New Hyundai Vertical Machining Centers

Hyundai WIA announces an all new Series of CNC vertical machining centers developed to offer premium performance at an affordable price, the F400VM (X-axis, 31”, Yaxis,18” and Z-axis, 20”) and F500VM (X-axis, 43”, Y-axis, 22” and Z-axis,20”). Unlike most affordable VMC’s that force shops to sacrifice performance for price, Hyundai WIA’s new Value Master range is bundled with high-performance options as standard. Standard features include; a 30-tool swing arm tool changer, Thru Spindle Coolant, Big Plus Tooling,-and Rigid Tapping, as well as the largest Y-axis (1100 mm x 550 mm) — far larger than comparable machines. More significant is that the Value Master machining centers are built upon the same foundation, leverging Hyundai WIA’s knowledge as a leading designer and builder of high-production machines tools.

Bed Structure
The bed, column and saddle of Hyundai WIA’s Value Master Series are designed using finite element analysis (FEA) to ensure powerful cutting and agility and are composed of meehanite cast iron to minimize deformation when performing heavy-duty cuts. The rigid bed is designed to absorb vibration for stable machining. In order to eliminate thermal growth during machining, all axes are driven by high precision double-nut ballscrews. The double pretension design provides outstanding positioning and repeatability with virtually no thermal growth. All ballscrews are connected directly to the servo drive motors without gears or belts, eliminating backlash. Rapid high speed axis movement is achieved by the use of linear motion guide ways in all three axes. This reduces non-cutting time and decreases machining time for greater productivity. Rapid traverse: 36 m/min in X- and Y-axis and 30 m/min in Z-axis.

Main Spindle
The Value Master can be configured with an 8,000 rpm spindle for taking deep cuts, or with a 12,000 rpm spindle for high speed precision applications. Ultra precision angular bearings provide high speed accel/decel for smooth machining at high rpm’s. The main spindle delivers minimal noise and vibration even at the highest cutting speeds, guaranteeing extremely stable machining and minimizing thermal transmission to the main spindle.

The standard Big Plus spindle system (BBT #40) provides dual contact between the spindle face and the flange face of the tool holder. This greatly increase tool rigidity, reduces run out and adds significant productivity to any machining applications. Spindle motor is 15 hp with spindle torque rated at 95/75 Nm. The Big Plus spindle offers users the fastest possible material removal rates, highest accuracy and excellent rigidity. It guarantees stability when run at high spindle speeds for high rpm precision machining.

Standard Thru Spindle Coolant

To make the Value Master a true performer, Hyundai WIA made thru spindle coolant standard. This feature is particularly useful for deep hole drilling where it's necessary to keep chip flow clear of the cutting surface. Thru Spindle Coolant also helps to increase tool life and decrease cycle time.

ATC and Magazine
Hyundai WIA's Value Master VMC's are outfitted with 30-tool, side mount swing arm type tool changers. This technology offers optimal performance with impressive tool change times of 1.3 sec tool-to-tool on the F400VM and 1.5 sec tool-to-tool on the F500VM. With a capacity of 30 tools (plus one in the spindle) setup time is reduced and run times can be made longer, especially if loaded with redundant tools.

The 30 tool swing arm automatic tool changer and magazine are separated by a shutter system which closes during machining, thus keeping chips and fluids clear of the ATC and magazine. When a tool change is required, machining stops, the shutter opens, the ATC exchanges old tool for new, the shutter door then closes and machining begins again. Number of tools: 24 (30 optional). Maximum tool diameter — OD: 76/150 mm (F400VM) and 90/150 mm (F500VM). Tool selection method: Random. Tool weight: 8 kg. Tool length: 300 mm.

Control
The all new Value Master Series is easy to program and operate with its start-of-the-art Fanuc i-Series CNC control featuring a 10.4" color LCD with Manual Guide i. As the industry's most popular control, Fanuc offers compatibility and bullet proof reliability. The new Value Master Series from Hyundai WIA is ideal for small to medium sized job shops, yet capable enough to handle high production environments that run 24/7. By bundling so many high-performance features in a machine, there's nothing to sacrifice or compromise. In fact, it may just re-define the term "value" for all machining centers.

Hyundai WIA
www.hyundai-wiamachine.com [1]

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