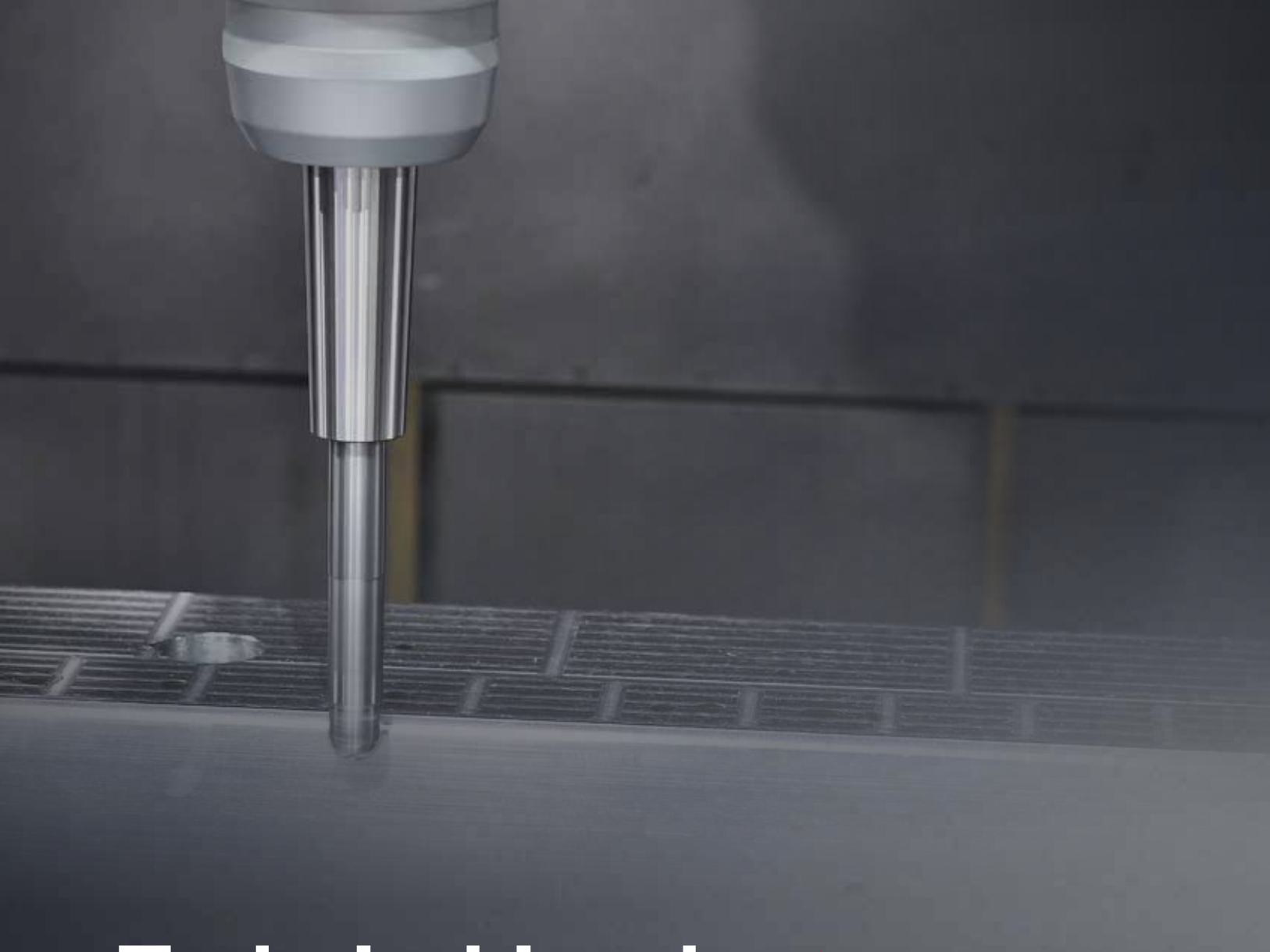
HYUNDAI
MOTOR GROUP

F 850

High Accuracy, Wide Range Vertical Machining Center

HYUNDAI WIA Vertical Machining Center

HYUNDAI WIA | CREATING VALUE IN SEAMLESS MOBILITY



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.

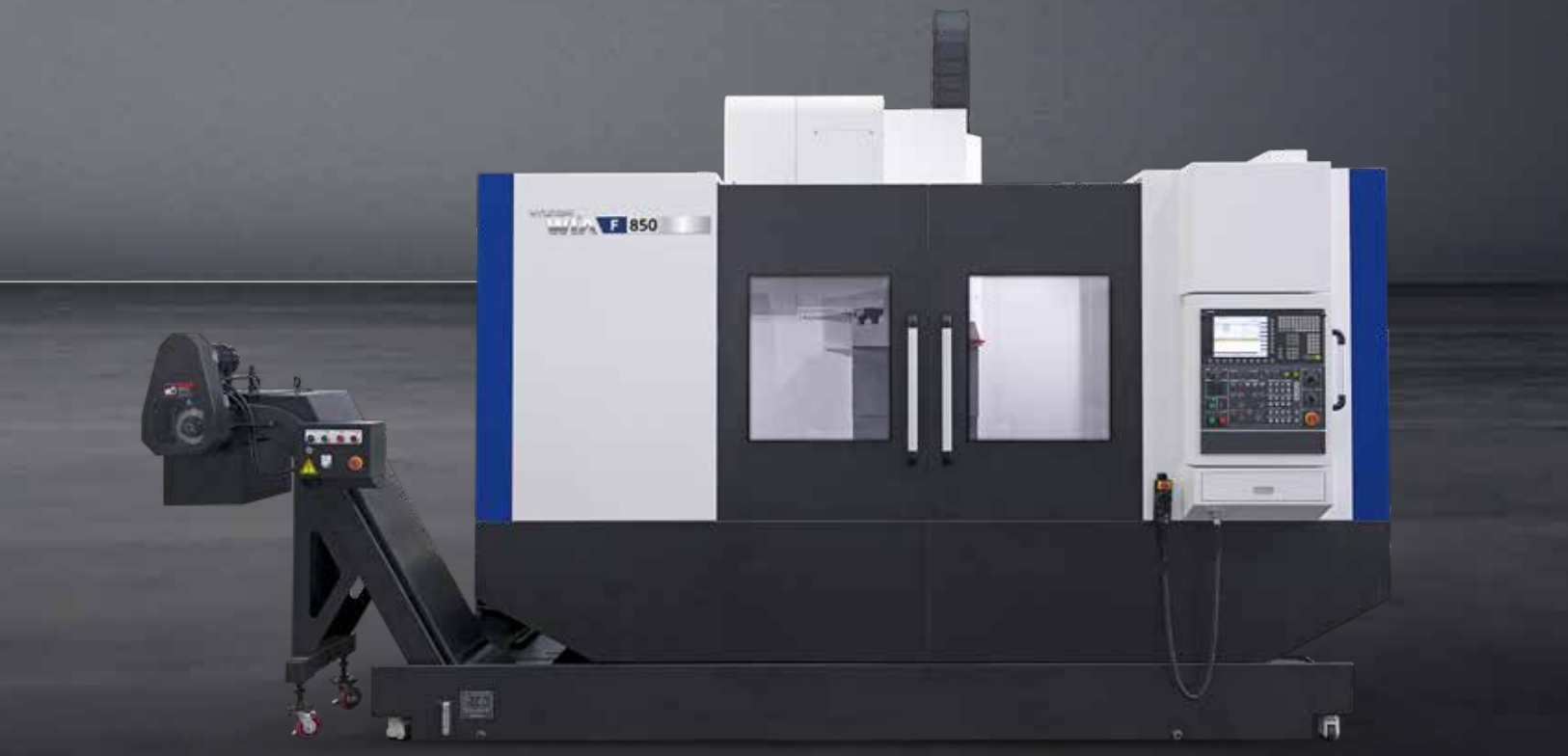
F850		
Table Size (L×W)	mm(in)	1,800×850 (70.9″×33.5″)
Max. Load Capacity	kg(lb)	1,000 (2,205)
Spindle Taper	-	BT40 [BBT 40]
Spindle Speed	r/min	12,000 [12,000]
Sp. Power (Max./Cont.)	kW(HP)	25/10.5 (33.5/14) [18.5/11 (25/15)]
No. of Tools	EA	24 [30]
Travel (X/Y/Z)	mm(in)	1,600/850/580 (63″/33.5″/22.8″)
Rapid Traverse Rate	m/min	36/36/36

[ ] : Option

F 850

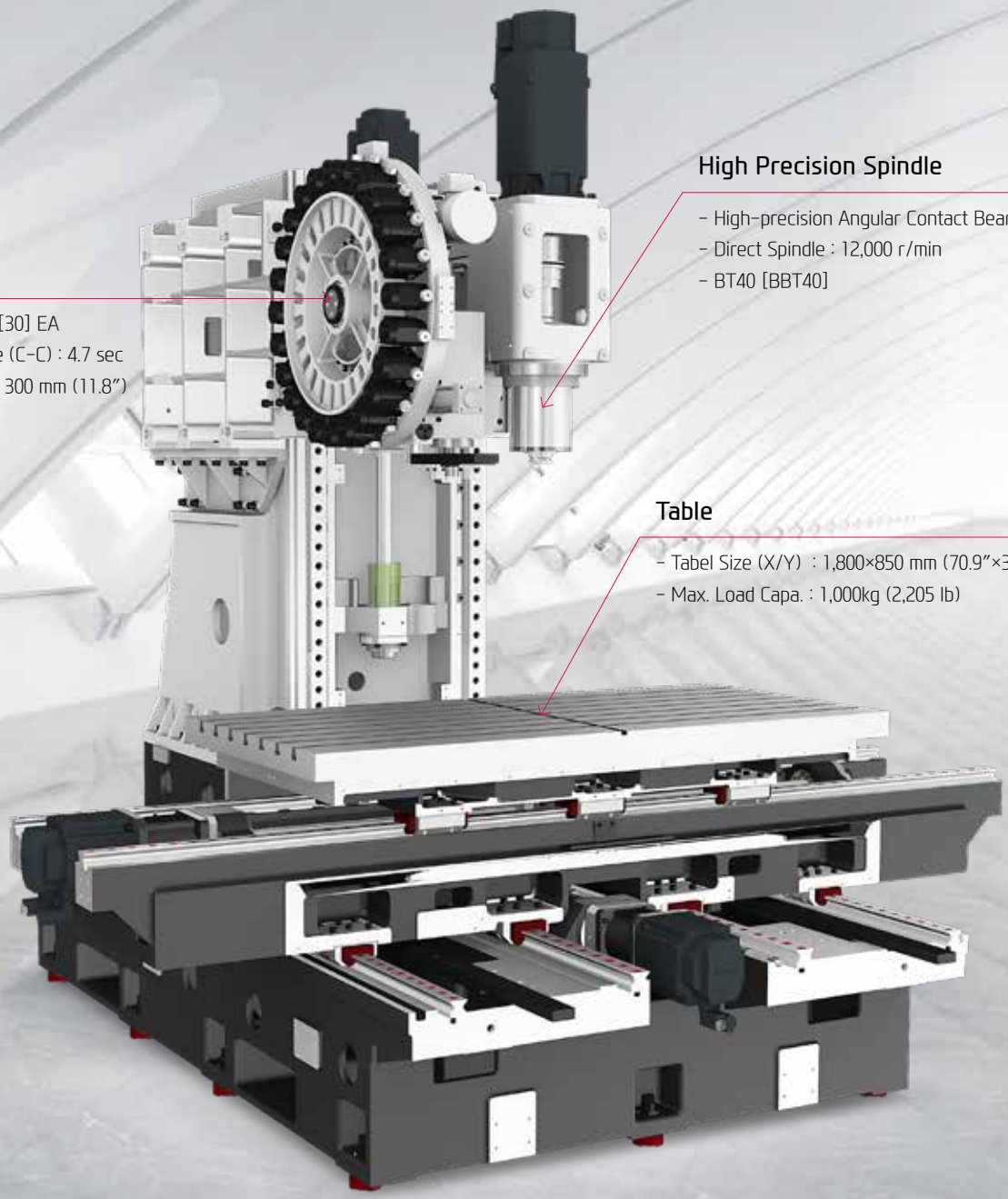
Advanced Technology, Vertical Machining Center

- 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 Lengt : 300 mm (11.8")

High Precision Spindle

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

Table

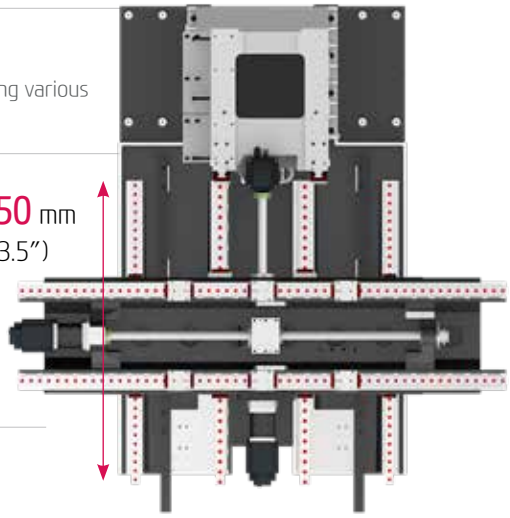
- Tabel Size (X/Y) : 1,800×850 mm (70.9"×33.5")
- Max. Load Capa. : 1,000kg (2,205 lb)

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 axis 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)	**Rapid Traverse Rate** (X/Y/Z)
1,600/850/580 mm	36/36/36 m/min
(63″/33.5″/22.8″)	(1,417/1,417/1,417 ipm)

02 SPINDLE & ATC

Excellent Machining Performance with High-precision Spindle & ATC

SPINDLE

Direct Type Spindle

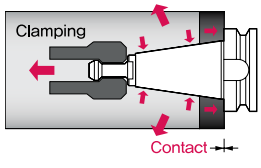
F850[12,000rpm] has a spindle that is directly connected to the motor so that spindle acc/deceleration time is reduced. Also, it is designed to make maintenance more convenient.

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

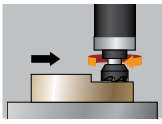
The Big Plus spindle system (BBT40) provides dual contact between the spindle face and the flange face of the tool holder.



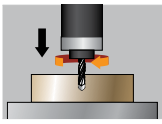
Through Spindle Coolant OPTION

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

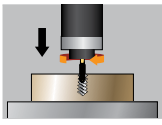
20 bar / 30 bar / 70 bar



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



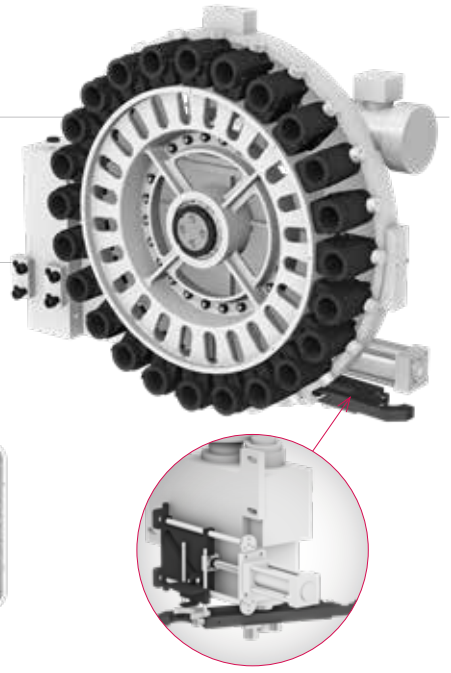
DRILL (Material : S45C)	
Tool diameter	Ø32 mm (Ø1.25")
Cutting depth	40 mm (1.57")
Cutting speed	24 mm/min (0.94 ipm)
Spindle speed	268 r/min
Feed rate	0.2 mm/rev (0.007"/rev)
Chip quantity	43 cc/min



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

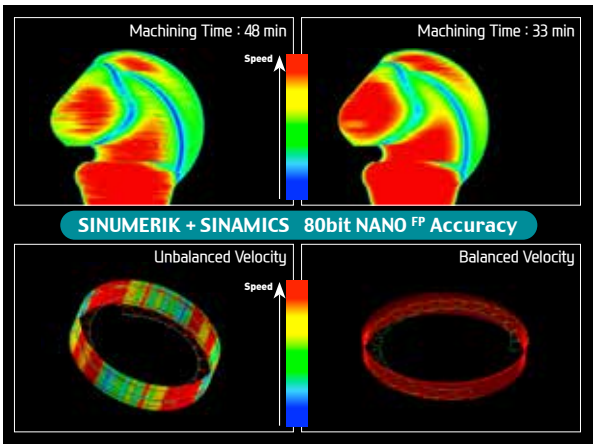
Differentiated Capabilities, Integrated Engineering Perfectly Interlinked

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

OPTION

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

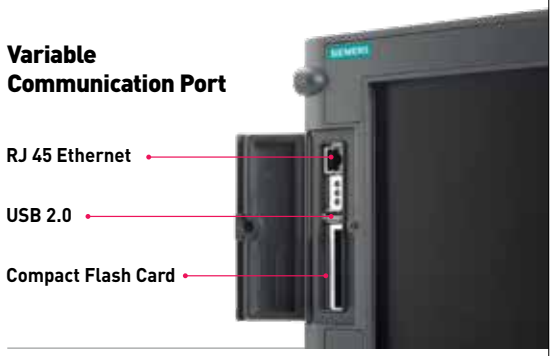
- 3D confirmation (an option) of the completed processing configuration of the NC program is possible.
- Offers standards for 2Dsimulation.
- Possible to confirm the simulation of the NC program during processing.

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



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

ACAM (Automatic CAM)

Cloud-based
Intelligent Programming

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

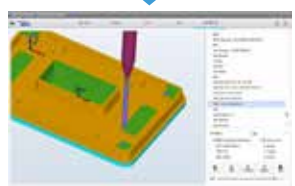
Material definition
Block/Shape Cutting
condition DB by materials

Model Input
2d/3d drawing input

Tool Definition
Tool library
Tool's file In/Output

Automatic Process Creating
Intelligent automatic
process creating

Simulation
2D/3D simulation
File transfer to machine



ACAM MC

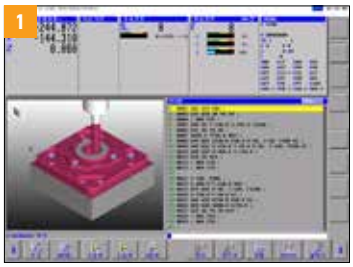
MMS (Machine Monitoring System)

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	–
Pull Stud	45°	●
	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, 20 ℓ (5.3 gal)	○
	70bar, 15 ℓ (4 gal)	○
	70bar, 30 ℓ (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	650 ℓ (171.7 gal)	●
Cabin Screw Chip Conveyor		–
Chip Conveyor (Hinge/Scraper)	Left (Left)	○
	Left (Rear)	–
Special Chip Conveyor (Drum Filter)		☆
Chip Wagon	Standard (180 ℓ [47.5 gal])	○
	Swing (200 ℓ [52.8 gal])	○
	Large Swing (290 ℓ [76.6 gal])	○
	Large Size (330 ℓ [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 I/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/20 ℓ (5.3 gal)	●
	70bar/65 ℓ (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		☆

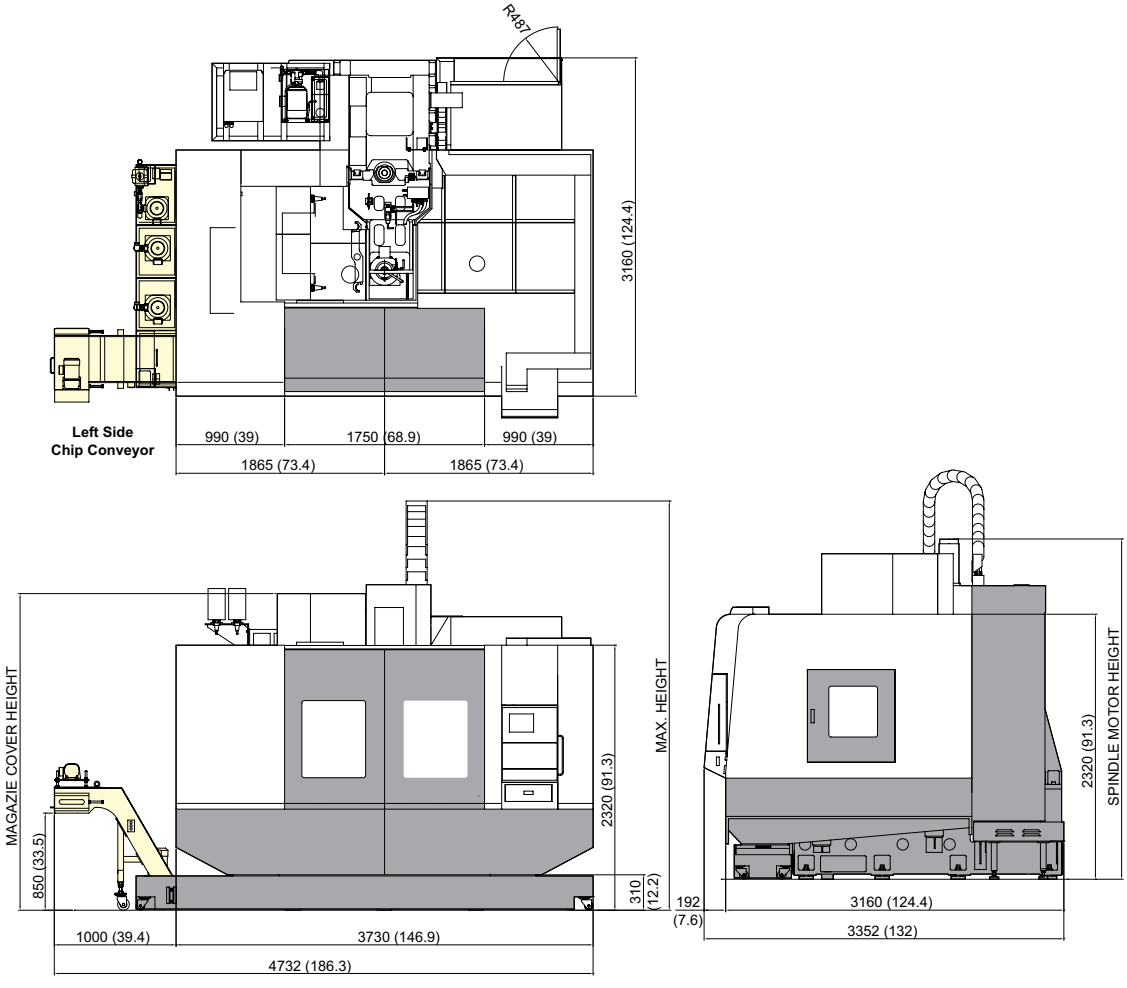
Through Spindle Coolant* : Please check the filter types with sales representative.

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")

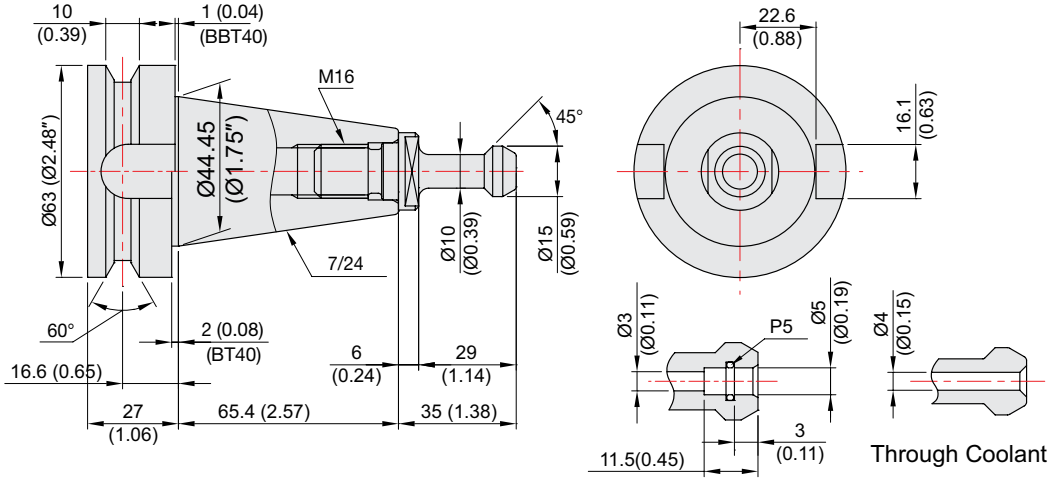
Height Item	Max. Height	Height to Magazie Cover		Shipping Height	Spindle Motor Height
		20 tool	30 tool		
Std. Column	3,592 (141.4)	2,636 (103.8)	2,815 (110.8)	3,496 (137.6)	3,012 (118.6)
High Column	3,792 (149.3)	2,836 (111.7)	3,015 (118.7)	3,696 (145.5)	3,212 (126.5)

SPECIFICATIONS

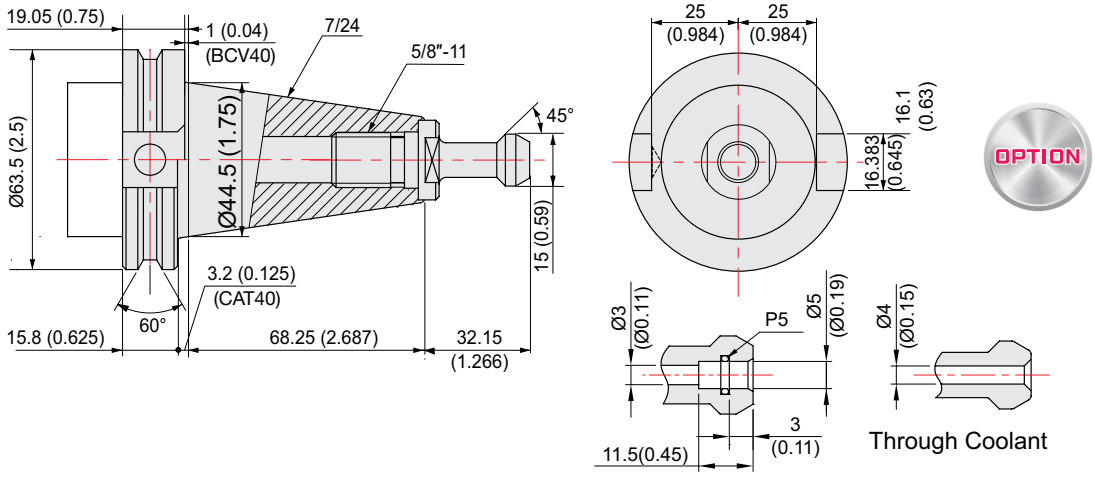
Tool Shank

unit : mm(in)

BT40/BBT40, BIG PLUS



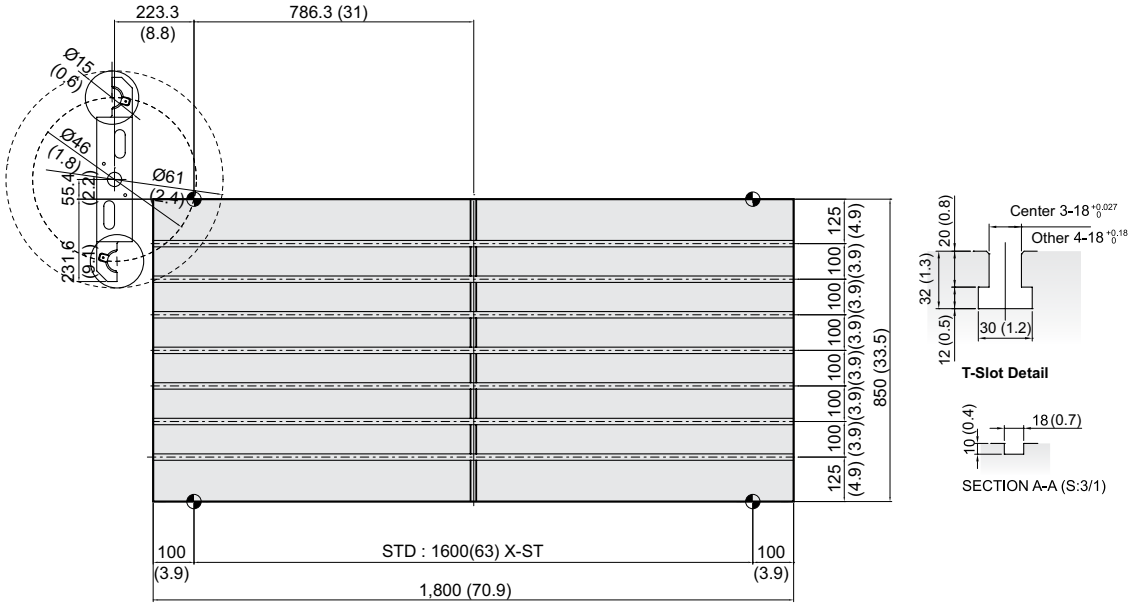
CAT40/BCV40



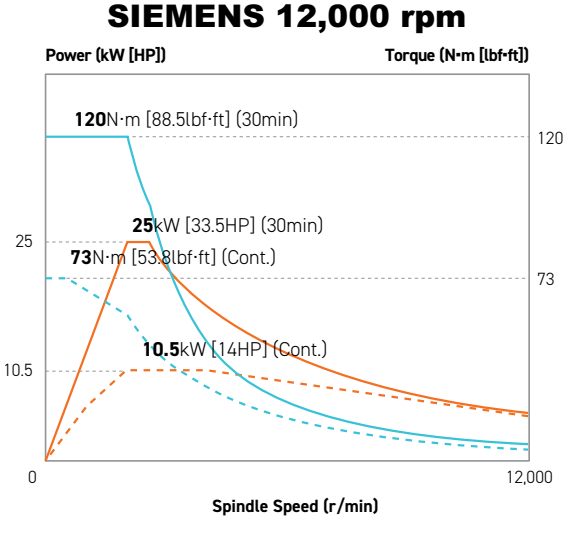
SPECIFICATIONS

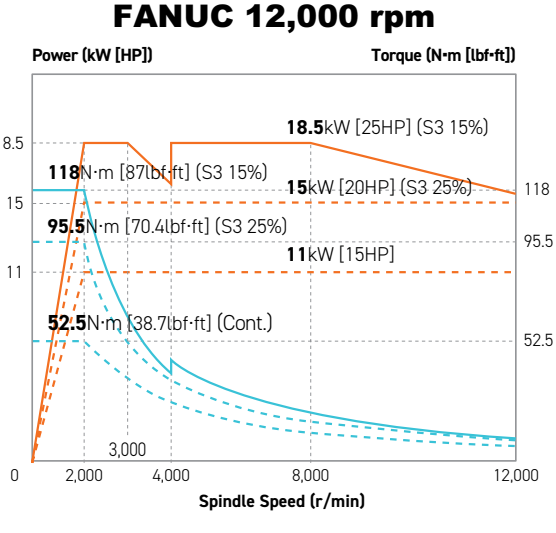
Table Dimensions

unit : mm(in)



Spindle Output/Torque Diagram





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	2
		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	SIEMENS : 21 [FANUC : 42]
	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)
NC	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 axis	3 axis (X, Y, Z)
	[4 axis (X, Y, Z, A)]
	[5 axis (X, Y, Z, A, C)]
Simultaneously controlled axis	Max. 4 axis
Least setting Unit	X, Y, Z axis : 0.001 mm (0.0001 inch)
	[A, C (B) axis : 1 deg [0.001] deg]
Least input increment	X, Y, Z축 : 0.001 mm (0.0001 inch)
	[A, C (B) axis : 1 deg [0.001] deg]
Inch / Metric changeover	G70 (inch) / G71 (metric)
Interlock	All axis / 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)	Compcad /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
Workpiece coordinate system	G54 ~ G57, G505~G549
	G500 (Basic frame - setable 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	
Autometic 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 Strorage 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 axis	3 axis (X, Y, Z)
	[4 axis (X, Y, Z, A)] [5 axis (X, Y, Z, A, C)]
Simultaneously controlled axis	3 axis [Max. 4 axis]
Least setting Unit	X, Y, Z axis : 0.001 mm (0.0001 inch)
	B axis : 1 deg [0.001] deg
Least input increment	X, Y, Z axis : 0.001 mm (0.0001 inch)
	B axis : 1 deg [0.001] deg
Inch / Metric conversion	
High response vector control	
Interlock	All axis / Each axis
Machine lock	All axis
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 axe 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 axis (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 axe 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
Addition of custom macro	#100 ~ #199,
	#500 ~ #999, #98000 ~ #98499
Add. Workpiece	Max. 300 pairs (G54.1 P1 ~ P300)
AICC II	400 blocks ☆

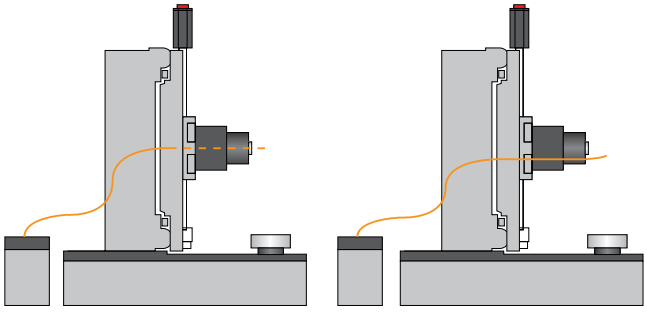
Figures in inch are converted from metric values.
The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

HYUNDAI WIA ECO SYSTEM

MQL (Minimal Quantity Lubrication)

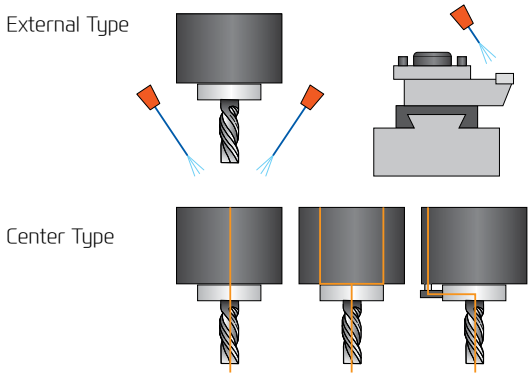
The goal of this system is to spray only the amount of lubricant required to prevent heat and chip build up at the cutting tool or work piece face.

Example of Machining Center Application



Center Type　　External Type

Example of Etc.

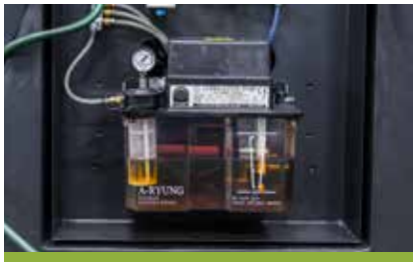


Oil Skimmer

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

HYUNDAI WIA

YouTube HYUNDAI WIA MT
www.youtube.com/HYUNDAIWIAMT

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