

Press Release

July 9, 2019

Release of High-speed, Space-saving Vertical Machining Center DMP 70 for Automation

DMG MORI CO., LTD. (hereinafter called "DMG MORI") begins taking orders for the high-speed, space-saving vertical machining center DMP 70 for automation on July 9. The DMP 70 will be put on show for the first time in Japan at the IGA INNOVATION DAYS 2019 to be held from July 9 (Tue) to 13 (Sat). Combined with the automatic workpiece transfer system WH 3 Cell, the model will deliver a cutting demonstration of automotive parts.

The DMP 70 is a high-speed, high-accuracy vertical machining center boasting superior dynamic performance with a rapid traverse rate of 60 m/min on all axes and an acceleration up to 1.8 G on the Z-axis. It also features the full closed loop control and outstanding thermal displacement control achieved by the cooling mechanism for drive parts. The model is capable of a broad range of cutting, from mass-production machining of automotive components to machining of difficult-to-cut materials such as titanium parts for the medical and aerospace sectors.

The followings are detailed features of the DMP 70 in terms of (1) Dynamic performance (2) High-precision (3) Simultaneous 5-axis control machining and (4) Automation system.

(1) Dynamic performance

- Equipped with BT 30 inline spindle for high-speed machining
 - + Tool shank type: HSK A40, BT 30 (standard), BBT30/SK30/SK30 BIG+ (option)
 - + Max. spindle speed 10,000 min⁻¹ (standard), 24,000 min⁻¹ (option)
- Rapid traverse rate of 60 m/min on all axes, up to 1.8 G acceleration on the Z-axis
- Tool changing time: 1.5 seconds (cut-to-cut)
- Optimized machine bed construction for higher machine rigidity and powerful milling

(2) High-precision

- Outstanding thermal displacement control achieved by the cooling mechanism for drive parts such as the spindle; X-, Y- and Z-axis linear guides; and the swivel rotary table for 5-axis control machining
- Magnetic linear scale from Magnescale Co., Ltd. on all axes as standard
 - + Positioning accuracy of 5 µm thanks to full closed loop control

(3) Simultaneous 5-axis control machining

- Swivel rotary table (option) for simultaneous 5-axis control machining
 - + Maximum table loading capacity: 100 kg, table clamping area: 290 mm in diameter
 - A-axis swivel range: -100° to +120°

(4) Automation system

- Automatic workpiece transfer system WH3 Cell with a robot
 - + Space-saving footprint of approx. 10.7 m²
 - + Possible to connect with WH3 Cell on the left, right or front of the machine
 - + Maximum workpiece size of 300 x 200 mm, maximum workpiece loading capacity of 5.5 kg (single hand)
- Machine structure for better chip disposal performance, such as a steep cover inside the machine
 - + Prevents chip problems that can cause machine stops during automated operation

DMG MORI will continue to provide products that are reliable, highly-functional and worthy of investment to meet each and every customer's needs.

Product name	High-speed vertical machining center
Model name	DMP 70
Applicable industries/markets	Automotive, medical, aerospace, etc.
Planned production volume	80 units/year

■ Main specifications

Item		DMP 70
Travel	(mm)	X: 700 /Y: 420 /Z: 380
Table clamping area	(mm)	840 x 420 (diameter 290*1)
Table max. loading capacity	(kg)	400 (100*1)
Max. spindle speed	(min ⁻¹)	10,000 (24,000)
Rapid traverse rate (X/Y/Z)	(m/min)	60
Number of tool stations	(tools)	15 (25)
Floor space (width x depth)	(mm)	1,730 x 2,450
Machine height	(mm)	2,670

() are optional

*1: swivel rotary table (5-axis control machining specification)



External view of DMP 70



DMP 70 + WH 3 Cell