MDK8308E 5-AXIS CNC MACHINING CENTRE

Simultaneous five-axis machining for wood and other non-metallic materials.



5-axis simultaneous control | 2 x 7.5 kW spindles

The MDK8308E combines a rigid machine structure, dual spindles and a bar-type vacuum worktable. WEIHONG motion control and compatible CAD/CAM software support complex machining of non-metallic workpieces.

MANUFACTURER PROFILE

Manufacturer and Facilities

Founded in 1970, Sichuan Qingcheng Machinery Co., Ltd. develops, manufactures, sells and services machinery for solid-wood furniture production.



QCM is a joint-stock company based in Qingshen Industrial Park, approximately 100 km from Chengdu. The site covers more than 300 mu, equivalent to approximately 200,000 m². With over 50 years in woodworking machinery and an R&D team of nearly 100 people, QCM supplies customers throughout China and in more than 50 countries and regions, maintaining long-term customer and strategic partnerships.



CNC machining workshop



Foundry workshop



Painting workshop



Assembly workshop

MECHANICAL CONSTRUCTION

Frame and Precision Build

A high-strength frame and precision-machined structural parts support machine stability and consistent assembly accuracy.



Machine frame and column assembly.

Welded Steel Structure

The frame and crossbeam use high-strength welded steel. Mechanical analysis informs the design, followed by high-temperature annealing and vibration stress relief to improve stability and resistance to deformation.

Rigid Machine Geometry

A wide-span gantry arrangement and reinforced column improve machine stability. The Y-axis assembly uses a one-piece casting to resist deformation.

Precision Manufacturing

Japanese OKUMA five-face gantry machining centres finish the frame and components. Before assembly, a Japanese Mitutoyo coordinate measuring machine checks the parts, and the factory issues measurement reports.



OKUMA machining equipment.



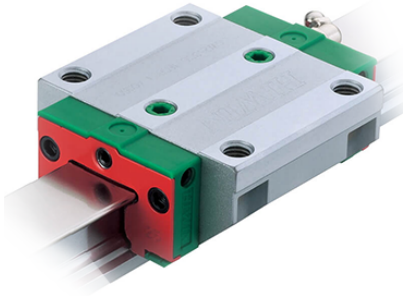
One-piece Y-axis casting.

AXIS DRIVE SYSTEM

Axis Drives and Motion

Precision ball screws, linear guides and rotary-axis reducers form the machine motion system.







Ball Screws

Taiwan-made precision ball screws drive the X, Y and Z axes. The specified rapid traverse reaches up to 40 m/min.

Linear Guides

The X, Y and Z axes use ball-type linear guides from established Taiwanese manufacturers.

A/C-Axis Reducers

High-end Chinese-manufactured reducers provide precise transmission for the A and C rotary axes.

MAXIMUM RAPID TRAVERSE

AXIS	MAXIMUM SPEED
X	40 m/min
Y	40 m/min
Z	30 m/min
C	22.5 rpm
A	22.5 rpm

Rapid traverse values describe non-cutting axis movement.

SPINDLE CONFIGURATION

Dual-Spindle Machining Head

Two 7.5 kW spindles and four manually loaded tool positions support machining with multiple tools in one setup.



Spindle Power

Two 7.5 kW air-cooled spindles provide power for heavy cutting operations.

Lightweight Swing Arm

The spindle swing arm uses high-strength aluminium alloy to reduce moving head mass and improve dynamic rigidity.

Four Tool Positions

Four tool positions allow four tools to remain mounted. Tools are installed manually, supporting completion of many workpieces in a single setup.

Spindle Pre-Start

The controller starts the next spindle in advance during machining. The manufacturer describes switching between the preloaded tools as "0-second tool changing". Physical tool installation remains manual, and the specification lists no automatic tool magazine.

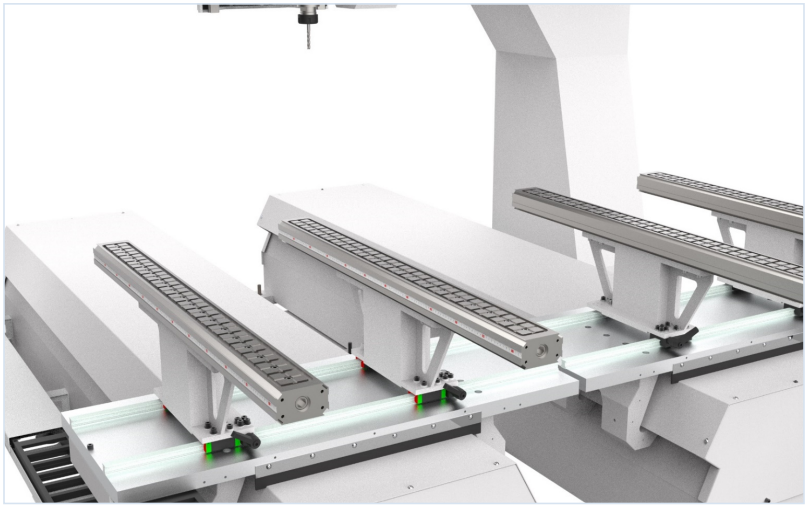
SPINDLE ITEM	CONFIGURATION
Installed power	2 x 7.5 kW
Cooling / tool change	Air cooling / manual
Automatic tool magazine	None

Spindle speed requires confirmation. The feature description lists 18,000 rpm, while the technical parameter table lists 24,000 rpm. Confirm the final spindle rating with the factory.

WORKHOLDING SYSTEM

Workholding and Vacuum

A bar-type vacuum worktable and optional quick-change fixtures accommodate different workpiece shapes.



Vacuum Worktable

Panel workpieces can locate directly on the vacuum worktable without a dedicated jig.

5.5 kW Vacuum Pump

The pump provides secure workpiece hold-down during machining. Vacuum pressure monitoring tracks the holding condition throughout operation.

Quick-Change Fixtures

Optional pneumatic clamps and vacuum blocks use quick-connect fittings for fast fixture changes.



Pneumatic clamp



Locating fixture



Vacuum suction cup



Curved-stock fixture

All fixtures shown are optional.

Dust Protection

Fully enclosed protective covers shield precision drive mechanisms from machining chips and dust. The design helps extend service life and simplifies cleaning.

ELECTRICAL AND CONTROL SYSTEM

Controls and Operation

The Shanghai WEIHONG EPC100SC controller supports simultaneous multi-axis motion and spindle pre-start.



WEIHONG EPC100SC multi-axis controller.



Wireless handwheel.

COMPONENT CONFIGURATION

COMPONENT	SPECIFICATION
CNC controller	Shanghai WEIHONG EPC100SC
Servo drives	WEIHONG
Servo motors	WEIHONG high-inertia servo motors
Variable-frequency drive	Internationally recognised brand; model not specified
Other electrical components	Internationally recognised brands; models not specified
Pneumatic components	AirTAC

Operator Interface

WEIHONG's simplified interface combines programming, simulation and machining at the machine. The original interface is designed around Chinese operator workflows. The manufacturer states a familiarisation period of 1-3 days and support for industrial IoT connectivity.

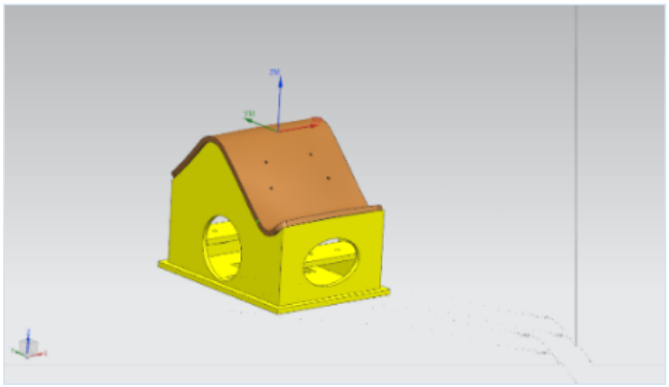
Wireless Operation

A wireless handwheel lets the operator observe machine movement from different positions. Program-guided operation assists trial runs and test cutting.

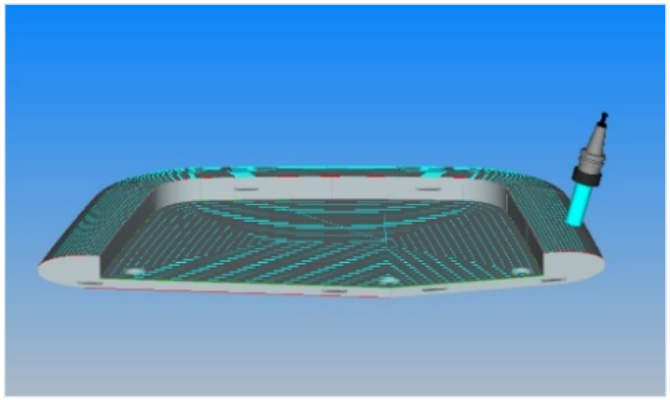
PROGRAMMING AND SIMULATION

CAD/CAM Compatibility

The manufacturer reports long-term compatibility testing with common CAM packages used for woodworking.



CAD model reference.



Toolpath reference.

SUPPORTED CAM PACKAGES

SOFTWARE	APPLICATION
NX / UG	CAD/CAM programming
PowerMill	CAM programming
SolidCAM	CAM programming
ALPHACAM	Woodworking CAD/CAM programming

QCM Five-Axis CAM Software

QCM has developed specialist five-axis software integrating CAD, CAM and CAE functions. The software simulates actual machine movement at 1:1 scale, provides visual collision checking and optimises machining paths.

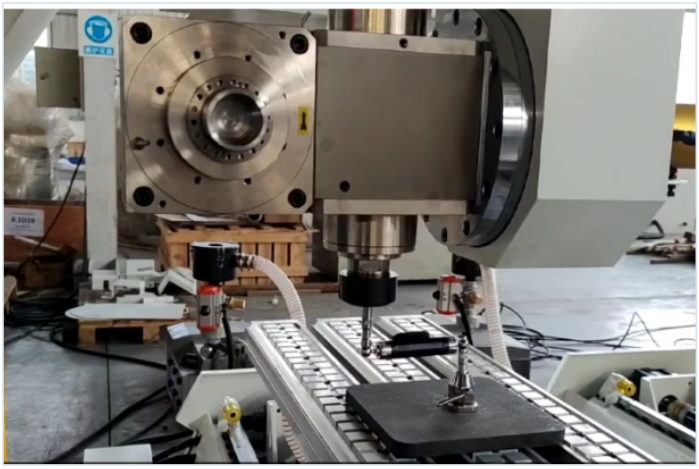
SolidCAM
The Solid Platform for Manufacturing

ALPHACAM BY HEXAGON

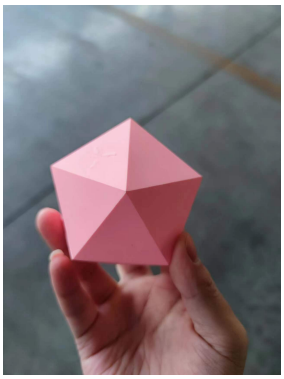
QUALITY CONTROL

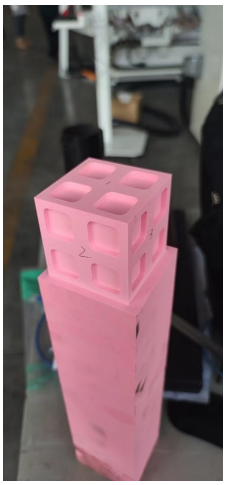
Assembly and Machining Tests

Factory checks cover assembly geometry, coordinated axis motion and the machining of representative test parts.



Factory machine test.





Reference test pieces.

Assembly Inspection

Standard gauges verify assembly parameters. The factory records the results in quality inspection sheets to control accuracy at critical component interfaces.

Axis Motion Inspection

Before machining, ballbar tests check circular motion in the XY, YZ and XZ planes. The stated following-error limit for each linear axis is 0.15 mm. The factory issues test reports.

Machining Inspection

Before shipment, the factory machines several workpieces to test fixed-axis and simultaneous-axis operation. The stated machining accuracy target is within ±0.15 mm, and the factory packs retained test samples with the machine.

The accuracy values above describe the factory inspection procedure stated in the product information. Application-specific acceptance criteria should be agreed for the actual workpiece, tooling and machining process.

TECHNICAL DATA

Technical Specifications

Model MDK8308E. Axis travel and rotational ranges are reproduced from the manufacturer's parameter table.

CATEGORY	ITEM / AXIS	MDK8308E
Maximum travel	X axis	1,550 mm
	Y axis	1,800 mm
	Z axis	650 mm
	C axis	±400°
	A axis	360° continuous
Maximum rapid speed	X axis	40 m/min
	Y axis	40 m/min
	Z axis	30 m/min
	C axis	22.5 rpm
	A axis	22.5 rpm
Spindle configuration	Tool change	Manual
	Spindle cooling	Air-cooled
	Spindle power	2 x 7.5 kW
	Spindle speed	24,000 rpm*
	Tool magazine	None
Electrical configuration	Supply voltage	AC 380 V, 50 Hz
	Maximum operating current	≤120 A
	Servo drives	Shanghai WEIHONG
Other configuration	Worktable	2 bars
	Control system	Shanghai WEIHONG
	Pneumatic components	AirTAC
	Operator console	Separate console

* **Spindle speed:** The parameter table lists 24,000 rpm, while the feature description lists 18,000 rpm. The factory must confirm the final configuration. Axis travel values do not define the complete usable five-axis workpiece envelope.

SERVICE AND SUPPORT

Application and Service Support

Support spans application assessment, installation planning, operator training and equipment maintenance.



Before Purchase

Sales engineers with 20 years of experience assess the application and help select a suitable machine configuration.

Project Delivery

Support covers process planning, site layout, installation requirements, software training and machine maintenance training.

After-Sales Service

QCM operates a product-quality recall policy and a network of offices and service centres across China. Its domestic policy states local attendance within 6 hours and a response within 24 hours in other regions. Overseas service arrangements require separate confirmation.

MANUFACTURER CONTACT

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HC WoodTech product information. Pricing, project layout and supply terms are provided separately.