

DMX-800AII Vertical Machining Center



Device Model: DMX-800AII Vertical Machining Center

Manufacturer: Raysure Era Intelligent Technology (Shandong) Co., Ltd.

Number: 1 unit

catalogue

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1、 Main Technical Specifications Table

name		unit	parameter	remarks
range of work	Workbench Travel (X-axis)	mm	800	
	Sliding saddle stroke (Y-axis)	mm	550	
	Spindle Box Stroke (Z-axis)	mm	550	
	Distance from the nose end of the spindle to the workbench surface	mm	120-670	
	Distance from the center of the spindle to the surface of the column guide rail	mm	590	
Work bench	bed dimension	mm	1000*550	
	Workbench Load Capacity	kg	500	
	T-shaped groove (Number of grooves – Groove width × Spacing)	mm	5-18*90	
syste m			FANUC 0i-MF Plus	
princi pal axis	power of motor	kw	11/15	
	Motor torque	N.m	118	
	main shaft speed	rpm	12,000 Direct Connections	
	Main shaft diameter	Mm	150	
	spindle taper	/	BBT40	
Three -axis motor	power of motor X	Kw	3.0	
	power of motor Y	Kw	3.0	
	power of motor Z	Kw	3.0	
veloc ity	Cutting feed speed range	mm/min	1-12000	
	X/Y/Z Axis Rapid Movement Speed	m/min	48/48/48	
mach ine tool accur acy	Positioning Accuracy (X/Y/Z)	Mm	0.015	
	Duplicate Positioning Accuracy (X/Y/Z)	Mm	0.012	
Tool Libra ry	Tool Chamber Capacity	To	24	
	Maximum tool diameter (adjacent slots)	mm	Φ80 (Φ160)	
	Maximum Tool Length	mm	300	
	Maximum Tool Mass	Kg	8	
	Blade Change Time (Near Blade)	Sec	2.4	
else	pressure	Kgf/cm ²	6	
	apparatus capacity	KVA	25	
	Machine tool dimensions approximately (length * width * height)	mm	2700×2900×2637	Correspo nding to the X*Y*Z axis
	第 4 页 (共 11 页) Machine Weight (approx.)	Kg	Page 11 (of 11) Approximately 5000	
	gas-flow rate	m ³ /min	0.15	

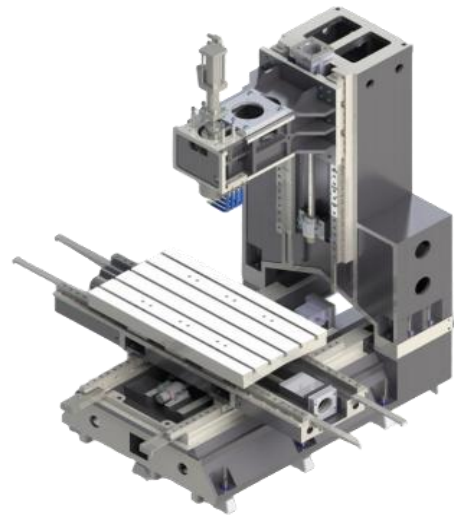
II. List of Major Component Manufacturers

NO.	name of a part	place of production	manufacturer
1	numerical control system	Japan	FANUC 0I MF Plus (3B)
2	spindle motor	Japan	FANUC
3	Three-axis motor	Japan	FANUC
4	Sensor/Encoder	Japan	FANUC
5	Main Shaft (Central Water Outlet)	Domestic	Dan Quan/Taiwan University
6	Three-axis bearing	Japan/Germany	NSK/FAG
7	Three-axis coupling	Japan	NBK
8	Three-axis ball screw	Taiwan, China/Japan	Yintai/THK
9	Line Rail (Roller)	Taiwan, China/Japan	Yintai/THK
10	Automatic Lubrication System	Domestic	River Valley/Baoteng
11	Pneumatic Component	Taiwan, China	AIRTAC
12	cooling water pump	joint venture	Lokai
13	Pressurization cylinder	Domestic	Haocheng/Xinakka
14	Main structural body castings	Taiwanese investment	Use high-strength cast iron HT300
15	Power Supply/Overload Protector/Contactor	France	Schneider
16	Disk-type BT40-24T	Domestic	Desu/Gotanda
18	Chain plate-type chip disposer	Domestic	FFG
19	Main spindle oil cooler	Domestic	Rico/Tongfei

Note: If due to the supplier's reasons, you may replace it with a supplier of the same grade.

III. Model Characteristics

1. Rotatable control box with convenient operation – a bidirectional rotating control unit.
2. The HT-300 gray cast iron casting base features a closed design with cross-ringed ribs, delivering optimal rigidity and enhanced static precision, making it ideal for heavy-duty machining applications.
3. The back-flattening design complies with CE European standards and GB national safety requirements, while its compact size occupies minimal space and accommodates diverse customer needs and accessories.
4. The full-size side cover makes it easy to load and unload long workpieces. The foldable cover is easy to clean, promoting a more environmentally friendly workflow.
5. The rigid tapping function ensures synchronous operation of the Z-axis and spindle, eliminating the need for expensive floating tapping tools, stabilizing the tapping process, and preventing thread deformation or thread breakage.
6. The spindle section features a heavy-duty box-shaped structure with internal rib reinforcement, ensuring high rigidity. The spindle employs a pneumatic mechanism for cutting operation, delivering uniform force distribution during cutting and thereby extending bearing life.
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7. The electrical cabinet adopts a separate isolation design, isolating the heat-generating components of the controller. The front section utilizes a heat exchanger for cooling to prevent external dust from entering the cabinet, while the rear section employs a fan to dissipate heat from the heating plate.
8. The three-axis system employs high-precision ball screws combined with precision nut preloading and tail-end pre-tensioning mechanisms, ensuring that the machine's backlash and thermal deformation remain consistently low over extended periods. The X, Y, and Z axes utilize linear guides characterized by high rigidity, low noise, and minimal friction, enabling



rapid displacement and optimal cyclic accuracy.

9. All finished products undergo laser-based positioning correction and circularity testing to ensure optimal positioning accuracy and servo performance. Prior to shipment, the machines undergo rigorous inspection procedures to guarantee long-term stability in all precision parameters.

IV. Standard Configuration

NO	Configuration Details		affirm
	(1) Cutting Cooling System (2) Automatic Lubrication System (3) Cutting Blowing Device (4) Explosion-proof work lamp (5) Three-color warning light (6) Horizontal adjustment bolts and washers (7) Rigid tooth cutting (8) Electric Box Heat Exchanger (9) Three-axis screw pre-tensioning device (10) Program Storage (11) Internal cleaning devices of the machine: air gun, water gun	(12) Hand Artery Pulse Generator: Hand Wheel (13) Toolbox (14) Transformer (15) Three-axis telescopic protective cover (16) Full cover sheet metal (17) Certificate of Compliance for Precision Testing (18) Electrical Instructions (19) Fanuc User Manual (20) Fanuc Program Operation Manual	

5、 Available Configurations

Main spindle surrounding chip removal device

Debris removal machine and debris storage cart

Blow on the outer side of the spindle

The seller is responsible for obtaining transportation insurance.

BBT-40 Main Spindle

VI. Standard Functions of the FANUC 0i-MF Controller:

order number	function	explain	remarks
hardware configuration			
1	Control Number of Axes	The three coordinate axes X, Y, Z, and one main axis	
2	operation panel	Full-function CNC keyboard	
3	PMC	Built-in PMC, 24,000 steps	
4	CNC User Memory Capacity	2 MB for storing user programs and data	
CNC function			
1	Minimum Unit Size	0.0001mm, 0.0001deg, 0.00001inch	
2	Compensation Function	Reverse clearance compensation, storage-based pitch	

		error compensation, tool length compensation and tool radius compensation, smooth reverse clearance compensation, intelligent reverse clearance compensation	
3	feed function	Fast feed rate, feed per minute, feed ratio, automatic acceleration/deceleration, AI-led control, pre-read interpolation-based bell-shaped acceleration/deceleration, post-cutting interpolation-based bell-shaped acceleration/deceleration, intelligent overlap, rigid tapping bell-shaped acceleration/deceleration, AI contour control I	
4	Main Spindle Functions	Main spindle serial output, spindle speed control, spindle speed adjustment, spindle orientation, FSSB high-speed rigid tapping, intelligent rigid tapping	
5	Coordinate System Settings	Scale, rotate coordinate system, programmable mirror	
6	Axis Function	High-precision program instructions, HRV3 control	
CNC programming			
1	Metrical/Imperial Programming		
2	Absolute/increment programming, and mixed absolute/increment programming within the same program segment		
3	Polar Coordinate Instruction Programming		
4	External Storage		
Nested subroutine call			
1	Drilling Fixed Processing Cycle		
2	User Macro B		
3	Automatic Corner Magnification/Reduction		
4	Bevel/Circular Corner Transition		
5	Plan Selection		
6	Workpiece Coordinate System (G52-G59)		
Interpolation Type			
1	fixed position	Unidirectional positioning, precise stopping	
2	Interpolation of any two coordinate arcs		
3	Feed Pause		
4	Spiral Interpolation	Arc interpolation + linear interpolation on up to two axes	
mode of operation			
1	AUTO Operation / DNC Operation /		

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	MDA Operation		
2	JOG feed		
3	Manual Reference Point Selection		
4	Incremental Feed		
5	Air Operation		
6	Single Program Segment Mode		
7	Handwheel feed		
edit function			
1	Program Section Retrieval		
2	Program Number Retrieval		
3	Backend Editing		
4	programmed protection		
Security Protection Features			
1	Storage Path Limit Monitoring		
2	Hardware Limit Monitoring		
3	emergency stop		
4	supervisory control	The safety functions — including static monitoring, speed monitoring, position monitoring, and contour monitoring — also continuously monitor the measurement circuit for overheating, voltage abnormalities, and memory issues.	
Display Function			
1	Current Location Display		
2	Actual Cutting Speed Display		
3	program display		
4	The clock shows		
5	Running Time and Component Count Display		
6	Alarm Information Display		
7	Self-diagnosis Function Display		
8	NC and PLC Signal Status Display		
9	Trapezoidal Chart Display		
10	Dynamic Graphics Display		
data transmission			
1	Data input and output are transmitted via USB, RJ45 interfaces, or PCMCIA cards.		

VII. Installation Requirements

a、 temperature

Operating temperature: $20 \pm 20^{\circ}\text{C}$ at room temperature

During storage and handling: -20°C to 50°C

Maximum change rate: within $10^{\circ}\text{C}/\text{hour}$

b、 humidity

Continuous: Below 75% (no condensation) Short-term: Below 95% (no condensation)

c. Conditions of the installation site

1. Resistant to external vibrations.
2. Resistant to corrosive gases.
3. Avoid direct sunlight exposure to the machine tool.
4. Avoid direct exposure to external wind, air, or temperature-regulating cold/hot air.
5. Avoid placing heat sources such as heaters near the machine tool.
6. Reduce dust exposure (avoid areas such as casting, welding, and sheet metal fabrication workshops).
7. Prevent leakage and water ingress.

d. Power supply: 3-phase, 380 V $\pm 10\%$; 50 Hz ± 1 Hz

IX. Random Attachment List

Item Number	DESCRIPTION OF ATTACHMENT	quantity
	Appendix Content	
1	FANUC User Manual (CD-ROM)	One copy per page
2.	FANUC Maintenance Manual (CD)	One copy per page
3.	FANUC Parameter Manual (CD-ROM)	One copy per page
4.	Operation and Maintenance Manual	Volume One
5.	Electrical Circuit Diagram	Volume One
6.	Precision Accuracy Table	Volume One
7.	Machine foundation footings	One set
8.	Vneo Machine Tool Manual	Volume One
9.	Tool Box	One set

