

The Future of Gear Rack Grinding. The R-Series (G Line).

Gear Rack and Profile Grinding Machine.



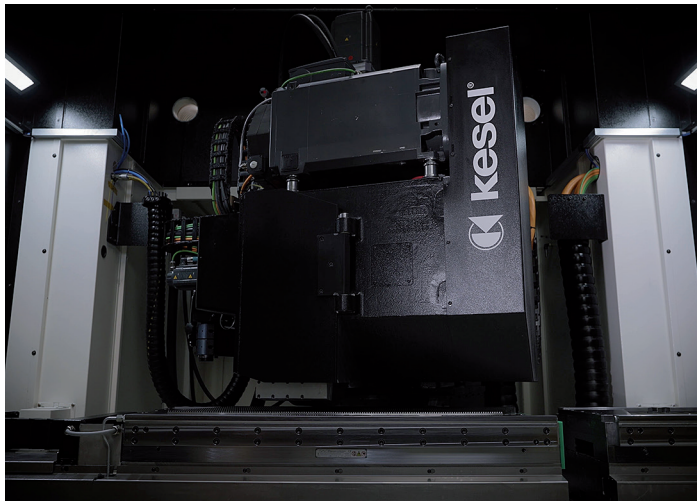
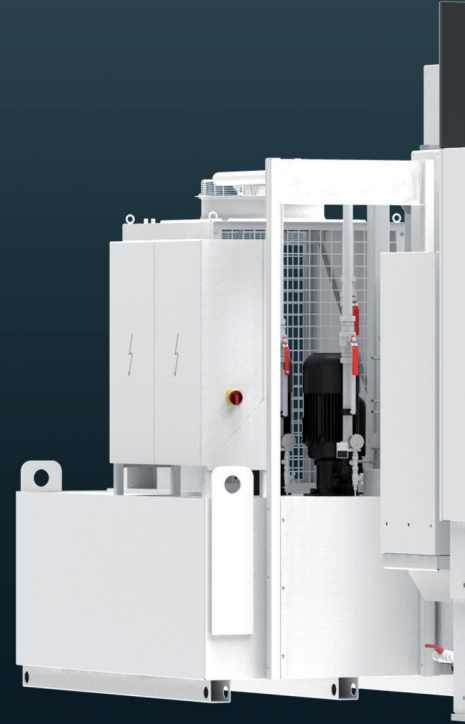
- ▶ Rack production
- > Automotive production
- > Bandsaw blade production
- > Clamping tools

The R-Series (G Line)

With a brand new design and extensively optimised high-performance technology, the R Series grinding machines from Kesel set a new standard in high quality, high productivity gear rack and profile grinding. From the newly developed grinding head to the re-engineered coolant and swarf management system, the R Series machines deliver both industry-leading dimensional precision and unbeatable surface quality.

Looking for more productivity? The world-first X2T table setup, an integrated swarf vacuum system and the option to fully automate the machine ensure there are multiple options and methods to deliver a winning competitive edge.

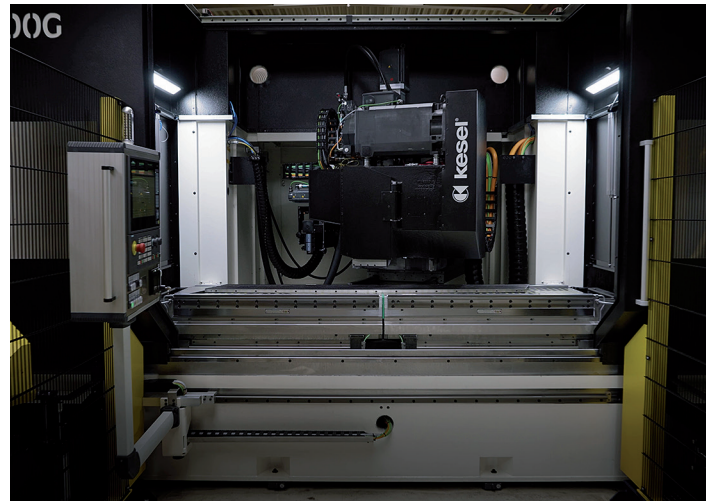
The R Series grinding machines from Kesel. The next generation of rack and profile grinding.



Grinding

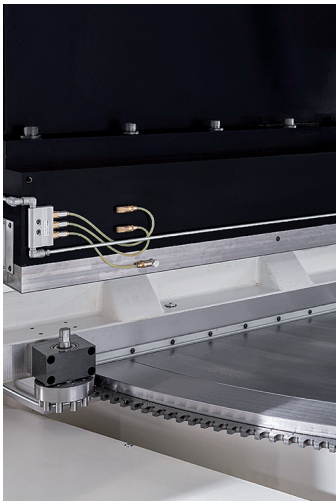
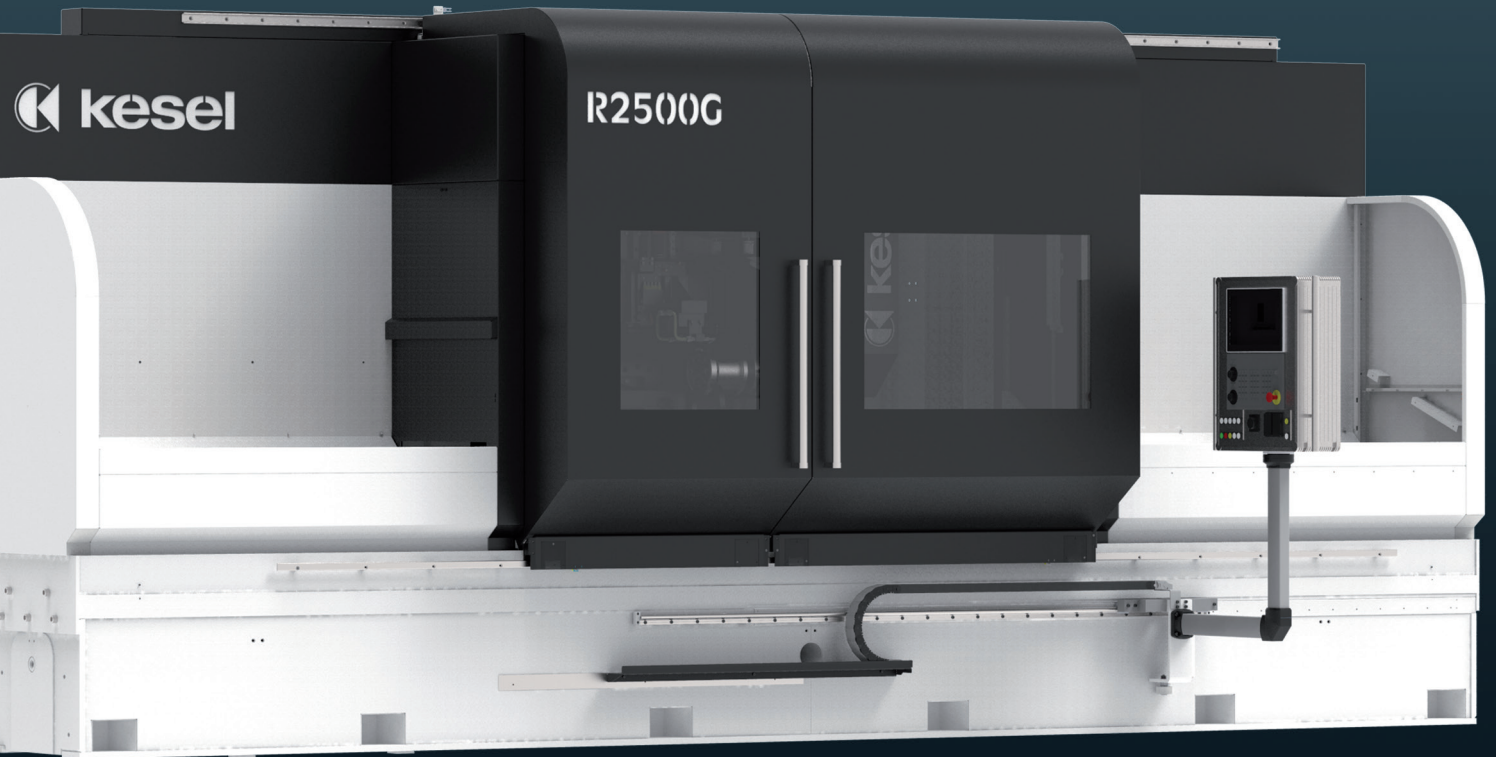
The S98 grinding head delivers maximum power across the full 127 mm maximum width of the grinding surface. With an integrated and automatic balancing unit the S98 is not only hugely powerful but maintains absolute precision at all times. The new compact design has been engineered to minimise maintenance requirements whilst increasing positioning accuracy.

The air-cooled dressing spindle on the S98 achieves a reduced energy consumption during dressing whilst maintaining its market-leading precision. With grinding wheels up to a maximum width of 127 mm and 400 mm in diameter, the R Series delivers high-productivity whilst maximising the wheel's usable diameter.



X2T Twin-Table System

As well as the conventional, single table setup, the R-Series is also available with the world-first X2T twin-table system. The X2T comprises of 2 tables, each of which is capable of holding racks half the length of the machine's maximum capability. This system allows one table to be machined whilst concurrently the second table is loaded / unloaded. The result is up to 2.7 times more productivity! And should the machine's maximum grinding length be required, the tables can be coupled in under 3 minutes for ultimate manufacturing flexibility.



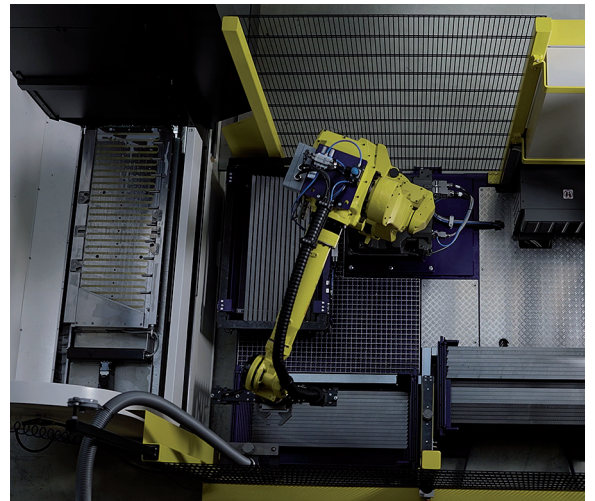
B-Axis

Available as either a manual or fully automated axis, the R Series has a B-axis range of $\pm 25^\circ$, allowing it to grind the full range of helical racks.



Coolant & Filtration Management

The intelligent coolant management system supplied with the R Series machines is fully automated to increase operation efficiency. Coolant volumes and pressures are continually monitored and maintained via the coolant unit's control system which is fully integrated into the grinding machine's operating architecture. More complex coolant applications, such as volume and pressure changes during roughing and finish grinding can be easily programmed.

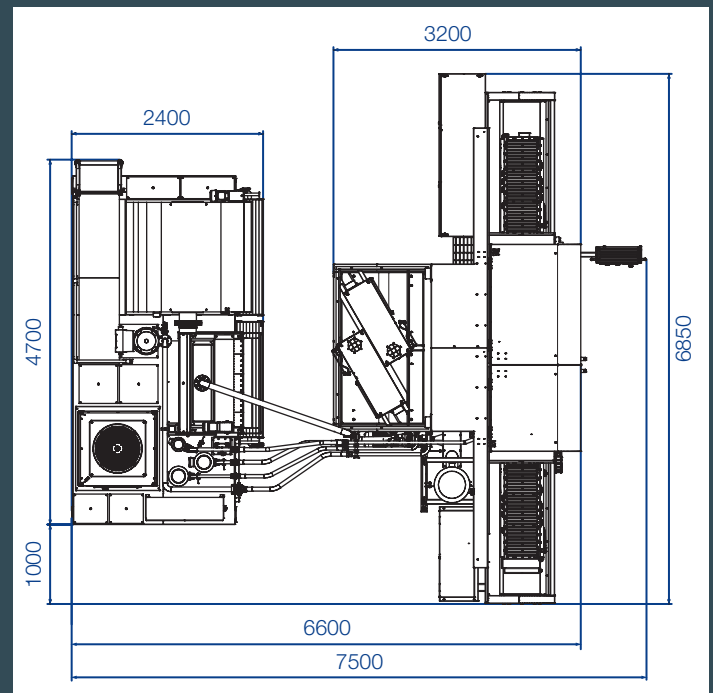


Automation

All models within the R-Series can be supplied with fully automated load / unload cells in order to allow frictionless machine operation with minimal operator influence. With an integrated cleaning system and magazine bays for easy and fast material access the R-Series automation is the perfect solution for maximising ROI.

Specification R-Series (G Line)

Travel Range		
	Table 1 (*)	Table 2 (**)
X1-axis (horizontal, table 1)	2,760 mm	2,760 mm
X2-axis (horizontal, table 2)		2,920 mm
Y-axis (grinding head, vertical axis)	238 mm	
Z-axis (feed axis, horizontal)	610 mm	
B-axis (swivel axis/helical toothing)	+/- 25°	
Clamping area	470 x 2,510 mm	470 x 1,250 mm (2 x)
(*) Table 1 and table 2 are coupled and driven by two linear drives.		
(**) Table 1 and table 2 can be moved independently of each other with two drives per table.		
Travel Range - Dressing unit		
X32-axis (horizontal)	136 mm	
Y32-axis (vertical)	120 mm	
Travel Range Coolant Tracking		
Y33-axis	115 mm	
Grinding head		
Type	S98	
Power	98 kW S1	
Grinding wheel adapter	Ø 152.4 mm / 6"	
Grinding wheel diameter min.	246 mm	
Grinding wheel diameter max.	400 mm	
Grinding wheel width max.	127 mm	
Control		
Siemens SINUMERIK ONE		
Clamping system		
Magnetic or hydraulic clamping system		
Quality		
Achievable tooth quality (To DIN 3962, part 1): Q5		
Coolant and swarf removal		
Cooling lubricant	Emulsion	
Filling capacity	6,500 Litre	
Fine filtration	Band filter fleece	
Integrated coolant monitor and management system		



approx. dimensions

Electrical connection	
Machine	
Voltage	3 x 400 V
Nominal current	200 A
Coolant unit	
Voltage	3 x 400 V
Nominal current	130 A
Dimensions and weight	
Installation dimensions:	approx. L: 6,850 x D: 7,500 x H: 3,216 mm
Machine weight:	approx. 30,250 kg
Options	
<ul style="list-style-type: none"> - Automatic sliding doors - Controlled B-axis - Grinding wheel changing unit - Customised clamping setups - Coolant: Oil 	

Additional accessories available upon request/Subject to modifications arising from technical advances