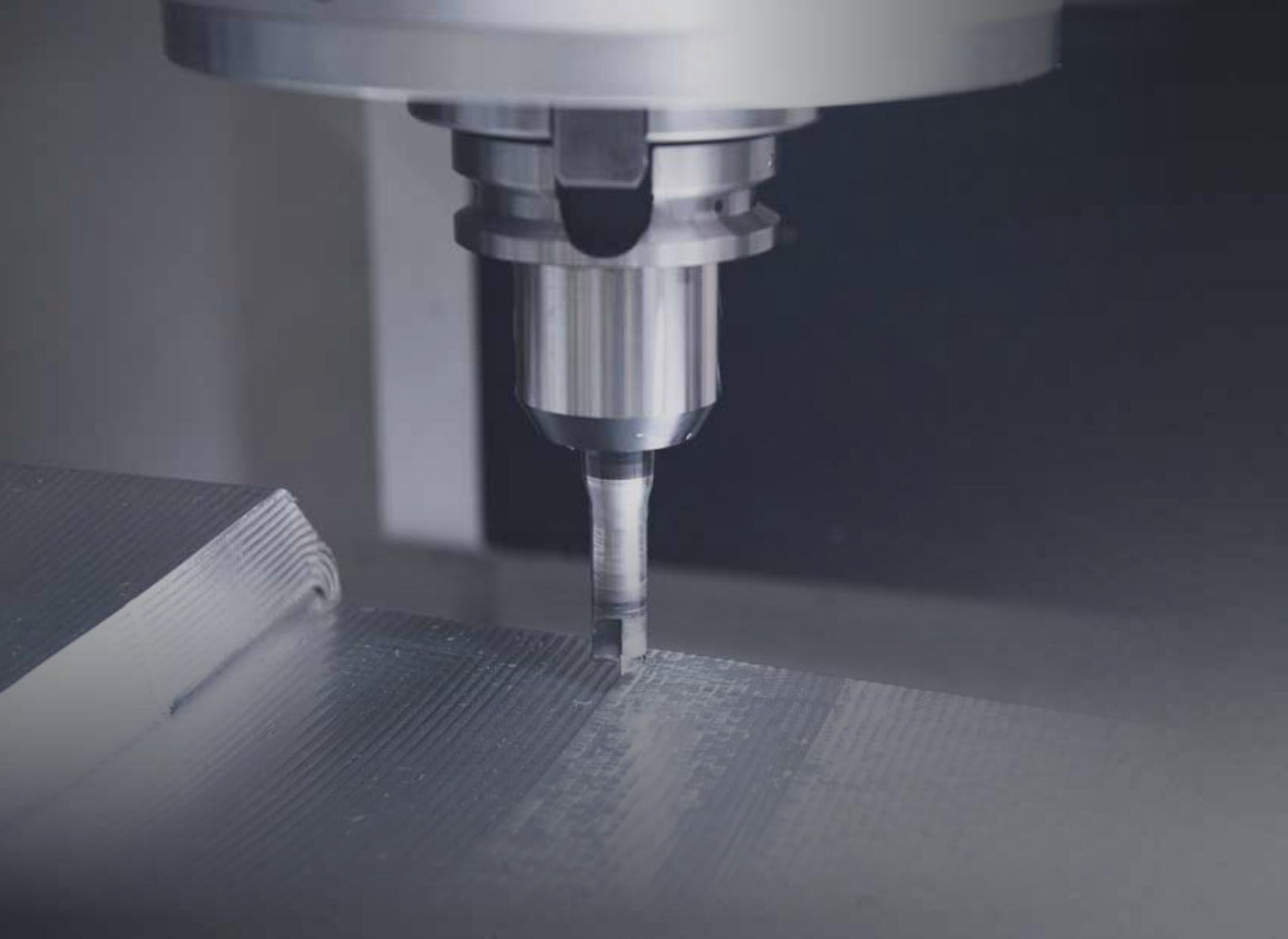


F

750B/960B

The Machining Center for Large Work Spaces and Heavy Duty Cutting

HYUNDAI WIA Vertical Machining Center



Technical Leader

The Vertical Machining Center F750B/F960B, designed by Hyundai WIA with years of expertise and the latest technology, is a heavy duty cutting machine with high precision and productivity.

		F750B	F960B
Table Size (L×W)	mm(in)	1,800x700 (70.9"×27.6")	2,700x950 (106.3"×37.4")
Max. Load Capacity	kg(lb)	2,000 (4,409)	4,500 (9,921)
Spindle Taper	-	BBT50	BBT50
Spindle Speed	r/min	4,500 [8,000] [12,000]	8,000 [12,000]
Sp. Power (Max.)	kW(HP)	18.5 (25) [18.5 (25)] [30 (40)]	22 (30) [30 (40)]
No. of Tools	EA	20 [30]	20 [30, 40]
Travel (X/Y/Z)	mm(in)	1,550/750/720 (61"/29.5"/28.3")	2,450/960/850 (96.5"/37.8"/33.5")
Rapid Traverse Rate	m/min	16/16/12	16/16/20

[] : Option

F

750B/960B

Vertical Machining Center for Heavy Duty Cutting

- Main spindle with ultra precision cylindrical roller bearings
- Rigid geared spindle enables powerful, heavy duty cutting
- Box guideways on all axes for superb heavy duty cutting
- 4 Guideways employ 10-face contact design (F960B)
- Air Semi-Rising slideway to decrease feed load



01 BASIC STRUCTURE

Excellent Heavy Duty Cutting Capability & Productivity Vertical Machining Center

ATC & Magazine

- No. of Tools
F750B : 20 [30] EA
F960B : 20 [30, 40] EA
- Tool Shank : BBT50

High Precision Spindle

- Gear Driven Spindle
F750B : 4,500 [8,000] rpm
F960B : 8,000 rpm
- Built-in Spindle
[12,000 rpm]



F960B

F750B

Table

Model	Size (X/Y) / Max. Load Capa.
F750B	1,800×700 mm / 2,000 kg (70.9"×27.6" / 4,409 lb)
F960B	2,700×950 mm / 4,500 kg (106.3"×37.4" / 9,921 lb)

HEAVY DUTY CUTTING & LARGE WORKING AREA

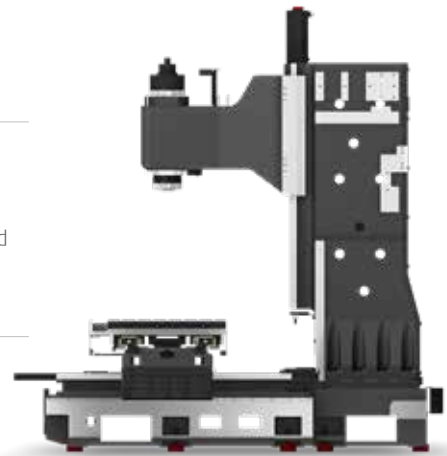
HIGH-PRECISION STRUCTURE

Optimal Structural Analysis

F750B/960B is designed to have optimal structure through Hyundai WIA's unique structural analysis. In particular, enhancement of bed and column's rigidity makes excellent performance even in heavy duty cutting.

One Piece High Column

One piece high column is provided as an option up to z-axis height. This option helps to process bigger products such as rack housing.



F750B/960B
Vertical Machining Center

04
+
05

GUIDE WAY

All Axes Box Guideway

Box guideways effectively offset vibration enabling the machining of high precision products. The travel load is spread evenly on the surface of guideways. This enhances stability and rigidity allowing high performance heavy duty cutting.



Air Semi-Rising Slideway

By applying the air semi-rising slideways, the load on the X/Z-axis slideway is decreased. Therefore, positioning and repeatability accuracy can be maintained for a long time.

10-face Contact Y-axis Slideway (F960B)

The table is supported at all times by 10-face contact box guideways. This allows for a maximum table load of 4,500 kg (9,921 lb) without any distortion in the table.

EXPERIENCE
THE NEW TECHNOLOGY

Travel (X/Y/Z)

F750B

1,550/750/720 mm (61"/29.5"/28.3")

F960B

2,450/960/850 mm (96.5"/37.8"/33.5")

02 HIGH PRECISION SPINDLE

Excellent machining performance with high-precision spindle

Spindle Specifications

[] : Option

Model	Speed r/min	Motor (Max./Cont.)	Torque (Max./Cont.)	Type
F750B	4,500 rpm	18.5/15 kW (25/20 HP)	893/732 N·m (658.6/539.9 lbf·ft)	2 Step Gear
	[8,000 rpm]	[18.5/15 kW (25/20 HP)]	[657/532 N·m (464.6/392.4 lbf·ft)]	
	[12,000 rpm]	[30/25 kW (40/33.5 HP)]	[420/238 N·m (309.8/175.5 lbf·ft)]	Built-in
F960B	8,000 rpm	22/18.5 kW (30/25 HP)	776/657 N·m ((572.3/484.6 lbf·ft)	2 Step Gear
	[12,000 rpm]	[30/25 kW (40/33.5 HP)]	[420/238 N·m (309.8/175.5 lbf·ft)]	Built-in

HIGH-PERFORMANCE, HIGH-PRECISION SPINDLE

SPINDLE

2 Step Gear Type Spindle

The spindle is designed with cylindrical roller bearings, a thicker spindle nose and an enlarged flange diameter. Also, improved powerful clamping force allows enhanced machining ability.

2 Step Gear Type Spindle provides powerful torque at low speed and stable rotation at high speed, enabling a wide range of machining.



2 Step Gear

Built-in Spindle

The 12,000rpm built-in spindle can minimize vibration transmitted to the spindle. It allows excellent machining performance in mold and high-precision products.



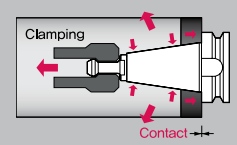
Built-in

Spindle Cooling

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

Dual Contact Spindle

The Big Plus spindle system (BBT50) provides dual contact between the spindle face and the flange face of the tool holder.



- ❖ The increase in standard diameter improves rigidity and ATC repeatability, and Z-axis displacement prevention further extends tool life.

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

F750B/960B

03 ATC & TABLE

High Productivity Achieved with High Rigidity, Accuracy Machining

No. of Tools

F750B : 20 [30] _{EA}

F960B : 20 [30, 40] _{EA}

Max. Tool Length

300 mm (11.8")

Max. Tool Weight

20 kg (44.1 lb)

Max. Tool Dia. (W.T/W.O)

Ø125/Ø240 mm (Ø4.9"/Ø9.4")

Tool Shank

BBT50

[] : Option

HIGH RIGIDITY, TOOL CHANGE SYSTEM

ATC & MAGAZINE

The tool magazine holds 20 tools as standard with 40 tools as option for F960B and 30 for F750B. Due to the wider selection of tools and the random tool selection method, tool change time has been improved.

The Double Arm ATC provides faster and reliable tool changing to help reduce machining cycle time.



20 Tool Magazine

30 Tool Magazine



TABLE

Compared to competitive machines, the F750B/960B has a large working capacity to make setup easier and provide convenience to the operator.

Model	Size	Load Capacity
F750B	1,800×700 mm (70.9"×27.6")	2,000 kg (4,409 lb)
F960B	2,700×950 mm (106.3"×37.4")	4,500 kg (9,921 lb)

NC Rotary Table **OPTION**

The NCRT makes it possible to machine up to 5-axis. Various types of products can be machined.

❖ When ordering a NC Rotary Table, prior consult with hyundai wia's sales person.



F750B/960B

04 MOLD PACKAGE

Powerful Mold Package, HYUNDAI-WIA Mold All in One

MOLD PACKAGE

To enhance mold machining, the "HWM ALL-IN-ONE" is provided as an option feature for F750B/960B.

This ensures accurate and high quality surface finishing and contouring.



HWM ALL-IN-ONE



- ❶ High Speed Contouring Control (AICC II)
- ❷ Development S/W
HW-MCS (Selectable Process Conditions), HW-AFC (Adaptive Feed Control)
- ❸ Main Spindle Cooling Device (8-channel) – Maintain spindle temperature (heat sensor)
- ❹ Cutting Air Blow – Cutting air blow is provided for mold machining.
- ❺ Auto Tool Measuring Device – Detects and sets tool length, and attrition (Graphic User Interface included)

Thermal Displacement Compensation Device

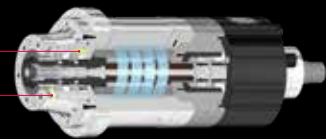
● Cooling system & Lubrication system

Thermal displacement of the spindle is minimized by the use of cooling techniques. This provides high accuracy when machining at high speed.

T.D.C With PT100 Sensor

Interface

T.D.C With Disp. Sensor



MOLD PACKAGE OPTION

1, 2, 3, 4 Package : Option

HWM ALL IN ONE		1 Package	2 Package	3 Package	4 Package
AICC II Package	200 block	•	•		
	600 block			•	
	1,000 block				•
S/W : HW-MCS, HW-AFC		•	•	•	•
Auto Power Off		•	•	•	•
Spindle Heat Distortion Compensation Device		•	•	•	•
Cutting Air Blow		•	•	•	•
Auto Tool Measuring Device (TS27R)		•	•	•	•
Data Server 1GB			•	•	•

05 HYUNDAI WIA FANUC – SMART PLUS

The Compatible All-round Control



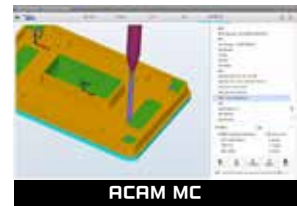
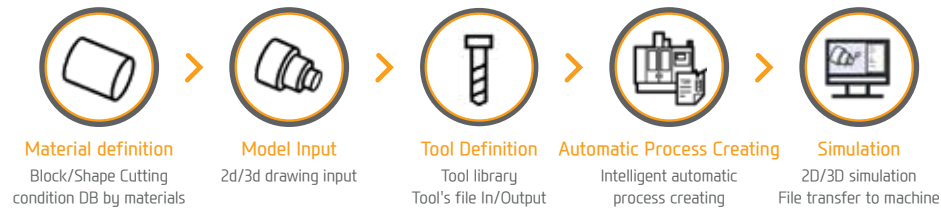
15" Touch-type Monitor as a standard

Smart Machine Control	Fast Cycle Time Technology
Conversational Program	Fine Surface Technology
i-HMI	Smart Guide-i
AI Contour Control	Machining-aid Function
Smooth Tolerance Control	AICC-2 (200 blocks)
JERK Control	0.1µm 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

		F750B	F960B
Spindle			
4,500rpm (18.5kW [25HP])	FANUC (Gear)	●	-
8,000rpm (18.5kW [25HP])	FANUC (Gear)	○	-
8,000rpm (22kW [29.5HP])	FANUC (Gear)	-	●
12,000rpm (30kW [40HP])	FANUC (Built-in)	○	○
Spindle Cooling System		●	●
ATC			
ATC Extension	20	●	●
	30	○	○
	40	-	○
Tool Shank Type	BBT50	●	●
	BCV50	○	○
U-Center	D'andrea	○	○
	45°	●	●
Pull Stud	60°	○	○
	90°	○	○
Table & Column			
T-Slot Table		●	●
NC Rotary Table		☆	☆
High Column	250mm(9.8")	○	-
	200mm(7.8")	-	○
Coolant System			
Std. Coolant (Nozzle)		●	●
Bed Flushing Coolant		●	●
Through spindle coolant*1)	20bar	○	○
	30bar	○	○
	70bar	○	○
Top Cover (Thru coolant applied when necessary)		○	○
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		☆	☆
Power Coolant System (For Automation)		☆	☆
Chip Disposal			
Coolant Tank	470 ℓ	●	-
	690 ℓ	-	●
Interior Screw Chip Conveyor		●	●
Exterior Screw Chip Conveyor		●	-
Chip Conveyor (Hinge/Scraper)	Rear(Right)	○	-
	Left(Rear)	○	-
	Front(Left)	-	○
Chip Conveyor (Hinge)	Front(Right)	-	○
Special Chip Conveyor (Drum Filter)		☆	☆
Chip Wagon	Standard (180 ℓ)	○	○
	Swing (200 ℓ)	☆	☆
	Large Swing (290 ℓ)	☆	☆
	Large Size (330 ℓ)	☆	☆
	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	☆	☆

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

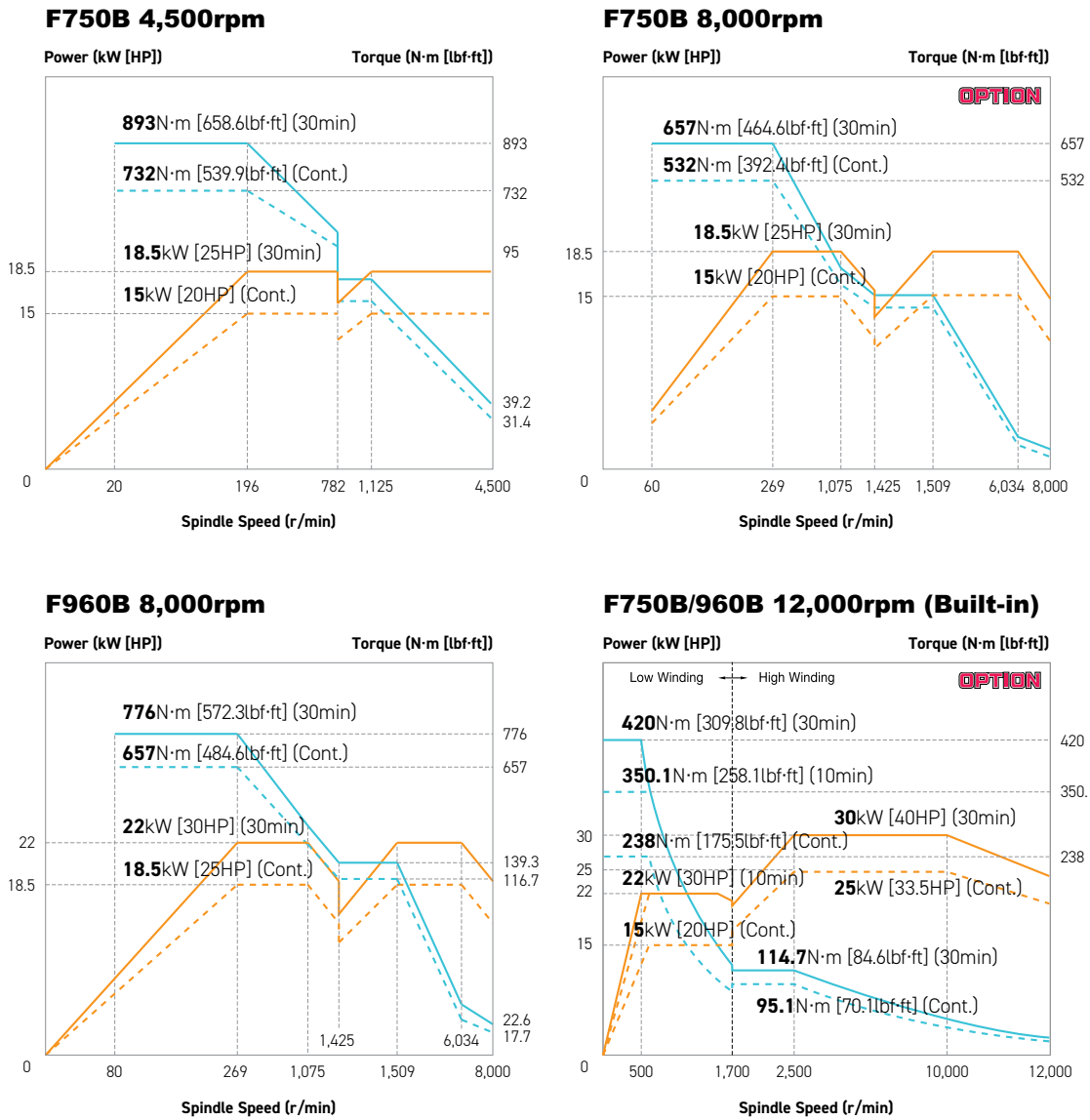
		F750B	F960B
Electric Device			
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	40kVA	○	-
	45kVA	-	○
Auto Power Off *2)		○	○
Back up Module for Black out		○	○
Measuring Device			
Air Zero	TACO	○	○
	SMC	○	○
Work Measuring Device		○	○
TLM	Touch	○	○
	Laser	○	○
Tool Broken Detective Device		☆	☆
Linear Scale	X/Y/Z Axis	○	○
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	70bar/13 ℓ (3.4 gal)	-	-
	45bar	☆	☆
	70bar	☆	☆
Fixture Hyd. Unit	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 & Analysis (Customer Installation : HW-MMS Edge)		☆	☆
Smart Guide-i : FANUC		● (F31i-B : ☆)	● (F31i-B : ☆)
Smart S/W		☆	☆

*1 : Please check the filter types with sales representative. / *2 : 12,000RPM Mold Package Standard

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

SPECIFICATIONS

Spindle Output/Torque Diagram

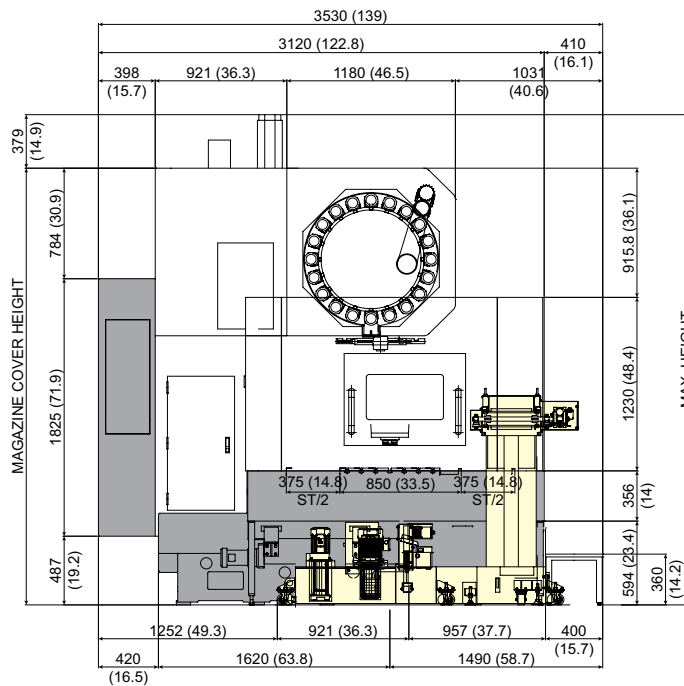
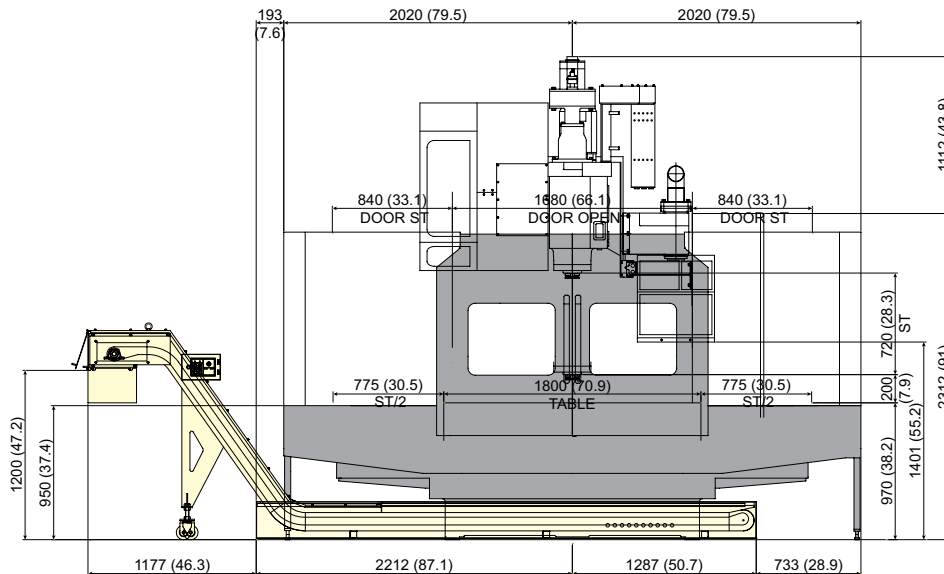


SPECIFICATIONS

External Dimensions

unit : mm(in)

F750B



High Column : 250 mm (9.8")

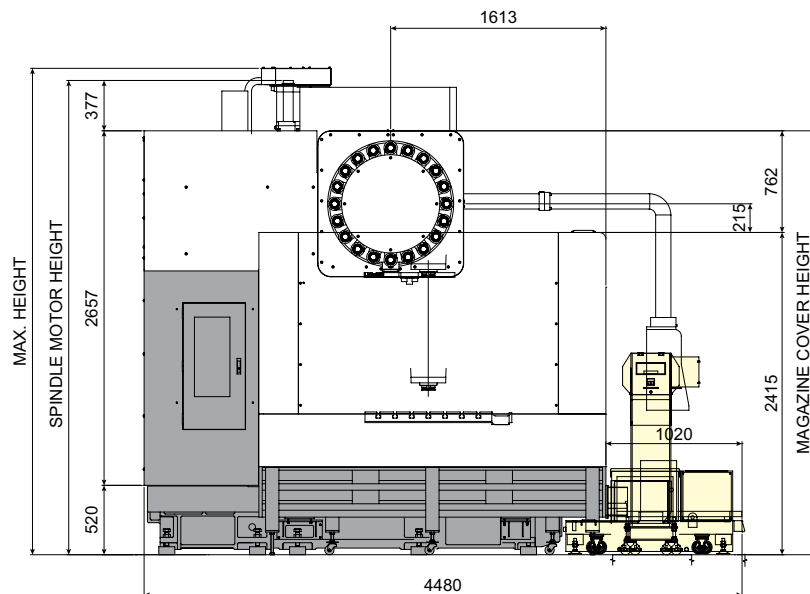
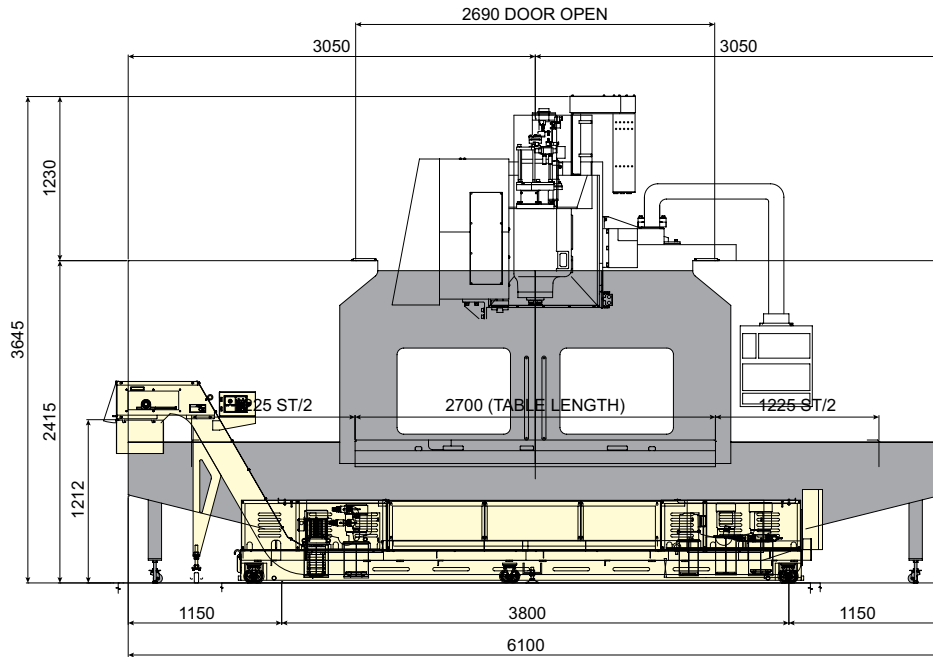
Height Item	Max. Height	Height to Magazine Cover			Shipping Height	Spindle Motor Height
		20 tool	30 tool	40 tool		
Std. Column	3,475 (136.8)	2,947 (116)	3,045 (119.9)	-	3,475 (136.8)	3,345 (131.7)
High Column	3,725 (146.7)	3,197 (125.9)	3,295 (129.7)	-	3,725 (146.7)	3,595 (141.5)

SPECIFICATIONS

External Dimensions

unit : mm(in)

F960B



High Column : 200 mm (7.9")

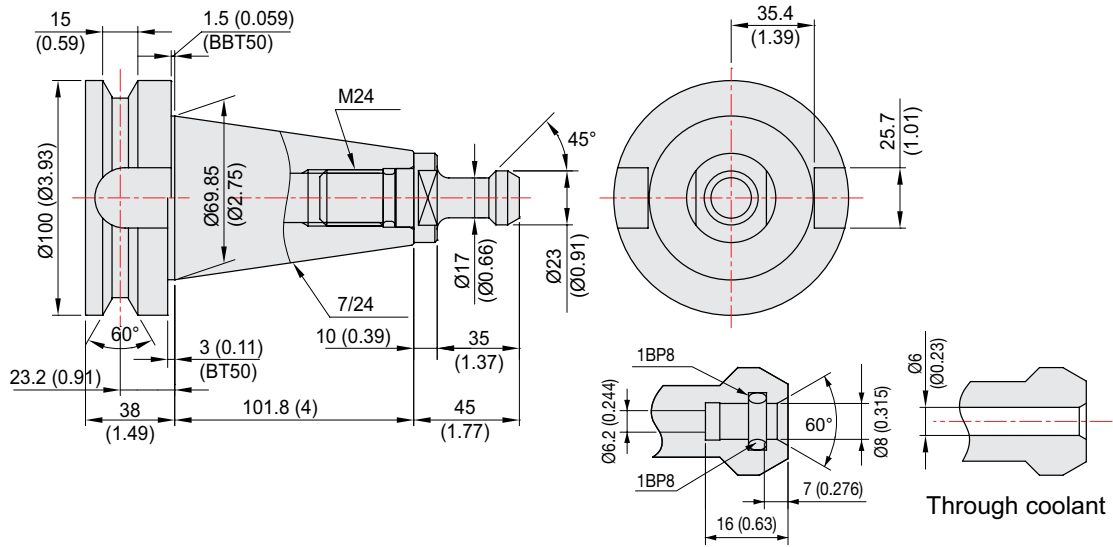
Height Item	Max. Height	Height to Magazine Cover			Shipping Height	Spindle Motor Height
		20 tool	30 tool	40 tool		
Std. Column	3,647 (143.6)	3,177 (125.1)	3,256 (128.2)	3,256 (128.2)	3,554 (139.9)	3,647 (143.6)
High Column	3,847 (151.5)	3,377 (133)	3,456 (136.1)	3,456 (136.1)	3,754 (147.8)	3,847 (151.5)

SPECIFICATIONS

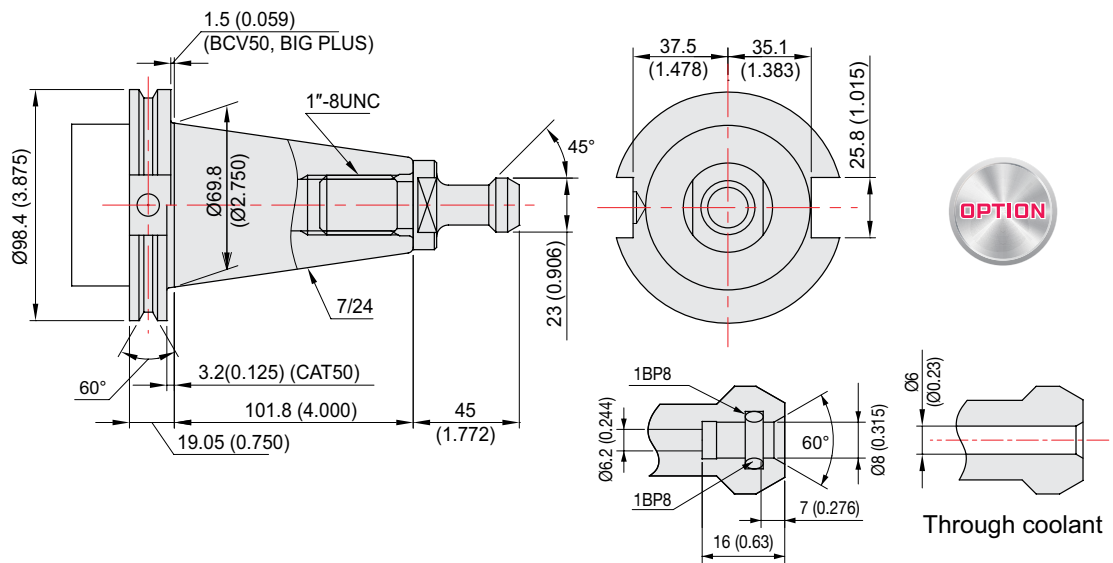
Tool Shank

unit : mm(in)

BT50/BBT50, BIG PLUS



CAT-50/BCV50



SPECIFICATIONS

Specifications

[] : Option

ITEM		F750B	F960B
TABLE	Table Size	mm(in) 1,800×700 (70.9"×27.6")	2,700×950 (106.3"×37.4")
	Maximum Load Capacity	kg(lb) 2,000 (4,409)	4,500 (9,921)
SPINDLE	Spindle Taper	- BBT50 [BCV50]	
	Spindle RPM	r/min 4,500 [8,000] [12,000]	8,000 [12,000]
	Spindle Power Output (Max./Cont.)	18.5/15 (25/20) [18.5/15 (25/20)] [30/25 (40/33.5)]	22/18.5 (30/25) [30/25 (40/33.5)]
	Spindle Torque (Max./Cont.)	893/732 (658.6/539.9) [657/532 (464.6/392.4)] [420/238 (309.8/175.5)]	776/657 (572.3/484.6) [420/238 (309.8/175.5)]
	Spindle Driving Method	- GEAR [GEAR] [BUILT-IN]	GEAR [BUILT-IN] [GEAR]
FEED	Travel (X/Y/Z)	mm(in) 1,550/750/720 (61"/29.5"/28.3")	2,450/960/850 (96.5"/37.8"/33.5")
	Distance from Table Top to SP. Nose	mm(in) 200 ~ 920 (7.9" ~ 36.2") [450~1,170 (17.7" ~ 46.1")]	200 ~ 1,050 (7.9" ~ 41.3") [400~1,250 (15.7"~49.2")]
	Distance from Column to SP. center	mm(in) 790 (31.1")	1,000 (39.3")
	Rapid Traverse Rate (X/Y/Z)	m/min 16/16/12	16/16/20
	Slide Type	- BOX GUIDE	
ATC	Number of Tools	EA 20 [30]	20 [30, 40]
	Tool Shank	- BBT50 [BCV50]	
	Max. Tool Dia. (W.T / W.O)	mm(in) Ø125/Ø240 (Ø4.9"/Ø9.4")	
	Max. Tool Length	mm(in) 300 (11.8")	
	Max. Tool Weight	kg(lb) 20 (44.1)	
	Tool Selection Method	- RANDOM	
	Tool Change Time	T-T	sec 4
C-C		sec 8.5	
TANK CAPACITY	Coolant Tank	ℓ (gal) 470 (124.2)	690 (182.3)
	Lubricating Tank	ℓ (gal) 3.1 (0.8)	4.4 (1.1)
POWER SUPPLY	Air Consumption (0.5MPa)	ℓ /min(gal) 250 (66)	
	Electric Power Supply	kVA 35	40
	Thickness of Power Cable	mm ² Over 25	Over 50
	Voltage	V/Hz 220/60 (200/50*)	
MACHINE	Floor Space (L×W)	mm(in) 4,040×3,530 (159"×139")	6,100×4,425 (240.2"×174.2")
	Height	mm(in) 3,475 (136.8")	3,647 (143.6")
	Weight	kg(lb) 13,000 (28,660)	23,500 (51,809)
PC	Controller	- FANUC 31i-B [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

FANUC 31i-B

[] : 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 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	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	10.4 inch color LCD
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
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, Stroke check before move
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Cylindrical 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, G27 Ref. position check, G30
Thread synchronous cutting	G33
Helical interpolation	Circular + Linear interpolation 2 axes(max.)
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse 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	40 Block 200 Block (Mold)
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999,999 mm (± 99,999,999 inch)
Plane selection	X-Y, G17 / Z-X, G18 / Y-Z, G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #149, #500 ~ #549
G code system	A
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Including Chamfering / Corner R	
Canned cycle	G73, G74, G76, G80 ~ G89
Coordinate rotation	G68, G69

Auxiliary function / Spindle speed function	
Auxiliary function	M 4 digit
Level-up M Code	Multi / Bypass M code
Spindle speed command	S 5 digit , Binary output
Spindle override	0% ~ 150% (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	64 pairs
Tool nose radius compensation	G40, G41, G42
Tool nose length compensation	G43, G44, G49
Tool offset memory C	Tool length, diameter, abrasion(length, diameter)
Tool length measurement	Z axis Input C
Editing function	
Part program storage size	640m (256KB)
No. of registerable programs	500 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	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 20 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Processing select	Speed/ridigity setting
Option	
Additional optional block skip	9 ea ☆
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Sub Spindle control	
Polar coordinate command	G15, G16
Polar coordinate interpolation	G12.1, G13.1
Cylindrical interpolation	G07.1
One-way positioning	G60
Stored stroke check 2, 3	
Inverse-time feed	G93
Scaling	G50, G51
Manual guide i	Conversational auto program
Handle interrupt	
Manual handle feed	2/3 units
Additional custom macro variables	#100~#199, #500~#999 #100~#199, #500~#999, #98000~#98499
Retraction for rigid tapping	
Tool management function	
Tool offset number	Max. 2000 pair ☆
Program storage capacity	512KB ~ 8MB ☆
Program registration number	Max. 4000 ea ☆
Additional work coordinate	48 pair (G54.1 P1 ~ P48)
AICC II	200 block 400 / 600 / 1000 block ☆

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

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	Smart Guide-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.

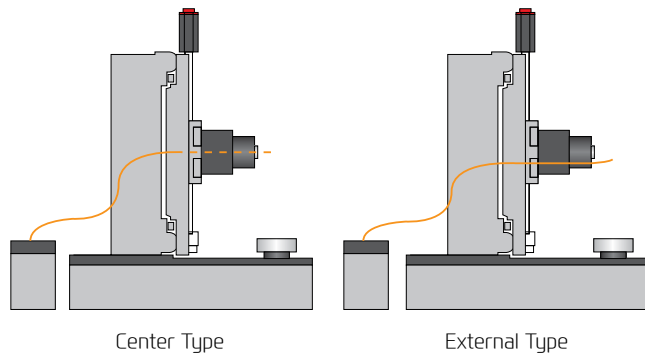
The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

HYUNDAI WIA ECO SYSTEM

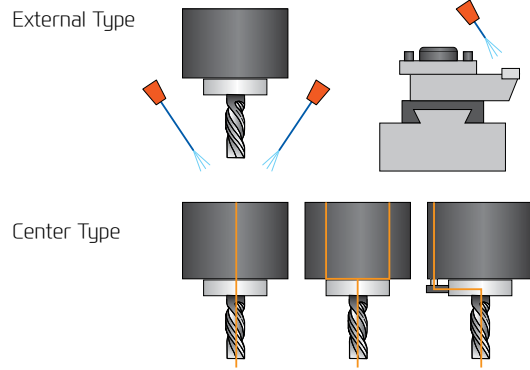
MQL (Minimal Quantity Lubrication)

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.



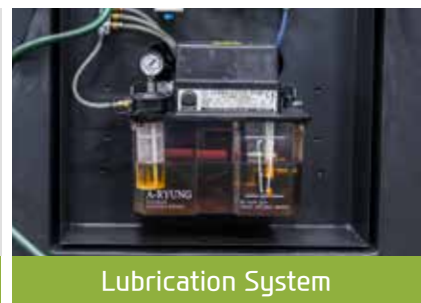
Oil Skimmer

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



F750B/960B
Movie



You Tube HYUNDAI WIA MT

www.youtube.com/HYUNDAIWIAMT

EXPERIENCE THE NEW TECHNOLOGY

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

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

Vietnam Branch Office Flat number 05, Service and Trade Center of Viet Huong Industrial Zone, Highway 13, Thuan Giao, Thuan An, Binh Duong, Vietnam TEL : +84-3-5399-5099