

Press Release

September 27, 2016

Debut of Vertical Machining Center CMX V Series – Solution-based Machine for Every Shop Floor

DMG MORI CO., LTD. (hereinafter called DMG MORI) began taking orders for the world's best basic machine, the CMX V series (vertical machining center), on September 12, 2016 to respond to ever-diversifying customer needs. The series offers all of the 290 standard options for every DMG MORI vertical machining center, making it possible for customers to build up their own customized machines according to their needs. The CMX V series contributes to boosting customers' productivity with its high versatility to handle varieties of workpieces in various fields. We will showcase one of the three series models, the CMX 1100 V, at JIMTOF2016.

Here are features of the CMX series in terms of 1) Machine concept, 2) Rigidity, 3) High-performance spindle, 4) Workability / Maintainability / Reliability.

1) Machine concept

Three "C"s in the CMX = Compact, Competitive, Customized

The CMX series models, as solution-based machines, offer 290 standard options for workpiece handling, monitoring, measurement and machining. The models can also be equipped with nine DMG MORI Technology Cycles as an option, and it enables any operators to start machine operation easily and quickly and achieve high-quality machining, which used to be done with specialized machines, programs and tools. What's more, the CMX series comes with the largest travel in its class and a large-size table while achieving space-saving.

As for system establishment, we combine the modularized functions of the washer, measuring system, deburring unit and temporary workpiece station with robots to build the stable and high-quality system for customers in a short delivery time. The high-performance peripheral equipment including chip conveyors and through-spindle coolant units are also available as Open Innovation with our partners, and the combination of the advanced equipment optimal for customers' workpieces allows for high-precision and high-durability machining.

2) High-rigidity

The CMX series ensures high-rigidity structure that is capable of heavy-duty cutting. The bed thickness and lib form and arrangement are meticulously adjusted by means of FEM analysis and the simulation of various operational conditions and environmental changes.

3) High-performance spindle

The CMX series comes standard with a high-performance spindle with a maximum speed of 12,000 min⁻¹ to handle a wide range of machining. The spindle employs an enhanced labyrinth structure, taking into consideration the intensive use of high-pressure coolant. The structure prevents coolant from entering the spindle to improve the spindle durability. Furthermore, the CMX achieves high-clamping force by use of the lever mechanism.

4) Workability / Maintainability / Reliability

The CMX series, with a space-saving body, is designed aiming for high workability and maintainability. The models have a wide door opening of 1,151 mm (CMX 1100 V), allowing for smooth setups such as fixture adjustments. The large door window ensures outstanding visibility. The front cover is dented toward the side of the table with the table height set at 850 mm from the floor so that operators can have easy and comfortable access to the table. The machine ceiling with an automatic ceiling shutter* has an opening so that setups can be done with a crane as well.

What's more, the in-machine protector is tilted 30 degrees to prevent chips from accumulating. Equipped with the ATC shutter as standard, the model does not allow chips or coolant inside the magazine to prevent the operation failure. Units requiring daily inspection are placed high on the right side of the machine for better visibility. Thanks to ease of maintenance of every unit, the CMX V series is capable of performing at its best all the time and greatly contributes to improving customers' productivity.

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

* SIEMENS and HEIDENHAIN specifications are available as an option.

Type	Vertical Machining Center
Model Name	CMX V Series
Market	Automotive, industrial machinery, electric/communication equipment industries
Monthly Production	140 units / month

■ Main specifications

Item		CMX 600 V	CMX 800 V	CMX 1100 V
X-axis travel	(mm)	600	800	1,100
Y-axis travel	(mm)	560 (Largest in its class)		
Z-axis travel	(mm)	510		
Table size	(mm)	900×560	1,100×560	1,400×560
Table loading capacity	(kg)	600	800	1,000
Max. spindle speed	(min ⁻¹)	12,000		
Rapid traverse rate	(m/min)	X:36 Y:36 Z:30 ^{*1} X:30 Y:30 Z:30 ^{*2}		
Tool storage capacity	(tool)	30		
Spindle drive motor	(kW)	15 / 11(25 %ED / Cont.) ^{*1} 13 / 9(40 %ED / 100 %ED) ^{*2}		
Footprint (width x depth)	(mm)	2,163 × 2,742 ^{*1}	2,559 × 2,742 ^{*1}	3,190 × 2,742 ^{*1}
		1,990 × 2,747 ^{*2}	2,426 × 2,747 ^{*2}	3,058 × 2,770 ^{*2}

*1 : FANUC Specification *2 : SIEMENS and HEIDENHAIN specifications



Picture 1: CMX 1100 V (FANUC specification.)



Picture 2: Inside the machine