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Roland®

DVE
Digital Value Engineering

Milling Machine for Dental Applications

Roland DWX-30

Precision Results and Increased Productivity for Dental Labs and Technicians

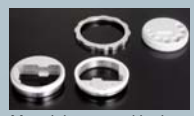
The DWX-30 is Roland's compact 4-axis CNC milling machine built on more than 20 years of experience in CNC milling technology. The DWX-30 works with zirconia and wax to create flawless dental prostheses, including crowns, bridges, abutments, bars and dental arches with perfect anatomical structure. As an open system, the DWX-30 operates with industry standard scanners and CAD/CAM software. Vacuum lines are included for dust and particle collection. Designed for quality, high-speed machining, the DWX-30 is compact, clean and quiet.


Precision milling of zirconia


Milling wax copings


Wax crowns and bridges

High Quality Machining in Zirconia and Wax


Materials secured in the vise

The DWX-30 was designed to cut high quality crowns, copings and bridges in zirconia and wax. Zirconia, which can be processed only by milling, has become popular for its outstanding strength and natural look and feel, resulting in higher profit margins for dental labs and technicians. With the DWX-30, users have the ability to create precision models of consistent quality, saving time and money. A circular vise securely positions materials for the highest levels of accuracy and detail and automatically rotates for unattended production.

Automated Production for Increased Productivity


Automatic rotary axis mills up to two sides.

The DWX-30 includes a high-performance tool length detection sensor which helps achieve precision cutting. Once installed, you simply start the detection process which measures the tool automatically. This system helps you achieve precision cutting with minimal downtime. A 4th rotary axis unit is also included with the DWX-30 and mills up to two sides automatically. Once a side is finished, the piece is automatically rotated until both sides are completed, expediting the production process.

Powerful, Precision Milling Spindle


Powerful spindle unit built for precision milling

The DWX-30's standard spindle is built for stability and to withstand the vibrations of high-speed milling. The spindle's high-torque motor performs consistently regardless of the milling speed. Energy efficient, the DWX-30 can be operated from a standard power outlet without a dedicated electrical line. The DWX-30 operates at speeds from 6,000 to 30,000 RPM to support zirconia and wax materials.

Easy to Use and Clean for a Safe Work Space


External Handy Panel

The DWX-30 comes with both an external control panel and a virtual screen panel. Both can be used to easily control the movement of axes while the virtual panel can set up the machine, set origin points, measure tool length and more. The DWX-30's dust collection capsule captures all milling material for a clean work environment. Two hoses connect to the capsule to immediately remove dust particles and chips throughout the production process. The DWX-30's front cover is made of transparent plexiglass for a clear view of the milling process.


Dust collection capsule captures milling material, keeping the work area clean.

Specifications		DWX-30
Cuttable material		Zirconia and modeling wax
Loadable workpiece shape	Cylindrical (without levels)	External diameter: 98mm, Height: 10 – 14mm External diameter: 100mm, Height: 10 – 14mm
	Cylindrical (with levels)	External diameter (level section): 98mm, External diameter (body section): 95mm, Height: 12 – 26mm External diameter (level section): 100mm, External diameter (body section): 95mm, Height: 12 – 26mm
	Block	Width x Depth: 40 x 75mm, Height: 12 – 26mm
Loadable workpiece weight		1.4kg
X, Y, and Z operation strokes		239 x 205 x 100 mm (9.4 x 8.1 x 3.9 in.)
Maximum angle of rotation		±18×10⁵° (±5000 rotations)
X-, Y-, and Z-axis drive system		Stepping motor
Operating speed		X and Y axes: 0.1 to 60 mm/sec. (0.004 to 2.4 in./sec.) Z axis: 0.1 to 30 mm/sec. (0.004 to 1.2 in./sec.) A axis: 11.25 rpm
Software resolution		X, Y and Z axes: 0.01mm/step (0.0004 in./step), A axis: 0.0225°
Mechanical resolution		X and Y axes: 0.00125 mm/step (0.00005in./step) (micro-step control) Z axis: 0.00125 mm/step (0.00005in./step) (micro-step control) A axis: 0.0028125° (micro-step control)
Spindle motor		Brushless DC motor, maximum 100W
Spindle rotation		6,000 to 30,000 rpm
Tool chuck		Collet method
Interface		USB (compliant with Universal Serial Bus Specification Revision 1.1)
Control command set		RML-1
Power requirements		AC 100 to 120 V±10%, 50/60 Hz (overvoltage category II, IEC 60664-1), 2.8 A AC 220 to 240 V ±10%, 50/60 Hz (overvoltage category II, IEC 60664-1), 1.2 A
Power consumption		275 W
Acoustic noise level		During operation: 60 dB (A) or less (when not cutting) During standby: 40 dB (A) or less
Dimensions		606(W) x 656(D) x 557(H) mm (23.9(D) x 25.9(H) x 22(D) in.)
Weight		47 kg (104 lb)
Environmental		Temperature: 5 to 40°C (41 to 104 °F) Humidity: 35 to 80% (no condensation) Ambient pollution degree: 2 (as specified by IEC 60664-1)
Included items		Power cord, handy panel, collet (diameter 3.175 mm, 4.0 mm, 3.0 mm), detection pin, cap*, spacer (A, B)*, Clamp for block workpiece (C-1, C-2, D-1, D-2), User's Manual, Roland Software Package CD-ROM, etc.

*DWX-30 will be shipped from the factory with the cap and spacer A installed on it.

System Requirements for USB Connection	
Computer	Model preinstalled with 32 or 64-bit Windows 7, Windows Vista, or Windows XP, or any later operating system
USB cable	Use the included USB cable

Roland DG Corporation

Roland DG Corporation is a leading worldwide manufacturer of precision digital devices, including wide format inkjets, milling and engraving machines, vinyl cutters, 3D scanners, a jewelry wax model maker and photo impact printers. In addition, the company offers software and other components that provide professionals with complete solutions. With ownership, Roland DG customers get legendary Roland reliability and world-class service, support and training. Roland DG is the company strives to preserve environmental protection while maintaining the highest quality standards.

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ECO

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Printed in Japan. RDG-416082099 12 JUN E-2 S-S

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