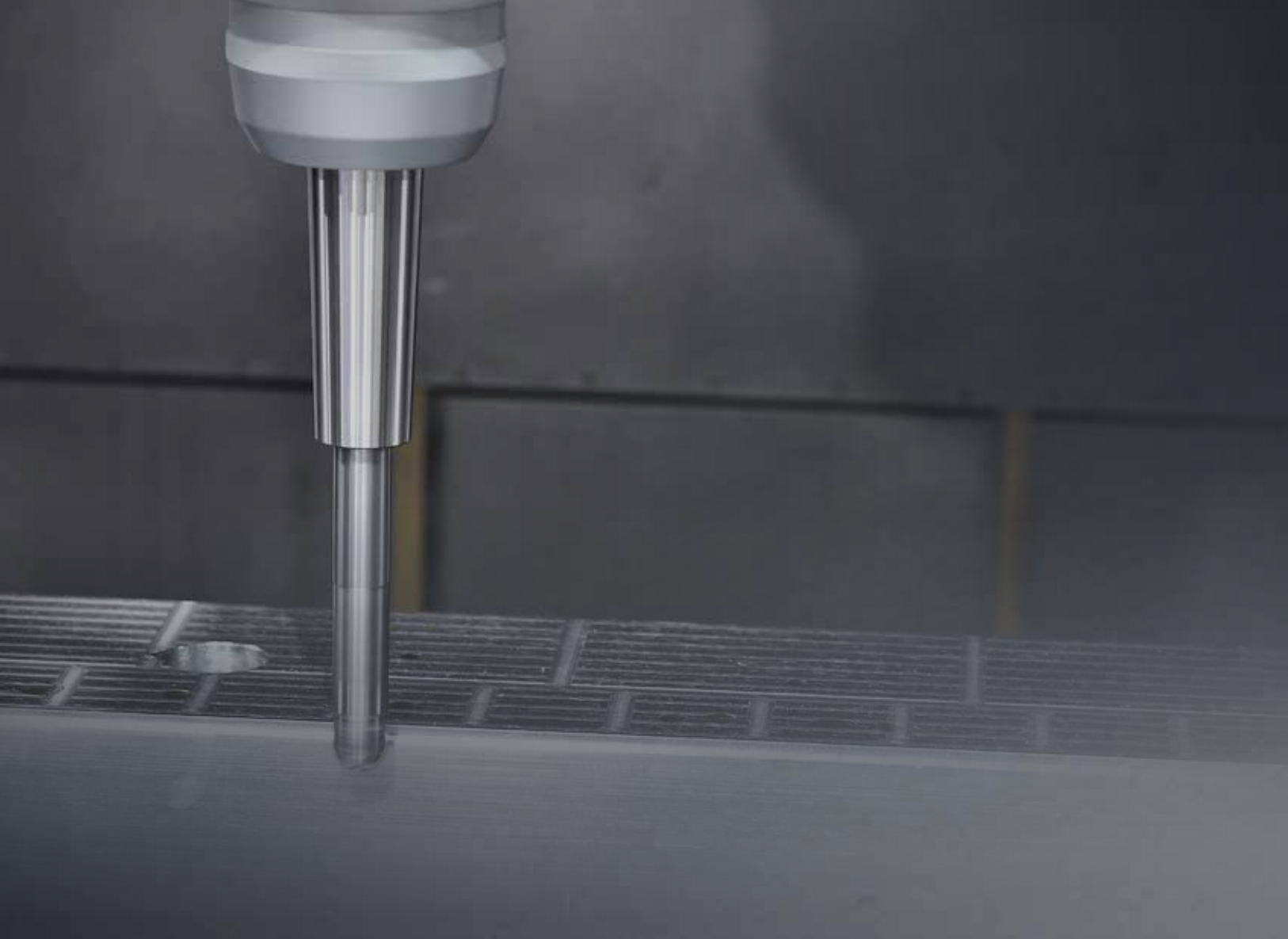


F

850

High Accuracy, Wide Range Vertical Machining Center

HYUNDAI WIA Vertical Machining Center



Technical Leader

The Vertical Machining Center F850, designed by Hyundai WIA with years of expertise and the latest technology, maximizes productivity while maintaining rigidity and accuracy.

F850

| | | |
|------------------------|--------|-------------------------------------|
| Table Size (L×W) | mm(in) | 1,800×850 (70.9"×33.5") |
| Max. Load Capacity | kg(lb) | 1,000 (2,205) |
| Spindle Taper | - | BT40 [BBT 40] |
| Spindle Speed | r/min | 12,000 [12,000] |
| Sp. Power (Max./Cont.) | kW(HP) | 25/10.5 (33.5/14) [18.5/11 (25/15)] |
| No. of Tools | EA | 24 [30] |
| Travel (X/Y/Z) | mm(in) | 1,600/850/580 (63"/33.5"/22.8") |
| Rapid Traverse Rate | m/min | 36/36/36 |

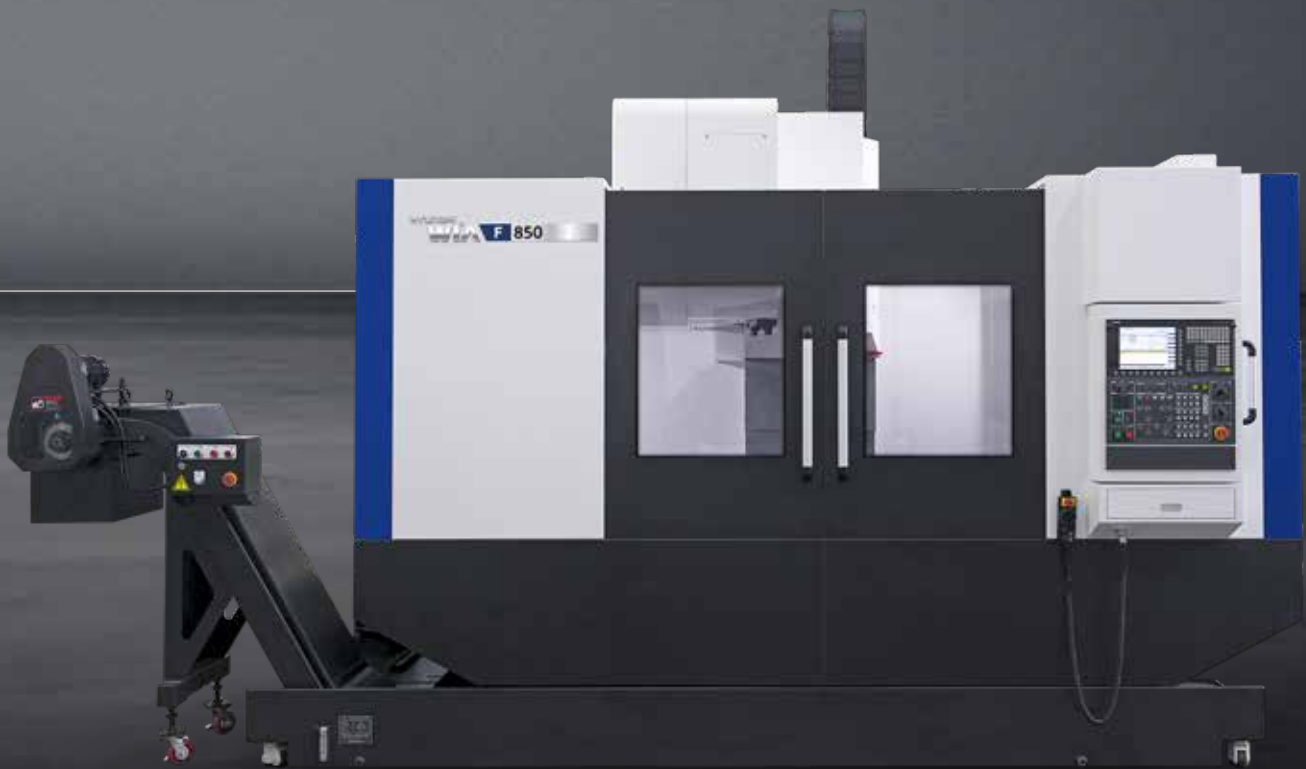
[] : Option

F

850

Advanced Technology, Vertical Machining Center

- Designed specifically for processing large aluminum metal plates and sheets
- 850mm(33.5") Y-axis for spacious machining area
- 4 guideways for Y-axis to enhance feed
- Roller Type LM Guide (130% increase in maximum load capacity compared to Ball Type)
- 12,000rpm high speed spindle with direct couplings
- High speed, 24 Tool Twin Arm ATC (C-C : 4.7sec)



01 BASIC STRUCTURE

High Speed & Productivity Vertical Machining Center

Magazine

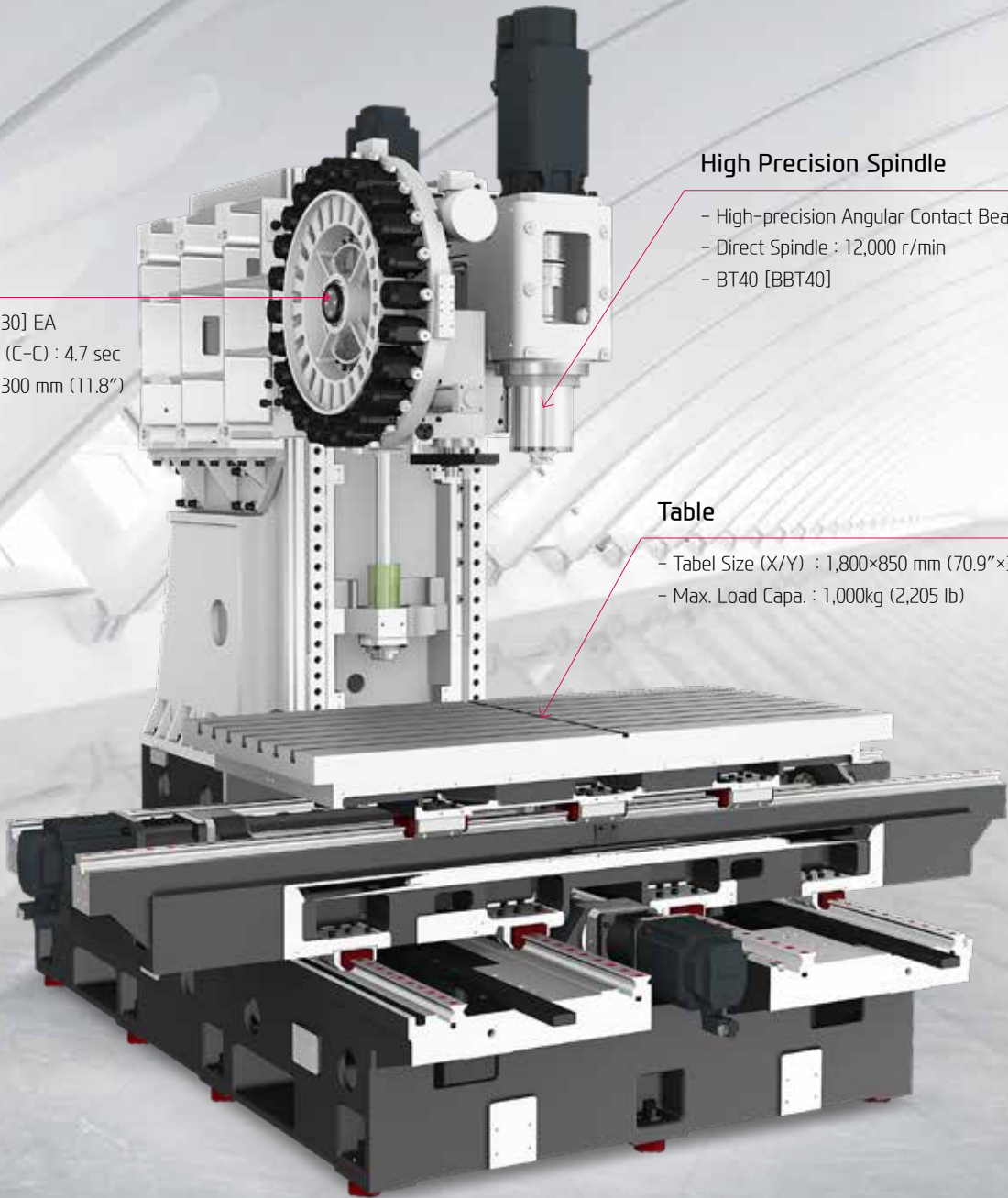
- No. of Tools : 24 [30] EA
- Tool Change Time (C-C) : 4.7 sec
- Max. Tool Length : 300 mm (11.8")

High Precision Spindle

- High-precision Angular Contact Bearing
- Direct Spindle : 12,000 r/min
- BT40 [BBT40]

Table

- Table Size (X/Y) : 1,800×850 mm (70.9"×33.5")
- Max. Load Capa. : 1,000kg (2,205 lb)

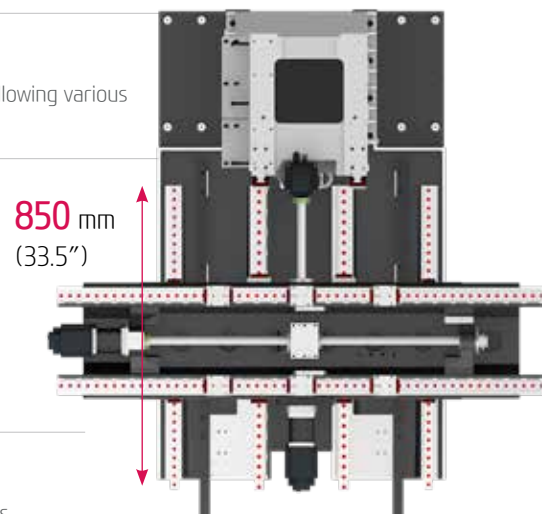


HIGH-PRECISION, SPEED & LARGE WORKING AREA

HIGH-PRECISION STRUCTURE

Extended Y-axis Structure

The travel on Y-axis is designed to be 850mm(33.5"), allowing various processing of large metal plates.



GUIDE WAY

4 Slideways

4 Slideways on the Y-axis to minimize sagging of X-axis, enabling manufacture of high precision products.

High-Speed Roller LM Guideway

In order to implement fast feed rate and high rigidity, Roller Bearing LM Guideway was chosen over the conventional Ball Bearing LM Guideway, resulting in a super-fast 36m/min feed rate, at the same time reinforcing maximum load capacity. **(130% increased)**

Double Anchored Ballscrew

In order to eliminate thermal growth and increase accuracy, all axes are driven by high precision double anchored ballscrews. The double anchored and pretensioned design provides outstanding positioning and repeatability with virtually no thermal growth.



**HIGH COLUMN
OPTION**

200 mm (7.9")

As an option, solid body high columns with 200mm (7.9") Z-axis stroke can be installed.

Travel (X/Y/Z)

1,600/850/580 mm

(63"/33.5"/22.8")

Rapid Traverse Rate (X/Y/Z)

36/36/36 m/min

(1,417/1,417/1,417 ipm)

02 SPINDLE & ATC

Excellent Machining Performance with High-precision Spindle & ATC

SPINDLE



Direct Type Spindle

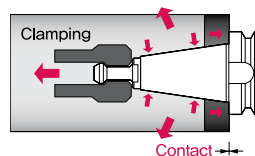
F850[12,000rpm] has a spindle that is directly connected to the motor so that spindle acc/ deceleration time is reduced. Also, it is designed to make maintenance more convenient.

Spindle Cooling

The spindle cooling system minimizes thermal displacement which can happen during lengthy machining operations, and offers reliable machining based on the thermal stability.

Dual Contact Spindle **OPTION**

The Big Plus spindle system (BBT40) provides dual contact between the spindle face and the flange face of the tool holder.



Through Spindle Coolant **OPTION**

Through Spindle Coolant is exceedingly useful when drilling deep holes. It helps increase the lifetime of the tool, while decreasing cycle time.

20 bar / 30 bar / 70 bar



| FACE MILL (Material : S45C) | |
|--------------------------------|-------------------------|
| Tool diameter | Ø80 mm (Ø3.14") × 6F |
| Cutting depth | 3 mm (0.118") |
| Cutting width | 70 mm (2.755") |
| Cutting speed | 286 mm/min (11.25 ipm) |
| Spindle speed | 1,137 r/min |
| Feed rate | 0.9 mm/rev (0.035"/rev) |
| Chip quantity | 210 cc/min |

| DRILL (Material : S45C) | |
|----------------------------|-------------------------|
| Tool diameter | Ø32 mm (Ø1.25") |
| Cutting depth | 40 mm (1.57") |
| Cutting speed | 24 mm/min (0.94 ipm) |
| Spindle speed | 268 r/min |
| Feed rate | 0.2 mm/rev (0.007"/rev) |
| Chip quantity | 43 cc/min |

| TAP (Material : S45C) | |
|--------------------------|-----------------------|
| Tap spec./Pitch | M24 × P3.0 |
| Cutting depth | 40 mm (1.57") |
| Cutting speed | 8 mm/min (0.31 ipm) |
| Spindle speed | 106 r/min |
| Feed rate | 3 mm/rev (0.118"/rev) |

❖ The above results might be different based on your processing circumstances.

ATC & MAGAZINE

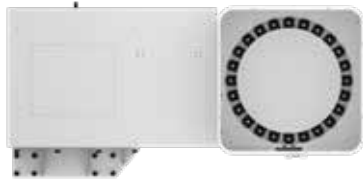
ATC

Position control through the Twin Arm ATC on Servo Motors has improved drastically. The twin arm ATC makes it possible for faster tool change and increased productivity.

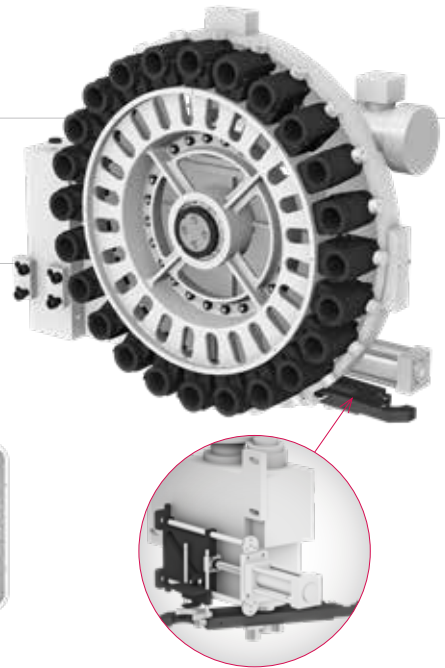
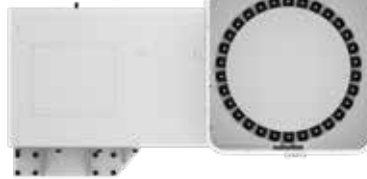
Magazine

The tool magazine holds 24 tools as standard and 30 tools as an option. Random access allows faster tool change and increase in productivity.

24 Tool Magazine



30 Tool Magazine



| No. of Tools | Tool Shank | Max. Tool Length | Max. Tool Weight | Tool Chang Time (C-C) | Max. Tool Dia. (W.T/W.O) |
|--------------|--------------|------------------|------------------|-----------------------|---------------------------|
| 24 [30] EA | BT40 [BBT40] | 300 mm (11.8") | 8 kg (17.6 lb) | 4.7 sec | Ø90/Ø150 mm (Ø3.5"/Ø5.9") |

[] : Option

LARGE WORKING AREA TABLE

A large, 1,800×850mm (70.9"×33.5") table is suitable for large product machining.

The table has a maximum load capacity of up to 1,000kg (2,205 lb), which demonstrates its ability to handle heavy-duty tasks.



◎ Table Size : 1,800×850 mm (70.9"×33.5")

◎ Max. Load Capacity : 1,000 kg (2,205 lb)

03 SIEMENS Controller

The Powerful CNC Platform for Machine Tools



SIEMENS

**Differentiated Capabilities, Integrated Engineering
Perfectly Interlinked**

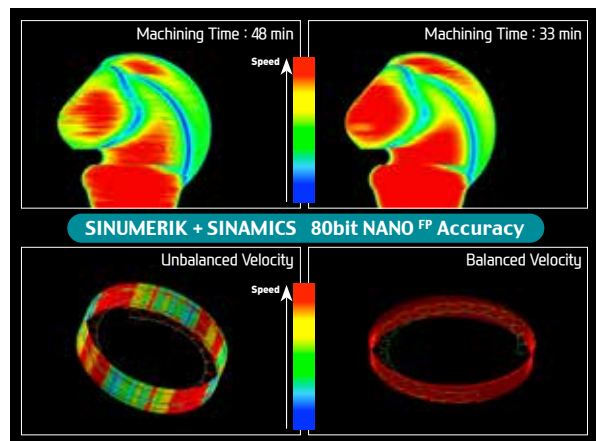
SIEMENS 828D is a latest model CNC, in which a maximum of 6 spindles can be installed. It is designed for horizontal/vertical all-purpose equipment.

Its 80-bit control, allows for decreased processing time and increased productivity. The 828D is easy to maintain and run, as it has easy setup functions.



SIEMENS Advanced Surface

The SIEMENS 828D comes with an Advanced Surface Metal Processing software that monitors speed and accuracy.



SIEMENS Technology

Shop Mill

- Dialogue-type programming, simple and convenient
- Effective specifications for small quantity batch production
- Step-by-step operation possible without knowledge of the DIN/ISO code



OPTION

3D Simulation

- 3D confirmation (an option) of the completed processing configuration of the NC program is possible.
- Offers standards for 2Dsimulation.
- Possible to confirm the simulation of the NC program during processing.



OPTION

Easy Extend

- Easy to install/uninstall an option (Ex : barfeeder and chip conveyor, etc.)
- Possible to install in one motion without revision of individual perimeters.
- A spate list is unnecessary as option items are indicated with letters.



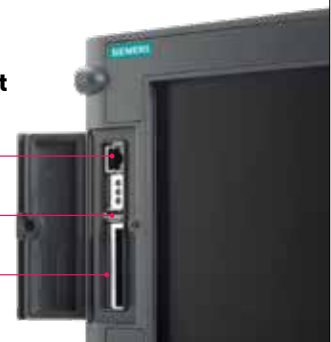
SIEMENS Communication

Variable Communication Port

RJ 45 Ethernet

USB 2.0

Compact Flash Card



Easy input/output of a program is possible as a USB memory card, a CF memory card and LAN can all be used.

ISO Code Programming



If the ISO Dialect (G291) is ordered, JIS-based G-code programs can be used. (Standard)

04 HYUNDAI WIA FANUC – SMART PLUS

The Compatible All-round Control



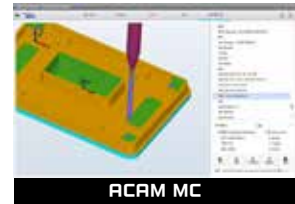
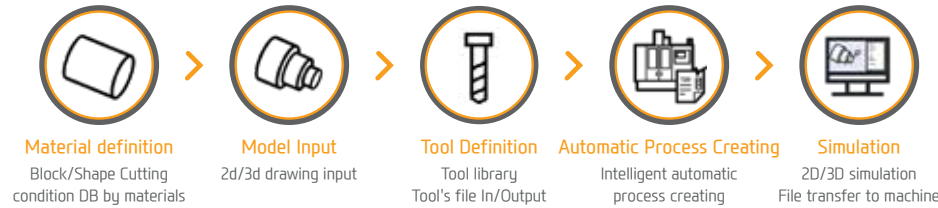
15" Touch-type Monitor as a standard

| | |
|------------------------------------|--|
| Smart Machine Control | Fast Cycle Time Technology |
| Conversational Program | Fine Surface Technology |
| i-HMI | SmartGuide-i |
| AI Contour Control | Machining-aid Function |
| Smooth Tolerance Control | AICC-2 (200 blocks) |
| JERK Control | 0.1 μ m command and specify tolerance |
| Machining Condition Selection | Diminished vibration by controlling acceleration speed |
| Machining Quality Control Function | Designated machining level based on speed & quality |
| Part Program Storage | Smooth Tolerance+ integrated support |
| No. of Registerable Programs | 5120M (2MB) |
| | 1000 EA |

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 | | F850 |
|--|-------------------------------|------|
| 12,000rpm (25kW [33.5HP]) | SIEMENS | ● |
| 12,000rpm (18.5kW [25HP]) | FANUC | ○ |
| Spindle Cooling System | | ● |
| ATC | | |
| ATC Extension | 24 | ● |
| | 30 | ○ |
| Tool Shank Type | BT40 | ● |
| | BBT40 (FANUC) | ○ |
| U-Center | D'andrea | - |
| | 45° | ● |
| Pull Stud | 60° | ○ |
| | 90° | ○ |
| | | ○ |
| Table & Column | | |
| Tap Type Pallet | | - |
| T-Slot Pallet | | ● |
| NC Rotary Table | | ☆ |
| High Column | 200mm(7.9") | ○ |
| Coolant System | | |
| Std. Coolant (Nozzle) | | ● |
| Bed Flushing Coolant | | ● |
| Through Spindle Coolant* | 20bar | ○ |
| | 30bar, 20ℓ (5.3 gal) | ○ |
| | 70bar, 15ℓ (4 gal) | ○ |
| | 70bar, 30ℓ (7.9 gal) | ○ |
| Top Cover | | ● |
| Shower Coolant | | ○ |
| Gun Coolant | | ○ |
| Side Oil Hole Coolant | | ☆ |
| Air Gun | | ○ |
| Spindle Air Blow | | ○ |
| Tool Measuring Air Blow (Only for TLM) | | ○ |
| Air Blow for Automation | | ☆ |
| Thru MQL Device (Without MQL) | | ☆ |
| Coolant Chiller | | ☆ |
| Power Coolant System (For Automation) | | ☆ |
| Chip Disposal | | |
| Coolant Tank | 650ℓ (171.7 gal) | ● |
| Cabin Screw Chip Conveyor | | - |
| Chip Conveyor (Hinge/Scraper) | Left (Left) | ○ |
| | Left (Rear) | - |
| Special Chip Conveyor (Drum Filter) | | ☆ |
| Chip Wagon | Standard (180ℓ [47.5 gal]) | ○ |
| | Swing (200ℓ [52.8 gal]) | ○ |
| | Large Swing (290ℓ [76.6 gal]) | ○ |
| | Large Size (330ℓ [87.2 gal]) | ○ |
| | Customized | ☆ |
| ETC | | |
| Tool Box | | ● |
| Customized Color | Need for Munsel No. | ☆ |
| CAD&CAM Software | | ☆ |
| Electric Device | | |
| Call Light | 1 Color : ● | ● |
| Call Light & Buzzer | 3 Color : ● ● ● B | ○ |
| Work Light | | ● |
| Electric Cabinet Light | | ○ |
| Remote MPG | | ● |
| 3 Axis MPG | | ○ |
| Work Counter | Digital | ○ |
| Total Counter | Digital | ○ |
| Tool Counter | Digital | ○ |
| Multi Tool Counter | 6 EA | ☆ |
| | 9 EA | ☆ |
| Electric Circuit Breaker | | ○ |
| AVR (Auto Voltage Regulator) | | ☆ |

| Electric Device | | F850 |
|---|---------------------|------|
| Transformer | 45kVA | ○ |
| | 55kVA | - |
| Auto Power Off | | ○ |
| Back up Module for Black out | | - |
| Measuring Device | | |
| Air Zero | TACO | ○ |
| | SMC | ○ |
| Work Measuring Device | | ○ |
| TLM (Marposs/Renishaw/Blum) | Touch | ○ |
| | Laser | ○ |
| Tool Broken Detective Device | | ☆ |
| Linear Scale | X/Y/Z Axis | ○ |
| Coolant Level Sensor | | ☆ |
| (Only for Chip Conveyor, Bladder Type) | | |
| Environment | | |
| Air Conditioner | | ○ |
| Dehumidifier | | ○ |
| Oil Mist Collector | | ☆ |
| Oil Skimmer (Only for Chip Conveyor) | | ○ |
| MQL (Minimal Quantity Lubrication) | | ☆ |
| Fixture & Automation | | |
| Auto Door | Std. | ○ |
| | High Speed | ○ |
| Auto Shutter (Only for Automatic System) | | ☆ |
| Sub O/P | | ☆ |
| NC Rotary Table/F | Single | ○ |
| | Channel | ☆ |
| Control of Additional Axis | 1Axis | ○ |
| | 2Axis | ☆ |
| External M Code 4ea | | ○ |
| Automation Interface | | ☆ |
| I/O Extension (In & Out) | 16 Contact | ☆ |
| | 32 Contact | ☆ |
| Hyd. Device | | |
| Std. Hyd. Unit | 45bar/20ℓ (5.3 gal) | ● |
| | 70bar/65ℓ (17 gal) | - |
| Hyd. Unit for Fixture | 45bar | ○ |
| | 70bar | ○ |
| | 100bar | ☆ |
| | 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 | | ☆ |

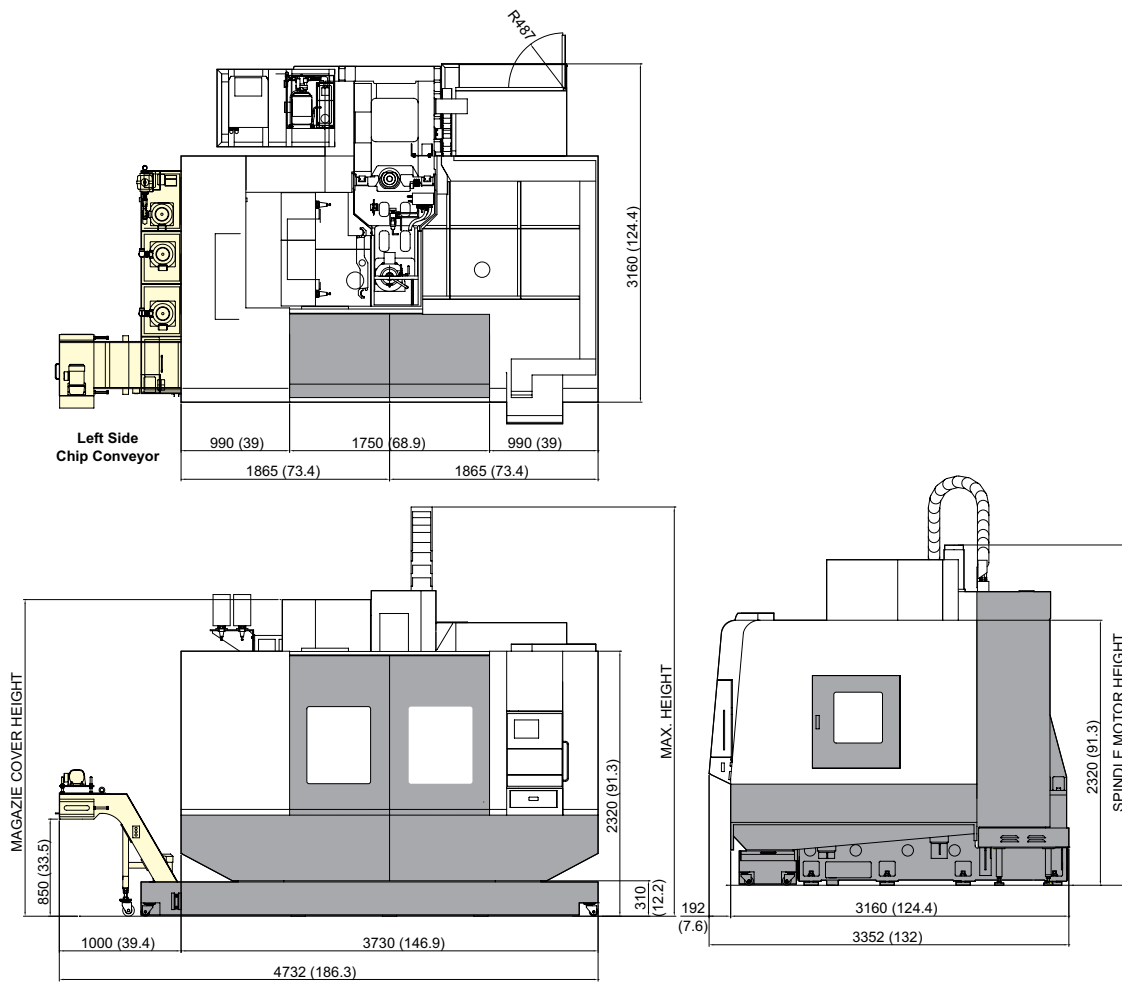
Through Spindle Coolant* : Please check the filter types with sales representative.

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

SPECIFICATIONS

External Dimensions

unit : mm(in)



High Column : 200 mm (7.9")

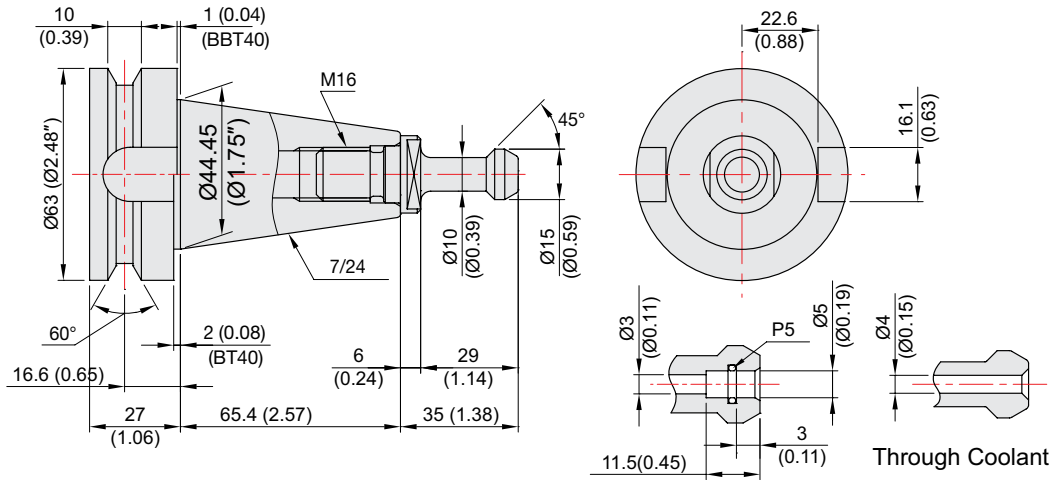
| Height Item | Max. Height | Height to Magazine Cover | | Shipping Height | Spindle Motor Height |
|-------------|---------------|--------------------------|---------------|-----------------|----------------------|
| | | 20 tool | 30 tool | | |
| Std. Column | 3,592 (141.4) | 2,636 (103.8) | 2,815 (110.8) | 3,496 (137.6) | 3,012 (118.6) |
| High Column | 3,792 (149.3) | 2,836 (111.7) | 3,015 (118.7) | 3,696 (145.5) | 3,212 (126.5) |

SPECIFICATIONS

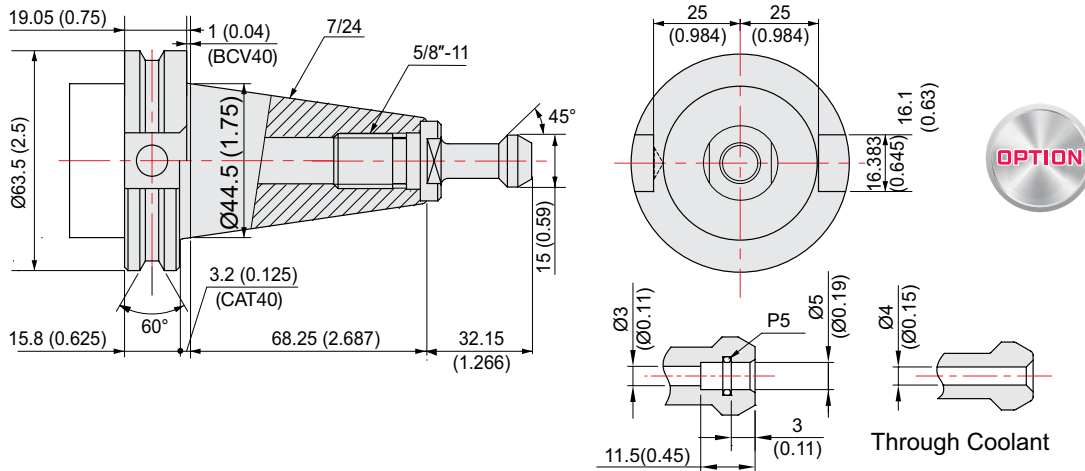
Tool Shank

unit : mm(in)

BT40/BBT40, BIG PLUS



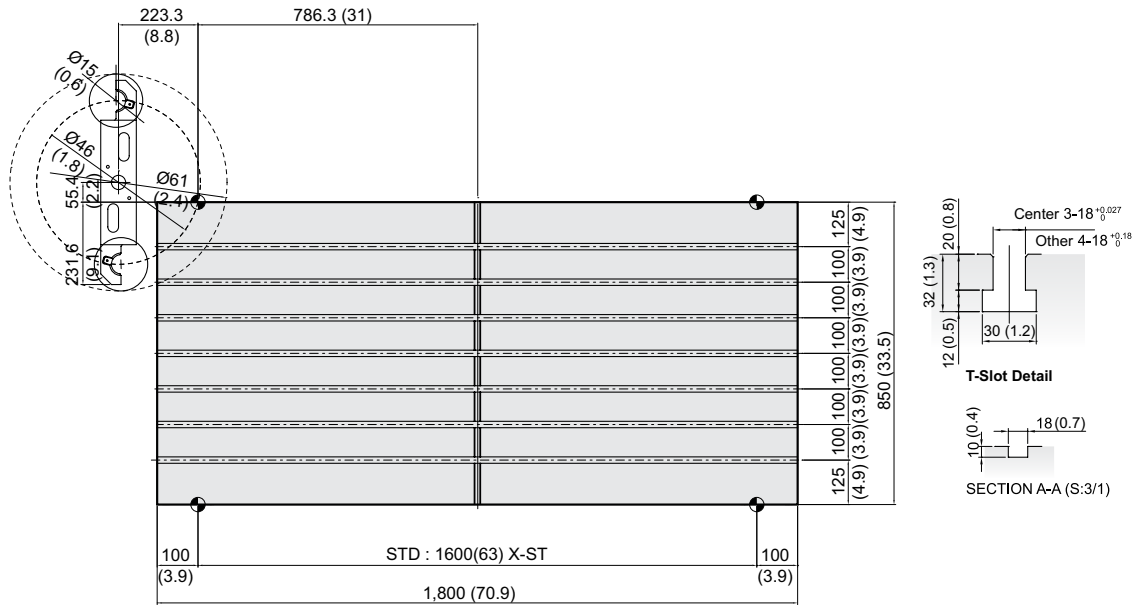
CAT40/BCV40



SPECIFICATIONS

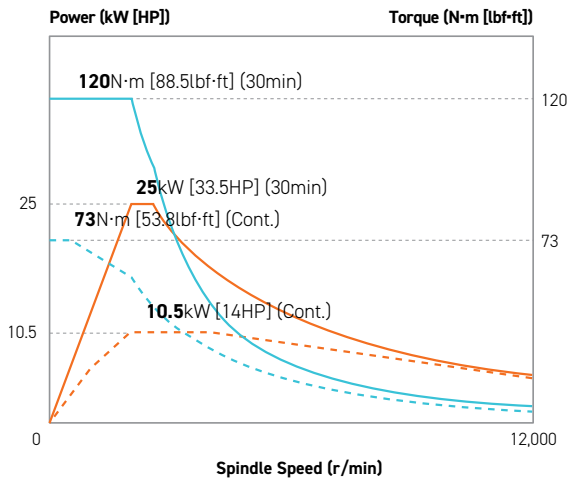
Table Dimensions

unit : mm(in)

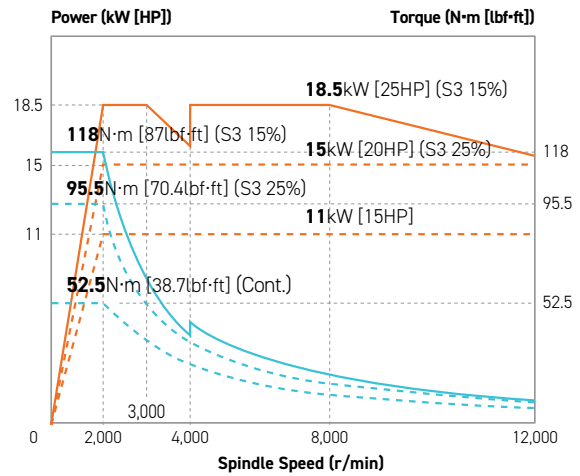


Spindle Output/Torque Diagram

SIEMENS 12,000 rpm



FANUC 12,000 rpm



SPECIFICATIONS

Specifications

[] : Option

| ITEM | | F850 | |
|---------------|-------------------------------------|-----------------|--|
| TABLE | Table Size | mm(in) | 1,800×850 (70.9"×33.5") |
| | Maximum Load Capacity | kg(lb) | 1,000 (2,205) |
| | Table Change Time | sec | - |
| | Change Method | - | - |
| | Table Driving Method | - | - |
| SPINDLE | Spindle Taper | - | BT40 [BBT40] |
| | Spindle RPM | r/min | 12,000 [12,000] |
| | Spindle Power (Max./Cont.) | kW(HP) | 25/10.5 (33.5/14) [18.5/11 (25/15)] |
| | Spindle Torque (Max./Cont.) | N·m(lbf·ft) | 120/73 (88.5/53.8) [118/52.5 (87/38.7)] |
| | Spindle Driving Method | - | DIRECT |
| FEED | Travel (X/Y/Z) | mm(in) | 1,600/850/580 (63"/33.5"/22.8") |
| | Distance from Table Top to SP. Nose | mm(in) | 150~730 (5.9"~28.7") |
| | Distance from Column to SP. Center | mm(in) | 932 (36.7") |
| | Rapid Traverse Rate (X/Y/Z) | m/min | 36/36/36 |
| | Slide Type | - | ROLLER GUIDE |
| ATC | Number of Tools | EA | 24 [30] |
| | Tool Shank | - | BT40 [BBT40] |
| | Max. Tool Dia. (W.T / W.O) | mm(in) | Ø90/Ø150 (3.5"/5.9") |
| | Max. Tool Length | mm(in) | 300 (11.8") |
| | Max. Tool Weight | kg(lb) | 8 (18) |
| | Tool Selection Method | - | RANDOM |
| | Tool Change Time | T-T | sec |
| C-C | | sec | 4.7 |
| TANK CAPACITY | Coolant Tank | ℓ (gal) | 650 (171.7) |
| | Lubricating Tank | ℓ (gal) | 3.1 (0.8) |
| | Hydraulic Tank | ℓ (gal) | 13 (3.4) |
| POWER SUPPLY | Air Consumption (0.5MPa) | ℓ /min(gal) | 500 (132.1) |
| | Electric Power Supply | KVA | 65 |
| | Thickness of Power Cable | mm ² | OVER 25 |
| | Voltage | V/Hz | 380V, 50*/60Hz |
| MACHINE | Floor Space (L×W) | mm(in) | 3,730×3,352 (146.9"×132") |
| | Height | mm(in) | 3,592 (141.4") |
| | Weight | kg(lb) | 15,000 (3,307) |
| PC | Controller | - | SIEMENS 828D [HYUNDAI WIA FANUC i Series - Smart 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

SIEMENS 828D

[] : Option ☆ Needed technical consultation

Controlled axis / Display / Accuracy Compensation

| | |
|--------------------------------|--|
| Control axes | 3 axes (X, Y, Z) [4 axes (X, Y, Z, A)] [5 axes (X, Y, Z, A, C)] |
| Simultaneously controlled axes | Max. 4 axes |
| Least setting Unit | X, Y, Z axes : 0.001 mm (0.0001 inch) [A, C (B) axes : 1 deg [0.001] deg] |
| Least input increment | X, Y, Z축 : 0.001 mm (0.0001 inch) [A, C (B) axes : 1 deg [0.001] deg] |
| Inch / Metric changeover | G70 (inch) / G71 (metric) |
| Interlock | All axes / Each axis |
| Pitch error compensation | |
| Feedforward control | |
| LCD / MDI | 10.4 inch color LCD [15 inch color LCD (With Touch panel)] |
| Keyboard | QWERTY full keyboard |
| Stored stroke check | Over travel |

Operation

| | |
|------------------------|--|
| Automatic operation | |
| MDI operation | |
| Program restart | |
| Program check function | Dry run / Program check / Machine lock |
| Single block | |
| Block search | Block search |
| Reposition | |
| Working area limit | Working area limitations |

Interpolation functions

| | |
|---|---|
| Positioning | G00 |
| Linear interpolation | G01 |
| Circular interpolation | Circular Interpolation CW (G02) Circular Interpolation CCW (G03) |
| Exact position stop | Single block exact stop (G09) Exact stop G60 (G601, G602, G603) |
| Dwell | Dwell (G04) |
| Reference position return | Return to reference point Return to 2nd reference point |
| Helical interpolation | |
| Spline interpolation | Non-uniform rational B splines |
| Compressor for 3-axis machining (Improving machining quality) | Compacd /Compcurv (Cycle 832) |

Feed function / Acc. & Dec. control

| | |
|-------------------------|---|
| Manual feed | Rapid traverse Jog Manual handle Reference position return |
| Cutting Feed command | Direct input F code |
| Feedrate override | 0 ~ 200% (10% Unit) |
| Rapid traverse override | 1%, 25%, 50%, 100% |
| Feed per minute | G94 |
| Feed per revolution | G95 |
| Look-ahead block | 300 block 450 block : (SW28X Mold) [600 block] |

Program input

| | |
|-----------------------------|--|
| ISO correspondence | G291 (ISO)/G290 (ISO G Code system-A) |
| Optional block skip | 2 |
| Program stop / end | M00, M01 / M02, M30 |
| Maximum command unit | ± 999,999.999 mm, ± 99,999.9999 inch |
| Plane selection | X-Y : G17, X-Z : G18, Y-Z : G19 G54 ~ G57, G505~G549 |
| Workpiece coordinate system | G500 (Basic frame - settable zero offset) G53 (Work offset non modal) G153 (basic frame non modal) |
| Sub program call | 11 folds nested |
| G code preventing buffering | STOPRE |
| Drilling/Milling cycle | Programing (Cycle 82, 83, 84, 840) |
| User cycle | |

Auxiliary function / Spindle speed function

| | |
|--------------------------------|----------------------|
| Auxiliary function | M Code 4 digit |
| Spindle speed function | S Code 5 digit |
| Spindle override | 0% ~ 150% (10% Unit) |
| Spindle orientation | SPOS |
| Rigid tapping | |
| Automatic mode Interchange | Spindle / Axis mode |
| Constant surface speed control | G96, G97 |
| Spindle speed limitation | LIMS |

Tool function / Tool compensation

| | |
|------------------------------|--|
| Tool function | Tool number & Tool name Tool : T + Offset : D |
| Tool life management | |
| Tools in tool list | 256 ea 768 ea : (SW28X Mold) |
| Cutting Edges in tool list | 512 ea 1,536 ea : (SW28X Mold) |
| Tool radius compensation | ISO (G40, G41, G42) |
| Tool length offset | |
| Geometry / Wear compensation | |
| Measurement of tool length | |
| Tool management function | |

Editing function

| | |
|-------------------------------|---|
| Part program storage size | 5MB 10MB : (SW28X Mold) |
| No. of registerable programs | 750 ea |
| External Storage devices | Local network, Server, USB, Flash drive |
| Background editing | |
| Extended part program editing | Copy, move and change of NC program |
| Memory card program edit | |

Data input / output & Interface

| | |
|---------------|--|
| I/O interface | CF card interface (ONLY 10.4") USB memory interface Embedded Ethernet memory interface |
|---------------|--|

Screenshot

Setting, display and diagnosis

| | |
|-----------------------------------|---|
| Self-diagnosis function | |
| History display & Operation | 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 | Spindle / Servo load etc. |
| Multi language display | Support 9 languages Chinese (Simplified/Traditional), English, French, German, Italian, Korean, Portuguese, Spanish [☆ 22 Support languages : Inquiry need] |
| LCD Screen Saver | Screen saver & Motion sensing |

Option

| | |
|--------------------------------|--|
| Additional optional block skip | 10 ea |
| Additional axis control | |
| Contour handwheel | |
| 3D simulation | |
| Real time simulation | |
| ShopMill | Machining step programming for milling |

CONTROLLER

HYUNDAI WIA FANUC i Series – SMART PLUS

[] : Option ☆ Needed technical consultation

| Controlled axis / Display / Accuracy Compensation | |
|---|---|
| Control axes | 3 axes (X, Y, Z) [4 axes (X, Y, Z, A)] [5 axes (X, Y, Z, A, C)] |
| 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 | |
| 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 inch LCD unit (with Touch Panel) |
| Feedback | Absolute motor feedback |
| Stored stroke check 1 | Over travel |
| Stored stroke check 2, 3 | |
| Stored 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 Stored limit check before move |
| Single block | |
| Search function | Program Number / Sequence Number |
| Handle interruption | |
| Interpolation functions | |
| Nano interpolation | |
| Positioning | G00 |
| Linear interpolation | G01 |
| Circular interpolation | G02, G03 |
| Exact stop mode | Single : G09, Continuous : G61 |
| Dwell | G04, 0 ~ 9999.9999 sec |
| Skip | G31 |
| Reference position return | 1st reference, G28 / 2nd reference, G30 Ref. position check, G27 |
| Single direction positioning | G60 |
| Thread synchronous cutting | G33 |
| Helical interpolation | Circular + Linear 2 axes (Max.) |
| Feed function / Acc. & Dec. control | |
| Manual feed | Rapid traverse Jog : 0~2,000mm/min (79 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 | 1%, 25%, 50%, 100% |
| Override cancel | |
| Feed per minute | G94 |
| Feed per revolution | G95 |
| Cylindrical interpolation | G07.1 |
| Inverse time feed | G93 |
| Look-ahead block | 200 blocks (AI APC) |
| 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 ~ 48) |
| Manual absolute | Fixed ON |
| Programmable data input | G10 |
| Sub program call | 10 folds nested |
| Custom macro | #100 ~ #199, #500 ~ #999 |
| Programmable mirror image | G51.1, G50.1 |
| G code preventing buffering | G4.1 |
| Optional chamfering corner R | |

| Program input | |
|---|---|
| Polar coordinate command | G15, G16 |
| Canned cycle | G73, G74, G76, G80 ~ G89 |
| Scaling | G50, G51 |
| Coordinate system rotation | G68, G69 |
| Conversational Program | SmartGuide-i |
| Auxiliary function / Spindle speed function | |
| Level-up M Code | Multi / Bypass M code |
| Spindle speed function | S & 5 digit , Binary output |
| Spindle override | 0% ~ 150% (10% Unit) |
| Spindle orientation | M19 |
| Retraction for rigid tapping | |
| FSSB high speed rigid tapping | |
| Tool function / Tool compensation | |
| Tool function | Max. T8 digit |
| Tool life management | |
| Tool offset pairs | 400 pairs |
| Tool nose / radius compensation | G40, G41, G42 |
| Tool length offset | G43, G44, G49 |
| Tool offset memory C | Tool geometry and wear (Cutter and tool length) |
| Tool length measurement | Z axis Input C |
| Editing function | |
| Part program storage size | 5,120m (2MB) |
| No. of registerable programs | 1,000 ea |
| Program protect | |
| Background editing | |
| Extended part program editing | Copy, move and change of NC program |
| Memory card program edit | |
| Data input / output & Interface | |
| I/O interface | CF card, USB memory 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 & Operation | 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 | Spindle / Servo load etc. |
| Power consumption monitoring | Spindle & Servo |
| Spindle / Servo setting screen | |
| Multi language display | Support 24 languages |
| Display language switching | Selection of 5 optional Languages |
| LCD Screen Saver | Screen saver |
| Option | |
| Fast ethernet | Needed option board |
| Data server | Needed option board |
| Protection of data at 8 levels | |
| Additional Axis | |
| Manual handle feed | 2/3 units #100 ~ #199, #500 ~ #999, #98000 ~ #98499 |
| Add. Workpiece | Max. 300 pairs (G54.1 P1 ~ P300) |
| AICC II | 400 blocks ☆ |

Figures in inch are converted from metric values.

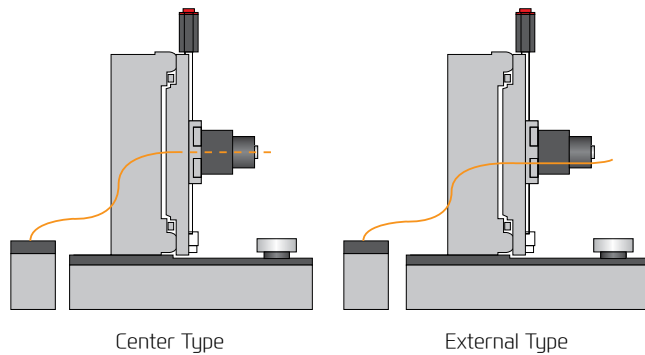
The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

HYUNDAI WIA ECO SYSTEM

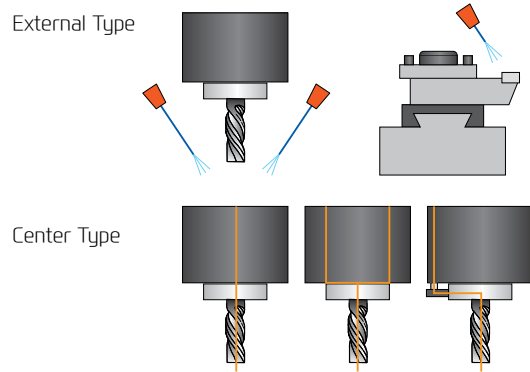
MQL (Minimal Quantity Lubrication)

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.



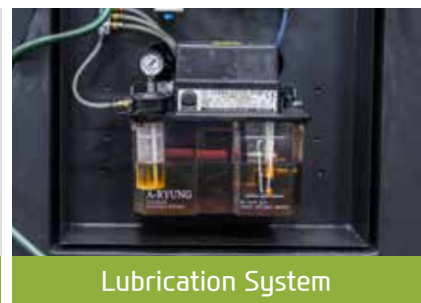
Oil Skimmer

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



You Tube HYUNDAI WIA MT

www.youtube.com/HYUNDAIWIAMT

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