

HS

4000 II/5000 II

High Speed & Productivity Horizontal Machining Center

HYUNDAI WIA Next Generation Machining Center

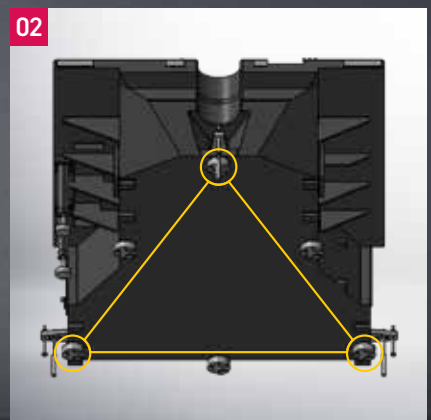


| | | HS4000 II | HS5000 II | HS5000/50 II |
|-----------------------------|--------|---|---------------------------------|---------------------------------|
| Pallet Size (L×W) | mm(in) | 2-400×400 (2-15.7"×15.7") | 2-500×500 (2-19.7"×19.7") | |
| Maximum Load Capacity | kg(lb) | 2-400 (2-881.8) | 2-500 (2-1,102) | 2-1,000 (2-2,205) |
| Spindle Taper | - | BBT40 [HSK-A63] | | BBT50 [HSK-A100] |
| Spindle Speed | r/min | 15,000 [15,000 High-Torque] [20,000] | | 10,000 |
| Spindle Power (Max./Cont.) | kW(HP) | 30/18.5 (40/25) [37/22 (50/30)] [37/18.5 (50/25)] | | 45/25 |
| Number of Tools | EA | Ring : 40 [60] [Chain : 90, 120] [Matrix : 240] | | Ring : 40 [Chain : 60, 90, 120] |
| Travel (X/Y/Z) | mm(in) | 560/640/660 (22"/25.2"/26") | 730/730/880 (28.7"/28.7"/34.6") | 800/800/880 (31.5"/31.5"/34.6") |
| Rapid Traverse Rate (X/Y/Z) | m/min | 60/60/60 | | |

[] : Option

HS 4000 II/5000 II

Horizontal Machining Center
with More Upgraded Quality & Performance



③ Built-in Spindle

① High Speed Machining

④ Ring Type Magazine

② High Rigidity Structure

⑤ High-performance APC

Highlight

The horizontal machining center is designed focus on achieving improvement in productivity compared to all other machine tools.

The HS-II Series offer high-speed feeding system, high-speed spindle, and high-speed ATC and APC for reduction of non-cutting time to guarantee global leading level of productivity.

Travel (X/Y/Z)

HS4000 II

560/640/660 mm
(22"/25.2"/26")

HS5000 II

730/730/880 mm
(28.7"/28.7"/34.6")

HS5000/50 II

800/800/880 mm
(31.5"/31.5"/34.6")

Rapid Traverse Rate (X/Y/Z)

60/60/60 m/min

Acc./Deceleration Speed (X/Y/Z)

1.0/1.1/1.1 G
(HS4000 II Standard)



60/60/60 min

Highlight

01 _ High Speed Machining



Roller LM Guideway

High-performance roller-type LM guide was applied to fulfill high-speed and rigidity.

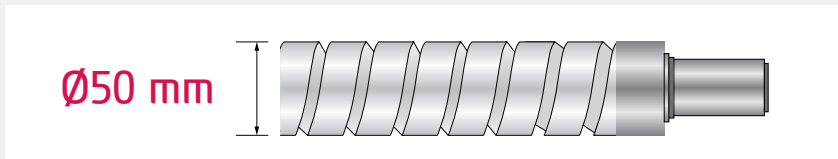


Ball Screw Shaft Cooling

Shaft cooling type ball screw as a standard in order to minimize thermal displacement from repetitive motion of ball screw.



Large diameter ball screw of $\varnothing 50\text{mm}$ offers improvement in rigidity and lifespan.

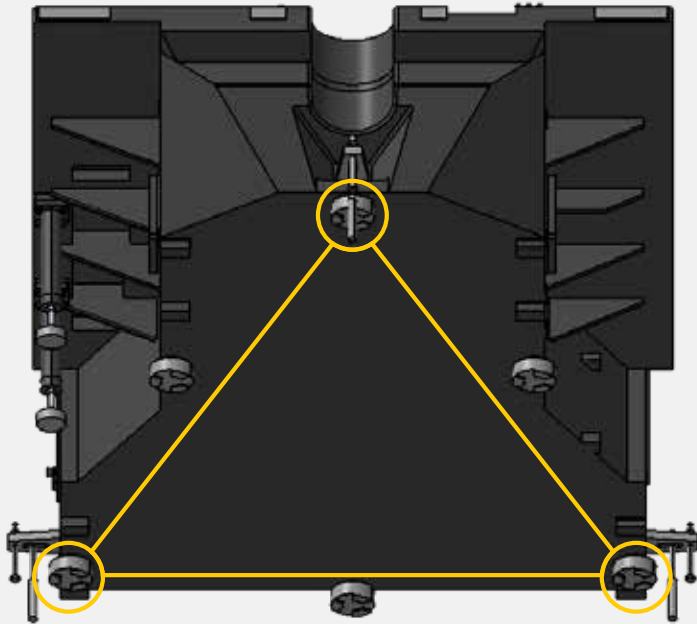


Grease Lubrication Device

Automatic grease lubrication eliminates the need for an oil skimmer and significantly reduces maintenance costs against oil lubrication.

Highlight

02 _ High Rigidity Structure



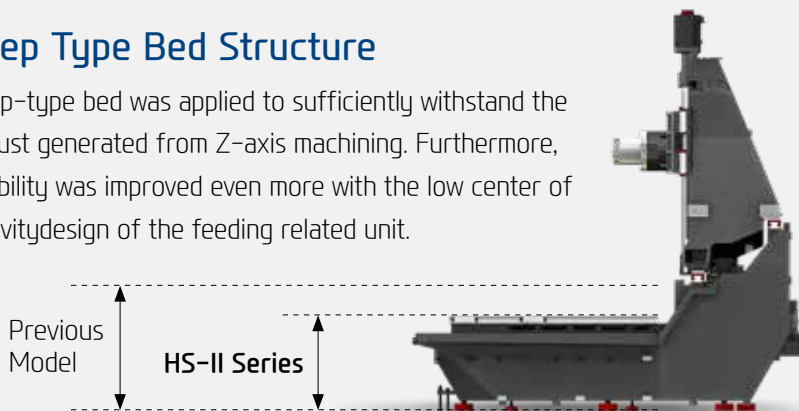
3-point Support Bed Structure

The HS-II Series is the first series of the company to apply the three-point support bed which is a criteria for high-rigidity structure.

The three-point support bed is a structure that allows easy machining as long as the three levels at the bottom of the bed are stabilized during initial setup, and such machining is only available with support from structural rigidity of the machine. Initial construction is especially not necessary during initial setup and this can minimize the equipment setup time which makes it very efficient for use of equipment.

Step Type Bed Structure

Step-type bed was applied to sufficiently withstand the thrust generated from Z-axis machining. Furthermore, stability was improved even more with the low center of gravity design of the feeding related unit.





Max. 20,000 rpm (Opt.)

Highlight

03 _ Built-in Spindle



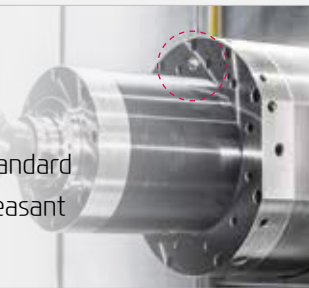
High-performance Built-in Spindle

The HS-II Series has applied a standard built-in spindle of 15,000 rpm to respond to high-speed machining. The built-in spindle capable of 15,000 rpm consists of standard specifications of 30kW (40HP)/230N·m (169.6 lbf·m) and 37kW (50HP)/303N·m (223.5 lbf·m) for customers to be able to select the spindle based on their machining conditions.

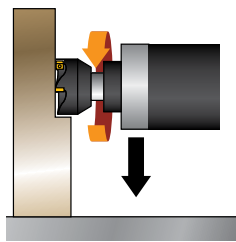
(HS5000/50 II : 10,000rpm)

Chip Stack Prevention Coolant on the Upper Part of the Spindle

Chip stack prevention coolant is applied as a standard on the upper part of the spindle to create a pleasant working environment.



HS5000 II Cutting Possibility

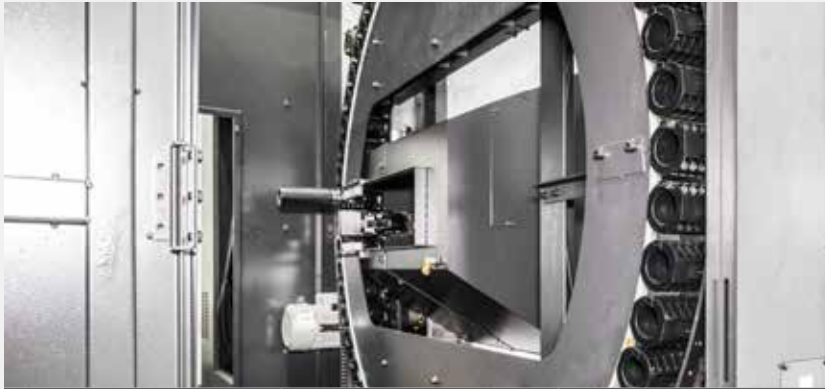


FACE MILL (Material : S45C (Carbon steel))

| | |
|------------------|--------------------------|
| Tool dia. | Ø125 mm |
| Cutting quantity | 788 cm ³ /min |
| Spindle speed | 1,200 r/min |
| Rapid feed rate | 2,160 mm/min |

Highlight

04 _ Ring Type Magazine



| Ring Typ | Chain Type | Matrix Type |
|---------------|--------------|-------------|
| 40 EA [60 EA] | [90, 120 EA] | [240 EA] |

HS5000/50 II : Ring Type : 40 EA [Chain Type : 60, 90, 120 EA] [] : Option

Ring Type Magazine

The HS-II series has a ring type magazine as standard.

The ring type magazine makes less noise than the existing chain type and has faster rotation of the magazine, which contributes to reduced tool exchange time and improved productivity.

Magazine Max Call Time (40T)

| | | |
|------------------|-----|-----------------------|
| Previous Machine | C-C | 3.7 sec |
| HS4000 II | C-C | 2.3 sec 30% reduction |

Front Placement of the Magazine for Worker Convenience

Magazine installed at the side was installed at a location which is closest possible to the front door to improve material and tool exchange convenience.

Servo ATC

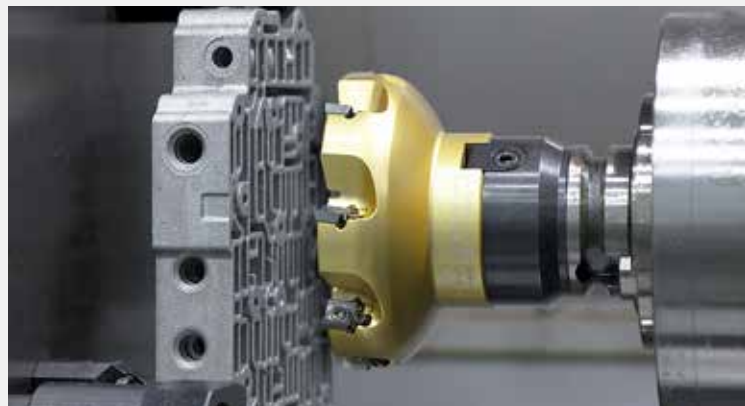
Servo motor is applied on the ATC to reduce tool change time.

| | | |
|------------------|-----|-----------------------|
| Previous Machine | C-C | 2.6 sec |
| HS4000 II | C-C | 2.3 sec 11% reduction |

Ring Type / C-C : 2.3 sec



Highlight



Applicability of Large Tools

The HS-II Series can apply larger tools compared to the previous model which improves machining capability.

Previous Machine Max. Tool Dia. $\varnothing 75/\varnothing 140$

HS4000 II Max. Tool Dia. $\varnothing 75/\varnothing 170$ $\varnothing 30 \uparrow$

Previous Machine Max. Tool Weight 8 kg

HS4000 II Max. Tool Weight 12 kg 4 kg \uparrow

Previous Machine Max. Tool Length 350 mm

HS4000 II Max. Tool Length 450 mm 100 mm \uparrow

Highlight

05 _ High-performance APC



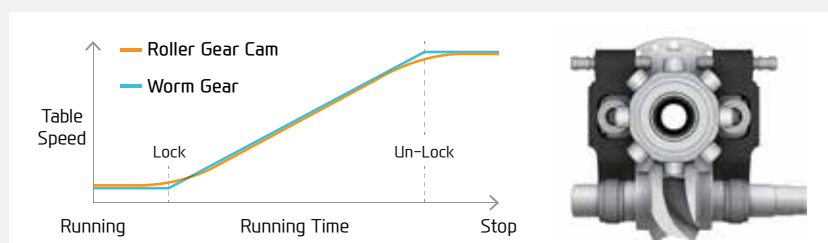
High Speed & Rigidity APC

The HS-II Series contributes to improvement in productivity by reducing the APC exchange time and increasing rigidity compared to the previous model.

| | | |
|------------------|----------------------|---------------------------|
| Previous Machine | Pallet Changing Time | 10 sec |
| HS4000 II | Pallet Changing | 8 sec 2 sec reduction |
| Previous Machine | Pallet Changing Time | 12 sec |
| HS5000 II | Pallet Changing Time | 9.2 sec 1.8 sec reduction |

Roller Gear Cam Type 0.001° Pallet **OPTION**

The pallet rotation for the previous model of the company and other equipment from different manufacturers operated by the worm gear method but the 0.001° pallet which comes as an option for HS-II Series operates by the roller gear cam method. The roller gear cam method features less power loss from smooth movement along the cam curve, and it is more advantageous for high-speed rotation due to generating less friction from rotation of the roller rather than the gear.



APC Change Time : 8 sec

Highlight

HYUNDAI WIA
MACHINE TOOL

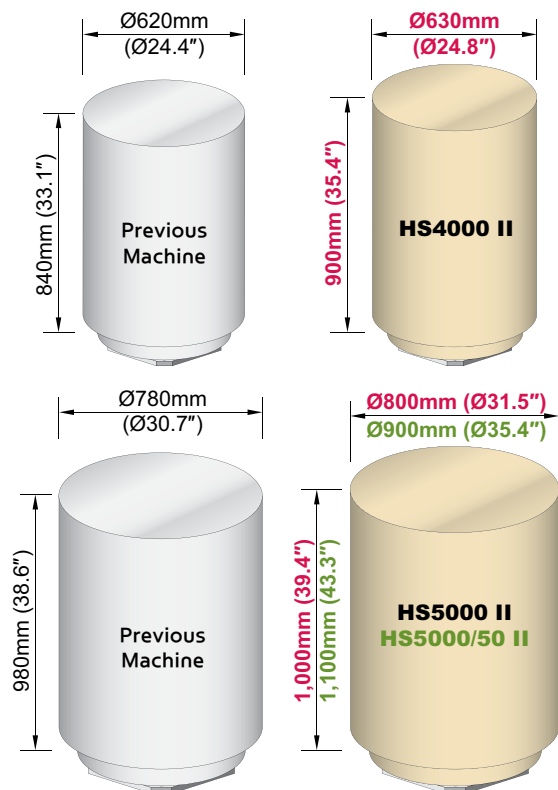
HS4000 II/5000 II
Horizontal Machining Center

CREATING VALUE
IN SEAMLESS MOBILITY

10
+
11

Maximum Workpiece Size

The HS-II Series expanded the maximum size of workpiece compared to the previous model for large workpiece machining.



Chip Disposal

Chip Disposal



Direct Chip Discharge Structure

The structure was designed for the chip to fall directly to the center of the bed to improve chip discharge capability, and the lack of necessity for a separate internal screw conveyor fundamentally eliminated the chip trouble from the internal screw conveyor.

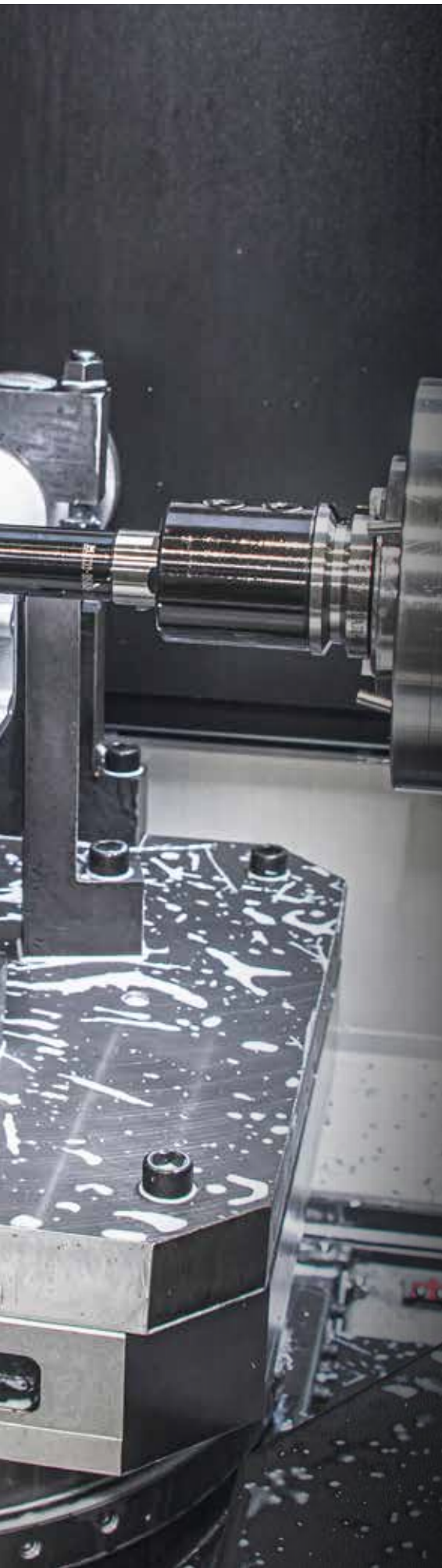


Chip Conveyor

| | |
|---------------|--|
| Hinge | Chip Type : Roughing Chip, Long Chip, Chip complex |
| | Highly efficient when disposing a lot of chips. Capable of handling stringy chips. |
| Scraper | Chip Type : Finely broken chip blown out |
| | Convenient for shortly cut chips. |
| ❖ Drum Filter | Chip Type : Powder, Micro Chip |
| | Advantageous in precision, as the chips do not flow in to the coolant nozzle. |

Timely and effective disposal of chips will improve productivity as well as working environment.





Coolant

Coolant Unit



Std. Coolant (Nozzle)



Shower Coolant (Opt.)



Gun Coolant (Opt.)

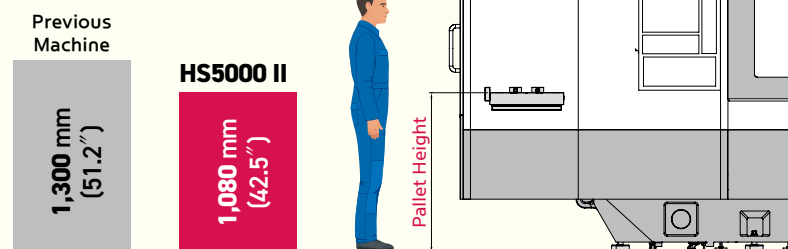


Air Gun (Opt.)

APC (Work Setting)

The height to the top of the pallet was designed to be lower compared to the previous model to improve convenience for work setting.

Height from the ground surface to the top of the pallet



Convenience

PLS



PLS (Pallet Line System)

HYUNDAI WIA Pallet Line System is High level of automation system with multi-level pallet rack

Hyundai WIA PLS is an unmanned automation system for horizontal machining centers with two-storied pallet stackers to achieve a reasonable installation area.

Especially, it contributes to productivity improvement by easy and efficient system operation to flexibly respond to changes in production volume.

| ITEM | | HS4000 II | HS5000 II | HS5000/50 II |
|------------------------|---------|-----------------------|-----------------------|---------------|
| Pallet Size (L×W) | mm (in) | 400×400 (15.7"×15.7") | 500×500 (19.7"×19.7") | |
| Max. Load Capacity | kg (lb) | 400 (882) | 500 (1,102) | 800 (1763.7) |
| Max. Machining Dia. | mm (in) | Ø630 (24.8") | Ø800 (31.5") | Ø900 (35.4") |
| Max. Machining Height | mm (in) | 900 (35.4") | 1,000 (39.4") | 1,100 (43.3") |
| No. of Pallet | EA | 12~72 | | |
| No. of Loading Station | EA | 1~4 | | |
| No. of Machine Tools | EA | 1~7 | | |

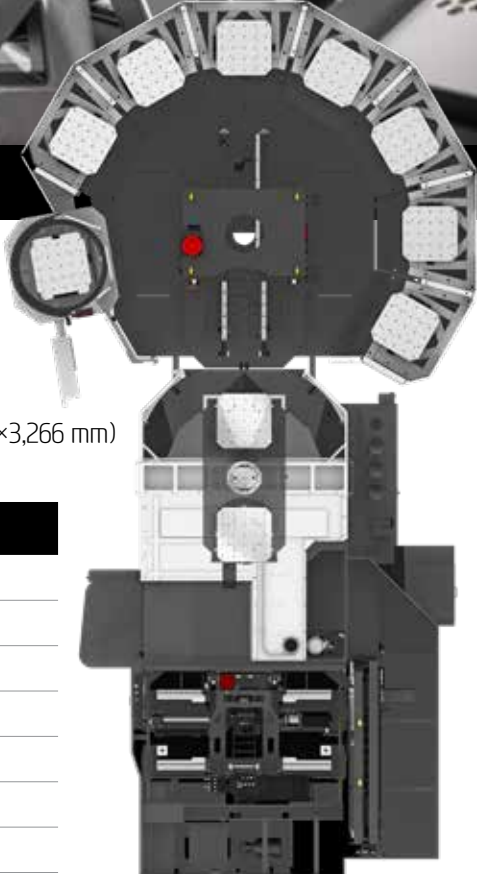
MPS



MPS (Multi Pallet System)

- Increased Operation Time & Utilization Rate
- Reduced Initial Investment Costs Compared to Single Machine
- PALLEX Operating S/W
- Compact installation area compared to other companies (4,375×3,266 mm)

| ITEM | | MPS500 |
|-----------------------|-------------------|-------------------------------|
| Pallet Size (L×W) | mm (in) | 500×500 (19.7"×19.7") |
| Max. Load Capacity | kg (lb) | 700 (1,543) - Pallet included |
| Max. Machining Dia. | mm (in) | Ø800 (Ø31.5" |
| Max. Machining Height | mm (in) | 700 (27.6") |
| No. of Pallet | EA | 21 (7×3 Level) |
| Rotation Speed | min ⁻¹ | 9 |
| Lifting/Poking Speed | m/min | 15/15 |



HYUNDAI WIA FANUC – SMART PLUS

FANUC 31i-B Plus

This is the core model of FANUC CNC with the performance of the world highest level. With abundant functions and high-speed, highly-accurate and high-quality machining technology, it is the most suitable for a high-grade and machining center.



15" Touch Screen Monitor Applied

Control axes : 4 axes (X, Y, Z, B)

Simultaneously controlled axes :
3 axes [Max. 4 axes]

Part program storage size : 4 Mbyte (10240m)

No. of registerable programs : 1,000 EA

Tool offset pairs : 400 pairs

Look-ahead block : 1,000 block

Conversational auto program : Smart Guide i

The HS-II Series has a 15" large monitor for enhanced visibility.

In particular, we can create more convenient use conditions by improving the operating environment such as program setup and simulation through a large screen.

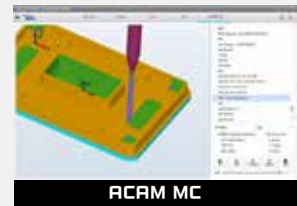
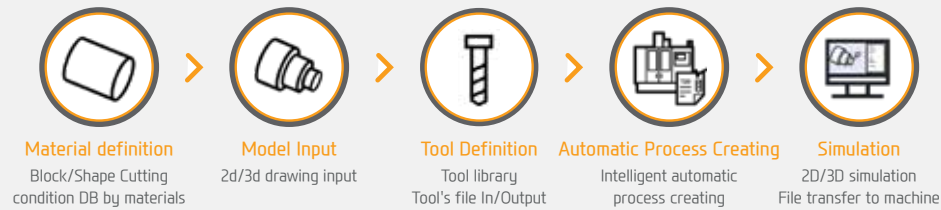


Convenience is increased when inputting and outputting program. The USB port is available in addition to the former input output methods such as CF memort card and LAN.

ACAM (Automatic CAM)

Cloud-based automatic CAM S/W that automatically creates NC programs only by inputting drawing files

Cloud-based Intelligent Programming



MMS (Machine Monitoring System)



Manufacturing big data solution with design, manufacturing, and intelligence technology of HYUNDAI-WIA
(Big data collection/Analysis/Visualization)



1. MMS Cloud

A cloud server-based equipment monitoring system for collecting and analyzing facility operation data.

2. MMS Edge

A client server-based tool monitoring system for collection/analysis of facility operation data. (Compatible with client MES / ERP interface)

SMART CNC (FANUC SMART PLUS)



1. Dialogue Program (Smart Guide-i)

This software offers the maximum user convenience through dialogue manipulation from setup to processing. This includes writing processing programs and simulation checks.

2. LAUNCHER

This software offers shortcuts for quick access to specialized features and frequently used features.

Specifications

Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation - : Non Applicable

| Spindle | | HS4000 II | HS5000 II |
|---|---------------------|-----------|-----------|
| 15,000rpm (30kW) | | ● | ● |
| 15,000rpm (37kW) - High Torque | | ○ | ○ |
| 20,000rpm (37kW) | | ○ | ○ |
| Spindle Cooling System | | ● | ● |
| ATC | | | |
| ATC Extension | 40 (Ring) | ● | ● |
| | 60 (Ring) | ○ | ○ |
| | 90/120 (Chain) | ○ | ○ |
| | 240 (Matrix) | ☆ | ☆ |
| Tool Shank Type | BBT40 | ● | ● |
| | HSK-A63 | ○ | ○ |
| | BCV40 | ○ | ○ |
| Tool Weight | 12KG | ● | ● |
| Table, APC & Pallet | | | |
| APC | Rotary Turn | ● | ● |
| Tap Type Pallet | | ● | ● |
| T-Slot Pallet | | ○ | ○ |
| B Axis Table | 1° | ● | ● |
| | 0.001° | ○ | ○ |
| Coolant System | | | |
| Std. Coolant (Nozzle) | | ● | ● |
| *Through Spindle Coolant | 20bar | ○ | ○ |
| | 30bar | ○ | ○ |
| | 70bar | ○ | ○ |
| Bed Flushing Coolant | | ● | ● |
| Shower Coolant | | ○ | ○ |
| Gun Coolant | | ○ | ○ |
| Air Gun | | ○ | ○ |
| Cutting Air Blow | | ○ | ○ |
| Tool Measuring Air Blow (Only for TLM) | | ○ | ○ |
| Air Blow for Automation | | ☆ | ☆ |
| Thru MQL Device (Without MQL) | | ☆ | ☆ |
| Coolant chiller (Sub tank) | | ☆ | ☆ |
| Power Coolant System (For Automation) | | ☆ | ☆ |
| Chip Disposal | | | |
| Coolant Tank | 600 ℓ | ● | ● |
| Chip Conveyor (Hinge/Scraper) | Rear (Right) | ○ | ○ |
| | Rear (Rear) | ○ | ○ |
| Special Chip Conveyor (Drum Filter) | | ☆ | ☆ |
| Chip Wagon | Standard (180 ℓ) | ○ | ○ |
| | Swing (200 ℓ) | ○ | ○ |
| | Large Swing (290 ℓ) | ○ | ○ |
| | Large Size (330 ℓ) | ○ | ○ |
| | Customized | ☆ | ☆ |
| S/W | | | |
| Automatic CAM (HW-ACAM) | | - | - |
| Dialogue Program (HW-DPRO) | | ○ | ○ |
| DNC software (HW-eDNC) | | ○ | ○ |
| Machine Monitoring System (HW-MMS Cloud) | | ☆ | ☆ |
| Machine Monitoring System (Customer Installation : HW-MMS Edge) | | ☆ | ☆ |
| Smart Guide-i : FAIUC | | ● | ● |
| Smart S/W | | ☆ | ☆ |

| Electric Device | | HS4000 II | HS5000 II |
|--------------------------------------|---------------------|-----------|-----------|
| Call Light | 1 Color : ● | ● | ● |
| Call Light & Buzzer | 3 Color : ●●● B | ○ | ○ |
| Work Light (LED) | | ● | ● |
| Electric Cabinet Light | | ○ | ○ |
| Remote MPG | | ● | ● |
| 3 Axis MPG | | ○ | ○ |
| Work Counter | Digital | ○ | ○ |
| Total Counter | Digital | ○ | ○ |
| Tool Counter | Digital | ○ | ○ |
| Multi Tool Counter | 6EA/9EA | ☆ | ☆ |
| Electric Circuit Breaker | | ○ | ○ |
| AVR (Auto Voltage Regulator) | | ☆ | ☆ |
| Transformer | 60kVA | ○ | ○ |
| Auto Power Off | | ○ | ○ |
| Back up Module for Black out | | ○ | ○ |
| Measuring Device | | | |
| Air Zero | TACO | ○ | ○ |
| | SMC | ○ | ○ |
| Work Measuring Device | | ☆ | ☆ |
| TLM | Touch/Laser | ○ | ○ |
| Tool Broken Detective Device | | ☆ | ☆ |
| Linear Scale | X/Y/Z Axis | ○ | ○ |
| Environment | | | |
| Air Conditioner | | ○ | ○ |
| Dehumidifier | | ○ | ○ |
| Oil Mist Collector | | ☆ | ☆ |
| MQL (Minimal Quantity Lubrication) | | ☆ | ☆ |
| Fixture & Automation | | | |
| Auto Door | | ○ | ○ |
| Sub O/P | | ☆ | ☆ |
| External M Code 4ea | | ○ | ○ |
| Automation Interface | | ☆ | ☆ |
| I/O Extension (In & Out) | 16/32 Contact | ☆ | ☆ |
| 6PPL / PLS | | ☆ | ☆ |
| Hyd. Device | | | |
| Std. Hyd. Unit | 65bar/45 ℓ | ● | ● |
| Center Type Hyd. Supply Unit (Upper) | 2×3 (6P) | ☆ | ☆ |
| | 2×4 (8P) | ☆ | ☆ |
| | 2×6 (12P) | ☆ | ☆ |
| | 2×8 (16P) | ☆ | ☆ |
| Center Type Hyd. Supply Unit (Lower) | 2×6 (12P)-0.001° | - | - |
| Hyd. Unit for Fixture | 45bar | ☆ | ☆ |
| | 70bar | ☆ | ☆ |
| | 100bar | ☆ | ☆ |
| | Customized | ☆ | ☆ |
| ETC | | | |
| Tool Box | | ● | ● |
| Customized Color | Need for Munsel No. | ☆ | ☆ |
| CAD&CAM Software | | ☆ | ☆ |

* Through Spindle Coolant* : Please check the filter types with sales representative.

Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRIS) for details by S/W product.

Specifications

Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation - : Non Applicable

| Spindle | | HS5000/50 II |
|---|---------------------|--------------|
| 10,000rpm (45kW) | | ● |
| Spindle Cooling System | | ● |
| ATC | | |
| ATC Extension | 40 (Ring) | ● |
| | 60/90/120 (Chain) | ○ |
| | 240 (Matrix) | ☆ |
| Tool Shank Type | BBT50 | ● |
| | HSK-A100 | ○ |
| | BCV50 | ○ |
| Tool Weight | 25KG | ● |
| Table, APC & Pallet | | |
| APC | Rotary Turn | ● |
| Tap Type Pallet | | ● |
| T-Slot Pallet | | ○ |
| B Axis Table | 1° | ● |
| | 0.001° | ○ |
| Coolant System | | |
| Std. Coolant (Nozzle) | | ● |
| *Through Spindle Coolant | 20bar | ○ |
| | 30bar | ○ |
| | 70bar | ○ |
| Bed Flushing Coolant | | ● |
| Shower Coolant | | ○ |
| Gun Coolant | | ○ |
| Side Oil Hole Coolant | | ☆ |
| Air Gun | | ○ |
| Cutting Air Blow | | ☆ |
| Tool Measuring Air Blow (Only for TLM) | | ○ |
| Air Blow for Automation | | ☆ |
| Thru MQL Device (Without MQL) | | ☆ |
| Coolant chiller (Sub tank) | | ☆ |
| Power Coolant System (For Automation) | | ☆ |
| Chip Disposal | | |
| Coolant Tank | 600 ℓ | ● |
| Chip Conveyor (Hinge/Scraper) | Rear (Right) | ○ |
| | Rear (Rear) | ○ |
| Special Chip Conveyor (Drum Filter) | | ☆ |
| Chip Wagon | Standard (180 ℓ) | ○ |
| | Swing (200 ℓ) | ○ |
| | Large Swing (290 ℓ) | ○ |
| | Large Size (330 ℓ) | ○ |
| | Customized | ☆ |
| S/W | | |
| Automatic CAM (HW-ACAM) | | - |
| Dialogue Program (HW-DPRO) | | ○ |
| DNC software (HW-eDNC) | | ○ |
| Machine Monitoring System (HW-MMS Cloud) | | ☆ |
| Machine Monitoring System (Customer Installation : HW-MMS Edge) | | ☆ |
| Smart Guide-i : FANUC | | ● |
| Smart S/W | | ☆ |

| Electric Device | | HS5000/50 II |
|--------------------------------------|---------------------|--------------|
| Call Light | 1 Color : ● | ● |
| Call Light & Buzzer | 3 Color : ● ● ● B | ○ |
| Work Light (LED) | | ● |
| Electric Cabinet Light | | ○ |
| Remote MPG | | ● |
| 3 Axis MPG | | ○ |
| Work Counter | Digital | ○ |
| Total Counter | Digital | ○ |
| Tool Counter | Digital | ○ |
| Multi Tool Counter | 6EA/9EA | ☆ |
| Electric Circuit Breaker | | ○ |
| AVR (Auto Voltage Regulator) | | ☆ |
| Transformer | 65kVA | ○ |
| Auto Power Off | | ○ |
| Back up Module for Black out | | ○ |
| Measuring Device | | |
| Air Zero | TACO | ○ |
| | SMC | ○ |
| Work Measuring Device | | ☆ |
| TLM | Touch/Laser | ○ |
| Tool Broken Detective Device | | ☆ |
| Linear Scale | X/Y/Z Axis | ○ |
| Environment | | |
| Air Conditioner | | ○ |
| Dehumidifier | | ○ |
| Oil Mist Collector | | ☆ |
| MQL (Minimal Quantity Lubrication) | | ☆ |
| Fixture & Automation | | |
| Auto Door | | ○ |
| Sub O/P | | ☆ |
| External M Code 4ea | | ○ |
| Automation Interface | | ☆ |
| I/O Extension (In & Out) | 16/32 Contact | ☆ |
| 6PPL / PLS | | ☆ |
| Hyd. Device | | |
| Std. Hyd. Unit | 65bar/45 ℓ | ● |
| | 2×3 (6P) | ☆ |
| | 2×4 (8P) | ☆ |
| | 2×6 (12P) | ☆ |
| Center Type Hyd. Supply Unit (Upper) | 2×8 (16P) | ☆ |
| | | |
| Center Type Hyd. Supply Unit (Lower) | 2×6 (12P)-0.001° | - |
| | | |
| Hyd. Unit for Fixture | 45bar | ☆ |
| | 70bar | ☆ |
| | 100bar | ☆ |
| | Customized | ☆ |
| ETC | | |
| Tool Box | | ● |
| Customized Color | Need for Munsel No. | ☆ |
| CAD&CAM Software | | ☆ |

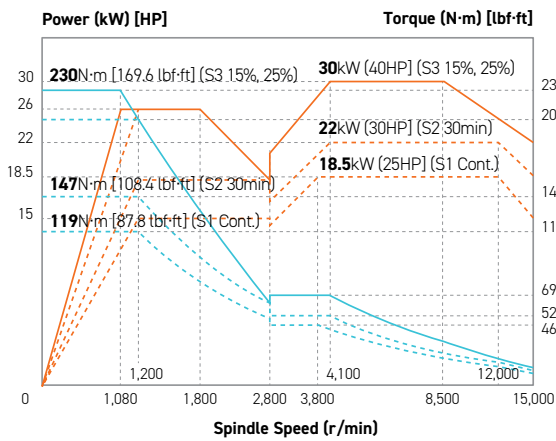
* Through Spindle Coolant* : Please check the filter types with sales representative.

Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRS) for details by S/W product.

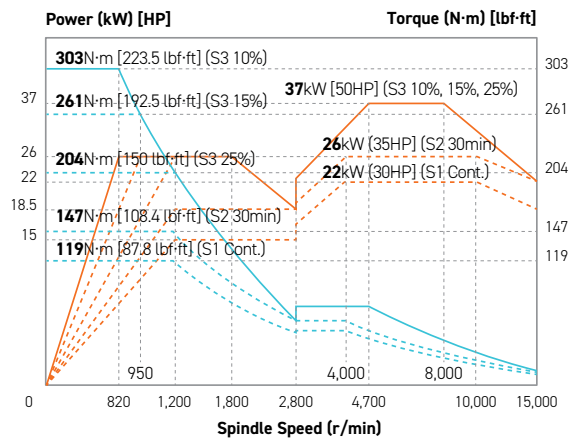
Specifications

Spindle Output/Torque Diagram

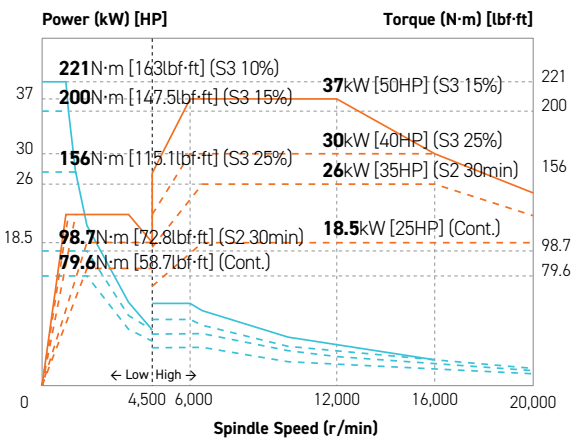
**HS4000 II | HS5000 II
15,000rpm**



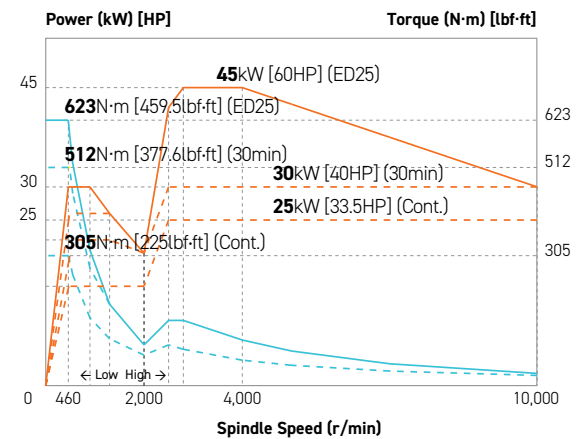
**HS4000 II | HS5000 II
15,000rpm (High-Torque)**



**HS4000 II | HS5000 II
20,000rpm**



**HS5000/50 II
10,000rpm**

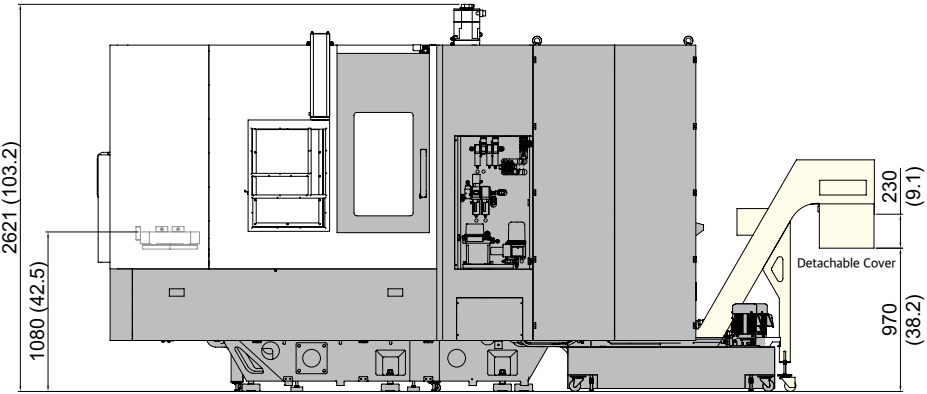
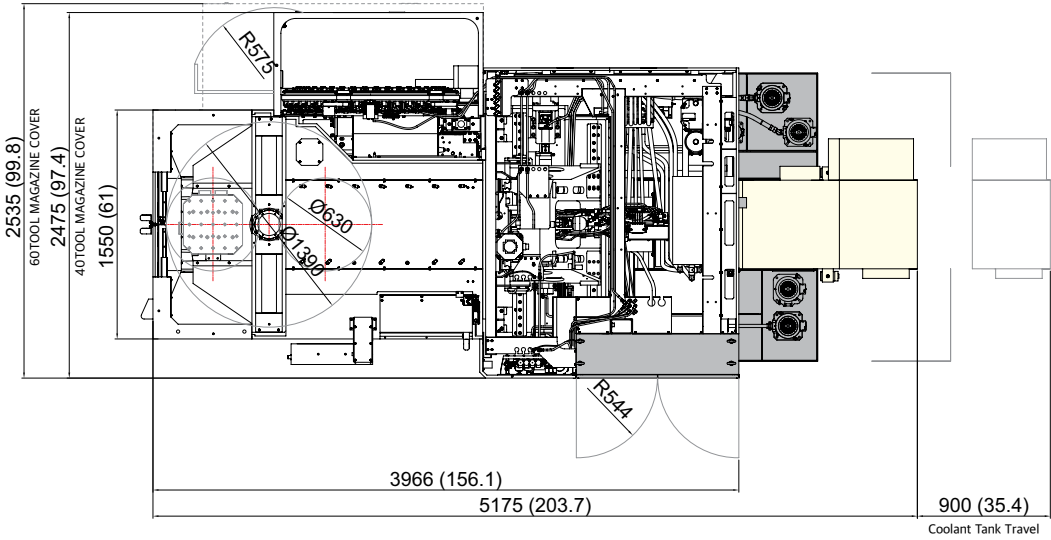


Specifications

External Dimensions

unit : mm(in)

HS4000 II

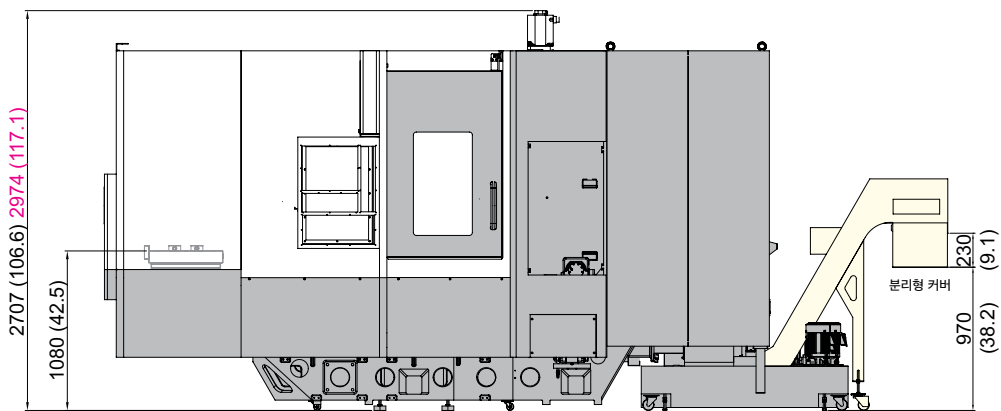
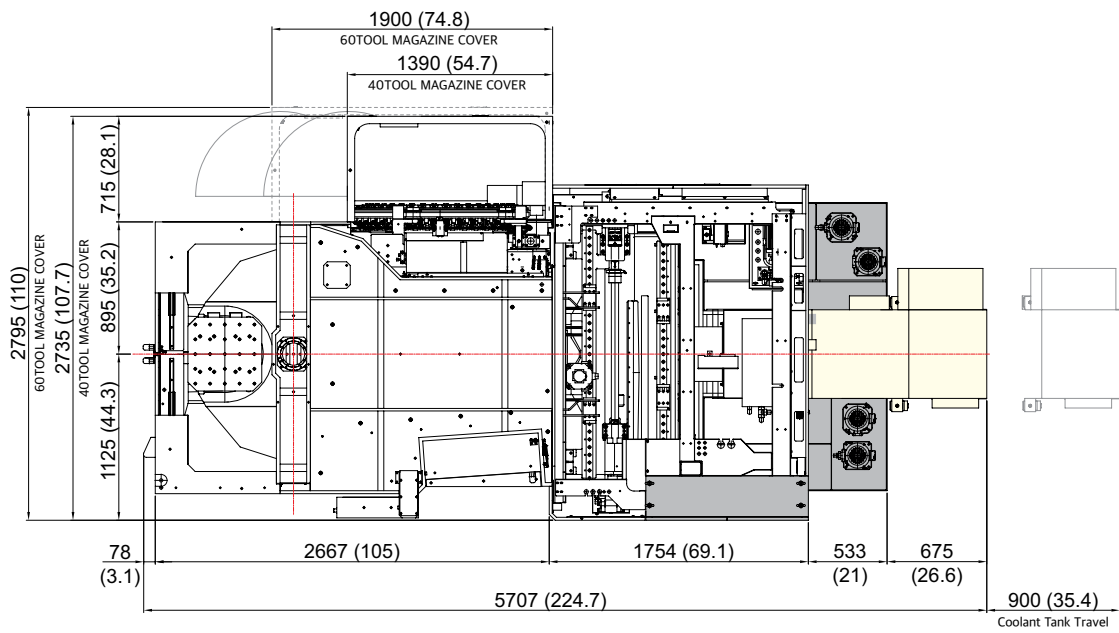


Specifications

External Dimensions

unit : mm(in)

HS5000 II
HS5000/50 II



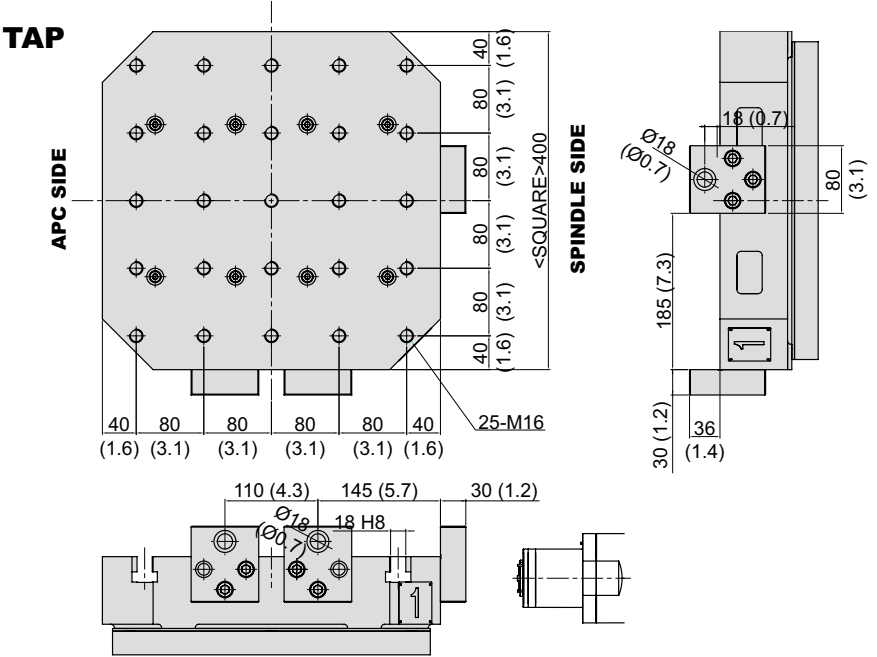
Specifications

Table Dimensions

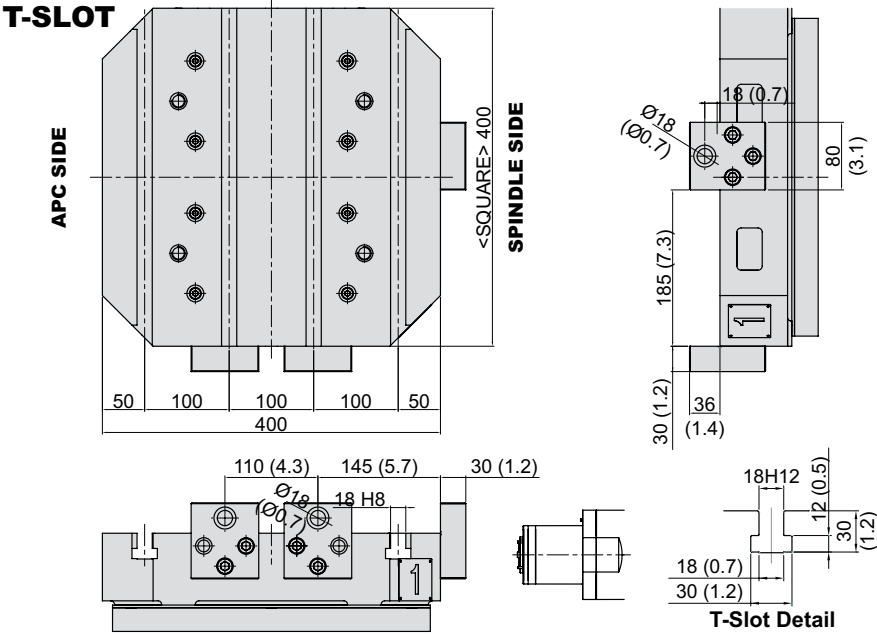
unit : mm(in)

HS4000 II

TAP



T-SLOT



T-Slot Detail

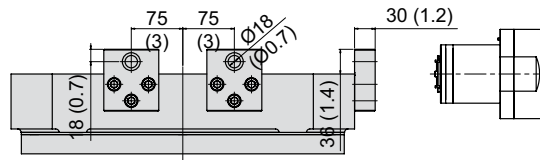
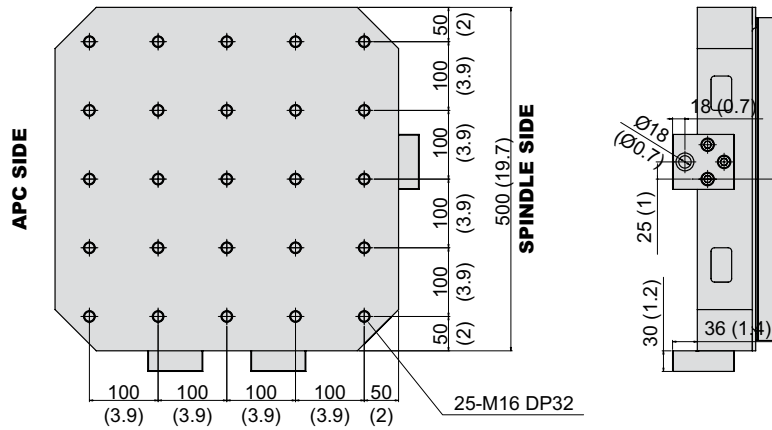
Specifications

Table Dimensions

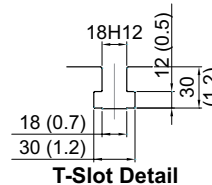
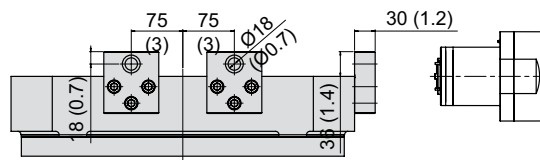
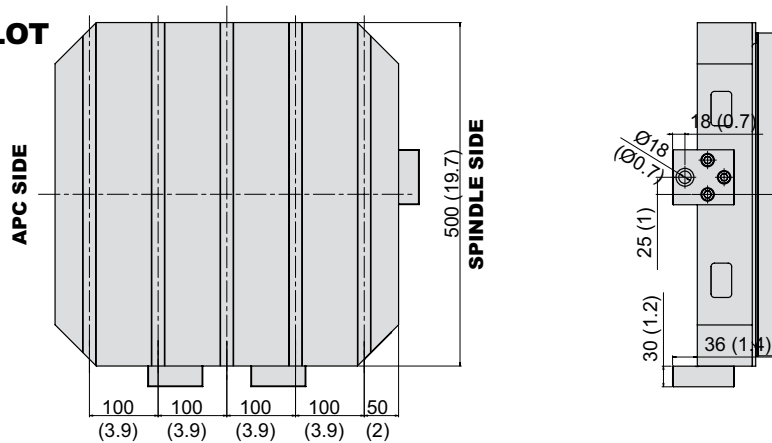
unit : mm(in)

HS5000 II | HS5000/50 II

TAP



T-SLOT



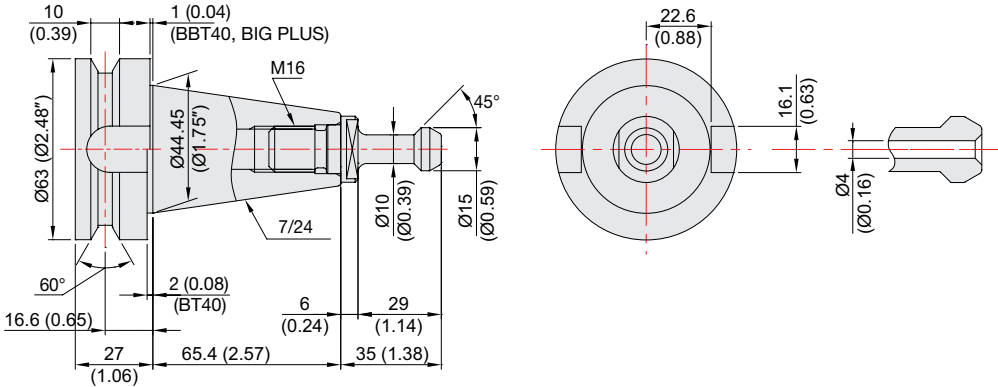
Specifications

Table Dimensions

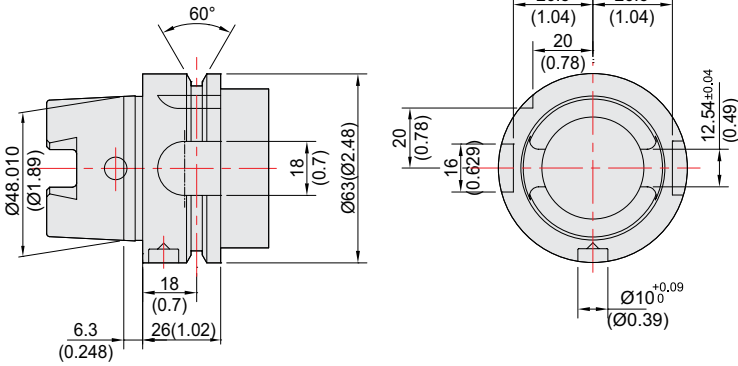
unit : mm(in)

HS4000 II | HS5000 II

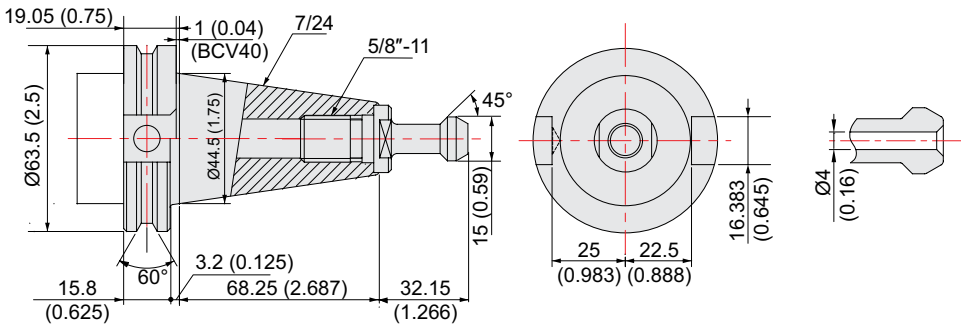
BT40/BBT40, BIG PLUS



HSK A-63



CAT40/BCV40



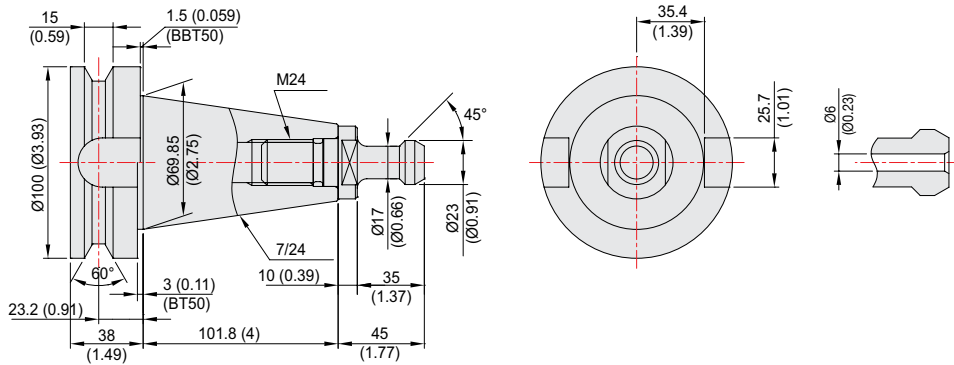
Specifications

Table Dimensions

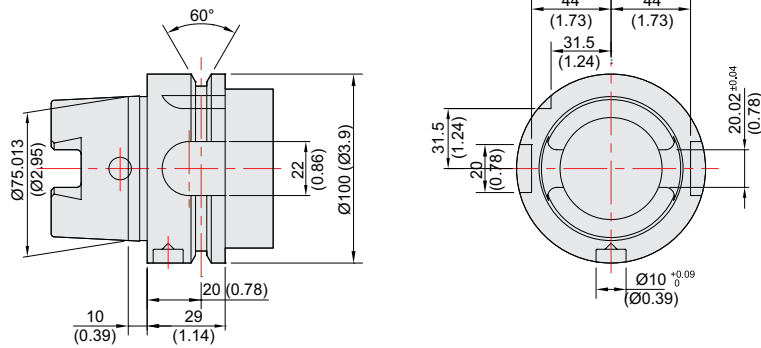
unit : mm(in)

HS5000/50 II

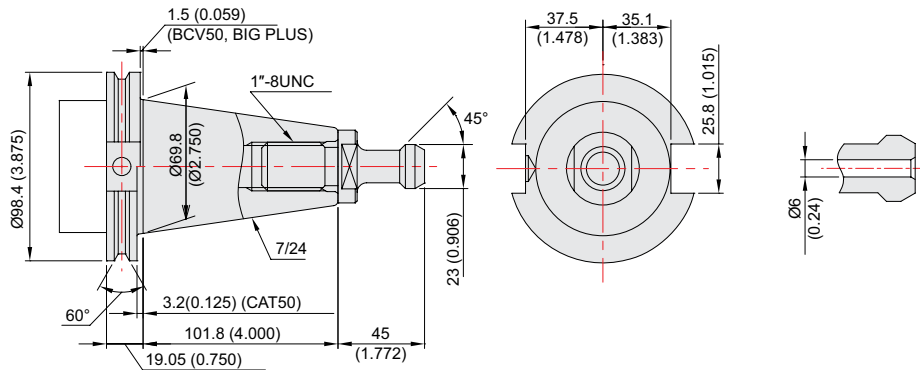
BT50/BBT50, BIG PLUS



HSK A-100



CAT50/BCV50



Specifications

Specifications

[] : Option

| ITEM | | HS4000 II | HS5000 II |
|---------------|---------------------------------------|------------------------------------|---|
| PALLET | Pallet Size (L×W) | mm(in) 2 - 400×400 (2-15.7"×15.7") | 2-500×500 (2-19.7"×19.7") |
| | Maximum Load Capacity | kg(lbf) 2 - 400 (2 - 882) | 2 - 500 (2 - 1,102) |
| | Maximum Working Size | mm(in) Ø630×H900 (24.8"×H35.4") | Ø800×H1,000 (Ø31.5"×H39.4") |
| | Min. Indexing Angle | deg | 1° [0.001°] |
| SPINDLE | Spindle Taper | - | BBT40 [HSK-A63] |
| | Spindle RPM | r/min | 15,000 [15,000 High-Torque] [20,000] |
| | Spindle Motor Output (Max./Cont.) | kW(HP) | 30/18.5 (40/25) [37/22 (50/30)] [37/18.5 (50/25)] |
| | Spindle Torque (Max./Cont.) | N·m(lbf·ft) | 230/119 (169.6/87.8) [303/119 (223.5/87.8)] [221/79.6 (163/58.7)] |
| | Spindle Driving Method | - | Built-in |
| FEED | Travel (X/Y/Z axis) | mm(in) 560/640/660 (22"/25.2"/26") | 730/730/880 (28.7"/28.7"/34.6") |
| | Distance from Table Top to Sp. Center | mm(in) 80 ~ 720 (3.1" ~ 28.3") | 80 ~ 810 (3.1" ~ 31.9") |
| | Rapid Traverse Rate (X/Y/Z) | m/min | 60/60/60 |
| | Slide Type | - | Roller Guide |
| ATC | Number of Tools | EA | Ring Type : 40 [60] [Chain Type : 90, 120] [Matrix : 240] |
| | Tool Shank | - | BBT40 [HSK-A63] |
| | Max. Tool Dia. (W.T/W.O) | mm(in) | Ø75/Ø170 (Ø3"/Ø6.7") |
| | Max. Tool Length | mm(in) | 450 (17.7") 550 (21.7") |
| | Max. Tool Weight | kg(lb) | 12 (26.5) |
| | Tool Selection Method | - | Ring Type : Random [Chain Type : Fixed] |
| | Tool Change Time | T-T | sec |
| C-C | | sec | 2.3 2.6 |
| APC | No. of Pallet | ea | 2 |
| | APC Type | - | Direct Turn |
| | Pallet Change Time | sec | 8.0 9.2 |
| TANK CAPACITY | Coolant Tank | ℓ(gal) | 600 (158.5) |
| | Lubricating Tank | ℓ(gal) | 0.7 (0.2) |
| | Hyd. Tank Unit | ℓ(gal) | 20 (5.3) |
| POWER SUPPLY | Air Consumption (0.5MPa) | ℓ /min(gal/min) | 500 (132.1) |
| | Electric Power Supply | kVA | 46.4 [49.4] |
| | Thickness of Power Cable | mm ² | Over 35 |
| | Voltage | V/Hz | 220/60 (200/50*) |
| MACHINE | Floor Space (L×W) | mm(in) | 2,475×3,966 (97.4"×156.1") 2,719×4,402 (107"×173.3") |
| | Height | mm(in) | 2,621 (103.2") 2,707 (106.6") |
| | Weight | kg(lb) | 9,500 (20,944) 11,500 (25,353) |
| CNC | Controller | - | FANUC 31i-B Plus |

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)
Specifications are subject to change without notice for improvement.

Specifications

Specifications

[] : Option

| ITEM | | HS5000/50 II | |
|---------------|---------------------------------------|------------------|--|
| PALLET | Pallet Size (L×W) | mm(in) | 2-500×500 (2-19.7"×19.7") |
| | Maximum Load Capacity | kg(lbf) | 2 - 1,000 (2 - 2,205) |
| | Maximum Working Size | mm(in) | Ø900×H1,100 |
| | Min. Indexing Angle | deg | 1° [0.001°] |
| SPINDLE | Spindle Taper | - | BBT50 [HSK-A100] |
| | Spindle RPM | r/min | 10,000 |
| | Spindle Motor Output (Max./Cont.) | kW(HP) | 45/25 (60/33.5) |
| | Spindle Torque (Max./Cont.) | N·m(lbf·ft) | 623/305 (459.5/225) |
| | Spindle Driving Method | - | BUILT IN |
| FEED | Travel (X/Y/Z axis) | mm(in) | 800/800/880 (31.5"/31.5"/34.6") |
| | Distance from Table Top to Sp. Center | mm(in) | 100 ~ 810 (3.9" ~ 31.9") |
| | Rapid Traverse Rate (X/Y/Z) | m/min | 60/60/60 |
| | Slide Type | - | ROLLER GUIDE |
| ATC | Number of Tools | EA | Ring Type : 40 [Chain Type : 60, 90, 120] [Matrix : 240] |
| | Tool Shank | - | BBT50 [HSK-A100] |
| | Max. Tool Dia. (W.T/W.O) | mm(in) | Ø125/Ø320 (Ø4.9"/Ø12.6") |
| | Max. Tool Length | mm(in) | 530 (20.9") |
| | Max. Tool Weight | kg(lb) | 25 (55) |
| | Tool Selection Method | - | Ring Type : Random [Chain Type : Fixed] |
| | Tool Change Time | T-T | sec |
| C-C | | sec | 4.0 |
| APC | No. of Pallet | ea | 2 |
| | APC Type | - | ROTARY TURN |
| | Pallet Change Time | sec | 10 |
| TANK CAPACITY | Coolant Tank | ℓ(gal) | 600 (158.5) |
| | Lubricating Tank | ℓ(gal) | 1.8/0.7 (0.5/0.2) : GREASE |
| | Hyd. Tank Unit | ℓ(gal) | 20 (5.3) |
| POWER SUPPLY | Air Consumption (0.5MPa) | ℓ / min(gal/min) | 500 (132.1) |
| | Electric Power Supply | kVA | 53.2 |
| | Thickness of Power Cable | mm ² | Over 50 |
| | Voltage | V/Hz | 220/60 (200/50*) |
| MACHINE | Floor Space (L×W) | mm(in) | 3,061×4,962 (120.5"×195.4") |
| | Height | mm(in) | 2,974 (117.1") |
| | Weight | kg(lb) | 16,000 (35,274) |
| CNC | Controller | - | FANUC 31i-B Plus |

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)
Specifications are subject to change without notice for improvement.

Controller

FANUC 31i-B Plus

[] : Option ☆ Needed technical consultation

| Controlled axis / Display / Accuracy Compensation | |
|---|--|
| Control axes | 4 axes (X, Y, Z, B) |
| Simultaneously controlled axes | 3 axes [Max. 4 axes] |
| Least setting Unit | X, Y, Z axes : 0.001 mm (0.0001 inch) B axes : 1 deg [0.001] deg |
| Least input increment | X, Y, Z axes : 0.001 mm (0.0001 inch) B axes : 1 deg [0.001] deg |
| Inch / Metric conversion | G20 / G21 |
| High response vector control | |
| Interlock | All axes / Each axis |
| Machine lock | All axes |
| Backlash compensation | ± 0 ~ 9999 pulses (Rapid traverse / Cutting feed) |
| Position switch | |
| LCD / MDI | 15" color LCD with Touch screen |
| Feedback | Absolute motor feedback |
| Stored stroke check 1 | Over travel |
| Stored stroke check 2, 3 | |
| Pitch error compensation | |
| Operation | |
| Automatic operation (Memory) | |
| MDI operation | |
| DNC operation | Needed DNC software / CF card |
| Program restart | |
| Wrong operation prevention | |
| Program check function | Dry run, Program check Z axis Machine lock, Stroke check before move |
| Single block | |
| Search function | Program Number / Sequence Number |
| Retraction for rigid tapping | |
| Manual guide i | Smart Guide i |
| Interpolation functions | |
| Nano interpolation | |
| Positioning | G00 |
| Linear interpolation | G01 |
| Cylindrical interpolation | G02, G03 |
| Exact stop mode | Single : G09, Continuous : G61 |
| One-way positioning | G60 |
| Inverse-time feed | G93 |
| Dwell | G04, 0 ~ 9999.9999 sec |
| Skip | G31 |
| Reference position return | 1st reference : G28 2, 3, 4 reference : G30 P2, P3, P4 Ref. position check : Z7 |
| Thread synchronous cutting | G33 |
| Helical interpolation | Circular + Linear interpolation 2 axes(max.) |
| Feed function / Acc. & Dec. control | |
| | Rapid traverse |
| Manual feed | Jog : 0~5,000mm/min (197 ipm) Manual handle : x1, x10, x100 pulses Reference position return |
| Cutting Feed command | Direct input F code |
| Feedrate override | 0 ~ 200% (10% Unit) |
| Rapid traverse override | F0% (F1%), F25%, F50%, F100% |
| Override cancel | |
| Feed per minute | G94 |
| Feed per revolution | G95 |
| Look-ahead block | 1,000 Block |
| Program input | |
| Tape Code | EIA / ISO |
| Optional block skip | 9 ea |
| Absolute / Incremental program | G90 / G91 |
| Program stop / end | M00, M01 / M02, M30 |
| Maximum command unit | ± 999,999.999 mm (± 99,999.9999 inch) |
| Plane selection | X-Y : G17 / Z-X : G18 / Y-Z : G19 |
| Workpiece coordinate system | G52, G53, 48 pairs (G54.1 P1 ~ P48) |
| Manual absolute | Fixed ON |
| Programmable data input | G10 |
| Sub program call | 10 folds nested |
| Custom macro | #100~#199, #500~#599, #98000~#98499 |
| Programmable mirror image | G51.1, G50.1 |

| Controlled axis / Display / Accuracy Compensation | |
|--|--|
| Polar coordinate command | G15, G16 |
| Do not look ahead function | G4.1 |
| Including Chamfering / Corner R | |
| Canned cycle | G73, G74, G76, G80 ~ G89 |
| Coordinate rotation | G68, G69 |
| Scaling | G50, G51 |
| Auxiliary function / Spindle speed function | |
| Auxiliary function | M 4 digit |
| Level-up M Code | Multi / By-Pass |
| Spindle speed command | S 5 digit , Binary output |
| Spindle override | 50% ~ 120% (10% Unit) |
| Spindle orientation | M19 |
| FSSB high speed rigid tapping | |
| Tool function / Tool compensation | |
| Tool function | Max. T 8 digit |
| Tool life management | 256 pairs ☆ |
| Tool offset pairs | 400 pairs |
| Tool nose radius compensation | G40, G41, G42 |
| Tool nose length compensation | G43, G44, G49 |
| Tool offset memory C | Tool length, diameter, abrasion (Length/Dia.) |
| Tool length measurement | Z axis Input C |
| Editing function | |
| Part program storage size | 10240m (4MB) |
| No. of registerable programs | 1,000 ea |
| Program protect | |
| Background editing | |
| Extended part program editing | |
| Memory card program edit | Copy, move and change of file program |
| Protection of data at 8 levels | |
| Data input / output & Interface | |
| I/O interface | Memory card, USB memory interface Embedded Ethernet interface |
| Screen hard copy | |
| External message | |
| External key input | |
| External workpiece number search | |
| Automatic data backup | |
| Setting, display and diagnosis | |
| Self-diagnosis function | |
| History display | Alarm & Operator message & Operation |
| Run hour / Parts count display | |
| Maintenance information | |
| Actual cutting feedrate display | |
| Display of spindle speed / T code | |
| Graphic display | |
| Operating monitor screen | |
| Power consumption monitoring | Spindle & Servo |
| Multi language display | Support 25 languages |
| Display language switching | Selection of 5 optional Languages |
| LCD Screen Saver | Screen saver |
| Macro Excutor | Custom software 8MB (WIA Screen)☆ |
| Processing select | Speed/ridigity setting |
| Option | |
| Fast ethernet | Needed option board |
| Data server | Needed option board (1GB, 2G, 4GB) |
| Sub Spindle control | ☆ |
| Polar coordinate interpolation | G12.1, G13.1 |
| Cylindrical interpolation | G07.1 |
| Manual handle feed | 2/3 units |
| Tool offset number | Max. 2,000 pair |
| Program storage capacity | ~32MByte |
| Program registration number | Max. 4,000 ea |
| Additional work coordinate | 300 pair (G54.1 P1 ~ P300) |

Figures in inch are converted from metric values.

The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

MOVEMENT FOR BETTER TOMORROW



ECO FRIENDLY

Minimizing Environmental Impact and Maintaining Sustainable Ecology

01

**Achieve
carbon
neutrality**

- Develop Net-zero Roadmap
- Heighten carbon emissions management
- Achieve carbon neutrality goals

02

**Boost
resource
circulation**

- Detail plans to reduce environmental impact
- Gradually reduce pollutant emissions
- Build eco-friendly supply chain

03

**Establish
environmental
management
framework**

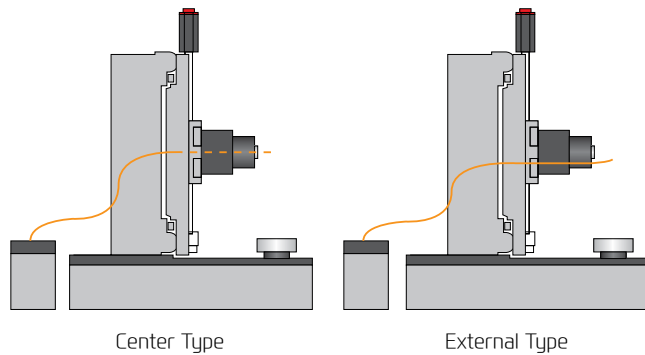
- Set up environmental management process
- Assess business impact of climate change risks

HYUNDAI WIA ECO SYSTEM

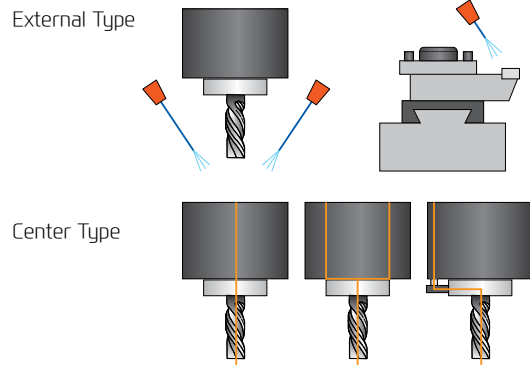
MQL (Minimal Quantity Lubrication)

The goal of this system is to spray only the amount of lubricant required to prevent heat and chip build up at the cutting tool or work piece face.

Example of Machining Center Application



Example of Etc.



Oil Skimmer

An oil skimmer can increase coolant and tool life by removing tramp oil contaminants.



Mist Collector

Mist Collector reduces the amount of smoke and oil mist in the air. This helps build a safe and comfortable working environment and improve durability.



Lubrication System

By applying lubricant only when the machines axis are moving lubrication consumption is reduced by compared to standard systems.

HYUNDAI WIA ENERGY SAVING

HW-ESS (HYUNDAI WIA Energy Saving System)

HYUNDAI WIA Machine tool provides the optimum power saving function that can easily save energy with an intuitive user interface.



1. **Machine-ready power saving function** : Put all servo motors and other motors into sleep mode when no control or operation is done for a set time
2. **Work light auto-off function** : The work light is turned off automatically when no control or operation is done for a set time
3. **Chip conveyor auto power saving** : Operation/non operation time (timer) can be set to save energy
4. **Auto Power-off** : Auto power off after ending the an operation after a period of time
5. **Eco function** : Machine ready sleep mode can be activated/de-activated from the controller panel
6. **Power consumption monitor** : Real time power consumption can be monitored through the OP screen



YouTube HYUNDAI WIA MT

www.youtube.com/HYUNDAIWIAMT

CREATING VALUE IN SEAMLESS MOBILITY

With its top-quality HYUNDAI WIA machine tool creates a new and better world.



<http://machine.hyundai-wia.com>

HYUNDAI WIA Machine Tools
Global Links

HEADQUARTER

Changwon Technical Center/R&D Center/Factory 153, Jeongdong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Korea TEL : +82 55 280 9114 FAX : +82 55 282 9114

Overseas Sales Team /R&D Center 37, Cheoldobangmulgwan-ro, Uiwang-si, Gyeonggi-do, Korea TEL : +82 31 8090 2539

OVERSEAS OFFICES

HYUNDAI WIA Machine America corp. 450 Commerce Blvd, Carlstadt, NJ 07072, USA TEL : +1-201-987-7298

HYUNDAI WIA Europe GmbH Alexander-Fleming-Ring 57, 65428 Rüsselsheim Germany TEL : +49-0-6142-9256-0

HYUNDAI WIA Machine Tools China 2-3F, Bldg6, No.1535 Hongmei Road, Xuhui District, Shanghai, China TEL : +86-21-6427-9885

Russia Branch Office 141006, Russia, Moscow Region, Mytishchi, Volkovskoe sh. 5A, b. 1, office 306 TEL : +7-495-502-7023

India Branch Office #4/169, 1st Floor, LOTTE BLDG, Rajiv Gandhi Salai, (OMR), Kandanchavadi, Chennai - 600096, Tamilnadu, India TEL : +91-76-0490-3348