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5-Axis Vertical Machining Center

New Type “*MAM72-35V*” Order Intake Start

Matsuura Machinery Corporation has totally renewed the 5-axis vertical machining center model, *MAM72-35V*, and starts to accept orders from today.

5-axis machining center *MAM72* series (over 1000 machines installed since its debut in 1991) can achieve process integration and high-accuracy complex 5-axis machining with one-chucking to meet the need for “various-variety low-volume production” and “Long-hour unmanned operation”, and has experience globally in various industrial fields, such as aircraft, automobile, tool fabrication, or medical equipment. The new type *MAM72-35V* is the main model of the *MAM72* series consisting of *MAM72-25V*, *MAM72-3VS*, *MAM72-3VM*, and *MAM72-35V*. Basic capabilities are completely reviewed to ensure higher productivity within a smaller footprint than conventional models while cutting down the price to ensure high cost-performance in response to extensive customer needs.

The B-/C-axis table of the *MAM72-35V* is driven by direct drive motors to achieve high speed (maximum feed rate of 50 min^{-1} (B-axis: tilting axis) / 100 min^{-1} (C-axis: rotating axis) [200% increase from the conventional speed]), high accuracy, and extended long life. The maximum available workpiece size is enlarged to D350 x H300 mm [H+60 mm from conventional model] to support large-size workpieces. Useful ATC/APC options are also available for expansion on request to enable various-variety low-volume production with Long-hour unmanned operation, which are the features of the *MAM72* series. [Tool storage capacity: max. 520 tools (matrix type magazine), pallet storage capacity: max. 40 pallets (tower pallet system)]

In addition, the distance from the setup position to the pallet center is reduced to 450 mm and that to the spindle center is 280 mm to improve accessibility and ensure good operability for setup. Matsuura’s unique collision avoidance system “IPS: Intelligent Protection System” is incorporated to facilitate even complex 5-axis machining operation. The simple operating system “MIMS: Matsuura Intelligent Meister System” employs a newly developed operation system (with a 15-inch touch panel screen), which improves operability and facilitates setup, operation and maintenance while saving labor and energy.

Matsuura will exhibit the new type *MAM72-35V* at JIMTOF2012 (The 26th Japanese International Machine Tool Fair) that is to be held from November 1 at Tokyo Big Sight.

New Type *MAM72-35V* Features

1. Rapid traverse rate (X / Y / Z axis) : 60 / 60 / 60 m/min <Conventional: 60 / 60 / 50 m/min>
2. B-axis stroke extension : -125 ~ +65 deg <Conventional: -106 ~ +65 deg.>
3. Max. workpiece size expansion : D350 x H300 mm <Conventional: D350 x H240 mm>
4. High-speed high-precision high-rigidity built-in 4th/5th axes of dedicated design
 - 4.1. Direct drive motor
 - 4.2. Rapid traverse rate : 50 min⁻¹ (B-axis: tilting axis), 100 min⁻¹ (C-axis: rotating axis) <Conventional: 25/50 min⁻¹>
 - 4.3. Pallet type : CAPT C6
5. Expandability (abundant options)
 - 5.1. **MAXIA** Spindle : 12,000 min⁻¹ (BT40) [Standard]
: 15,000/ 20,000 min⁻¹ (BT40) [Option]
 - 5.2. Tool magazine : 60 tools (chain type magazine) [Standard]
: 120 ~ 320 tools (320-tool base), 360 ~ 520 tools (520-tool base) [Option]
 - 5.2.1. Pallet system : PC2 [Standard]
: PC32 tower pallet system (D350xH300: 32 pallets) [Option]
: PC40 tower pallet system (D350xH300: 25 pallets, D300xH300: 15 pallets) [Option]
: Flexible tower pallet system [Custom option]
6. Matsuura's collision avoidance system "IPS: Intelligent Protection System": Standard
 - 6.1. Axis feed stopped before a collision occurs between machine, tool, workpiece and fixture
 - 6.2. Machine collision avoidance during manual operation or setup work that might occur due to human error
 - 6.3. Machine collision avoidance during automatic operation that might occur due to programming error
7. Matsuura's simple operating system "MIMS: Matsuura Intelligent Meister System": Standard
 - 7.1. New operation system (15-inch touch panel screen, operation buttons 35% reduced from the conventional model)
 - 7.2. Four Meisters
 - ① Reliability Meister [Security] To shorten machine down time
 - ② Operability Meister [Ease] Ease of operation
 - ③ Thermal Meister [Accuracy] Thermal displacement compensation
 - ④ Eco Meister [Environment] To reduce standby energy

Main Specifications

		<i>New</i>			
Item		<i>MAM72-35V</i>	<i>MAM72-25V</i>	<i>MAM72-3VS</i>	<i>MAM72-35V</i>
Travel (X / Y / Z axis)	mm	550/440/580	550/410/450	680/400/625	680/385/625
Travel (4th / 5th axis)	deg	-125 ~ +65/360	-110 ~ +110/360	-110 ~ +65/360	-106 ~ +65/360
Rapid traverse rate (X / Y / Z axis)	m/min	60/60/60	50/50/50	60/60/50	60/60/50
Rapid traverse rate (4th / 5th axis)	min ⁻¹	50/100	30/50	25/50	25/50
Spindle speed	min ⁻¹	12,000	15,000	12,000	12,000
Maximum workpiece size	mm	D350 x H300	D250 x H250	D300 x H250	D350 x H240
Loading capacity	kg	60	40	60	60
Tool storage capacity	tools	60 (Max. 520)	30 (Max. 240)	60 (Max. 240)	60 (Max. 240)
Pallet capacity	pallets	2/32/40	Non-PC/2/10/40	40	32