

smart machine smart grinding

grindsmart<sup>®</sup> 529xs



english



## smart grinding unlimited grinding solutions

The GrindSmart®529XS is a 5-axis precision tool grinder for the manufacturing of standard and high performance cutting tools covering a diameter range of 0.5 to 16.0 mm (.020" to .630") as well as rotary burs for diameters up to 25.4 mm (1"). This machine model offers maximum uptime and unmatched productivity for both long and short batches and, with its 5-axis kinematic design, is ideal for manufacturing a wide variety of precision cutting tools with minimum setup time.

The production of quality tools has always driven the machine design methodology at Rollomatic. In order to offer enhanced precision and superior surface finish quality as well as maximum power – our proven axis guiding systems and a highly efficient spindle motor are part of the equipment included on the GrindSmart®529XS.

Environmental issues continue to be of great concern and Rollomatic has been working continuously at reducing CO<sub>2</sub> emissions and at optimizing energy efficiency. Through its commitments, our company follows the global initiative agreed upon by Switzerland with the United Nations in regard to the objectives of the Kyoto Protocol. In this respect, the GrindSmart®529XS is manufactured using mainly recyclable materials and has been designed with specific dimensions of the mechanical and electrical components enabling an optimal reduction of energy usage.



# with the GrindSmart®529XS universal precision tool grinder

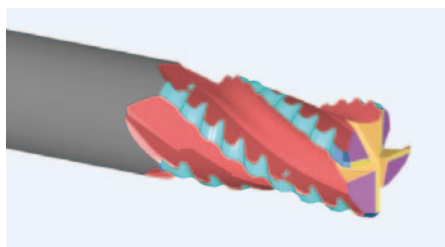
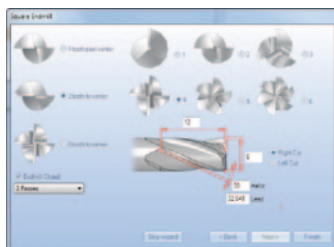


## VirtualGrind®Pro, unlimited programming solutions

The GrindSmart®529XS comes standard with Rollomatic's latest generation of programming software, VirtualGrind®Pro. This powerful and flexible software offers total freedom of design while its user-friendly interface enables programming of standard or specific tools in only a few clicks using the programming wizard. In addition, you can choose to program directly on the machine or on a networked PC, and all software updates from Rollomatic are free of charge.

A powerful, stable and extremely fast simulator enables generation of 3D images from the programmed tool. With this off-line software, you can visualize the movements of the machine before grinding in order to reduce setup time and enable verification and avoidance of possible collisions while increasing production time.

- Complete software package included as standard
- Free software updates during the entire machine life time
- Integrated 3D simulator
- Reduced setup time with 3D machine animation and collision check
- Programming of tools in only 5 clicks with the Wizard assistant
- Open source program structure for ISO programming possibilities
- JobManager
- Monitoring machine









## Precision and setup simplicity

The GrindSmart®529XS model is equipped with highly efficient spindle motor offering 11kW compatible with the high precision Rollomatic PerfectArbor™ wheel arbor attachment that offers perfect accuracy and guarantees concentricity of less than 0.002 mm (.00008") every time the grinding wheel pack is changed. This system ensures homogeneous use of the circumference of the grinding wheel, consequently reducing wheel wear and improving the surface finish of the tools.

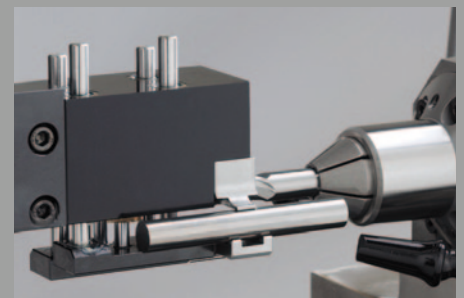
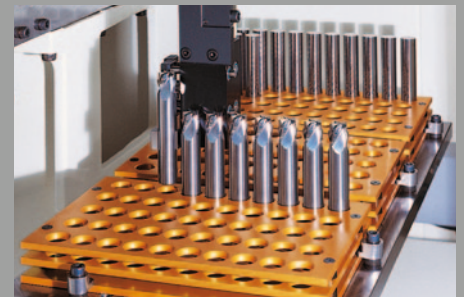
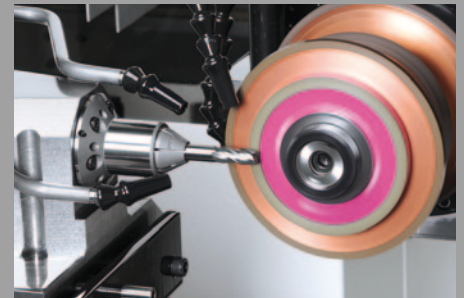
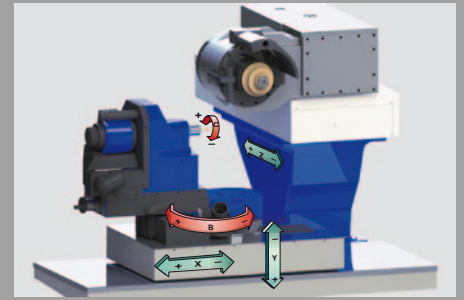
This new machine model is mounted with a torque motor on the rotary B axis. This technology enables high-performance servo tuning which provides a very high quality of surface finish, especially on tools with corner radii and ball shape.

The GrindSmart®529XS also accommodates workheads with various clamping systems including Schaublin and Nann, while the adjustable collet adapter ensures runout accuracy of less than 0.002 mm (.00008"). A revolutionary (patented) shank guide system ensures the setting of the tool shank within a micron by using an extremely simple and repetitive setup procedure. For tools with a longer flute, an adjustable steadyrest that ideally supports the tool during the grinding operation is also available as an option. This system provides optimal runout accuracy especially when using higher feed rates.

As an option, this machine can be equipped with a bur clamping system that ensures stability during production grinding of the bur head. This clamping system is particularly suited for rotary burs and other cutting tools with a brazed carbide head that is generally larger than the shank. It holds the burs directly behind the head without obstructing the path of the grinding wheel at the exit of the flute, and it guarantees a concentricity of less than 0.002 mm (.00008").

## Productivity and reliability

As an option, an exceptionally reliable high-speed robot loader is available which allows for unattended production of up to 1000 tools. Blank diameters up to 20.0 mm (3/4") can be loaded automatically in just over 8 seconds. The typical machine utilization rate of the GrindSmart®529XS can reach up to 99% with an average productivity output for standard tools of 8000 to 10000 pieces a month.



# SPECIFICATIONS

<b>GRINDING RANGE</b>	Ø 0.5 – 16.0 mm (.02" – .63") up to 25 mm (1") for burs	<b>GRINDING MOTOR</b>	Power 7 kW (10 HP), direct drive Peak Power 11 kW (16 HP) Rotation speed 500 – 10000 r.p.m. Grinding wheels Up to 4 wheels Ø Max. 200 mm (7.9")
<b>CONTROL</b>	FANUC 30iMB	<b>CLAMPING</b>	Clamping system Adapters Schaublin and Nann Range 0.5 – 20.0 mm (.02" – .78") Type Pneumatic
X axis	Stroke 300 mm (11.8") Fast travel 12 m/min. (473"/min.) Encoder type Absolute linear scale (option) Resolution 0.00001 mm (.0000004")	<b>ROBOT LOAD &amp; UNLOAD (OPTION)</b>	Number of tools Up to 1000 (3 cassettes) Shank diameter 1.0 – 20.0 mm (.04" – .78") Max. overall length 300 mm (12") Speed 65 m/min (2560"/min.) Clamping Hydraulic
Y axis	Stroke 220 mm (8.6") Fast travel 12 m/min. (473"/min.) Encoder type Absolute linear scale (option) Resolution 0.00001 mm (.0000004")	<b>TOOL SUPPORTS (OPTION)</b>	Shank support «V» clamping, Hydraulic Cutting portion support «V» or Half moon
Z axis	Stroke 180 mm (7") Fast travel 12 m/min. (473"/min.) Encoder type Absolute linear scale (option) Resolution 0.00001 mm (.0000004")	<b>MACHINE</b>	L x W x H 2180 x 1600 x 2167 mm (85.8" x 63" x 85.3") Weight 3200 kg (7040 lbs) Total power Maximum 18 kW 3 x 400V/25A
B axis	Stroke -75° to 135° (210°), direct drive Fast rotation 8640°/min. Encoder type Rotary measuring encoder Resolution 0.00005°		
C axis	Stroke Tool rotation Fast rotation 300 r.p.m. Encoder type Rotary, on AC motor Resolution 0.0001°		

\* Specifications are subject to change without notice

