

## HS-540k with AVEREX-FANUC MPro I SPECIFICATIONS

	DESCRIPTIONS	IMPERIAL	METRIC
<b>TRAVEL</b>	X-axis, Y-axis, Z-axis Spindle center to pallet surface Spindle nose to pallet center Pallet top height (from the floor)	31.5", 31.5", 31.5" 1.6" - 33.1" 3.9" - 35.4" 42.1"	800 mm, 800 mm, 800 mm 40 - 840 mm 100 - 900 mm 1,070 mm
<b>TABLE</b>	Table size (2 pallets) Workpiece max. size Max. payload Configuration Min. indexing degree Indexing speed Pallet clamping system Pallet clamping force B-axis clamping torque	15.7" x 15.7" 19.7" x 19.7" Optional Ø31.5" x 39.4" for 2APC 1,100 lb M16x25L P=3.1" (P=3.9" for 500 mm pallet) 1° (0.001° Optional) 2.0 sec./90° (1.1 sec./90° Optional) Mechanical Lock 2,203 lb x 4 cones 4,425 lb-ft	400 mm x 400 mm 500 mm x 500 mm Optional Ø800 mm x 1000 mm for 2APC 500 kg M16x25L P=80mm (P=100 mm for 500 mm pallet) 1° (0.001° Optional) 2.0 sec./90° (1.1 sec./90° Optional) Mechanical Lock 9.8 kN x 4 cones 6,000 Nm
<b>SPINDLE</b>	Spindle speed Spindle rated torque Spindle acceleration / deceleration Spindle taper Through spindle coolant	40-15,000 rpm / 40-20,000 rpm (Optional) 184 lb-ft (53 15%) 110 lb-ft (Cont.) 3.2 sec. (0-15K rpm) / 3.3 sec. (15K-0 rpm) ISO 7/24 Taper NT No. 40 435 psi	40-15,000 min <sup>-1</sup> / 40-20,000 min <sup>-1</sup> (Optional) 249 Nm (53 15%) 150 Nm (Cont.) 3.2 sec. (0-15K min <sup>-1</sup> ) / 3.3 sec. (15K-0 min <sup>-1</sup> ) ISO 7/24 Taper NT No. 40 3.0 MPa
<b>FEED</b>	Rapid feed (X/Y/Z) Cutting feed (X/Y/Z) Table rotating speed Guide ways (X/Y/Z) Acceleration (X/Y/Z) Ballscrews size	2,362 ipm 787.4 ipm 33.3 rpm Roller ways 1 G Ø1.5747"	60,000 mm/min 20,000 mm/min 33.3 min <sup>-1</sup> Roller ways Random Ø40 mm
<b>ATC</b>	Type of tool shank Type of pull-stud Number of tools Max. tool diameter (Adjacent pots full / empty) Max. tool length Max. tool weight Tool selection system Tool to tool Chip to chip	CAT-40 / BBT-40 (Optional) CAT-40 / JIS (Optional) 46 / Optional 60, 80 Ø2.95" / Ø5.91" 15.7" 17.6 lb Random 1.2 sec. (2.1 : Heavy tool programmable) 3.4 sec. (4.4 : Heavy tool programmable)	CAT-40 / BBT-40 (Optional) CAT-40 / JIS (Optional) 46 / Optional 60, 80 Ø75 mm / Ø150 mm 400 mm 8 kg Random 1.2 sec. (2.1 : Heavy tool programmable) 3.4 sec. (4.4 : Heavy tool programmable)
<b>APC</b>	Number of pallets Pallet change system APC exchange time	2 Rotation 5 sec.	2 Rotation 5 sec.
<b>MOTOR</b>	Spindle motor Feed axes motors (X/Y/Z/B) Lubrication pump motor Spindle coolant pump Chips flush (base) coolant pump Through spindle coolant pump Overhead shower flush coolant pump Hydraulic pump Spindle oil chiller	50 / 20 hp 6.0 / 7.3 / 6.0 / 3.6 hp 0.024 hp 2.2 hp 0.8 hp 3.0 hp 1.7 hp x 2 3.0 hp 2.6 hp	37 / 15 kW 4.5 / 5.5 / 4.5 / 2.7 kW 18 W 1.62 kW 0.62 kW 2.24 kW 1.29 kW x 2 2.23 kW 1.95 kW
<b>SUPPLY</b>	Electric voltage Electric power supply Air pressure Air volume	200 - 230 volt 50 kVA 87.0 psi 132 gal/min	200 - 230 volt 50 kVA 0.6 MPa 500 liter/min
<b>TANK</b>	Hydraulic unit tank Coolant Tank Lubrication unit tank	15.9 gallon 198 gallon 0.47 gallon	60 liter 750 liter 1.8 liter
<b>SIZE</b>	Machine dimension (L x W x H) Required floor space (L x W x H) Machine weight	193.8" x 104.7" x 102.4" 193.8" x 123.9" x 102.4" 27,580 lb	4,922 x 2,660 x 2,600 mm 4,922 x 3,148 x 2,600 mm 12,510 kg



### Standard Accessories

- Full chip enclosure
- High quality 3-axes telescopic way covers
- Safety door
- Sealed electric cabinet
- Heat exchanger for electric cabinet
- Chiller for spindle
- Central oil-air lubrication system
- Air through spindle (cutting)
- Spindle air seal
- Spindle air blow (ATC)
- Cutting air blow
- 30 Bar through spindle coolant, prepared for optional 70 Bar
- Flood coolant system
- Oil skimmer
- Floating ball type level detection for coolant tank
- Dual chip augers
- Manual Guide 0i
- Multi-language display
- Programmable spindle tool load monitoring
- Programmable ATC speed (heavy tools)
- Automatic power on / off and warm-up within 7 days
- 3-color machine status indicator
- Fluorescent lamps at operation
- Leveling blocks and screws
- Maintenance tools
- Manuals

### Optional Accessories

- Full 4th axis rotary table (0.001°)
- 60T or 80T tools magazine
- Chip conveyor and chips cart
- 500 mm x 500 mm pallet
- Hydraulic overhead arms for fixture
- Automatic Pallet Indexing at Loading Zone
- A/C for heat exchanger of E-cabinet
- Linear scale (X/Y/Z/B)
- Workpiece measurement
- Tool measurement
- Tool breakage detection
- Chiller for coolant tank
- Oil mist collector
- Rotary wiper
- Energy-saving function
- CE certified EN ISO 13849-1
- Tool shank and pull stud



# HS-540k

Ultimate High Speed Horizontal Machining Center

Specifications subject to change without notice.



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# HS-540k *Standard Features*

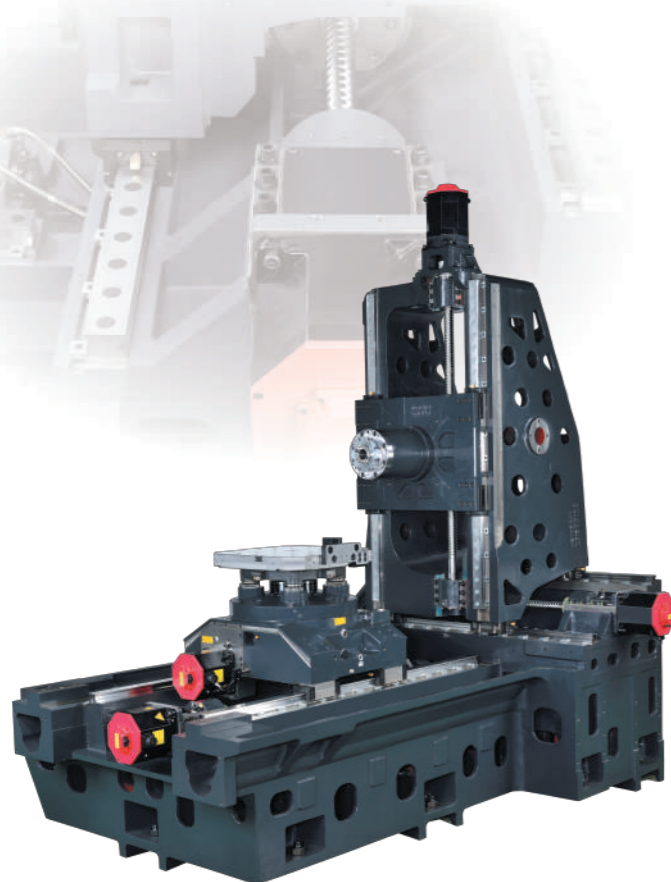
- Large Travels: X 800mm x Y 800mm x Z 800mm
- Large Work Envelope: Ø800mm x 1,000mm
- One-piece Stepped Machine Base with Heavy Ribbed
- AVEREX-FANUC MPro I
- 15,000 rpm, 37kW / 249 Nm **Big-Plus®** BBT-40 Spindle
- Standard 1° Index Table (Optional 0.001° Full 4th Axis Rotary Table)
- 46 Tools Automatic Tool Changer (1.2 Sec. T-T)
- 60 m/min Rapid Traverse
- 1G Acceleration and Deceleration
- **THK®** Roller Guide Ways
- **TSUBAKI®** Ballscrews
- Thermal Compensation (Chilled Spindle)
- Pressurized Oil-Air Lubricated Spindle, Ballscrews and Guide Ways
- Mechanical Lock Pallet Clamping System with Air Seal Detection
- Air Cutting Through Spindle
- 30 Bar Through Spindle Coolant, Prepared for Optional 70 Bar
- Overhead Automatic Pallet Wash System & Z-axis Way Cover Wash
- Programmable Spindle Tool Load Monitoring
- Automatic Machine Power On / Off and Warm-up within 7 Days



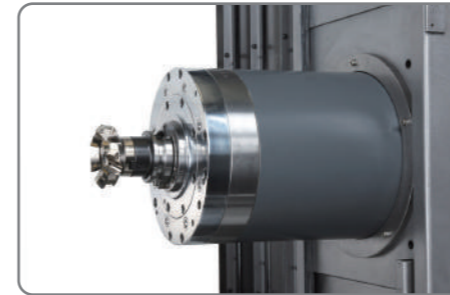
Standard 30 Bar CTS and Optional Scraper Type Chip Conveyor



## One-piece Machine Base



## Powerful Spindle

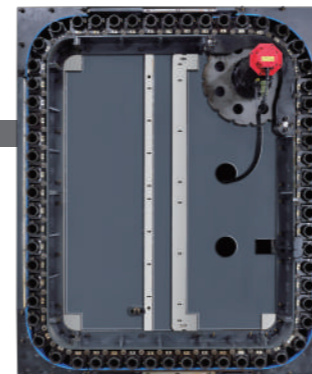


- 15,000 rpm / 37 kW / 249 Nm Max. Spindle Output
- 12,000 rpm / 30 kW / 287 Nm Max. Spindle Output (Optional)
- 20,000 rpm / 22 kW / 60 Nm Max. Spindle Output (Optional)

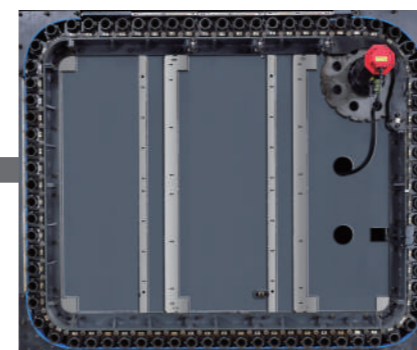
## Automatic Tool Changer (ATC)



46 ATC **ST**



60 ATC **OP**



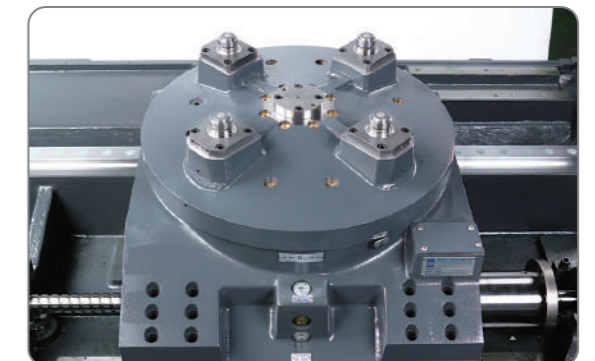
80 ATC **OP**

## AVEREX-FANUC MPro I / NC Standard Features

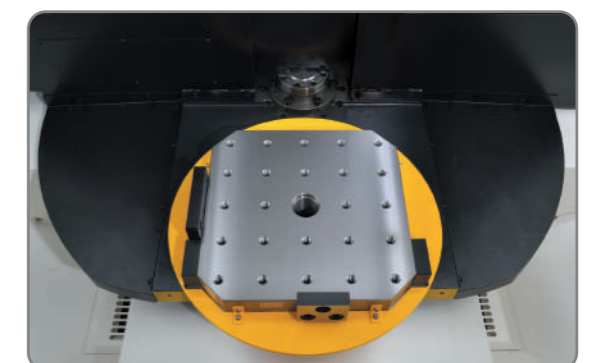


- 10.4" Color LCD
- AICC II Nano Control with 200 Blocks Look Ahead
- HRV-III+ High Performance Servo Drives
- Full 4 axes Control
- 48 Pairs Workpiece Coordinate Offsets
- Helical Interpolation
- Circular Interpolation
- Rigid Tapping
- Canned Cycle
- Ethernet and CF/USB Device
- Tool Life Management
- Tool Offset Memory C
- Manual Guide Oi
- 1,280 meter Part Program Memory
- Custom Marco B
- 400 Registerable Programs
- Programmable Spindle Tool Load Monitoring
- Programmable Data Input G10
- Coordinate System Rotation
- High Speed Skip
- Addition of Custom Macro Common Variables #500-#999
- 400 Pairs Tool Offsets
- Polar Coordinates
- Programmable Mirror Image
- Scaling
- Program Restart
- Manual Handle Interruption

## Automatic Pallet Changer (APC)



Standard 1° Index Table (Optional 0.001°)



5 Sec. Pallet changing