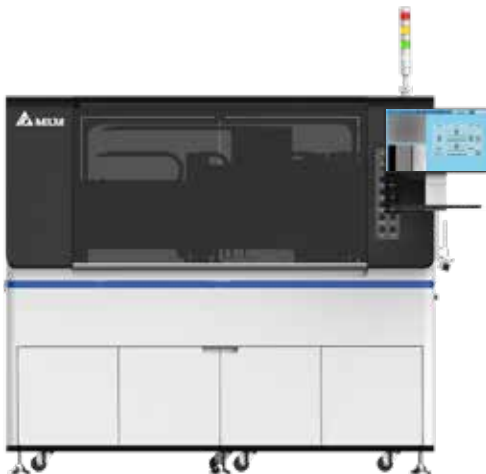




Digitized Automation for a Changing World

Delta Smart PCB Router Machine



www.deltaww.com



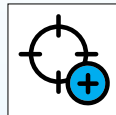
Smart PCB Router Machine

The new generation PCB Router Machine DR Series makes PCB cutting smart, incorporating real-time monitoring of milling data. The Router Machine also features switchable dual stations with an automatic loading and unloading system to enhance production capacity.

New vacuum cleaning technology provides a clean, fast cutting process for optimal quality.



Smart Milling



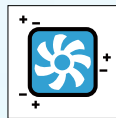
High Precision Cutting



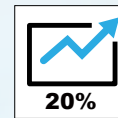
Rapid New Product Implementation



Real-Time Upload of Production Information



Dust Removal by Ionized Air



Energy Efficiency Enhanced by 20%



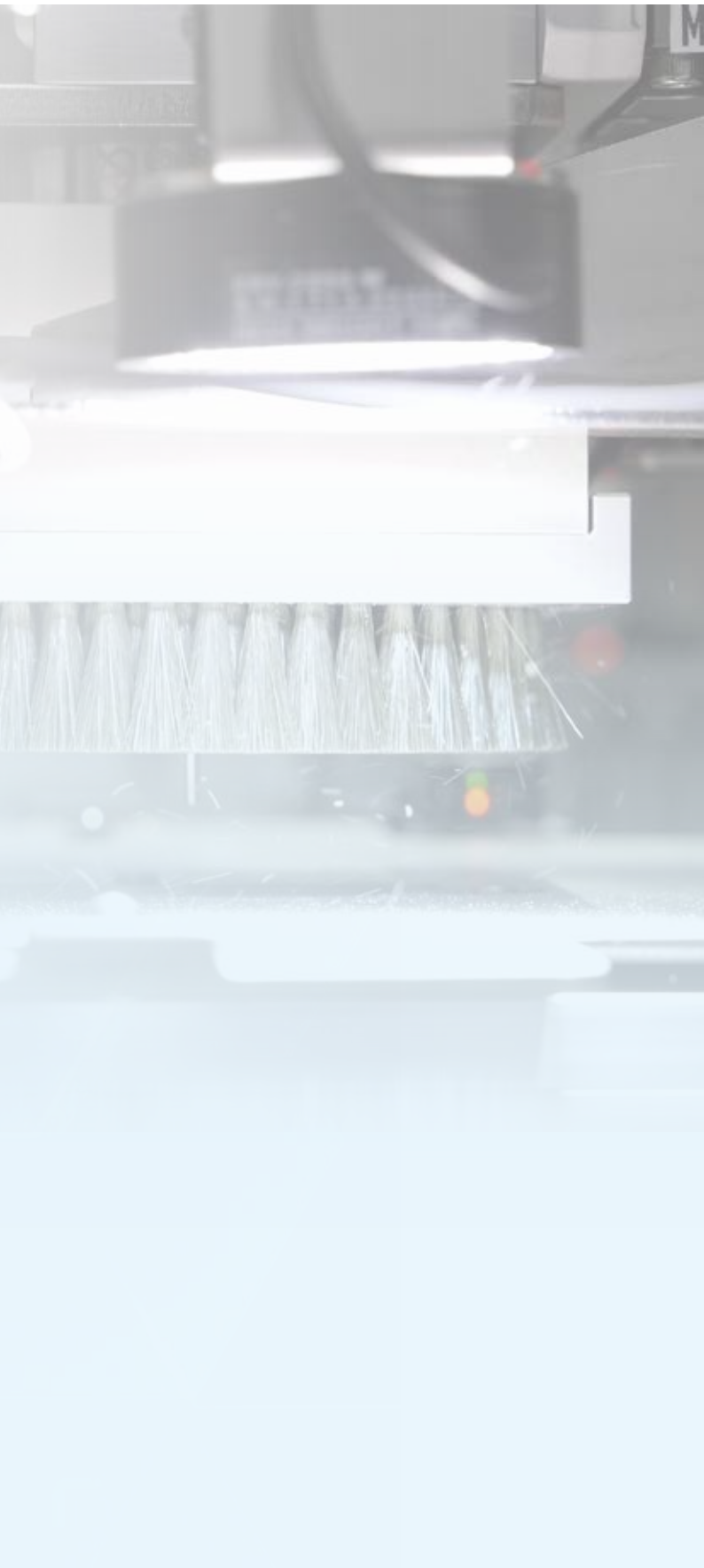


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- High Precision Cutting
- Rapid New Product Implementation
- Real-Time Upload of Production Information
- Dust Removal by Ionized Air
- Energy Efficiency Enhanced by 20%

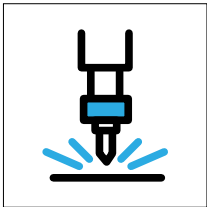
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Features

Smart Milling

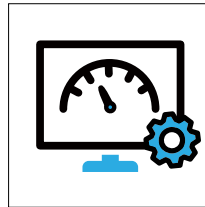
Smart, real-time monitoring of milling cutter wear and cutting force, offering 5 key smart milling features



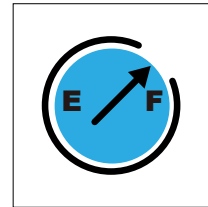
Real-time broken cutter detection



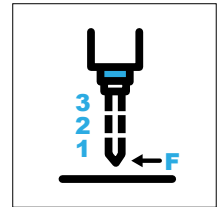
Broken cutter prevention



Enhances milling cutter durability & automatically adjusts feed speed



Increases milling cutter efficiency & optimizes utilization rate

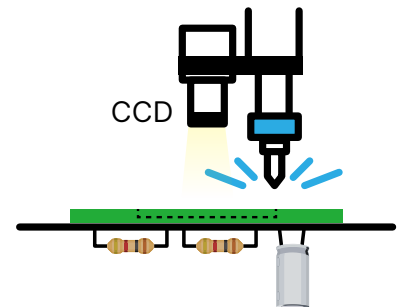
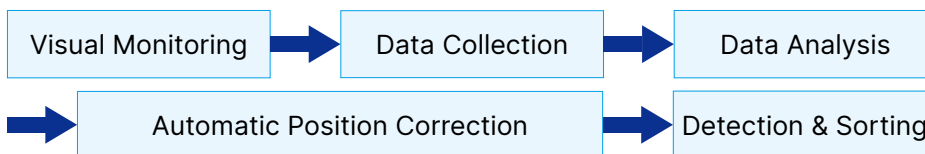


3-stage milling cutter feed & automatic cutter replacement

High Precision Cutting

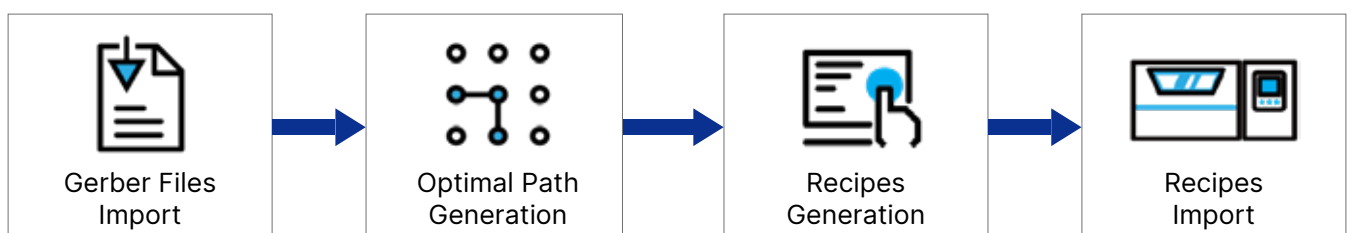
Detects cutting angle, automatically compensates with machine vision to correct position and ensure cutting precision

Automatic Position Correction & Sorting Steps



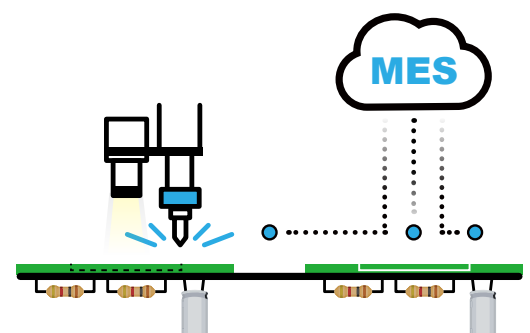
Rapid New Product Implementation

Supports Gerber File offline programming for optimal cutting path planning and quick import of machining parameters



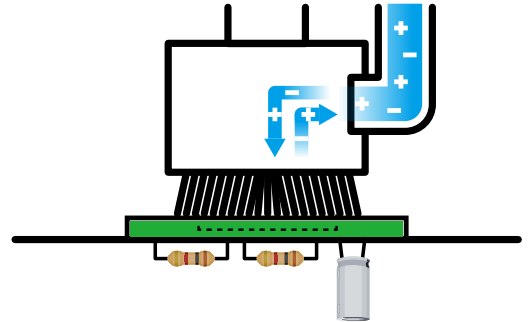
Real-Time Upload of Production Information

Collects and uploads production data to the Manufacturing Execution System (MES) in real time for comprehensive production traceability



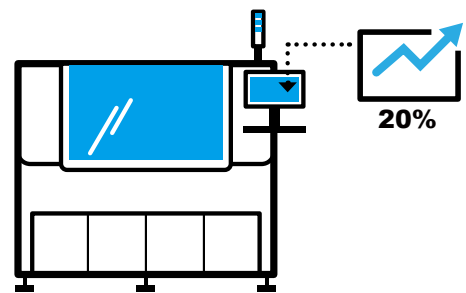
Dust Removal by Ionized Air

Significantly enhances dust removal efficiency by utilizing ionized air with electric charges



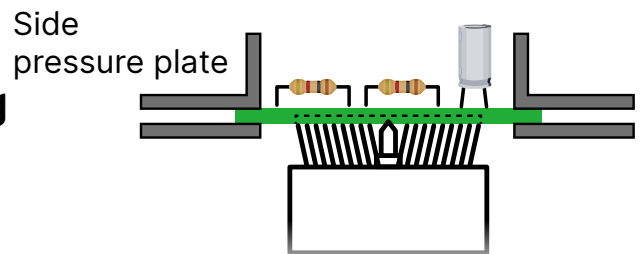
Energy Efficiency Enhanced by 20%

The Smart PCB Router Machine is equipped with energy-saving components and software, which saves energy by 20% compared with the previous generation equipment to maximize profitability and reduce energy consumption



Other Features: Down-Milling Type

Fixtureless Down-Milling Cutting for Cost Efficiency



Side pressure plates secure the PCB

Applications

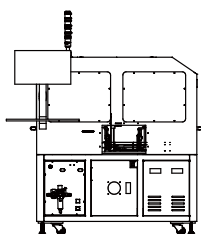
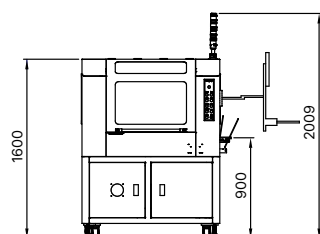
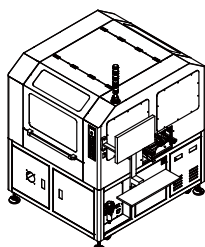
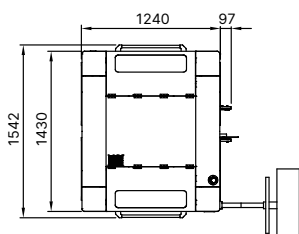
Consumer electronics, automotive electronics, and power supplies



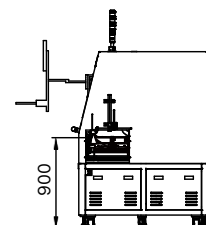
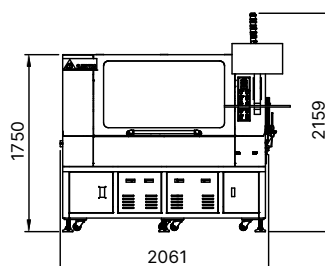
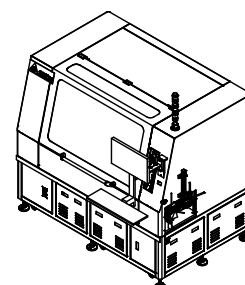
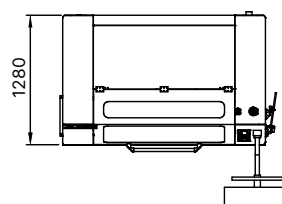
Dimensions and Specifications

Up-Milling Type

DR-SU20A



DR-SU20B



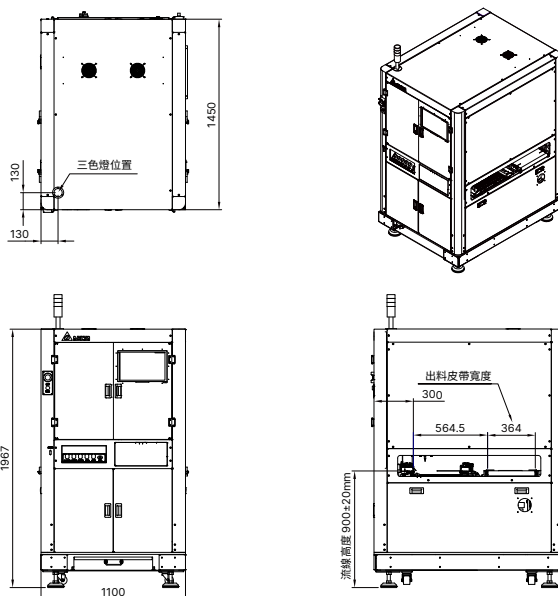
Unit: mm

Item	Specification
PCBA Size	350 x 350/450 x 450/600 x 600 mm
Cutting Slot Width	1.0 ~ 3.0 mm
PCBA Thickness	0.8 ~ 3 mm
Component Height	Milling cutter side < 8 mm
PCBA Weight	≤ 1 kg (Review by Delta if exceeds 1 kg)
Accuracy	± 0.05 mm
Frame /Lead	Board Edge ≥ 4 mm
Cutting Speed/Path	Max. 100 mm/sec, straight and arced path
Spindle Speed/ Spindle Milling Cutter	5,000 ~ 60,000 rpm, Milling cutter $\Phi 1 \sim \Phi 3$ mm
Dust Collection System	Top vacuum cleaning with an independent dust collection bin
Load/Unload	Gantry structure with suction cup module (Optional: gripper module)
Machine Noise	< 80 db
Compressed Air	5 ~ 7 kg/cm ²
Voltage /Power	Single-phase 220 V _{AC} , 4 kW + 3 kW (Vacuum System: Three-phase 220 V _{AC})
Loading Pass Line	750 ± 50 mm, 900 ± 50 mm
Dimensions /Weight	DR-SU20A: 1,230 x 1,430 x 1,600 mm (L x W x H), 1,000 kg DR-SU20B: 2,004 x 1,280 x 1,750 mm (L x W x H), 1,000 kg

Delta reserves the right to change the specifications without prior notice.

Down-Milling Type

DR-SD20



Unit: mm

Item	Specification
PCBA Size	70 x 70 ~ 350 x 350 mm
Cutting Slot Width	1.0 ~ 3.0 mm
PCBA Thickness	0.8 ~ 2 mm
Component Height	Gripper side ≤ 45 mm / milling cutter side ≤ 5 mm
PCBA Weight	≤ 2.7 kg (Review by Delta if exceeds 2.7 kg)
Accuracy	± 0.05 mm
Groove	Width ≥ 1 mm
Frame/Lead	Board edge ≥ 5 mm / lead length ≤ 3.5 mm
Cutting Speed/Path	Max. 20 mm/sec, straight and arced path
Spindle Speed/Spindle Milling Cutter	5,000 ~ 60,000 rpm, Milling cutter $\Phi 1 \sim \Phi 2.5$ mm
Dust Collection System	Bottom vacuum cleaning with an independent dust collection bin
Load/Unload	Loading by two-sided conveyor belt; unloading by gantry gripper
Machine Noise	< 80 db
Compressed Air	5 ~ 7 kg/cm ²
Voltage/Power	Single-phase 220 V _{AC} , 4 kW + 2.2 kW (Vacuum System: Three-phase 220 V _{AC})
Loading Pass Line	750 ± 50 mm, 900 ± 50 mm
Dimensions/Weight	1,100 x 1,450 x 1,800 mm (L x W x H), 850 kg

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**Advanced Manufacturing
Industrial Automation Business Group**

Delta Electronics, Inc.

Chungli Plant 1

No.3, Dongyuan Rd., Zhongli District,

Taoyuan City 32063, Taiwan

TEL: 886-3-4526107 / FAX: 886-3-4527314

EMAIL: ambu@deltaww.com

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