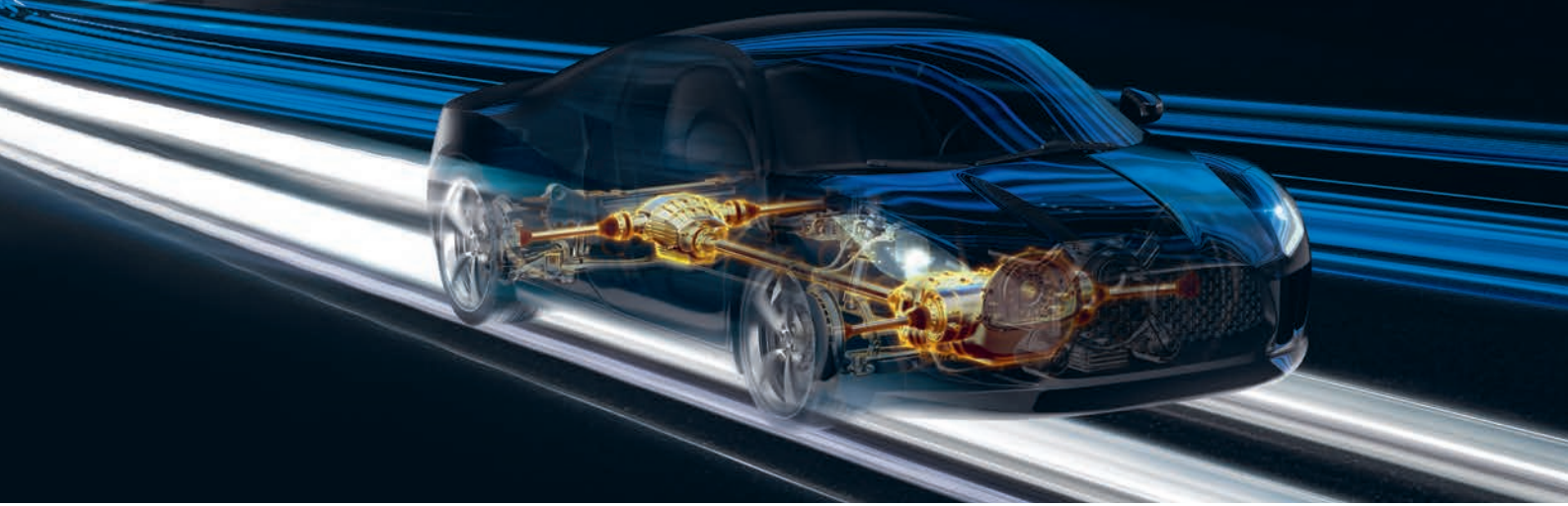
TOOLING

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 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



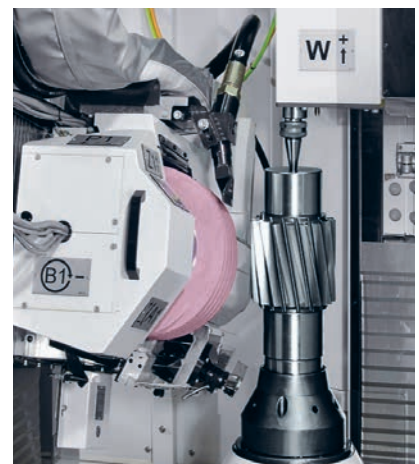
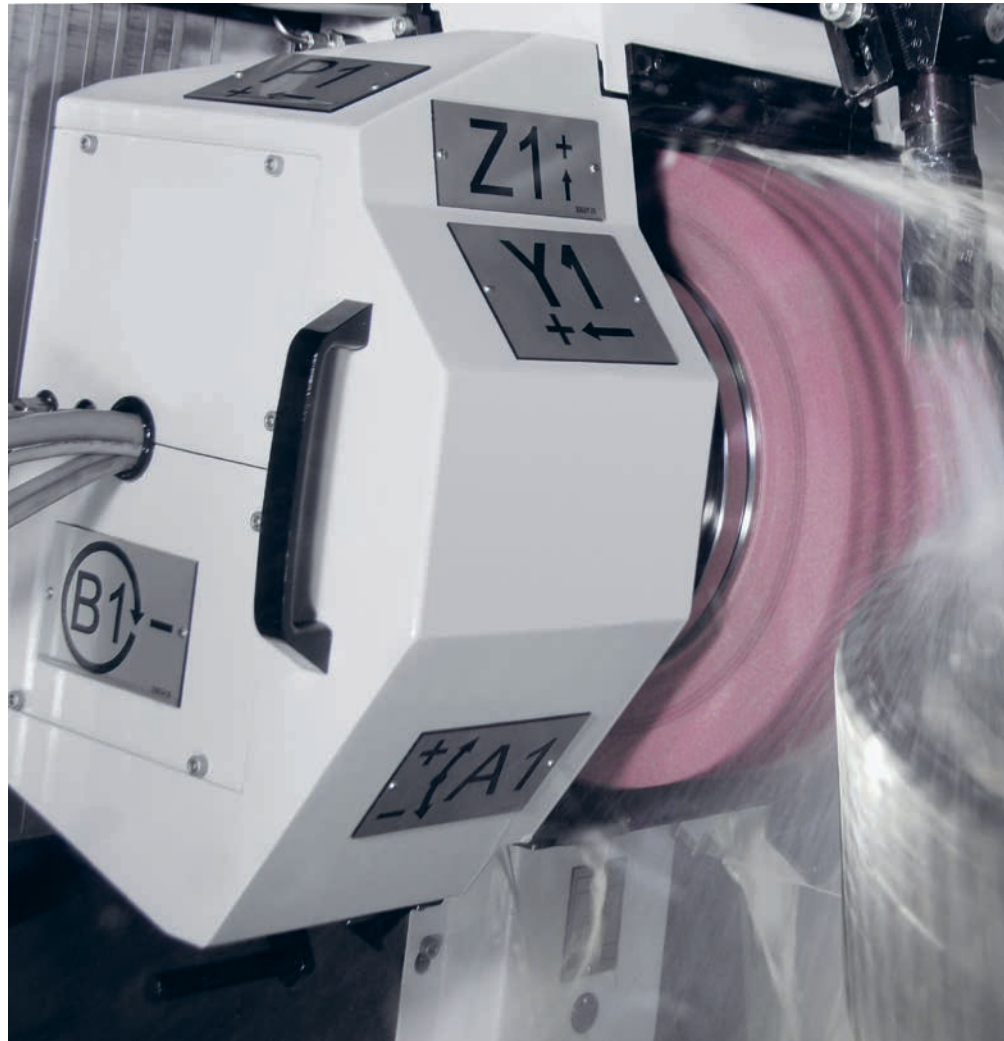
# High efficiency for a wide range of gears

## 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. The basic design of the machine has evolved from the successful RZ 400 series. Because of the rotating machine column, the grinding spindle can be moved into different positions:

- Grinding position
- Dressing position
- Position for change of grinding wheel

With this unique concept it is possible to replace the workpiece or to exchange the clamping fixture during the dressing operation, saving a significant amount of time. In the grinding wheel change position, the machine design allows good ergonomic access to the grinding spindle.



Typical applications for the RZ 1000 are found in gear boxes for printing machines, wind turbines and industrial transmissions.

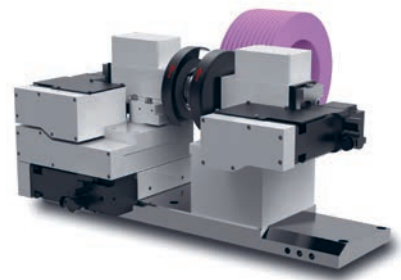


### Choice of dressing methods

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.

The **RP 164-2** with two spindles combines both flexibility and productivity. A total of four high precision CNC axis are used to move the two spindles into the right position to dress the grinding wheel. This opens up various options for dressing tools and methods.

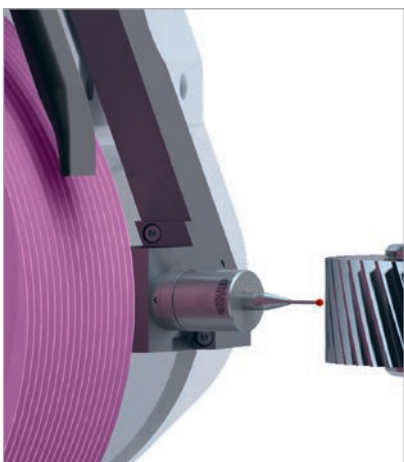
The **RP 163** represents flexibility with a single dressing spindle. The pressure angle of the grinding wheel can be modified by using the integrated NC axis for swiveling the dressing tool. In order to create a radius on the tip of the grinding wheel, a special tip dresser is used that is integrated in the tool.



RP 164-2



RP 163



Option: Verzahnungsmessung

### Gear inspection on board the RZ 1000

For machine set-up, change-over or process monitoring, it may be valuable to measure the ground gear on the grinding machine. The RZ 1000 can be equipped with a gear inspection device. This device is calibrated with a reference cylinder and provides absolute values eliminating the need for calibrating with a reference gear.

# Technical Data

	RZ 630	RZ 800	RZ 1000
<b>Technical Data*</b>			
Workpiece diameter	≤ 630 mm	≤ 800 mm	≤ 1000 mm
Module range			0.5 – 10.0 mm
Swivel angle (wheel head)			+/- 45°
Grinding stroke (max.)			300 mm
Shaft length (max.)			700 mm
Workpiece rpm (max.)			600 min <sup>-1</sup>
Workpiece weight (max., incl. fixture)			1200 kg
Operating speed (max.)			80 m/s
Grinding wheel outside diameter (max.)			300 mm
Grinding wheel width (max.)			145 (160) mm
Diameter of dressing tools			160 mm

\*Out of range dimensions can be verified upon request

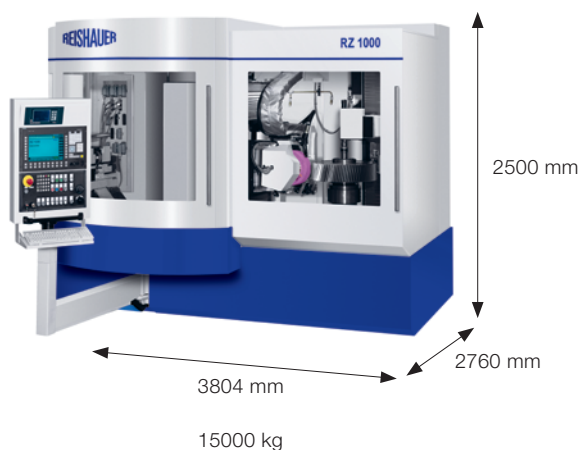
## Options (Extract)

Pivoting dressing unit
Gear inspection device
Profile grinding
Reishauer TwistControl Grinding Technology – generation of specific twist
Polish grinding
Grinding of conical gears (beveloid gears)
Grinding of non-involute gears
Line dressing
Reishauer ECO mode

## Control

Siemens Sinumerik 840D Solution Line
Reishauer PrecisionDrive
Reishauer operating software

All technical specifications are subject to change.



The RZ 1000 family is completed by the RZ 800 and RZ 630, the main difference being the maximum outside diameter of the gear.



# 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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