

PC board depaneling robot  
**CAST-MR4**

*Speed and accuracy – The new ROBOKIDS separator for small PWBs*



**ROBO**KIDS

**User friendly, desktop size, high-precision separator specifically for small boards.  
Allows accurate, dust free and clean cut processing**

- A cutting method using an electric router that places minimal stress on mounted PWBs
- The spindle motor load indicator unit included as standard
- A unique vacuum suction unit to pick up cutting residue
- Compact size that can be easily incorporated into the workplace

**Janome Sewing Machine Co., Ltd.**

**Unit Specifications**

Movement range	X axis	200 mm
	Y axis	210 mm
	Z axis	70 mm
Maximum speed <sup>*1</sup>	X axis	600 mm/s
	Y axis	600 mm/s
	Z axis	150 mm/s
Positioning repeatability (accuracy) <sup>*2</sup>	X axis	± 0.01 mm
	Y axis	± 0.01 mm
	Z axis	± 0.02 mm
Maximum load	Work piece (Y axis)	7 kg
Supplied air		0.5 MPa (5 kgf/cm <sup>2</sup> ) Dry air <sup>*3</sup>
		Air consumption 200 NI/min <sup>*4</sup>
Unit mass		Approx. 20 kg
Ambient operating temperature		0 - 40 °C
Transport and storage temperature		-10 to 60 °C
Power supply voltage		AC 100 - 120 V ± 10%, AC 200 - 240 V ± 10%, 50/60 Hz
Power consumption		440 VA
Grounding		Type D grounding

\*1. Speed can be set. May not reach the specified value depending on the travel distance. \*2. Conditions: Temperature 20 ± 0.2 °C measured from one direction. \*3. Use dry air to prevent damage to air devices. \*4. Supply 200 NI/min or more to avoid drop in vacuuming capability.

**Control Specifications**

Drive method	5-phase pulse motor (open loop control)
Movement method	PTP, CP
Control axis count	Simultaneous control of 3 axes
Speed control	For cutting 1 - 100 mm/s (linear, circular arc interpolation) <sup>*5</sup>
Interpolation function	3D linear interpolation, 3D circular arc interpolation
Teaching method	Direct teaching using teaching pendant (optional) Off-line teaching using a personal computer (optional)
Program capacity	Max. of 40 work programs <sup>*6</sup>
Point data storage capacity	Max. of 2,500 points <sup>*7</sup>
Programming method	Standard accessory memory card (RK card)

\*5. Max. speed may vary depending on cutting conditions such as the board material. \*6. Work program is a program of point data of different work positions.

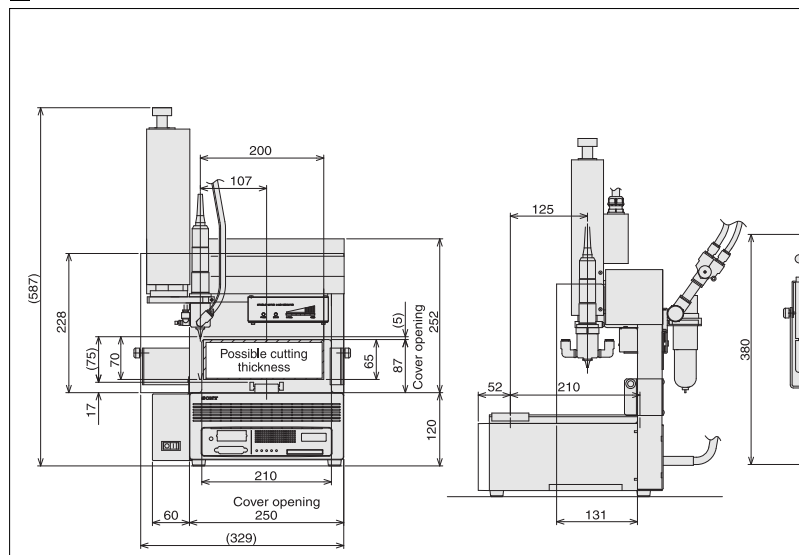
\*7. At max. of 40 work programs, the number of available point data is 60, not the number of max. points.

**Depaneling Specifications**

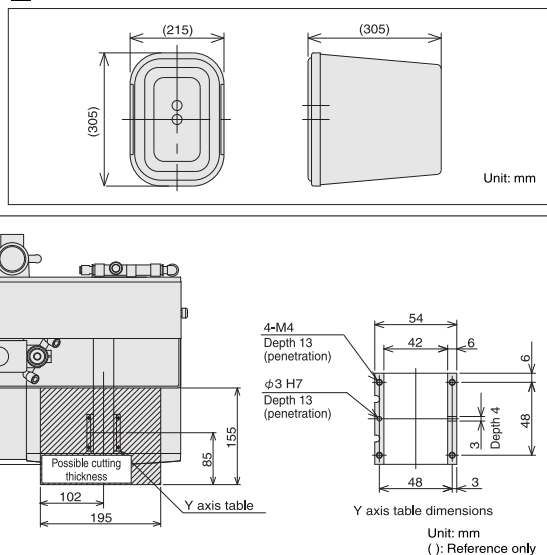
Spindle motor	Drive method	DC brushless motor
	Rated output	21 W
	Rated rotation rate	40,000 r/min (fixed)
	Fastener	Collet chuck (φ 3.175 mm) <sup>*8</sup>
Bit diameter (router bit diameter)		Standard φ 0.8 mm, Left twist <sup>*9</sup>
Collection method		Vacuum ejector method
		Collection filter capacity 6,000 cm <sup>3</sup> (filter exchange method)
Cutting range		155 x 195 mm (maximum)
Supported PWB thickness		1.6 mm (maximum)
Supported PWB material		Glass epoxy, paper phenol laminate, etc.
Cutting trace precision		0.2 mm (target value)

\*8. One-touch-lever enables replacement of the bit without use of any tools. \*9. Ten bits provided as standard. These are consumables therefore warranty is not applicable.

**External Dimensions**



**Filter Box Dimensions**



**Safety Notice:** For your safety, please read the operation manual carefully before using the product.

Specifications and appearance are subject to change without prior notice.

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