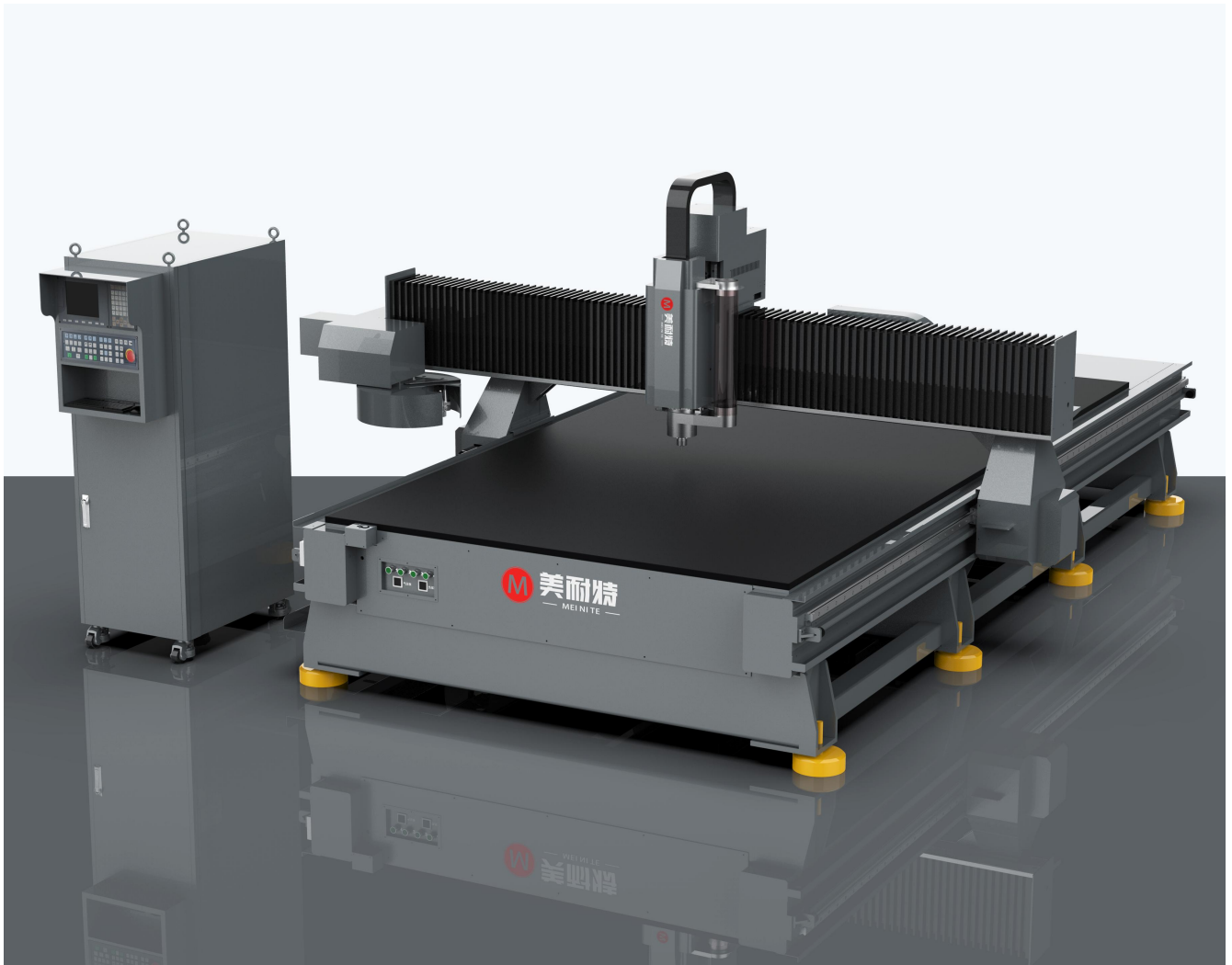


Technical Proposal



MC1631ATC- Smart Engraver

Application areas: mini luminous characters, organic glass products, aluminum high-gloss products, plastic products, cabinet doors, composite materials, copper, aluminum.etc.



MEINAITE

● About us

Hangzhou Joyhigh Intelligent Equipment Co., Ltd.

Founded in 2010 and headquartered in Hangzhou, China, we specialize in designing and manufacturing premium CNC equipment for global markets. Our comprehensive product range includes:







- High-Speed Vision-Guided Router Series
- High-Precision Machining Centers
- Multi-Functional Intelligent Cutting Systems
- Fiber Laser Cutting Machines
- CO₂ Laser Cutting Solutions

Manufacturing Excellence

Operating from an **5,000 m²** facility in Yuhang Liangzhu, our vertically integrated production features:

- Sheet Metal Fabrication Workshop
- Precision Assembly Center
- Dedicated R&D Departments for:
 - ◆ Software Development
 - ◆ Mechanical Engineering
 - ◆ Machine Tool Processing

Supported by **35+ skilled professionals**, we maintain an annual production capacity valued at **¥40 million** with streamlined manufacturing processes refined over a decade.

		
Factory	Showroom	Future factory
		
Precision testing instruments	Production room	Warehouse



● Technical Parameters

No.	Content	Specification		Notes
1	Cutting Area	X-axis	1600mm	/
		Y-axis	3100mm	/
		Z-axis	270mm	/
2	Machine Bed Indicators	Positioning accuracy	0.05mm/total excursion	/
		Maximum speed	40m/min	/
		Maximum processing speed	30m/min	/
		N.W.	About 2000kg	/
		Power voltage	AC380V/50Hz/3Ph	/
3	Worktable	Sectioned panel workable	vacuum adsorption surface	/
		Load weight	5000kg	/
4	CNC System	Syntech	FC-60CB	/
5	Tool Magazine	linear-type	12 stations	/
6	Drive System	X-axis	Syntech servo drive	/
		Y-axis	Syntech servo drive	/
		Z-axis	Syntech servo drive	/
7	Motorized Spindle (Frequency Conversion)	Spindle	Air-cooling	/
		Speed	24,000RPM	/
		Voltage	9kw	/
		Tool Taper	ISO30	/
8	Guide Rail	X-axis	Square guide rail (25)	LAPPING
		Y-axis	Square guide rail (35)	LAPPING
		Z-axis	Square guide rail (25)	LAPPING
9	Transmission	X-axis	Screw rack(M2)	STOBER
		Y-axis	Screw rack(M2)	STOBER
		Z-axis	Ball screw	TBI
10	Tool Holder	BT30	6 sets	/
12	Air Pump	250m ³ /H	/	7.5kw
13	Loading size	4000mm×2300mm×1850mm	/	/



● Configurations

No.	Item	QTY	Notes
1	Frame	1 SET	MEINAITE Net weight:3500kg
2	CNC Control System	1 SET	Syntec 60CB
3	Servo System	3 SETs	Syntec Bus Type with Absolute Encoders
4	Spindle	1 PC	9kW air-cooled spindle Max. Speed: 24000RPM
5	Bearing Housing	6 SETs	Japan NSK
6	Rack Drive	1 SET	X-axis, M2 screw rack STOBER
		1 SET	Y-axis, M2 screw rack STOBER
		1 SET	Z-axis, 4040 C5 ground ball screw TBI
7	Linear Guide	2 SETs	25, LAPPING
		4 SETs	35, LAPPING
		2 SETs	25, LAPPING
8	Tool Magazine	1 SET	12-position linear tool magazine
9	Tool Setter	1 SET	Automatic
10	System Display Screen	1 SET	12.1-inch or 15-inch (with mouse & keyboard), Intel
11	Gear Reducer	1 SET	Reduction Ratio 1:7; 3 arcmin; Modoli
12	Pneumatic Components	1 SET	AIRTAC
13	Cables	1 SET	Specialized Machine Tool Cables
14	Inverter	1 PC	11kw
15	Low-Voltage Electrical Components	1 SET	Chint
16	Cable Drag Chain System	1 SET	Chinese
17	Automatic Lubrication System	1 PC	Chinese
18	Tool Setter	1 PC	Chinese
19	Tri-color Warning Light	1 PC	Chinese
20	Cabinet Air Conditioner	1 PC	Chinese
21	Vacuum Pump Start/Stop: Button-controlled	1 PC	with power indicator, operation indicator, phase loss & overload protection), 11KW
22	Vacuum Ports	18 ports	(with plugs & filters); Vacuum area connected with 5mm wall-thickness PVC pipes
23	Vacuum Pipe Interface	/	2.5-inch
24	Vacuum Diversion Groove	/	With 6mm sealing strips, groove spacing: 25mm
25	USB Extension Cables	2 PCs	/
26	Tool Air Blow Units	2 PCs	/
27	Air Storage Tank	1PC	20L
28	Levelling Feet	6PCs	M20 solid stainless steel feet



No.	Item	QTY	Notes
29	Tool Change Air Blow	1 PC	/
30	Warranty	/	1 year for machine, software update for lifetime
31	Training	/	online & on site
32	After-sales service	/	online & on site

● Machine design

M Series Machining Center

The MC Series is constructed from welded steel tubes with 10mm wall thickness. The bed undergoes high-temperature tempering to minimize structural deformation and is precision-machined by large gantry mills to ensure dimensional integrity.

The optimized gantry and beam design – utilizing 250×150×10mm rectangular steel tubes – interfaces securely with the worktable, forming a rigid and reliable welded frame structure. Finite Element Analysis (FEA) validates optimal strength and stiffness, per Design Drawing M1631.

