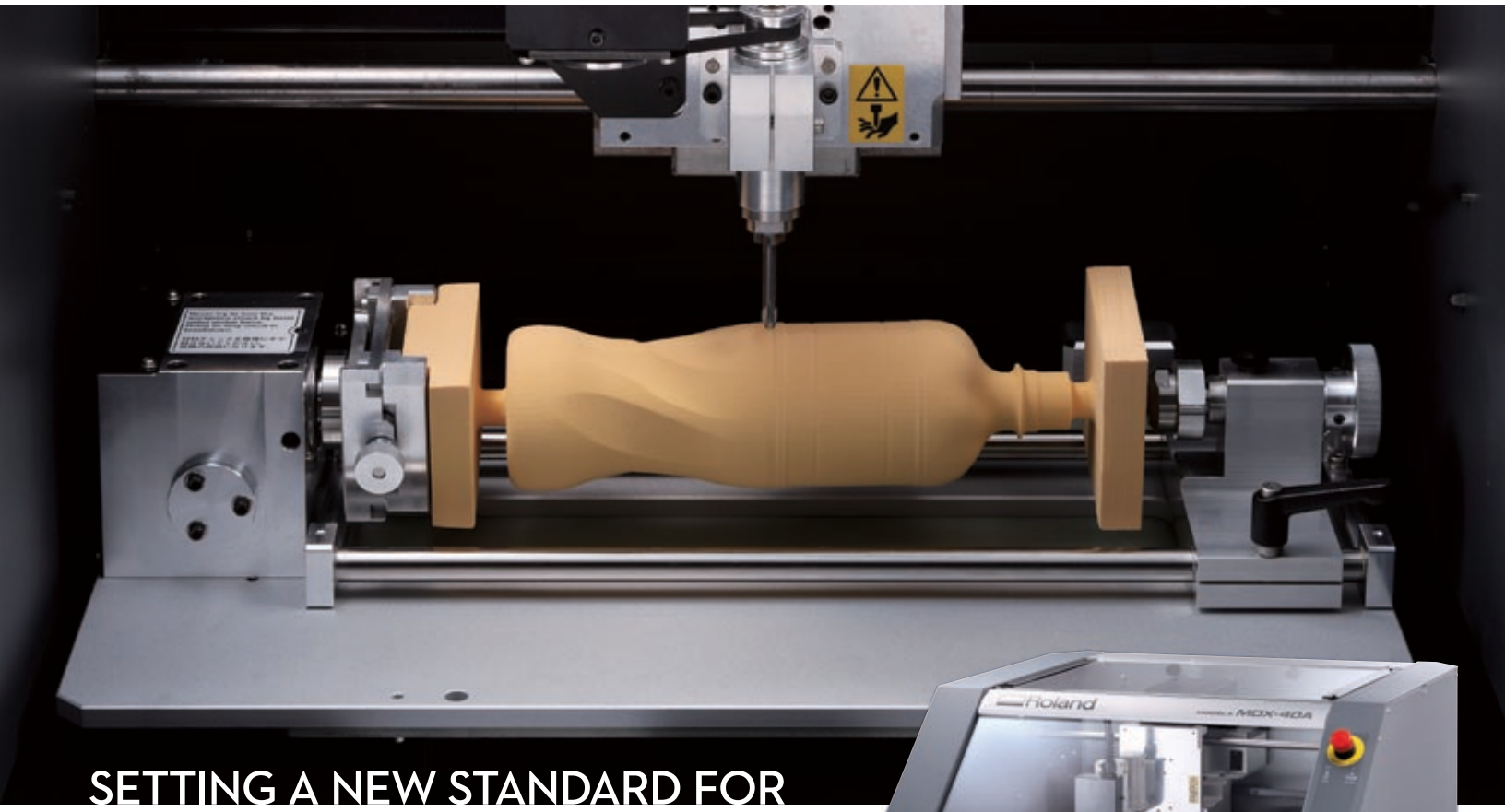
Roland®

MDX-40A

3D Milling Machine



SETTING A NEW STANDARD FOR DESKTOP RAPID PROTOTYPING

The Roland MDX-40A 3D milling machine is an affordable, easy-to-use prototyping solution that supports a wide range of materials. A new optional rotary axis unit is available, supporting larger materials.

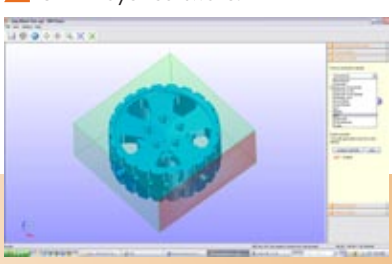
Compact. Affordable. The Perfect Tool for Desktop Prototyping.

With a simple USB connection to your computer, you have the power to turn 3D designs into precise, detailed prototype parts in a wide choice of materials including wood, urethane foam, tooling board and plastic. Clear plastics and FDA approved resins are no problem for the MDX-40A. Smooth surfaces and tight tolerances give you the power to create prototype parts and assemblies with snap fits, sharp details and physical properties that are as close as possible to manufactured parts – all within your budget.

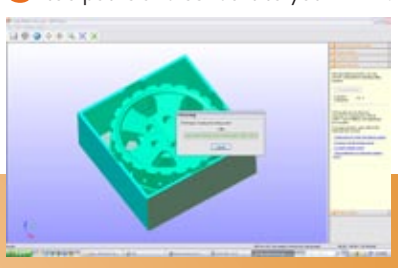
Go from a 3D CAD file to prototype parts in a few easy steps, using your MDX-40A and bundled SRP Player CAM software:

1 Export your 3D model as an industry standard .stl file.

2 Open the .stl file in our bundled SRP Player software.



3 SRP Player orients the part, generates toolpaths and sends it to your MDX.




Remote Control Prototype from Chemical Wood


Gearshift Prototype from Polycarbonate Plastic

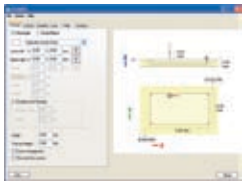

MP3 Player Cover Prototype from ASB Plastic

Correction Roller Prototype from Clear Acrylic Plastic

No Special Training Required

Roland SRP Player CAM software is included and features simple step-by-step settings for easy operation and high quality milling. With SRP Player, you can preview your job on-screen to confirm the cutting path for superior results every time. In addition, every MDX-40A includes ClickMILL™ software, allowing you to easily complete surfacing work. You can round edges, add pockets and holes, make fixtures and add last minute modifications, all without your CAD software.


SRP Player


ClickMILL

New Rotary Axis Unit for Larger Applications

In addition to a flat work table, the MDX-40A features a new optional rotary axis unit that supports materials up to 10.63" (270mm) long by 4.72" (120mm) in diameter, three times the capacity of the previous model. You can now mill a 16.9oz. (500ml) PET bottle. Objects can be milled unattended at any angle from 0 to 360 degrees.

Enhancements for Maximum Ease-of-Use

Designed for greater ease-of-use, the MDX-40A supports a new on-screen operation panel that allows you to adjust the location of the endmill and quickly program settings. Using this panel, you can move the cursor in vertical, horizontal and transverse directions and to the desired position for the most efficient tool path. You can also adjust the speed of cursor movements for easier origin setting. The MDX-40A saves time and material by allowing you to adjust milling conditions such as spindle rotation and speed while the unit operates (override function).

PRODUCT SPECIFICATIONS

MODEL	MDX-40A
Acceptable material	Plastics (ABS, Delrin/Acetal, Nylon, Acrylic), tooling board, wood, and modeling wax (metal not supported)
X, Y, and Z operation strokes	12 (X) x 12 (Y) x 4.13 (Z) in. [305 (X) x 305 (Y) x 105 (Z) mm]
Distance from collet tip to table	Maximum 4.84 in. [123 mm]
Table size	12 (W) x 12 (D) in. [305 (W) x 305 (D) mm]
Loadable workpiece weight	8.8 lb [4 kg]
XYZ-axis drive system	Stepping motor
Feed rate	XY-axis: 0.28 to 118 in./min [7 to 3,000 mm/min] Z-axis: 0.28 to 70.8 in./min [7 to 1,800 mm/min] *2 mm/min step for 0.28 to 2.36in./min. [7 to 60 mm/min] *60 mm/min step for 2.36 to 118in./mim. [60 to 3,000 mm/min]
Software resolution	NC-code: 0.000039 in./step [0.001mm/step], RML-1: 0.00039 in./step [0.01 mm/step](RML-1)
Mechanical resolution	0.000078 in./step [0.002 mm/step] (micro-step control)
Spindle motor	Brushless DC motor, Maximum 100 W
Spindle rotation	4,500 to 15,000 rpm
Tool chuck	Collet method
Interface	USB*1 (compliant with Universal Serial Bus Specification Revision 1.1)
Control command sets	NC-code, RML-1
Power requirements	AC100 to 240 ±10%, 2.1 A,; 50/60 Hz (Overvoltage category II, IEC 60664-1)
Power consumption	Approx. 210 W
Acoustic noise level	No-load operation: 56 dB (A) or less, Standby: 42 dB (A) or less
Dimensions	26.4 (W) x 30 (D) x 21.9 (H) in. [669 (W) x 760 (D) x 554 (H) mm]
Weight	65 kg [144 lb]
Environment	Temperature: 41 to 104 °F [5 to 40 °C], Humidity: 35 to 80% (no condensation)
Included items	Power cord, USB cable, collet (ZC-23-6), Z0 sensor, hexagonal wrench, hexagonal screw drivers, spanners, Roland Software Package CD-ROM, SRP Player CD-ROM, user's manual, SRP Player installation and setup guide

OPTIONALLY AVAILABLE ITEMS		
Item	Model	Description
Rotatry axis unit	ZCL-40A	See the above specifications
3D Scanning sensor unit	ZSC-1	See the above specifications
Replacement spindle unit	ZS-40	
Dust box	ZDX-40	26.33(W) x 30.27(D) x 3.8(H) in. [669 (W) x 769 (D) x 97 (H) mm]
Adhesive sheet for securing material	AS-10	210 mmx 140 mm, including 10 sheets

SYSTEM REQUIREMENTS FOR INLCUDED SOFTWARE	
OS	Windows Vista®(32-bit) or Windows® XP(32-bit)*2 and Internet Explorer 6.0 or later
CPU	Pentium® 4, 2.4GHz or faster recommended
RAM	1GB or more recommended (2GB or more recommended for Windows Vista®)
Video card and monitor	A resolution of 1024 x 768 or more recommended (video card compatible with OpenGL recommended) and at least 16-bit highcolor
Free hard-disk space	72MB or more recommended
Optical drive	CD-ROM drive

**2 It does not support Windows Vista(64-bit) or Windows XP(64-bit).*

OPTIONAL ROTARY AXIS UNIT (ZCL-40A)	
Maximum angle of rotation	±99999.999 degrees
X,Y, and Z operation strokes	10.67 (X) x 12.01 (Y) x 2.68 (Z) in. [271 (X) x 305 (Y) x 68 (Z) mm]
Maximum loadable workpiece size	Items within the range of a 2.36 in. [60 mm] radius from the center of the rotary axis by 10.6 in. [270 mm] long.*3
Maximum size holdable by workpiece clamp	Thickness: 0.39 to 1.77 in. [10 to 45 mm] Diameter: 0.79 to 1.97 in. [20 to 50 mm]
Loadable workpiece weight	2.2 lb [1kg] (including clamps)
Feed rate	Maximum 11.79 rpm
Software resolution	0.001 degrees
Mechanical resolution	0.005625 degrees/step (micro-step cotrol)
Dimensions	18.5 (W) x 11.3 (D) x 4.53 (H) in. [470 (W) x 286 (D) x 115 (H) mm]
Weight	16.5 lb [7.5 kg]
Included items	Detection bar, detection pin, center drill, live center, cap screws, rubber cap, and user's manual

**3 The range that can actually be cut is limited by the amount of tool extention and interference between the loaded workpiece and the tool or spindle.*

OPTIONAL 3D SCANNING SENSOR UNIT (ZSC-1)		
Maximum scanning area		12 (X) x 12 (Y) x 2.36 (Z) in. [305 (X) x 305 (Y) x 60 (Z) mm]
Distance from probe tip to table		Maximum 3.64 in. [92.4 mm]
Table load capacity		Maximum 8.8 lb [4 kg]
Sensor	Type	Roland Active Piezo Sensor (RAPS)
	Effective probe length	2.36 in. [60 mm]
	Tip bulb radius	0.00315 in. [0.08 mm]
Scanning method		Contacting, mesh-point height-sensing

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FOR COMPLETE PRODUCT SPECIFICATIONS AND FEATURES, OR MORE INFORMATION, CALL 800-542-2307 OR VISIT WWW.ROLANDDGA.COM
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