

ADC-500 Milling Machine with Automatic Disc Changer



Large Capacity Automatic Disk Changer

The 10-tray storage compartment significantly boost the machine's continuous operation capability, making it ideal for high-intensity production. It supports multi-variety materials and small-batch production, facilitating intelligent and efficient manufacturing processes.

Negative Ion Generator

The integrated negative ion generator effectively minimizes waste produced during milling, particularly with materials like PMMA, improving overall efficiency and cleanliness.

Pumas Remote Software

Our proprietary Pumas software streamlines the operation process and enables remote monitoring and control via LAN network, enhancing convenience and accessibility for operators.

External Light Bar

The light bar features multiple status indicators for real-time monitoring and displays processing progress, providing clear and easy observation of the equipment's status.

Automatic calibration

The machine automatically calibrates the milling origin and material storage coordinates simultaneously. This eliminates the need for manual adjustments after long-distance transportation, ensuring accurate and consistent performance.

90° Milling Capability

The 90° milling function enhances the quality of anterior tooth milling and reduces polishing time required by lab technicians, delivering superior outcomes and operational efficiency.

Storage Drawer

The storage drawer facilitates organized accessory management, protects various tools, and optimizes space utilization, enhancing overall operational efficiency.

Tool Status Management

Real-time tool status and life monitoring enable accurate replacement scheduling. This feature prevents issues such as chipped tools and rework, thereby reducing economic losses and maintaining high-quality outputs.

Specifications

Basic Information	
Model	ADC-500
Method	Automatic loading and unloading dry milling
Compatible Materials	Zirconium, PEEK, PMMA, Wax, Composite materials, and soft metals. Size:98.5mm
Restorations Supported	Crowns, Copings, Veneers, Inlays/Onlays, Bridges, Full dentures, and All-on-X.
Body Structure	Solid cast aluminum.
Case	Steel plate, medical white high-gloss paint, working hatch, accessories drawer
Axis	5 axis
Linear axis	Precision ball screw, precision guide rail, repeat accuracy $\pm 5\mu\text{m}$, precision motor travel, X/Y/Z: 176/134/100mm
Axis of rotation	Equipped with a precision motor and precision harmonic reducer, with a repeatability of $\pm 0.01^\circ$. Travel Range: A-axis: $\pm 32^\circ$ B-axis: $\pm 360^\circ$
Control system	Equipped with an 8-inch display, the 5-axis linkage controller features continuous path trajectory and dynamic acceleration/deceleration planning capabilities. It integrates an FPGA for high-speed parallel instruction processing and operates on a real-time operating system that supports standard G-code (RS274) and extended command. The controller includes integrated inverters for synchronous and asynchronous motors, offering greater flexibility and enhanced compatibility. It supports multiple analog and digital I/O channels and provides external USB port and RJ45 Ethernet interfaces.
LED indicator	Equipped with a high-brightness RGB LED light, providing illumination while also being capable of displaying various status indicators. Ready&Milling (White)/Finshed milling(Green)/Error(Red)
Spindle	
Regular	High-frequency asynchronous spindle, tool change with air (do not rotate during tool changing), air seal to prevent foreign matter from entering.
Rotate speed	
Power	3000-60000rpm
Bearing	900W (5S, Pmax); 400W(S6), 250W(S1)
Chuck	High speed ceramic ball bearings, Eccentricity $< 3\mu\text{m}$
Automatic device	
Tool library	12 tools capacity, Integrated tool gauge
Material storage tray	Hold up to 10 trays, maximum tray thickness is 35mm, tray outer diameter is 98.5mm
Milling mode	
Dry milling	Suitable for Shank diameter 4mm, 50mm length milling burs
Automatic disk changer	The spindle ejects high-pressure gas for cleaning and cooling during milling
Conditions	
Compressed air	The machine automatically loads and unloads materials, enabling 24-hours uninterrupted milling.
Power supply	4-8bar(0.4-0.8Mpa), Air purity in accordance with: ISO 8573-1:2010, need to be equipped with a cold dryer
Data interface	100-120VAC, 200-240VAC, two types switchable, 50-60HZ
Temperature	RJ45 Ethernet interface, 10/100M self-adaptive, required for networking.
Humidity	10-45°C
Certification	80% relative humidity, non-condensing
CE/FCC	
Size & Weight	
Product Size	L*W*H 725mm*835mm*610mm
Product Weight	120 kg
Package Size	835mm*925mm*855mm
Package Weight	160 kg
Accessories	
CAM	Support Millbox, Hyperdent and WorkNC