ACRA®

BRIDGE TYPE VERICAL MACHING CENTER

High performance High precision

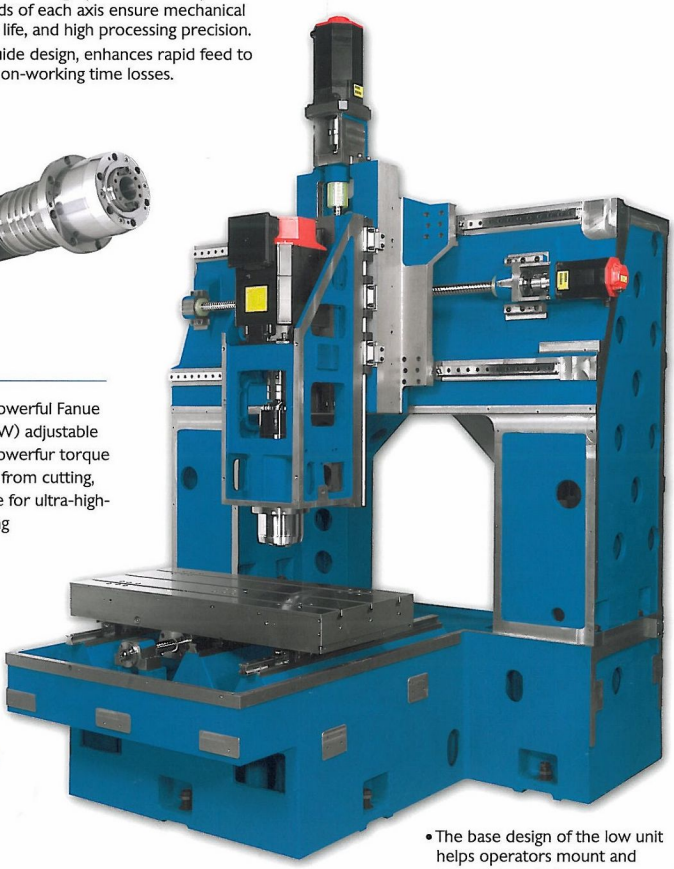
AVM-1000
AVM-1000 H

THE LEADER IN QUALITY AND RELIABILITY
~SINCE 1973~

POWERED BY EXPERIENCE

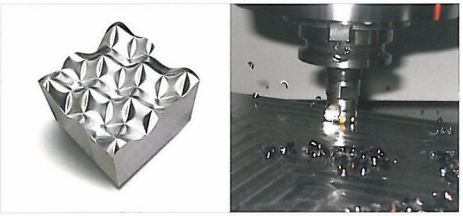
- Precision comes from rigidity, and rigidity comes from structural strength. Our precision design gate-type structures emphasize precision, mechanical rigidity, and outstanding operating stability.
- X-axis features a two-track high-low design. Three Y-axis tracks provide ideal support, and ensure optimal spindle torque and rigidity.
- Spindle cooling device has an independent water tank, provides great cooling performance and prevents contamination.
- High-capacity water tank provides a fast, abundant supply of cooling water. Multi-layer filter design facilities cleaning and prevents build-up of sediment.
- Dedicated guide rods and high-precision waterproof bearings at both ends of each axis ensure mechanical rigidity, long service life, and high processing precision.
- All axis are linear guide design, enhances rapid feed to 36m/min, reduces non-working time losses.

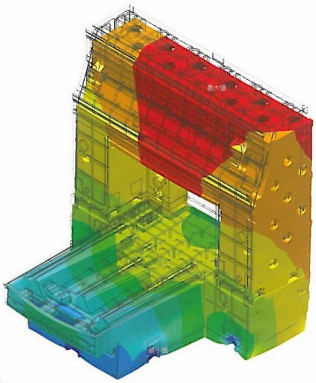
Spindle motor is a powerful Fanue α 12il (11 kW / 15 kW) adjustable two-speed motor. Powerfur torque in low speed is ideal from cutting, high speed is suitable for ultra-high-speed mirror finishing of molds and 3D aluminum parts.



- The base design of the low unit helps operators mount and unmount workpieces.

12,000 rpm direct-drive high-precision spindle is standard equipment, and uses high-precision ceramic large-ball bearings. Spindle is light and has a low thermal expansion coefficient; produces little vibration during high-speed operation. Ensures accuracy of cutting surface and a long spindle service life. Spindle can stably perform high-speed cutting for long periods of time.





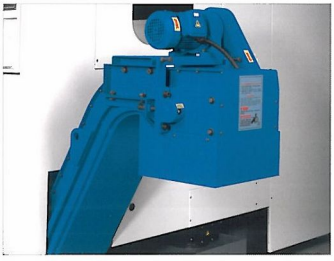
CAD3D, AMR and FEA software was used to analyze the stress, vibration, and temperature change of the mechanical structure, ensuring optimized design of mechanisms and components.

Compact electrical box design. Box is completely sealed, and entering air is filtered. A heat exchanger prevents build-up of heat inside the box, increasing service life of electrical elements, reducing malfunction rate, and lessening chance of error.

Rotating control panel is convenient to use and features an ergonomic design.

- Fance 0iMC CNC controller (Standard)
- 8.4" Color LCD/MDI
- Part program storage length 640M (256K byte)
- Manual guide 0i
- Graphic function
- AI contour control
- PCMCIA card attachment
- Machining condition selecting function
- Bell-type acceleration / deceleration after cutting feed interpolation.

Arm-type ATC magazine holds 24 tools. Cam type device ensures fast and precise blade change (T-T 1.8 seconds). Two-way close blade change design ensures high speed and stability. Saves time and increases working efficiency.

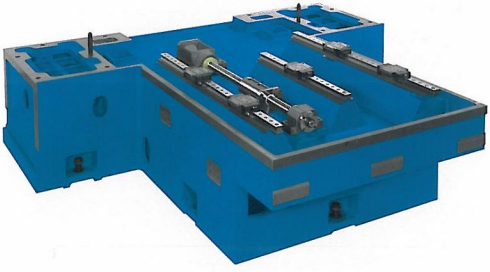


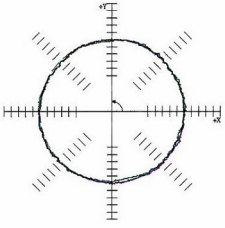
Chain-type chip conveyor quickly removes processing shavings from inside the machine, reducing cleaning time and increasing working efficiency.

Optional shaving removal device eliminates piles of shavings and makes clean-up easy.

The three-axis guide screw employs a 40mm large -diameter high-precision ball screw. Direct-drive, pre-tensioned design eliminates transmission noise , reduces heat generation, provides stable precision, and enhances mechanical rigidity.

Three-axis sliding surfaces employ a high-precision, heavy-load roller and linear track design. Offers speed, high rigidity, low-temperature rise, low-wear, and low-noise features.

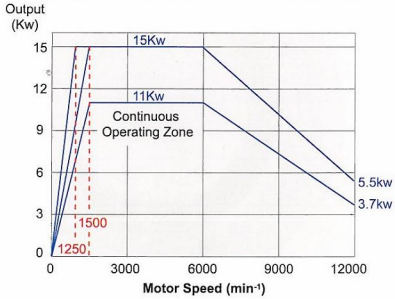


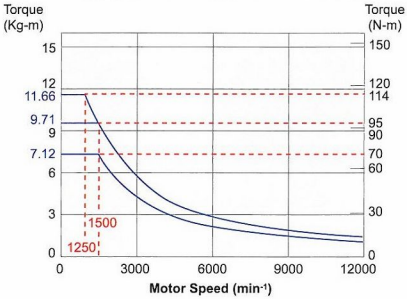


- Ensure all specifications comply with ISO 230-2
- Repeated positioning precision: 5 μm
- Positioning precision: 10 μm
- Ball-bar accuracy example

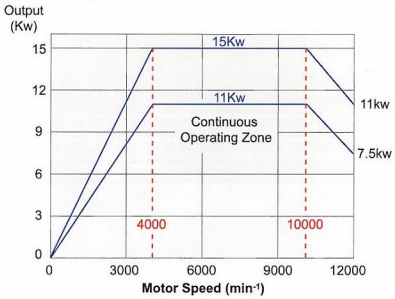
FANUC αil 12/12000 SPINDLE MOTOR

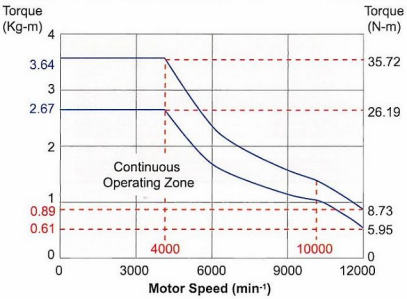
LOW SPEED WINDING





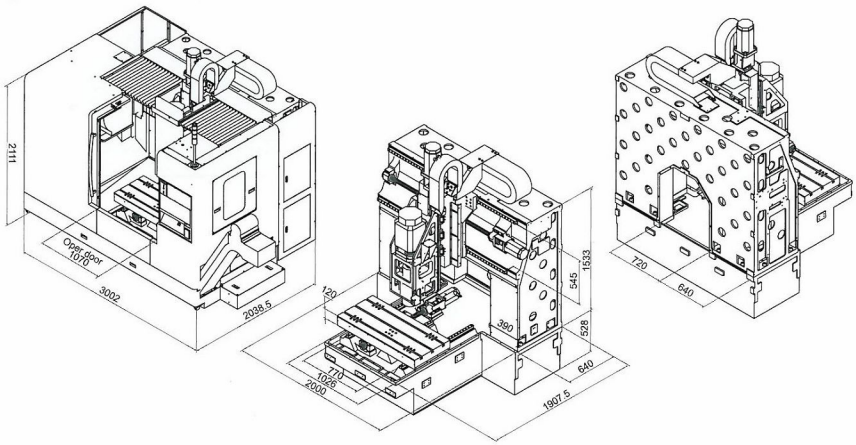
HIGHT SPEED WINDING





DIMENSIONAL DRAWING

Unit : mm



SPECIFICATION

ITEM	MODEL	AVM-1000	AVM-1000H
Table	Size	1020 x 510 mm	
	Working Area	1020 x 510 mm	1020 x 610 mm
	T -Slots	18 mm x 3	
	Max. Load Capacity	1000 kgs	
Travel	X Axis	1020 mm	
	Y Axis	510 mm	610 mm
	Z Axis	450 mm	500 mm
	Spindle Nose to Table Surface	150 mm ~ 600 mm	150 mm ~ 650 mm
	Spindle Center to Cover	400 mm	
Spindle	Taper	ISO No.40	
	Diameter	70 mm	
	Max. Speed	Lo/Hi speed : Lo:4300 / Hi:12000 rpm	
	Transmission	Direct-Driver	
	Speed Ratio	1:1	
	Motor	11 Kw/15 Kw (15 Hp / 20 Hp)	
		FANUC α 12/12000i	
	Max. Torque/1250RPM	11.6 Kg-m (83.91 b-ft)	
ATC	Capacity	24	
	Selection	Bi-Directional	
	Max. Tool Diameter x Length	80 mm x 300 mm	
	Max. Tool Weight	8 kgs	
	Holder Type	BT 40 or V40 CT or V40 ANSI	
	Tool Change Time(Tool to Tool)	1.8 sec	
X, Y, Z-axes	Servo Motor X,Y,Z	X,Y:1.6 Kw (2.1 Hp) ; Z: 4 Kw (5.4 Hp)	
		FANUC XY α 8/3000i ; Z α 22/3000i	
	Cutting Feed Rate	12 M/min	
	Rapid and Jog Feed Rate	36 M/min	
CNC controller		FANUC 0iMC / 18 iMB	
Motor	Chip Conveyor Motor	1/4 Hp	
	Coolant Pump Motor	700 W	
	Coolant Flush Pump Motor	1510 W	
Coolant Tank	Tank Capacity	275 L	
	Pump Capacity	50 L/min	
Dimension	Floor Space (LxWxH) / w/o Chip Conveyor	3000 x 2100 x 2830 mm	
	Net Weight	7200 kgs	
	Gross Weight	8200 kgs	

• We reserve the right to modify and improve above specification without notice.

STANDARD ACCESSORIES

1. Fanuc 0iMC CNC controller
2. 12000rpm spindle
3. 24 position arm type ATC system
4. Fully enclosed splash guard
5. Coolant system
6. Grease lubricating system
7. Chip conveyor with tank
8. Rigid tapping
9. Auto power off
10. T-slots table
11. Tri-color alarm lamp
12. Tool kit
13. Work lamp
14. Leveling bolt and pad

OPTIONAL ACCESSORIES

1. Fanuc 18iMB CNC controller
2. Tool probe
3. Part probe
4. Optical scale
5. Transformer
6. Auto voltage regulator
7. 4th axis CNC rotary table
8. Spindle speed 15000 rpm for AVM-1000H
9. Rapid speed 48/48/36 M/min for AVM-1000H

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