Press Release

April 6, 2010

5-Axis Vertical Machining Center

"MX-520" Product Release

Matsuura Machinery Corporation has developed a new 5-axis vertical machining center, *MX-520*, and will begin the sales with immediate effect.
The *MX-520* is a 5-axis machine developed under Matsuura's "Safe" and "User Friendly" concepts, as well as in terms of operation, so that novices in 5-axis machining can use it safely and easily.

In 1991, Matsuura developed the *MAM72* series designed for high added value 5-axis production, resulting in flexible multiple setups, varied types of production and extended unmanned capabilities. Since then we have sold numerous machines of these series all over the world. The *MAM72* has proven itself internationally with an excellent track record in various industrial fields such as automobile, aircraft and medical equipment, with more than 800 machines delivered globally.
To meet current demand for cost reduction, we have achieved a good cost performance ratio in the *MX-520* by reducing the total number of components used while maintaining our "5-axis know-how" that has been obtained through the development and success of the *MAM72* series. In addition, various support functions are now provided as standard features. New operators can therefore perform 5-axis machining operations in a "Safe" and "User Friendly" environment. The *MX-520* will help to eliminate customer concerns about 5-axis machines, being considered as expensive and difficult to operate, which will also help the customers make the step to a full 5-axis machining capability.

The *MX-520* in its compact form assures high rigidity as well as a generous machining envelope with good operability. It is as compact as our vertical machining center, *V.Plus-800*, which allows smooth transition from 3-axis machining into 5-axis machining. The *MX-520* can hold workpieces with sizes up to D520 mm(20.47 in.) × H350 mm(13.77 in.), and its good accessibility, with the distance from the machine door to the table center of 385 mm(15.15 in.) ensures easy work setup.
A unique collision avoidance system "*IPS*: Intelligent Protection System" is employed in the *MX-520* to facilitate the most complex 5-axis machining operations. In addition to *IPS*, the next-generation operating system of "*MIMS*: Matsuura Intelligent Meister System" is offered as a standard feature. *MIMS* was developed to help the operator carry out setup work, machine operation and maintenance, ensuring energy and labor savings at the same time.

Matsuura is going to exhibit the *MX-520* at IMTS2010 to be held in Chicago in September and also at JIMTOF2010 to be held in Tokyo at the end of October.

MX-520 Features

1. Operability
   - 1.1. Distance from floor to table top surface : 850 mm(33.46 in.)
   - 1.2. Distance from machine door to table center : 385 mm(15.15 in.)
   - 1.3. Front door opening width : 805 mm(31.69 in.)
     (Sufficient for the maximum workpiece D520 mm(20.47 in.))
   - 1.4. Easy open-close style ceiling cover for the use of a crane during part setup
   - 1.5. Table size : D300 mm(11.81 in.) (D500 mm(19.68 in.): option)
   - 1.6. 6 ports for fixture hydraulic system (option)
2. Collision avoidance system *IPS* (Intelligent Protection System): standard
   - 2.1. Axis feed stopped before a collision occurs between machine, tool, workpiece and fixture
   - 2.2. Machine collision avoidance during manual operation or setup work that may occur due to human error
   - 2.3. Machine collision avoidance during automatic operation that may occur due to programming error
3. New operating system *MIMS* (Matsuura Intelligent Meister System): standard
   - 3.1. Operation support functions like those offered by a Meister (skilled operator)
   - 3.2. Four keywords
     - (1) Reliability Meister [Safe] To shorten machine down time
     - (2) Operability Meister [User Friendly] Ease of operation
     - (3) Thermal Meister [Accuracy] Thermal displacement compensation *
     - (4) Eco Meister [Environment] To reduce standby energy

     * The *MX-520* is equipped with spindle thermal displacement compensation.

Main Specifications

Item	*MX-520*	*MAM72-42V*	*MAM72-25V*
Travel (X / Y / Z axis)	**630/560/510 mm (24.80/22.04/20.07 in.)**	520/730/510 mm (20.47/28.74/20.07 in.)	550/410/450 mm (21.65/16.14/17.71 in.)
Travel (A / C axis)	**-125 - +10° / 360°**	-110 - +110° / 360°	-110 - +110° / 360° (B/C axis)
Rapid traverse rate (X / Y / Z axis)	**30 m/min (1.181 ipm)**	50 m/min (1.968 ipm)	50 m/min (1.968 ipm)
Rapid traverse rate (A axis)	**10 min^{-1}**	30 min^{-1}	30 min^{-1} (B axis)
Rapid traverse rate (C axis)	**25 min^{-1}**	50 min^{-1}	50 min^{-1}
Feedrate (X / Y / Z axis)	**0.001 - 30 m/min (0 – 1.181 ipm)**	0.001 - 50 m/min (0 – 1.968 ipm)	0.001 - 50 m/min (0 – 1.968 ipm)
Spindle speed	**12,000 min^{-1}**	12,000 min^{-1}	15,000 min^{-1}
Spindle motor power	**7.5/11 kW**	7.5/11 kW	5.5/7.5 kW
Maximum workpiece size	**D520 × H350 mm (D20.47 × H13.77 in.)**	D520 × H350 mm (D20.47 × H13.77 in.)	D300 × H250 mm (D11.81 × H9.84 in.)
Loading capacity	**150 kg(330 lb.)**	235 kg(517 lb.)	40 kg(88 lb.)