HYUNDAI
MOTOR GROUP

HYUNDAI WIA

Next-generation High-speed Compact Tapping Center

i-CUT 4000/4500

i-CUT4000 | i-CUT4500 | i-CUT400TD

HYUNDAI WIA EXPERIENCE THE NEW TECHNOLOGY

Technical Leader

The tapping center i-CUT Series, designed by Hyundai WIA with years of expertise and the latest technology, maximizes productivity while maintaining rigidity and accuracy.

		i-CUT4000	i-CUT4500	i-CUT400TD
Table Size (L×W)	mm(in)	650×400 (25.6″×15.7″)	800×450 (31.5″×17.7″)	2-650×400
Max. Load Capacity	kg(lb)	300 (661)		2-250
Spindle Taper	_	BBT30		
Spindle Speed	r/min	12,000 [15,000] [24,000] [12,000] [15,000] [24,000]		12,000 [12,000] [15,000]
Spindle Power (Max./Cont.)	kW[HP]	13/3.7 (17.4/5) [18/5.5 (24.1/7.4)] [3.7/1.1 (5/1.5)] [14.1/4.1 (18.9/5.5)] [14.1/4.1 (18.9/5.5)] [22.6/3.5 (30.3/4.7)]		13/3.7 (17.4/5) [14.1/4.1 (18.9/5.5)] [14.1/4.1 (18.9/5.5)]
Number of Tools	EA	21 [20, 24]		14 [21] [20, 24]
Travel (X/Y/Z)	mm(in)	550/400/300 (21.7″/15.7″/11.8″) [550/400/480 (21.7″/15.7″/18.9″)]	700/450/300 (29.5″/17.7″/11.8″) [700/450/480 (29.5″/17.7″/18.9″)]	520/400/330 (20.5″/15.7″/11.8″) [520/400/460 (20.5″/15.7″/18.1″)]
Rapid Traverse Rate (X/Y/Z)	m/min	56/56/56 (2,205/2,205/2,205)		48/48/48 [56/56/56]

[ ] : Option ■ : Twin Arm ■ : SIEMENS

HYUNDAI WIA
MACHINE TOOL

i-CUT Series

Tapping Center with More Upgraded Quality & Performance

- Max. 24,000rpm direct connection high-speed main spindle application (i-CUT4000/4500)
- High performance double seal type LM guide applied (i-CUT4000/4500)
- Shortens non-cutting time with rapid feed (56m/min.)
- Servo motor is applied on the ATC to reduce tool change time
- Shortens setting time for materials with a dual table system (i-CUT400TD)
- Twin arm type ATC for automation system (Option)

01 i-CUT4000/4500

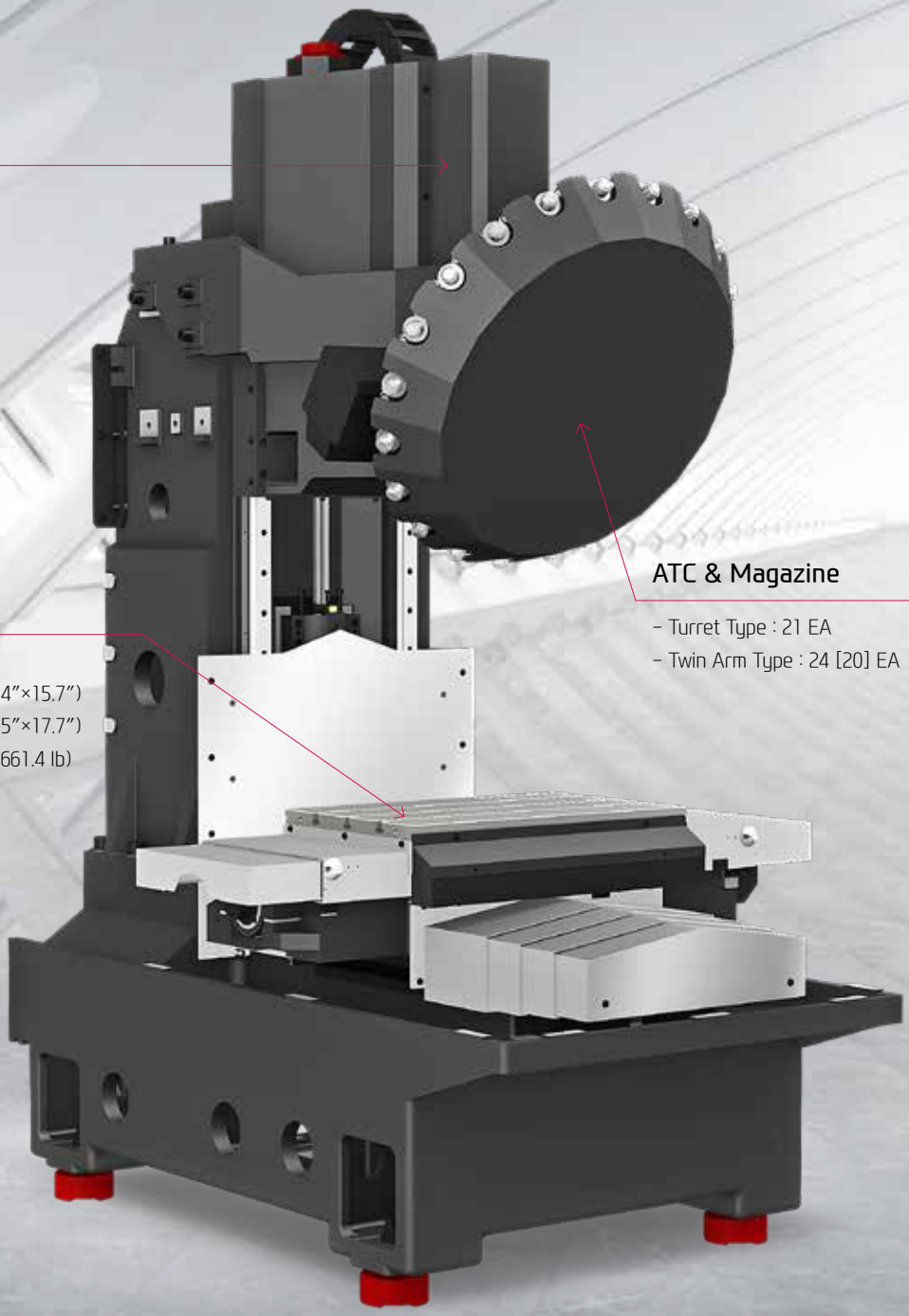
High Speed, Productivity & Compact Design – Tapping Center

High Precision Spindle

- Direct Spindle
- 12,000 [15,000/24,000] r/min
- Standard BBT #30

Table

- Table Size (L×W)
  i-CUT4000 : 645×400 mm (25.4″×15.7″)
  i-CUT4500 : 800×450 mm (31.5″×17.7″)
- Max. Load Capacity : 300 kg (661.4 lb)



ATC & Magazine

- Turret Type : 21 EA
- Twin Arm Type : 24 [20] EA

REDUCTION OF NON-CUTTING TIME BY FAST RAPID SPEED

OPTIMAL STRUCTURE FOR JIG

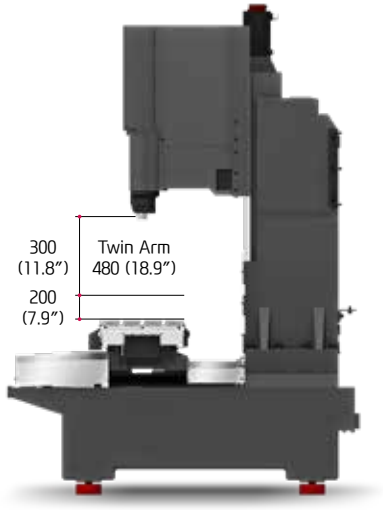
Optimal Structure for Automated Jig

Maximum height from top surface of the table to the main spindle nose has been increased from 480mm to 500mm, and you can secure sufficient machining area even when you apply the tools.

(Automated response of gantry loader available when using twin-arm ATC)

High Column

As an option, high columns with 150mm(5.9″) and 300mm(11.8″) is provided.



Turret Type (A~B)	**Twin Arm Type** (A~B)
200~500 mm (7.9″/19.7″)	200~680 mm (7.9″/26.8″)

GUIDEWAY

High-performance Double-seal Type LM Guide

Application of high-performance LM guide featuring double-seal attachment structure has significantly improved the durability of LM guide.

Ball Screw

Lubricating ball screw support bearings with oil helps improve the durability of the bearing.

High-speed Feed Capability

Model	Travel (X/Y/Z)	Rapid Traverse Rate (X/Y/Z)
i-CUT4000	Turret : 550/400/300 mm (21.7″/15.7″/11.8″)	56/56/56 m/min (2,205/2,205/2,205 ipm)
	Twin Arm : 550/400/480 mm (21.7″/15.7″/18.9″)	
i-CUT4500	Turret : 700/450/300 mm (27.6″/17.7″/13″)	
	Twin Arm : 700/450/480 mm (27.6″/17.7″/18.9″)	

02 i-CUT400TD

High Speed, Productivity & Compact Design – Dual-tabled Tapping Center

ATC & Magazine

- Turret Type : 14 [21] EA
- Twin Arm Type : 24 [20] EA

High Precision Spindle

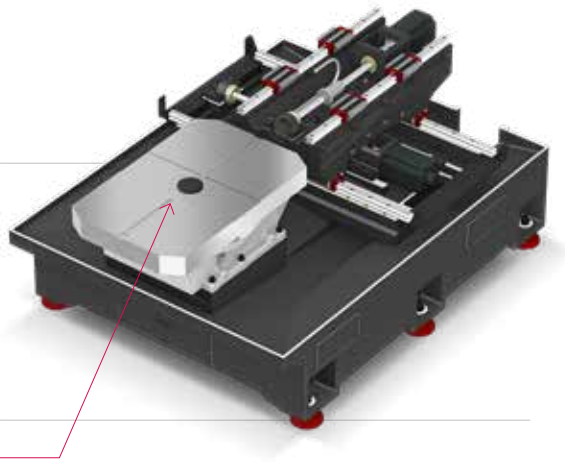
- Direct Sp. : 12,000 [15,000] r/min
- Rigid Tapping : 6,000 r/min
- BBT #30

Dual Table

- Table Size (L×W) : 2-650×400 mm (25.6"×15.7")
- Max. Load Capacity : 2-250 kg (551.2 lb)
- Table Change Time : 6 sec

REDUCTION OF NON-CUTTING TIME BY FAST RAPID SPEED

COMPACT DESIGN



Column Moving Type

In order to utilize the dual table, column moving structure is adopted.

Also, extended column width and symmetrical heat behavior column structure allows accurate processing and minimized thermal displacement.

Dual Table Type Tapping Center

High productivity is achieved by the dual table which enables workers to setup a new workpiece while the machine is processing. Especially, the rotary table is designed for the simpler positioning by the location pin due to the application of hydraulic methods.

SLIDEWAY

LM Guideway

High speed axis movement is achieved by the use of LM guideways. This reduces non-cutting time and decreases machining time for greater productivity.

(Z-Axis : **Roller LM Guide**)

Ball Screw

The double anchored and pretensioned design provides outstanding positioning and repeatability with minimal thermal growth. Ball screws are connected directly to the servo motor to eliminate backlash.

Travel (X/Y/Z)

520/400/330 mm (20.5"/15.7"/13") [Twin Arm : 520/400/460 mm (20.5"/15.7"/18.1")]

Rapid Traverse Rate (X/Y/Z)

56/56/56 m/min (2,205/2,205/2,205 ipm)

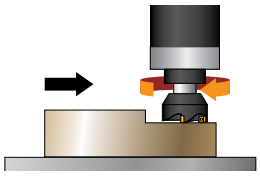
[Twin Arm : 48/48/56 m/min (1,890/1,890/2,205 ipm)]
[FANUC : 48/48/48 m/min (1,890/1,890/1,890 ipm)]

03 HIGH PRECISION SPINDLE

Long Lasting, High Accuracy &
Excellent Performance Tapping Center

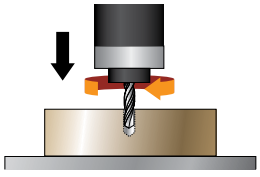
Cutting Possibility

FACE MILL (Material : AL6061)



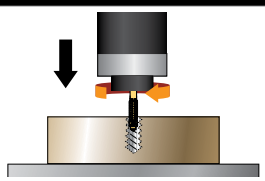
Tool dia.	Ø63×5F
Spindle speed	3,000 r/min
Rapid feed rate	5,700 mm/min
Cutting width	50 mm
Cutting depth	4 mm
Chip quantity	1,140 cc/min

DRILL (Material : AL6061)



Tool dia.	Ø30 (HSS)
Spindle speed	795 r/min
Rapid feed rate	159 mm/min
Cutting width	30 mm
Cutting depth	50 mm
Chip quantity	113 cc/min

TAP (Material : AL6061)



Tool dia.	M27×P3.0
Spindle speed	320 r/min
Rapid feed rate	960 mm/min
Cutting width	36 mm
Chip quantity	54 mm

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

HIGH-PERFORMANCE, DIRECT DRIVEN SPINDLE

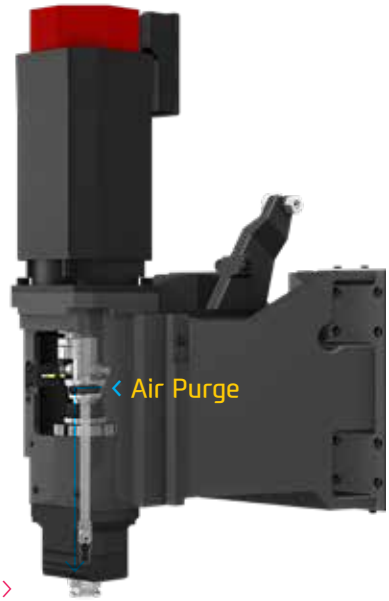
SPINDLE

Direct Spindle

The spindle is designed with angular contact ball bearings to increase rigidity, prevent thermal displacement. Due to the maximum spindle speed of 24,000rpm (i-CUT4000/4500), various types of machining is possible. While in reverse rotation, Double Speed Return function reduces processing time.

Spindle Air Purge Application

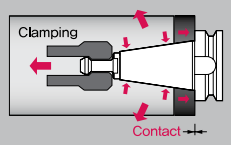
The main shaft motor cover prevents coolant from flowing into the head. In addition, by designing the spindle air purge through the spindle, the ability to remove chips from the spindle is improved.



Spindle Thru Coolant OPTION (20/30/70 bar) >

Dual Contact Spindle

The Big Plus spindle system (BBT #30) provides dual contact between the spindle face and the flange face of the tool holder. This greatly increases tool rigidity, reduces run out and adds significant productivity to machining applications.



Direct Spindle Specifications

[ ] : Option ■ : FANUC ■ : SIEMENS

ITEM	Speed	Motor (Max./Cont.)	Torque (Max./Cont.)
i-CUT4000 i-CUT4000	12,000 rpm	13/3.7 kW (17.4/5 HP)	82.8/23.5 N·m (61/17.3 lbf·ft)
	15,000 rpm	[18.5/5.5 kW (25/7.5 HP)]	[57.35/17.5 N·m (42.3/2.9 lbf·ft)]
	24,000 rpm	[3.7/1.1 kW (5/1.5 HP)]	[11.8/3.5 N·m (8.7/2.6 lbf·ft)]
	12,000 rpm	[14.1/4.1 kW (18.9/5.5 HP)]	[45/21 N·m (33.2/15.5 lbf·ft)]
	15,000 rpm	[14.1/4.1 kW (18.9/5.5 HP)]	[45/21 N·m (33.2/15.5 lbf·ft)]
	24,000 rpm	[22.6/3.5 kW (30.3/4.7 HP)]	[24/3.7 N·m (17.7/2.7 lbf·ft)]
i-CUT400TD	12,000 rpm	13/3.7 kW (17.4/5 HP)	82.8/23.5 N·m (61/17.3 lbf·ft)
	12,000 rpm	[14.1/4.1 kW (18.9/5.5 HP)]	[45/21 N·m (33.2/15.5 lbf·ft)]
	15,000 rpm	[14.1/4.1 kW (18.9/5.5 HP)]	[45/21 N·m (33.2/15.5 lbf·ft)]

04 ATC & MAGAZINE

High Productivity Achieved with High Rigidity, Accuracy Machining

HIGH RIGIDITY, TOOL CHANGE SYSTEM

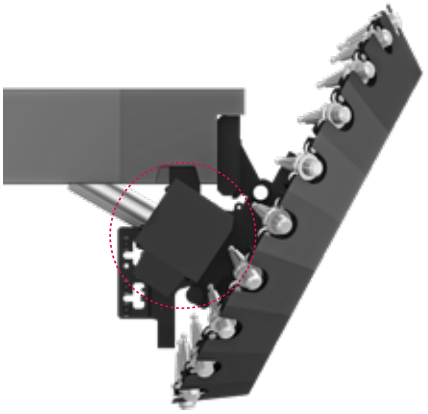
ATC & MAGAZINE

Turret Type ATC

Tool selection has been expanded by adopting a turret type magazine of 21 tools as a standard specification.
(i-CUT400TD : 14 tool)

Twin Arm Type ATC OPTION

The twin arm type ATC is configured as an option. In particular, the twin arm type ATC increases productivity with high machining capacity when configuring a gantry automation system.



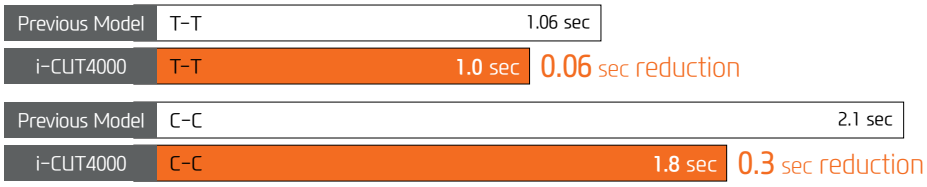
Existing 14 tool → 21 tool increase

Servo Motor ATC

Servo motor is applied on the ATC to reduce tool change time. Also, accurate tool positioning control increases cutting stability.

Best-in-class Tool Change Time

It contributes to productivity improvement by reducing non-cutting time.



ATC & Magazine Specifications

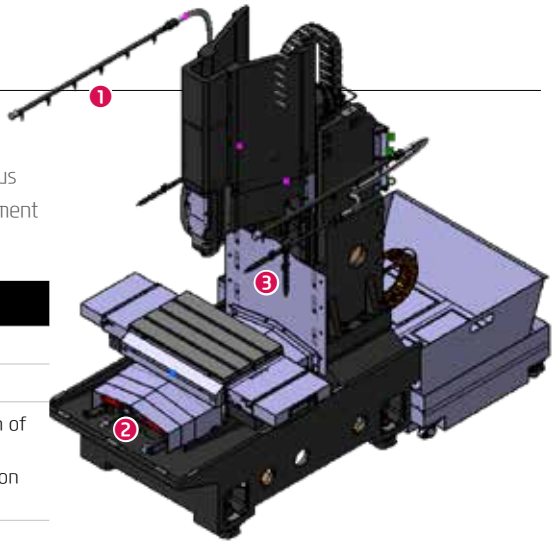
[ ] : Option

Model	No. of Tools	Max. Tool Length	Max. Tool Dia. (W.T/W.O)	Type
i-CUT4000 i-CUT4500	21 EA	240 mm (9.4")	Ø80/Ø80 mm (Ø3.1"/Ø3.1")	Turret
	[20, 24] EA		Ø67/Ø125 mm (Ø2.6"/Ø4.9")	Twin Arm
i-CUT400TD	14 [21] EA	200 mm (7.9")	Ø80/Ø80 mm (Ø3.1"/Ø3.1")	Turret
	[20] EA		Ø80/Ø125 mm (Ø3.1"/Ø4.9")	Twin Arm
	[24] EA		Ø67/Ø125 mm (Ø2.6"/Ø4.9")	

05 USER CONVENIENCE

Various Devices for User Friendly

CHIP DISPOSAL SOLUTION & COOLANT UNIT



Improvement of Chip Disposal Capability

The chip disposal capability has been significantly improved compared to the previous equipment with standard application of two shower coolants, bed coolants, improvement of chip disposal tilt angle of the bed, and improvement of flood coolant position.

ITEM	i-CUT4000/4500	Previous Model
❶ Shower Coolant	Standard	Option
❷ Bed Flushing Coolant	Standard : 2EA	Non Applicable
❸ Flood Coolant	3 Locations on both sides of the equipment (Concentrated spraying on workpiece possible)	4 Locations at the bottom of the spindle (Concentrated spraying on workpiece possible)

Chip Conveyor

Hinge	Chip Type : Roughing Chip, Long Chip, Chip complex	Material : SS41, 45C, Cast Steel	Rear Direction
	Highly efficient when disposing a lot of chips. Capable of handling stringy chips..		
Scraper	Chip Type : Finely broken chip blown out	Material : cast Iron, Nonferrous	
	Convenient for shortly cut chips.		
❖ Drum Filter	Chip Type : Powder, Micro Chip	Material : AL	
	Advantageous in precision, as the chips do not flow in to the coolant nozzle.		

❖ When ordering a drum filter chip conveyor, prior consult with hyudai wia's sales person.

HIGH-PRECISION SYSTEM

Touch Sensor

Workpiece coordinate values can be set automatically using the optional spindle probe.

TLM

Tool lengths and diameters can be set automatically using the optional tool setter.This can also be used to monitor attrition and detect broken tools.

NC Rotary Table

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

AUTOMATION SYSTEM

Gantry Loader System

Gantry loader transfers raw material from in-stocker to machine automatically, starting machining process. Gantry automation provides good equipment access during operation and easy work monitoring, program modification and maintenance. In addition, small installation area facilitates optimized factory layout.

Robot System

With its know-how and experience, Hyundai WIA is globally recognized in the field of automation. Robot automation features flexible responsiveness, convenience and maintenance regardless of type for automation construction.

06 HYUNDAI WIA FANUC – SMART PLUS

The Compatible All-round Control

FANUC 0i Plus Series

- Customization functions are already included and offer an easy way to create HMI screens that are tailored to the application.
- The advantage being that existing programs can be used immediately and that new programs can be developed without the need for costly redundancies.
- Providing the high-performance offered by FANUC servo technology, this CNC also offers the same user-friendly convenience over the complete range.

10.4" Monitor as a Standard	
Smart Machine Control	Fast Cycle Time Technology
	Fine Surface Technology
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

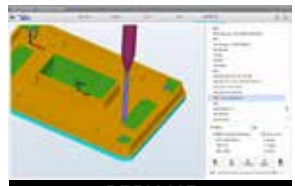
Material definition
Block/Shape Cutting condition DB by materials

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

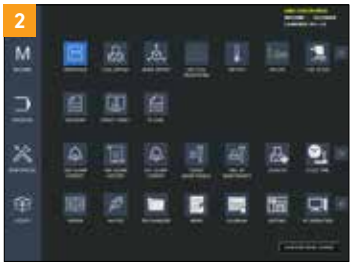
MMS (Machine Monitoring System)

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		i-CUT4000	i-CUT4500
12,000rpm (13kW)	FANUC	●	●
15,000rpm (15kW)	FANUC	○	○
24,000rpm (3.7kW)	FANUC	○	○
12,000rpm (14.1kW)	SIEMENS	○	○
15,000rpm (14.1kW)	SIEMENS	○	○
24,000rpm (22.6kW)	SIEMENS	○	○
Spindle Cooling System (Fan Cooller)		–	–
ATC			
ATC Extension	21 (Turret)	●	●
	20 (Twin Arm)	○	○
	24 (Twin Arm)	○	○
Tool Shank Type	BBT30	●	●
	BCV30	–	–
Pull Stud	45°	●	●
Table & Column			
T-Slote Pallet		●	●
NC Rotary Table		☆	☆
High Column	150mm (5.9")	○	○
	300mm (11.8")	○	○
Coolant System			
Std. Coolant (Nozzle)		●	●
Bed Flushing Coolant		●	●
Through Spindle Coolant*	20bar	○	○
	30bar	○	○
	70bar	○	○
Top Cover		●	●
Shower Coolant		●	●
Gun Coolant		○	○
Air Gun		○	○
Cutting Air Blow		○	○
Tool Measuring Air Blow (Only for TLM)		○	○
Air Blow for Automation		☆	☆
Thru MQL Device (Without MQL)		☆	☆
Coolant Chiller (Sub Tank)		☆	☆
Power Coolant System (For Automation)		☆	☆
Chip Disposal			
Coolant Tank	220 ℓ	●	●
Chip Conveyor (Hinge/Scraper)	Rear (Left)	○	○
	Rear (Right)	○	○
	Rear (Rear)	○	○
Special Chip Conveyor (Drum Filter)		☆	☆
Chip Wagon	Standard (180 ℓ)	○	○
	Swing (200 ℓ)	○	○
	Large Swing (290 ℓ)	○	○
	Large Size (330 ℓ)	○	○
	Customized	☆	☆
S/W			
Automatic CAM (HW-ACAM)		–	–
Dialogue Program (HW-DPRO)		○	○
DNC software (HW-eDNC)		○	○
Machine Monitoring System (HW-MMS Cloud)		☆	☆
Machine Monitoring System & Analysis (Customer Installation : HW-MMS Edge)		☆	☆
Smart Guide-i : FANUC		○	○
Smart S/W		☆	☆

Electric Device		i-CUT4000	i-CUT4500
Call Light	2 Color : ■ ■	●	●
Call Light & Buzzer	3 Color : ■ ■ ■ B	○	○
Work Light		●	●
Electric Cabinet Light		○	○
Remote MPG		–	–
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
Multi Tool Counter	6 EA	☆	☆
	9 EA	☆	☆
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer (380V : 20kVA)	FANUC	○	○
Transformer (220V : 25kVA)	SIEMENS	○	○
Auto Power Off		○	○
Measuring Device			
Air Zero	TACO	☆	☆
	SMC	☆	☆
Work Measuring Device		☆	☆
TLM (Marposs/Renishaw/Blum)	Touch	○	○
	Laser	○	○
Tool Broken Detective Device		☆	☆
Coolant Level Sensor (Only for Chip Conveyor, Bladder Type)		☆	☆
Enviornment			
Air Conditioner		○	○
Dehumidifier		○	○
Oil Mist Collector		☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
Fixture & Automation			
Auto Door		○	○
Sub O/P		☆	☆
NC Rotary Tablel/F	Single	○	○
	Channel	☆	☆
Control of Additional Axis	1Axis	○	○
External M Code 4ea		○	○
Automation Interface		☆	☆
I/O Extension (In & Out)	16 Contact	☆	☆
	32 Contact	☆	☆
Hyd. Device			
Hyd. Unit for Fixture	45bar	☆	☆
	70bar	☆	☆
	100bar	☆	☆
	Customized	☆	☆
ETC			
Tool Box		●	●
Customized Color	Need for Munsel No.	☆	☆
CAD&CAM Software		☆	☆

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

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

Specifications

Standard & Optional

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

Spindle		i-CUT400TD
12,000rpm (SIEMENS)	Direct	●
15,000rpm (SIEMENS)	Direct	○
12,000rpm (FANUC)	Direct	–
Spindle Cooling System (Fan Cooller)		–
ATC		
ATC Extension	14 (Turret)	●
	21 (Turret)	○
	20 (Twin Arm)	○
	24 (Twin Arm)	○
Tool Shank Type	BBT30	●
	BBT40	–
U-Center	D'andrea	–
Pull Stud	45°	●
Table & Column		
Tap Type Pallet		●
T-Slote Pallet		○
NC Rotary Table		☆
High Column	150mm (5.9")	–
	300mm (11.8")	–
Coolant System		
Std. Coolant (Nozzle)		●
Bed Flushing Coolant		●
Through Spindle Coolant*	20bar (290 psi)	○
	30bar (435 psi)	○
Top Cover		○
Shower Coolant		○
Gun Coolant		○
Air Gun		○
Cutting Air Blow		○
Tool Measuring Air Blow (Only for TLM)		○
Air Blow for Automation		☆
Thru MQL Device (Without MQL)		☆
Coolant Chiller		☆
Power Coolant System (For Automation)		☆
Chip Disposal		
Coolant Tank	200 ℓ (52.8 gal)	●
	240 ℓ (63.4 gal)	–
Cabin Screw Chip Conveyor		–
Chip Conveyor (Hinge/Scraper)	Rear (Left)	○
	Rear (Right)	○
	Rear (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	☆
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		○
Smart S/W		☆

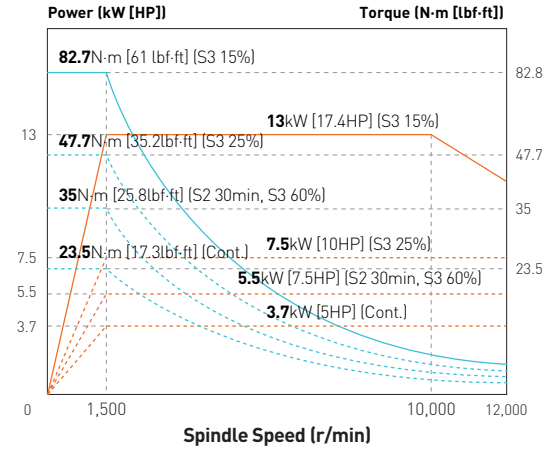
Electric Device		i-CUT400TD
Call Light	2 Color : ■ ■	●
Call Light & Buzzer	3 Color : ■ ■ ■ B	○
Work Light		●
Electric Cabinet Light		○
Remote MPG		●
Work Counter	Digital	○
Total Counter	Digital	○
Tool Counter	Digital	○
Multi Tool Counter	6 EA	☆
	9 EA	☆
Electric Circuit Breaker		○
AVR (Auto Voltage Regulator)		☆
Transformer (380V : 20kVA)	FANUC	–
Transformer (380V : 25kVA)		○
Transformer (220V : 25kVA)	SIEMENS	○
Auto Power Off		○
Measuring Device		
Air Zero	TACO	☆
	SMC	☆
Work Measuring Device		☆
TLM (Marposs/Renishaw/Blum)	*Touch	○
	Laser	○
Tool Broken Detective Device		☆
Coolant Level Sensor (Only for Chip Conveyor, Bladder Type)		☆
Enviornment		
Air Conditioner		○
Dehumidifier		○
Oil Mist Collector		☆
Oil Skimmer (Only for Chip Conveyor)		○
MQL (Minimal Quantity Lubrication)		☆
Fixture & Automation		
Auto Door		○
Sub O/P		☆
NC Rotary Tablel/F	Single	○
	Channel	☆
Control of Additional Axis	1Axis	○
External M Code 4ea		○
Automation Interface		☆
I/O Extension (In & Out)	16 Contact	☆
	32 Contact	☆
Hyd. Device		
Std. Hyd. Unit	45bar (652.7 psi) / 30 ℓ (7.9 gal)	●
Center Hyd. Supply Device	2x3 (6Port)	○
	2x5 (10Port)	○
Compact Center Hyd. Supply Device	2x4 (8Port)	○
Hyd. Unit for Fixture	45bar (652.7 psi)	☆
	70bar (1,015 psi)	☆
	100bar (1,450 psi)	☆
	Customized	☆
ETC		
Tool Box		●
Customized Color	Need for Munsel No.	☆
CAD&CAM Software		☆

*Through Spindle Coolant : Please check the filter types with sales representative.
*TLM-Touch : Technical consultation needed if there is a requirement of tool radius measurement in i-CUT400TD.
Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRiS) for details by S/W product.

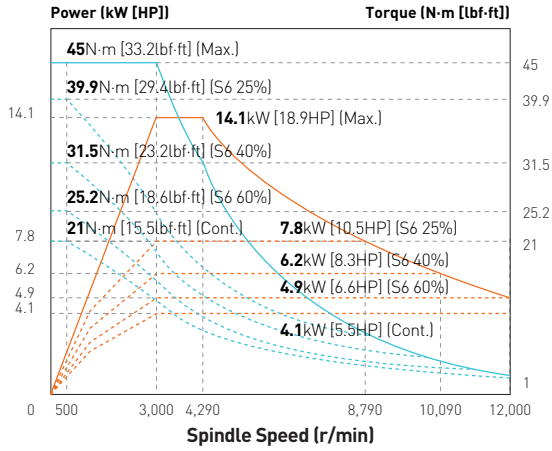
Specifications

Spindle Output/Torque Diagram

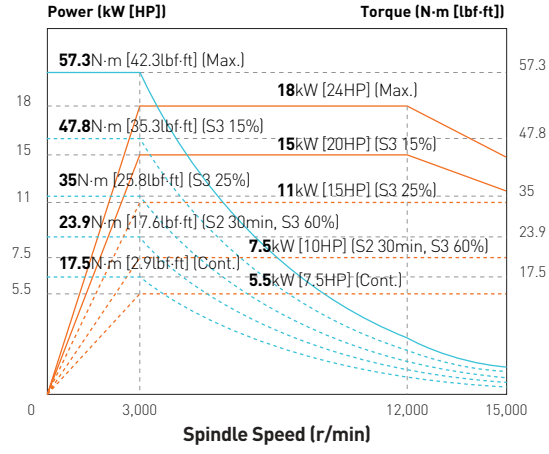
12,000 rpm (FANUC)



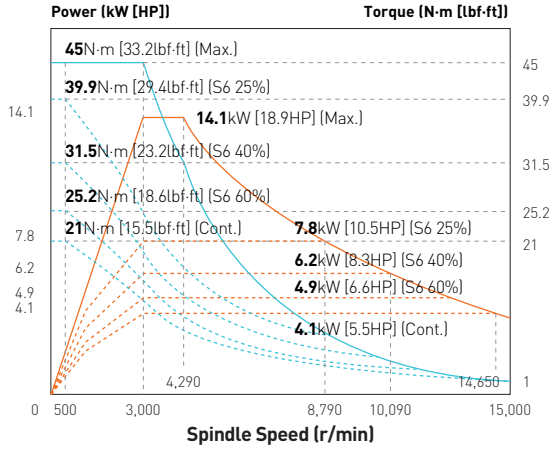
12,000 rpm (SIEMENS)



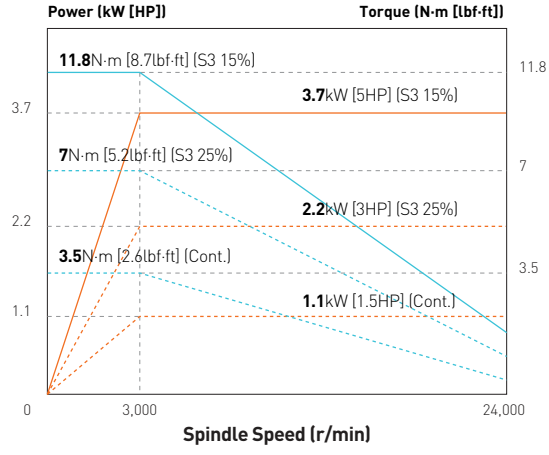
15,000 rpm (FANUC)



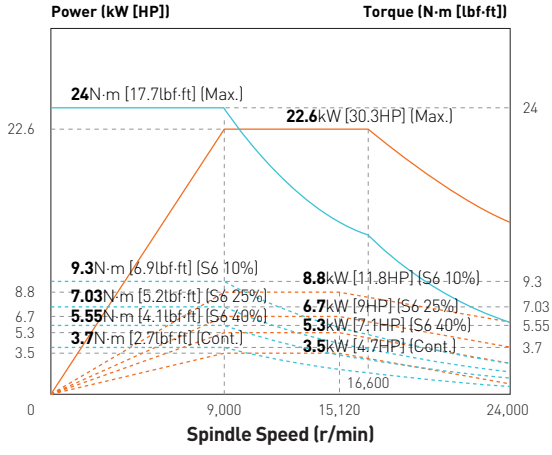
15,000 rpm (SIEMENS)



24,000 rpm (FANUC)



24,000 rpm (SIEMENS)

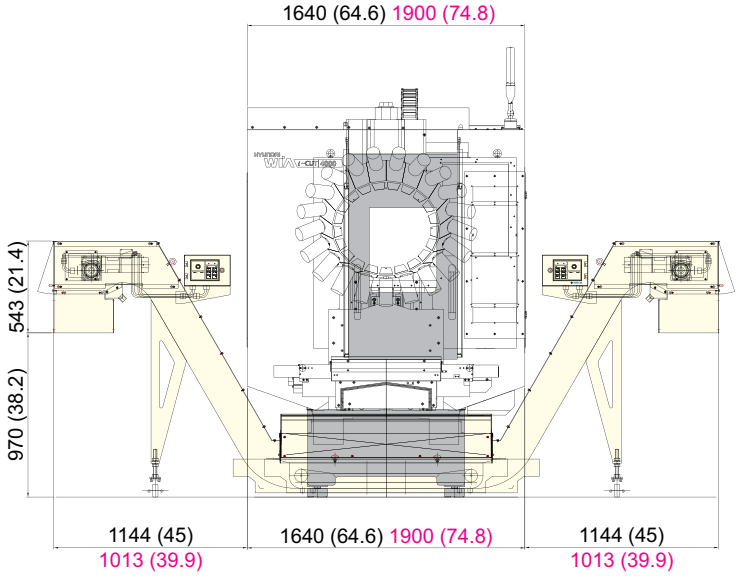


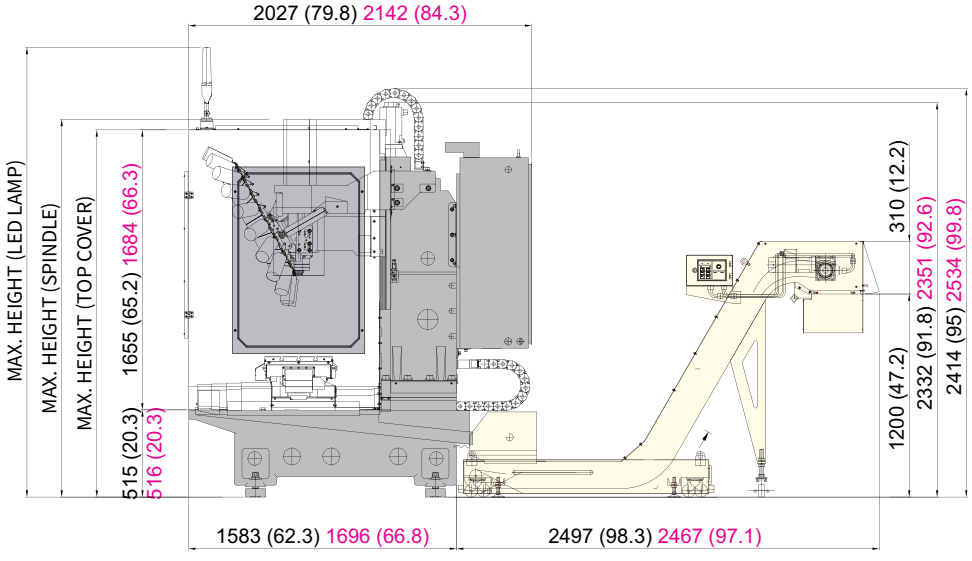
Specifications

External Dimensions

unit : mm(in)

i-CUT4000
i-CUT4500





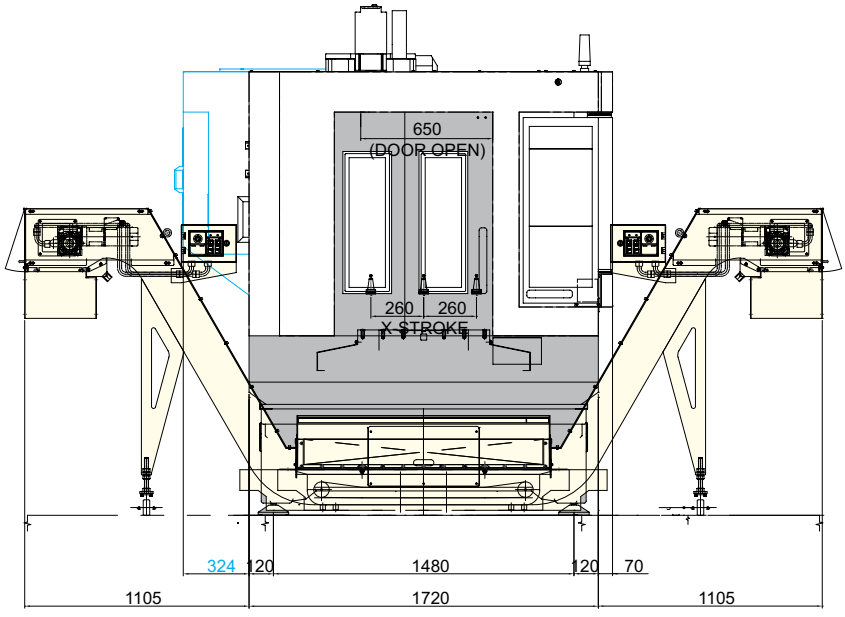
Model	Height Item	Max. Height (LED Lamp)		Max. Height (Top Cover)		Spindle Motor Height	
		Turret	Twin Arm	Turret	Twin Arm	Turret	Twin Arm
i-CUT4000	Std. Column	2,655 (104.5)		2,170 (104.5)	2,602 (102.4)	2,400 (94.5)	2,580 (101.6)
	High Column 150mm			2,362 (93)	2,810 (110.6)	2,550 (100.4)	2,730 (107.5)
	High Column 300mm			2,472 (97.3)	2,920 (115)	2,700 (106.3)	2,880 (113.4)
i-CUT4500	Std. Column	2,685 (105.7)		2,200 (86.6)	2,632 (103.6)	2,430 (95.7)	2,610 (102.8)
	High Column 150mm			2,392 (94.2)	2,840 (111.8)	2,580 (101.6)	2,760 (108.7)
	High Column 300mm			2,502 (98.5)	2,950 (116.1)	2,730 (107.5)	2,910 (114.6)

Specifications

External Dimensions

unit : mm

i-CUT400TD
TwinArm Type



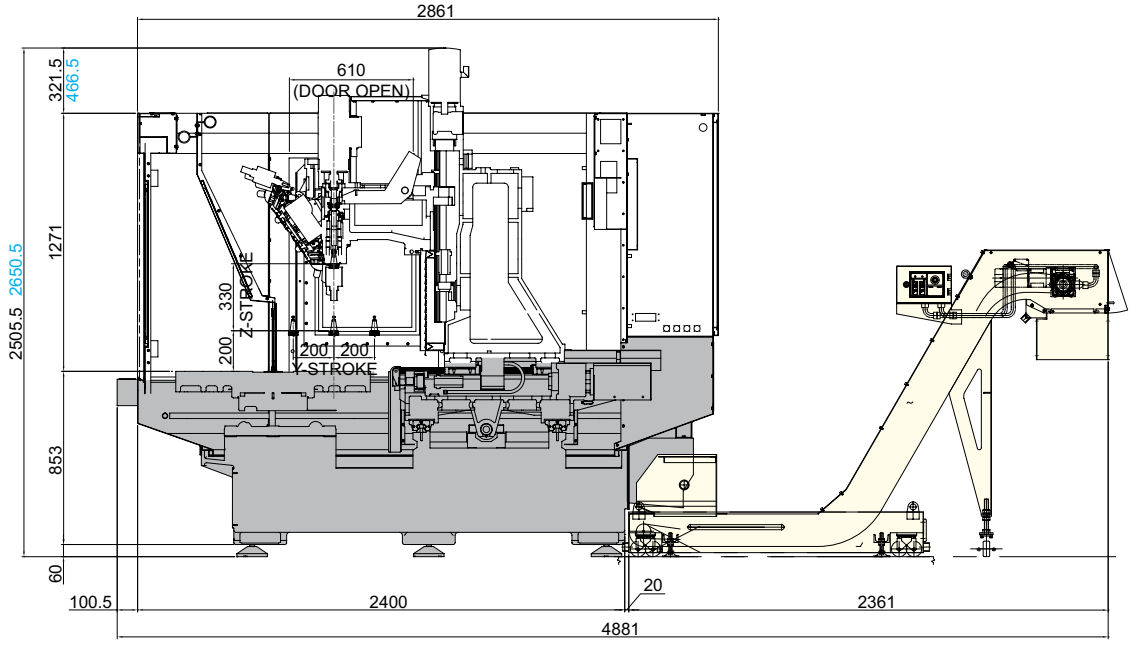
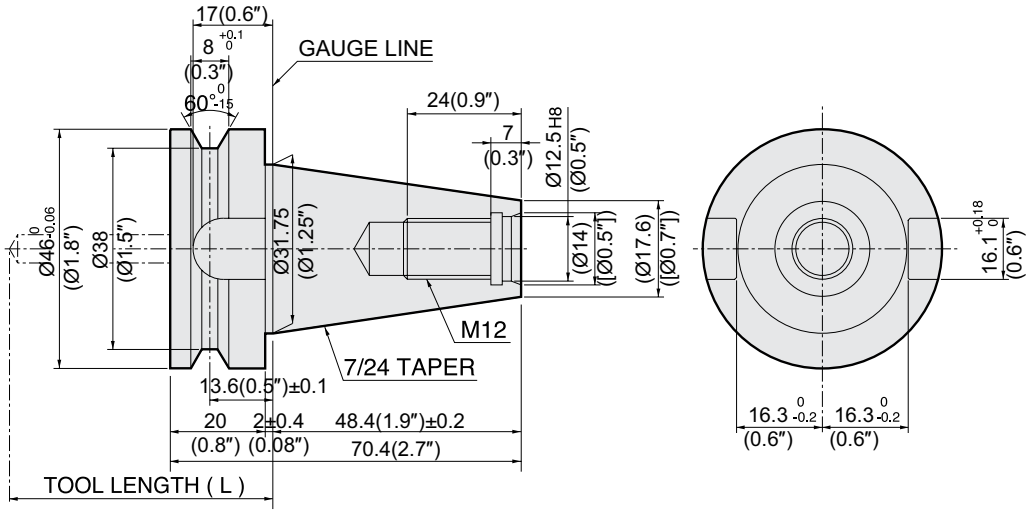
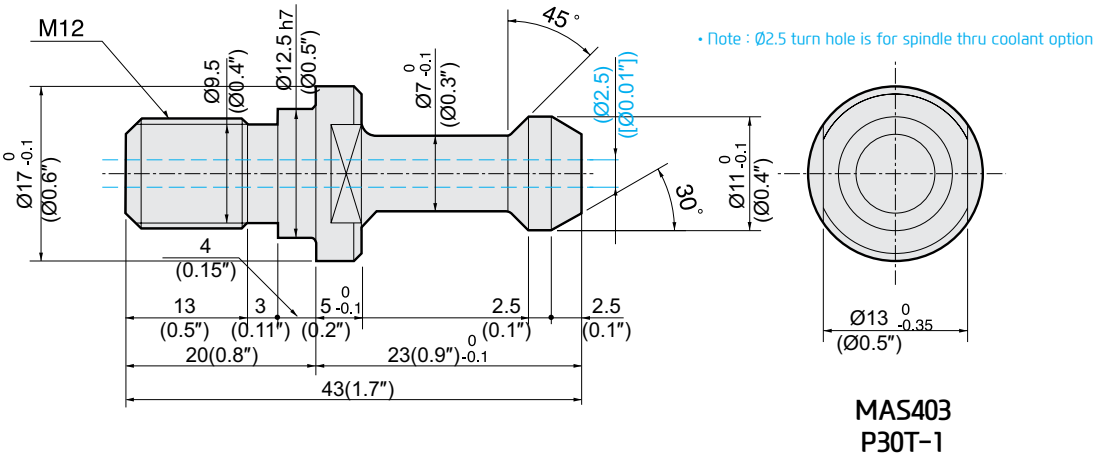


Table Dimensions

unit : mm(in)

BBT 30





• Note : Ø2.5 turn hole is for spindle thru coolant option

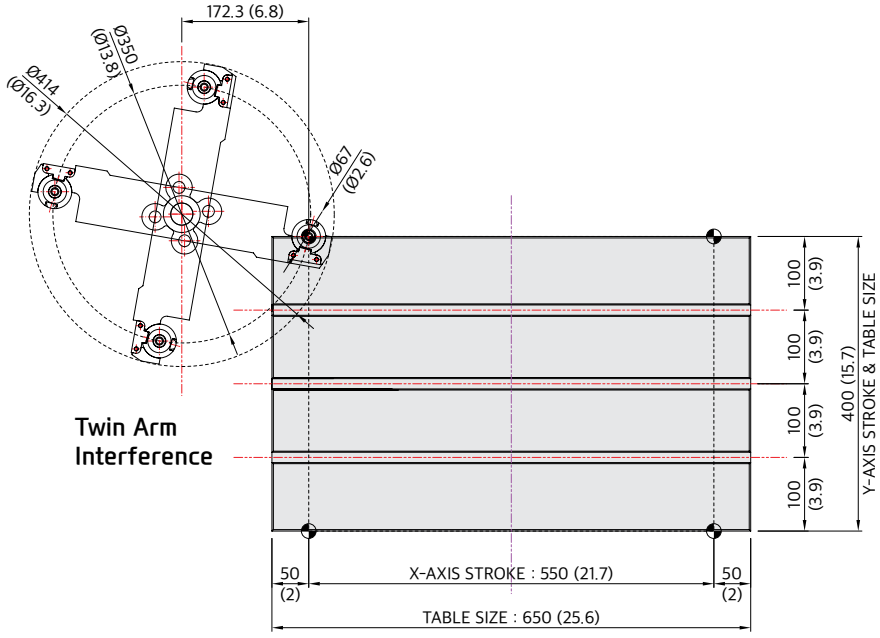
MAS403
P30T-1

Specifications

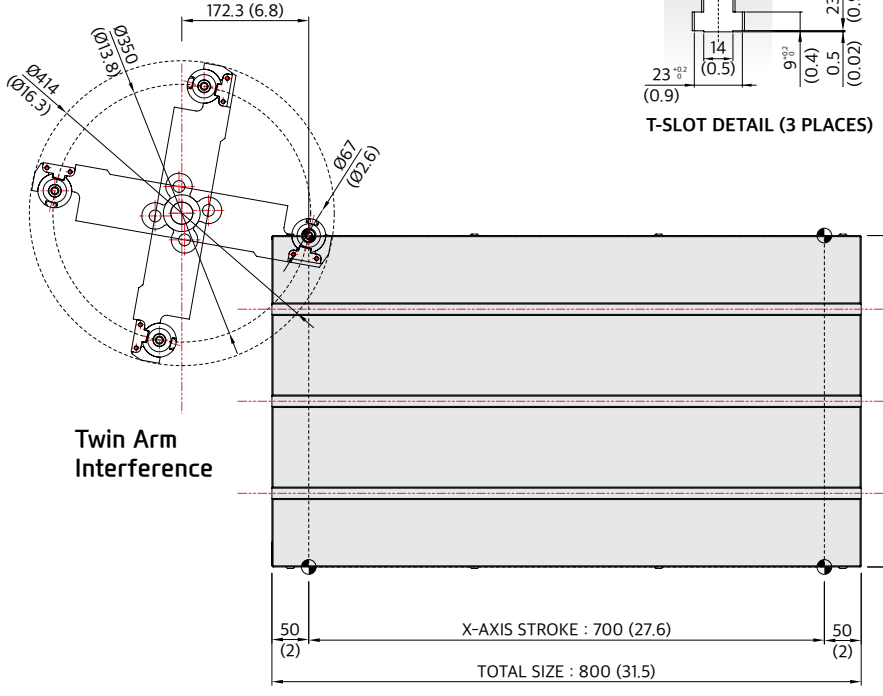
Table Dimensions

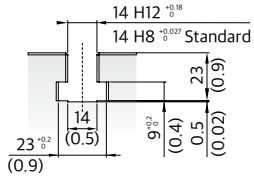
unit : mm(in)

i-CUT4000



i-CUT4500



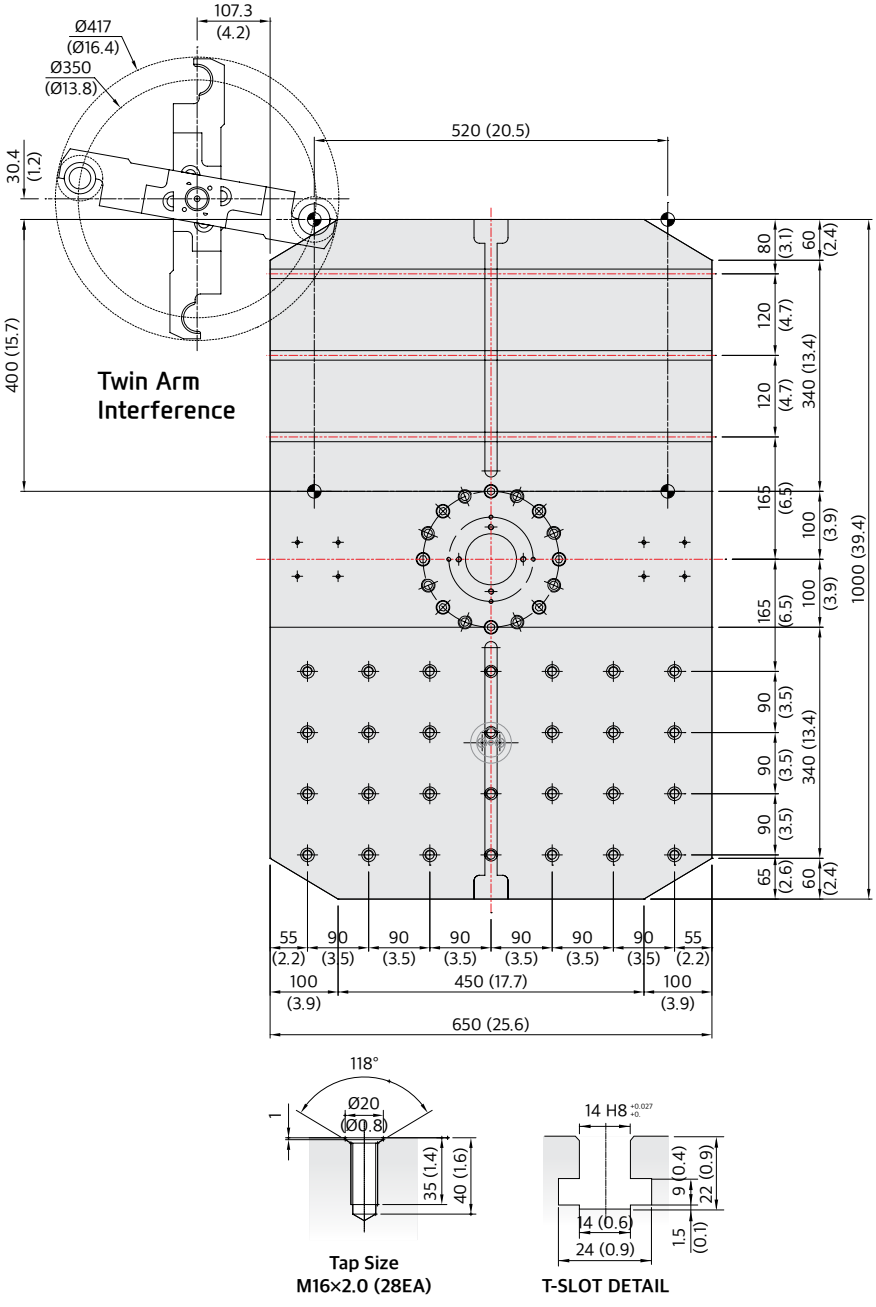


T-SLOT DETAIL (3 PLACES)

Table Dimensions

unit : mm(in)

i-CUT400TD



Tap Size
M16×2.0 (28EA)

T-SLOT DETAIL

Specifications

Specifications

[ ] : Option ■ : SIEMENS

ITEM				i-CUT4000	i-CUT4500
TABLE	Table Size (L×W)		mm(in)	650×400 (25.6″×15.7″)	800×450 (31.5″×17.7″)
	Maximum Load Capacity		kg(lb)	300 (661.4)	
SPINDLE	Spindle Taper		-	BBT30	
	Spindle Speed (rpm)		r/min	12,000 [15,000] [24,000] [12,000] [15,000] [24,000]	
	Power (Max./Cont.)		kW(HP)	13/3.7 [18/5.5] [3.7/1.1] [14.1/4.1] [14.1/4.1] [22.6/3.5] (17.4/5 [24/7.5] [5/1.5] [18.9/5.5] [18.9/5.5] [30.3/4.7])	
	Torque (Max./Cont.)		N·m(lbf·ft)	82.7/23.5 [57.3/17.5] [11.8/3.5] [45/21] [45/21] [24/3.7] (61/17.3 [42.3/2.9] [8.7/2.6] [33.2/15.5] [33.2/15.5] [17.7/2.7])	
	Spindle Driving Method		-	Direct	
FEED	Travel (X/Y/Z)		mm(in)	550/400/300 (21.7″/15.7″/11.8″) [Twin Arm : 550/400/480 (21.7″/15.7″/18.9″)]	700/450/300 (27.6″/17.7″/11.8″) [Twin Arm : 700/450/480 (27.6″/17.7″/18.9″)]
	Distance from Table Top to SP. Nose		mm(in)	200 ~ 500 (7.9″~19.7″) [Twin Arm : 680 (26.8″)]	
	Distance from Z-axis Slide Cover to Sp. Center		mm(in)	467 (18.4″)	487 (19.2″)
	Rapid Traverse Rate (X/Y/Z)		m/min(ipm)	56/56/56 (2,205/2,205/2,205)	
	Slide Type		-	LM Guide	
ATC	Tool Shank		-	BBT30	
	Number of Tools		ea	21 [Twin Arm : 20, 24]	
	Max. Tool Dia. (W.T / W.O)		mm(in)	Ø80/Ø80 (Ø3.1″/Ø3.1″) [Twin Arm : Ø67/Ø125 (Ø2.6″/Ø4.9″)]	
	Max. Tool Length		mm(in)	240 (9.4″)	
	Max. Tool Weight		kg(lb)	3 (6.6)	
	Tool Selection Method		-	Fixed [Twin Arm : Random]	
	Tool Change Time	T-T	sec	1.0 [Twin Arm : 1.1]	
		C-C	sec	1.8 [Twin Arm : 2.5]	
TANK CAPACITY	Coolant Tank		ℓ(gal)	220 (58.1)	
	Lubricating Tank		ℓ(gal)	2 (0.5)	
	Air Consumption	0.5MPa	ℓ/min	200 (52.8)	
POWER SUPPLY	Electric Power Supply		KVA	16 [19]	
	Thickness of Power Cable		mm²	Over 25	
	Voltage		V/Hz	*220/60 (50) [380/60 (50)]	
MACHINE	Floor Space (L×W)		mm(in)	1,640×2,027 (64.6″×79.8″)	1,900×2,142 (74.8″×84.3″)
	Height		mm(in)	2,655 (104.5″)	2,685 (105.7″)
	Weight		kg(lb)	2,600 (5,732)	3,500 (7,716)
CNC	Controller		-	HYUNDAI WIA FANUC i Series - Smart Plus [SIEMENS 828D]	

❖ Tool change time is subject to tool weight. *) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)

Specifications are subject to change without notice for improvement.

Specifications

Specifications

[ ] : Option ■ : SIEMENS

ITEM				i-CUT400TD
TABLE	Table Size (L×W)		mm(in)	2-650×400 (25.6″×15.7″)
	Maximum Load Capacity		kg(lb)	2-250 (551.2)
	Table Change Time			6
	Change Method			ROTARY TURN
	Table Driving Method			ROTARY CYLINDER
SPINDLE	Spindle Taper		-	BBT30
	Spindle Speed (rpm)		r/min	12,000 [12,000] [15,000]
	Power (Max./Cont.)		kW(HP)	13/3.7 (17.4/5) [14.1/4.1(18.9/5.5)] [14.1/4.1(18.9/5.5)]
	Torque (Max./Cont.)		N·m(lbf·ft)	82.7/23.5 (61/17.4) [45/21 (33.2/15.5)] [45/21 (33.2/15.5)]
	Spindle Driving Method		-	Direct
FEED	Travel (X/Y/Z)		mm(in)	520/400/330 (20.5″/15.7″/13″) [Twin Arm : 520/400/330 (20.5″/15.7″/18.1″)]
	Distance from Table Top to SP. Nose		mm(in)	200 ~ 530 (7.9″~20.9″) [Twin Arm : 200~660 (7.9″~26″)]
	Distance from Z-axis Slide Cover to Sp. Center		mm(in)	484 (19″)
	Rapid Traverse Rate (X/Y/Z)		m/min(ipm)	48/48/48 (1,890/1,890/1,890) [Twin Arm : 48/48/56 (1,890/1,890/2,205)] [56/56/56 (2,205/2,205/2,205)]
	Slide Type		-	X/Y-Axis : LM GUIDE, Z-Axis : Roller LM Guide
ATC	Tool Shank		-	BBT30
	Number of Tools		ea	14 [21] [Twin Arm : 20, 24]
	Max. Tool Dia. (W.T / W.O)		mm(in)	Ø80/Ø80 (Ø3.1″/Ø3.1″) [Twin Arm 20T : Ø80/125 (Ø3.1″/Ø4.9″)] [Twin Arm24T : Ø67/125 (Ø2.6″/Ø4.9″)]
	Max. Tool Length		mm(in)	200 (7.9″)
	Max. Tool Weight		kg(lb)	3 (6.6)
	Tool Selection Method		-	Fixed [Twin Arm : Random]
	Tool Change Time	T-T	sec	1.4 [Twin Arm : 1.0] [1.06]
		C-C	sec	1.8 [21 Tool : 2.1] [Twin Arm : 2.5] [1.6] [21 Tool : 1.8]
TANK CAPACITY	Coolant Tank		ℓ(gal)	210 (55.5)
	Lubricating Tank		ℓ(gal)	2 (0.5)
	Air Consumption	0.5MPa	ℓ/min	200 (52.8)
POWER SUPPLY	Electric Power Supply		KVA	18 [20]
	Thickness of Power Cable		mm²	Over 25
	Voltage		V/Hz	*220/60 (50) [380/60 (50)]
MACHINE	Floor Space (L×W)		mm(in)	1,7202,861 (67.7″×116.5″) [Twin Arm : 2,114×2,861 (83.2″×112.6″)]
	Height		mm(in)	2,446 (96.3″) [Twin Arm : 2,650 (104.3″)]
	Weight		kg(lb)	4,800 (10,582)
CNC	Controller		-	HYUNDAI WIA FANUC i Series - Smart Plus [SIEMENS 828D]

❖ Tool change time is subject to tool weight. *) 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

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	10.4 inch LCD
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 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
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 ☆
Conversational Program	Smart Guide-i

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

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)	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

Figures in inch are converted from metric values. I Specifications are subject to change without notice for improvement.

MOVEMENT FOR BETTER TOMORROW

ECO FRIENDLY

Protect the environment for all humanity and generation to come

01 Achieve carbon neutrality

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

02 Boost resource circulation

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

03 Establish environmental management framework

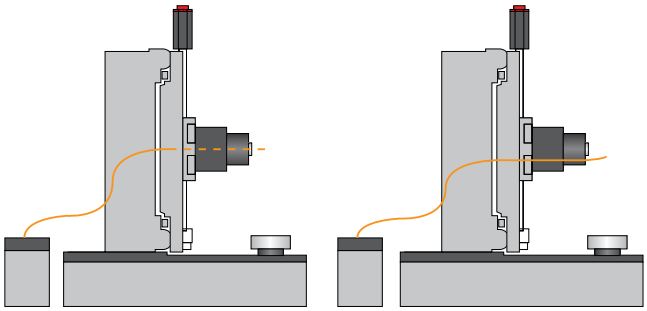
- Set up environmental management process
- Assess business impact of climate change risks

HYUNDAI WIA ECO SYSTEM

MQL (Minimal Quantity Lubrication)

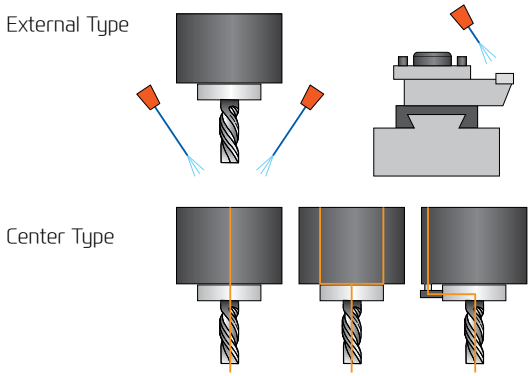
The goal of this system is to spray only the amount of lubricant required to prevent heat and chip build up at the cutting tool or work piece face.

Example of Machining Center Application



Center Type　　External Type

Example of Etc.

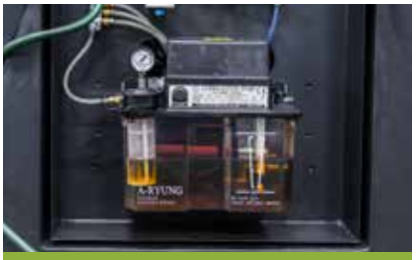


Oil Skimmer

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

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