

VHMT series

VERTICAL & HORIZONTAL MILLING WITH TURNING MACHINE

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VERTICAL & HORIZONTAL MILLING
WITH TURNING MACHINE SERIES

The VHMT-13 is a multi-functional machining center featuring simultaneous vertical/horizontal/turning/milling/5-axis capabilities, enabling complex machining operations to be completed in a single setup.



VHMT SERIES

MACHINE FEATURES

High-Rigidity Moving Beam
Z-Axis, Milling Across the Worktable

- Vertical milling allows processing across a $\phi 1320$ machining area.
- Equipped with a dedicated Z-axis tool measurement stroke beneath the worktable, which does not interfere with the machining zone.
- The moving beam Z-axis structure provides minimal overhang and maximum rigidity.



APPLICATION

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VACUUM CHAMBER MACHINING FEATURES

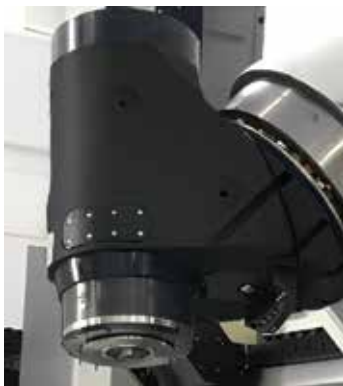
- High-Precision O-Ring Grooves: Requires a single-pass cut with no step marks,demanding exceptional machining accuracy.
- Surface Finish Requirements: Strict surface texture specifications highlight the importance of minimizing low-frequency vibrations in the machine structure.
- Geometric Accuracy: Ensuring dimensional consistency across different machining strokes to address geometric variations.
- Thin-Walled Features & Deformation Risk: Some structural features have minimal excess material, leading to low rigidity and a high risk of deformation during machining.
- Material Removal Efficiency: Solid block machining requires high material removal rates to optimize overall cycle time.
- Complex Multi-Process Machining: Involves vertical, horizontal, and five-axis milling-turning operations, making it challenging to maintain geometric accuracy across different machines and workpiece repositioning.

Machining Method	Number of Processes	Number of Machines	Machining Time (8HR/Day)
Traditional Machining	11	Gantry, Vertical Lathe, Horizontal, Gantry 5-Axis	20 Days
VHMT-13	3	All-in-One Multi-Tasking Machine (Vertical/Horizontal/Boring/Turning/5-Axis)	6 Days

- All specification, design and characteristics shown on this catalogue are subject to change without prior notice.



Turning



Vertical Milling



Horizontal Milling



Milling Tailstock Features



Five-Axis SimultaneousMachining



SPECIFICATIONS

ITEM		UNIT	VHMT-13
Spindel spc.			CYTEC M21-45°x10,000 rpm HSK-T100(milling spindle) 53 KW
Working area	X-axis travel	mm	2000
	Y-axis travel	mm	2000
	Z-axis travel	mm	1300
Workpiece maximum rotation diameter		mm	2000
Table size		mm	D1320(STD.) / D1320(OPT.) / D1500(OPT.)
C axis speed		rpm	300
Maximum table load		kg	3000
Chip disposal			Drag link/slat band conveyor
CTS		Bar	40
Tool magazine		PCS	60T
Tool size (diameter x length)		mm	250X500
Tool weight max.		kg	25
Rapid traverse X / Y / Z		m/min	30 / 30 / 24

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OPTIONAL ACCESSORIES



Track-Type Chip Conveyor(OPT.)

The track-type chip conveyor is installed inside the machine bed, positioned on both sides of the worktable. It transports chips to the third chip conveyor at the rear of the machine, which then unloads the chips into the collection bin.



OIL MIST COLLECTOR(OPT.)

The oil mist collector uses advanced separation technology to efficiently capture oil mist generated during machining, reducing air pollution and improving workshop environment quality. Recovered cutting fluids can be recycled, saving costs and extending equipment lifespan, making it the perfect blend of environmental and economic benefits.



HOLLOW BALL SCREWS WITH COOLANT SYSTEM (OPT.)

The hollow ball screw cooling system can significantly reduce the thermal temperature rise position accuracy error caused by screw friction during machine movement, thereby improving the positioning accuracy of the machine.