

High Performance 5-axis Vertical Machining Center

UV 650

The YCM UV 650 5-axis vertical machining center provides simultaneous 5-axis machining for complex parts. Designed to reduce part handling, setup and overall lead-time, while improving part quality, precision and surface finish of complex shapes and contours required for multiple industries such as job shop.

Robust Structure Design

- High Quality, Rugged MEEHANITE™ Castings, ensuring high stiffness, rigidity, and vibration dampening that results in superior thermal stability, and cutting performance.
- 6 blocks on Y-axis provides optimum stiffness, rigidity and stability.
- Extra wide base and column design enables solid support and excellent cutting performance when machining complex parts at a high feeds and speeds.

Accurate and Thermally

- Linear scales are mounted in X/Y/Z-axis as option, allowing for the most demanding machining accuracies.
- The X/Y/Z-axis are fitted with high precision roller guideways and fixed pre-tensioned, double-nut, direct drive ballscrews, allowing for fast and accurate machining.

B/C-axis Rotary Table

- ø650 mm 2-axis B/C type tilt-rotary enables large working area for jig and fixture set-up.
- High precision rotary encoders in the B and C axes as a standard feature, allowing for the most demanding machining accuracies.
- Durable 2-axis tilt/rotary table allows fast, accurate machining of complex 5-axis components.

YCM In-house IDD Spindle

- Ceramic bearings help to minimize heat and provide thermal stability improving overall machining accuracy.
- Powerful 17 kW max. hollow shaft spindle motor allows machining of the toughest materials, while also providing with fine surface finishes and the ability to add up to 70bar (1,000 psi) coolant through spindle (CTS) easily.

User-friendly Operation

- Large front and right side doors allowing easy reach and unrestricted access.
- Easy operator access to the tool magazine for the quick change of tools.

SPECIFICATIONS

	UV	650	
SPINDLE			
Spindle Speed/ Power (std.)	12,000 rpm , 10 / 12.5 / 14 / 17 kW 13.4 / 16.8 / 18.8 / 22.8 HP (cont. / S6-60% / S6-40% / S6-25%)		
Spindle Speed/ Power (opt)	13.4 / 16.8 / 1	12.5 / 14 / 17 kW 18.8 / 22.8 HP S6-40% / S6-25%)	
Spindle Taper	BBT40		
TRAVEL			
X-axis Travel	620 mm 24.4"		
Y-axis Travel	520 mm 20.5"		
Z-axis Travel	460 mm 18.1"		
Distance between Spindle Nose and Table Top	150~610 mm 5.9"~24"		
TABLE			
Table Size	ø650 mm ø25.6"		
T-Slots x Size x Pitch	5 x 18 mm x 100 mm 5 x 0.7" x 3.9"		
Max. Load on Table (B-axis tilting angle 0° ~45°)	300 kg 661 lb		
Max. Load on Table (B-axis tilting angle 45° ~90°)	200 kg 441 lb		
Max. Workpiece Dimensions	ø650 x (50+R460) mm ø25.6" x (2" +R18")		
B/C AXIS			
B-axis	160° (-50° ~ + 110°)		
C-axis	360°		
B/C-axis Feedrate	25 rev/min		
ACCURACY	ISO 10791-4	YCM*	
Axial Travel	Full L	Full Length	
Positioning (B / C) A	28 / 28 arc sec.	10 / 10 arc sec.	
Repeatability (B / C) R	16 /16 arc sec.	8 / 6 arc sec.	

*All values shown above are measured for the machine in good air-conditioned environment.

FEEDRATE		
X/Y/Z Rapid Feedrate	36 / 36 / 36 m/min 1,417 / 1,417 / 1,417 ipm	
Cutting Feedrate	1~20,000 mm/min 0.04~787 ipm	
ATC		
Tool Magazine Capacity (opt.)	32 (40 / 48 / 60) T	
Max. Tool Weight	6 kg 13.2 lb	
Max. Tool Length (Without adjacent tools)	ø76 x 250 (ø125 x 250) ø3" x 9.8" (ø4.9" x 9.8")	
Tool Selection Method	Random	
GENERAL		
Machine Weight	9,000 kg 19,841 lb	

Above specifications may vary depending on the machine and the surrounding environment. The manufacturer reserves the right to modify the design, specifications, mechanisms, etc., to improve the performance of the machine without notice. The test data provided in this catalog is performed under specific test procedures and environmental conditions.

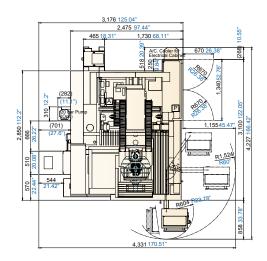
STANDARD

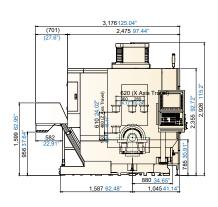
- Spindle Cooling System
- B/C-AXIS Rotary Encoder
- Spindle Air Blast
- Spindle Air Seal
- Heavy Duty Coolant Pump
- Chip Conveyor (Left Side)
- Chip Conveyor (Hinge Belt)
- Shower Coolant (std.)
- Chip Wash-down (std.)
- Air Gun
- Coolant Gun
- A/C Cooler for Electrical Cabinet
- Cutting Air Blast
- Automatic Power Off Device
- Automatic Lubrication
- Oil Skimmer
- CE
- Safety Door
- ATC Door
- Chip Enclosure
- Leveling Blocks and Bolts
- CNC Control : HEIDENHAIN (TNC640)

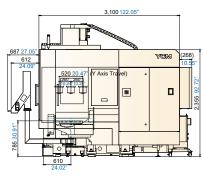
OPTION

- Coolant Through Spindle (CTS)
- Oil-mist Collector
- Automatic Tool Length Measurement System
- Automatic Workpiece Measurement System
- X/Y/Z Optical Scale
- Automatic Door
- Foundation Bolts
- Full Chip Enclosure with Top

DIMENSIONS Unit: mm inch







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