



August 31, 2010

## 5-Axis Horizontal Machining Center

# “*MAM72-100H*” Order Intake Start

Matsuura Machinery Corporation has developed 5-axis horizontal machining center model, *MAM72-100H*, and starts to accept orders from today.

5-axis vertical machining center, *MAM72* series (more than 850 machines installed since 1991), has been delivered to various industrial fields (aircraft, automobile, medical equipment, etc.) all over the world. The *MAM72* series can deal with flexible multiple setups, varied types of production, and extended unmanned operation while achieving process integration and high-precision complex machining operation through one-chucking 5-axis machining. Matsuura has received many requests for the *MAM72* in an even larger working envelope.

The latest model of the *MAM72* series, *MAM72-100H*, for which we starts to accept orders, has the capabilities to handle maximum work size D1000mm(39.37 in.) x H770mm(30.31 in.), maximum weight 780 kg(1719 lb.) so that complex, large-sized 3D parts can be machined to meet the needs of customers particularly in the aircraft industry and energy industry.

The *MAM72-100H* is designed into a highly rigid, most appropriate structure through FEM analysis by utilizing quality engineering. Equipped with a high-torque spindle (451 Nm: standard, 700 Nm: optional), the machine is suitable for machining hard-to-cut materials, such as titan alloy or inconel alloy, of which demands are expanding in the aircraft industry recent years. The A-/B-axis table with a direct drive motor turns at a maximum feedrate of 50 min<sup>-1</sup> (A-axis: tilting axis) or 75 min<sup>-1</sup> (B-axis: rotating axis), ensuring high speed and high precision at the same time.

The automatic tool changer is equipped with a drum-type tool magazine driven by a servomotor for short tool indexing time, low noise and low vibration. Abundant ATC/APC options for expansion are available on request to enable varied-type varied-lot production or extended unmanned operation according to the customer's requirements.

A unique collision avoidance system "*Intelligent Protection System*" is employed in the *MAM72-100H* to facilitate complex 5-axis machining operation. In addition to the "*Intelligent Protection System*", the next generation operating system "*MIMS: Matsuura Intelligent Meister System*" is also offered as a standard feature to help the operator carry out setup work, operation and maintenance, ensuring energy and labor savings at the same time.

Matsuura is planning to exhibit the *MAM72-100H* at JIMTOF2010 that will be held from October 28 in the Tokyo Big Sight.

## MAM72-100H Features

1. Max. work size : D1000 mm(39.37 in.) x H770 mm(30.31 in.) (with restrictions)
2. Loading capacity : 780 kg(1719 lb.)
3. Dedicated high-speed, high-precision, high-rigidity built-in A-axis (tilting axis)/B-axis (rotating axis)
  - 3.1. Direct drive motor
  - 3.2. Rapid traverse rate (A-/B-axis) : 50 min<sup>-1</sup> (A-axis/tilting axis), 75 min<sup>-1</sup> (B-axis/rotating axis)
4. Perfect chip disposal system
  - 4.1. Steep sloping Z-axis slide cover (W-type slide cover)
  - 4.2. X type APC door
  - 4.3. Spiral chip conveyor installed as standard
5. Expandability (abundant options)
  - 5.1. Spindle : 12,000 min<sup>-1</sup> (BT50) 451 Nm / 550 min<sup>-1</sup> (standard)  
: 10,000 min<sup>-1</sup> (BT50) 700Nm / 300 min<sup>-1</sup> (option)
  - 5.2. Tool magazine : 60 tools (standard)  
: 120 - 240 tools / 240-tool base, 270 - 360 tools / 360-tool base (option)
  - 5.3. Pallet magazine : Floor pallet system (PC6), linear pallet system (option)
6. Collision prevention system *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 may occur due to human error
  - 6.3. Machine collision avoidance during automatic operation that may occur due to programming error
7. New operating system *MIMS* (Matsuura Intelligent Meister System): standard
  - 7.1. Operator support with Meister's (skilled expert's) know-how, skills, and ideas collectively
  - 7.2. Four keywords
    - (1) Reliability Meister [Secure] To shorten machine down time
    - (2) Operability Meister [Simple] To shorten setup time
    - (3) Thermal Meister [Accuracy] Stable accuracy due to thermal displacement compensation
    - (4) Eco Meister [Environment] To reduce standby energy

## Main Specifications \* with pallet changer

Item		MAM72-100H	MAM72-63V
Travel (X / Y / Z axis)	mm(in.)	1,050/920/960 (41.33/36.22/37.79)	760/845/660 (29.92/33.26/25.98)
Travel (4th / 5th axis)	deg	-120 ~ +30/360	-120 ~ +30/360
Rapid traverse rate (X / Y / Z axis)	m/min(ipm)	60/60/50 (2.362/2.362/1.968)	60 (2.362)
Rapid traverse rate (4th / 5th axis)	min <sup>-1</sup>	50/75	25/50
Spindle speed range	min <sup>-1</sup>	12,000 (BT50)	12,000 (BT40)
Spindle motor power	kW	26/30	15/22
Max. work size	mm(in.)	D1000(39.37) x H770(30.31)	D630(24.80) x H450(17.71)
Loading capacity	kg(lb.)	780 (1719)	350 (771)