detzo

FDM-2002M

AUTOMATIC IN-SLOT NEEDLE STATOR WINDING MACHINE

The **FDM-2002M** is a high-performance 5-axis PLC-controlled needle winding system, specifically optimized for efficient in-slot winding of BLDC stators with superior layering precision and industrial-grade stability.

NO. OF SPINDLE	MAX SPEED	WIRE DIA.	CONTROL SYSTEM
2 Spindles	**500 RPM**	**Ø0.10 - 0.80mm**	**PLC 5-axis control**

HIGH TORQUE & PRECISION

Keyence control systems combined with AC servo drives ensure extreme positioning accuracy. The 4kW spindle motor provides superior high-torque performance.

INTUITIVE OPERATION

Equipped with a 10" HMI supporting conversational programming. Multi-level password protection ensures secure operations by preventing unauthorized modifications.

SMART PRODUCTION EFFICIENCY

Automated terminal winding and wire clearing guarantee zero residual waste. Stores up to 120 programs for rapid product switching and high versatility.

RELIABILITY & MAINTENANCE

Precise tension control maintains high product quality. The simple, robust mechanical design allows for easy control and low-effort daily maintenance.

OPTIONAL ACCESSORIES:

- ☑ CE Certification
- ☑ Safety Guard
- ☑ Wire Breakage Detection
- ☑ Cutter Mechanism
- ☑ Dual-Stage Tension Switching

PRODUCT PAGE

Technical Overview: Developed for demanding BLDC stator winding, the FDM-2002M features advanced 5-axis synchronous motion control technology. Through high-dynamic servo calculations, the system precisely plans 3D needle trajectories within narrow slots, ensuring extreme alignment accuracy and uniform tension for every turn. This system not only maximizes slot fill factors and electrical performance but also doubles output efficiency through its dual-workstation synchronous design.

Axis Travel	X:175 / Y:170 / Z:115 mm	**Positioning Accuracy**	Disp:0.01mm / Angular:±0.5°
Stator Spec.	Max O.D. Ø95mm / Height 10-55mm	**Power Supply**	3Φ 220Vac | 50 ~ 60Hz ±1% | 13kW
Air Requirement	Air: 0.4~0.6 Mpa	**Machine Weight**	384kg ±10%
Machine Dimensions	1,394(L) x 700(W) x 1,306(H) mm		