

i-CUT Series

HYUNDAI WIA Tapping Center



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-CUT400T

[Option] ■: FANUC

Table Size	mm(in)	650×400 (25.6"×15.7")
Maximum Load Capacity	kg(lb)	300 (661.4)
Spindle Taper	-	BIG PLUS #30
Spindle RPM	r/min	12,000 [15,000] [12,000]
Output (Max.)	kW(HP)	14.1 [14.1] [13] (18.9 [18.9] [17.4])
No. of Tools	EA	14 [21]
Travel(X/Y/Z)	mm(in)	500/400/330 (19.7"/15.7"/13")
Rapid Traverse	m/min(ipm)	56/56/56 (2,205/2,205/2,205)
CNC	-	HYUNDAI-ITROL [HW FANUC i Series]

i-CUT400M

[Option]

Table Size	mm(in)	650×400 (25.6"×15.7")
Maximum Load Capacity	kg(lb)	300 (661.4)
Spindle Taper	-	BIG PLUS #30
Spindle RPM	r/min	24,000
Output (Max.)	kW(HP)	22.6 (30.3)
No. of Tools	EA	14 [21]
Travel(X/Y/Z)	mm(in)	500/400/330 (19.7"/15.7"/13")
Rapid Traverse	m/min	56/56/56 (2,205/2,205/2,205)
CNC	-	HYUNDAI-ITROL

i-CUT450T

[Option] ■: FANUC

Table Size	mm(in)	850×460 (33.5"×18.1")
Maximum Load Capacity	kg(lb)	300 (661.4)
Spindle Taper	-	BIG PLUS #30
Spindle RPM	r/min	12,000 [15,000] [12,000]
Output (Max.)	kW(HP)	14.1 [14.1] [13] (18.9 [18.9] [17.4])
No. of Tools	EA	14 [21] [TwinArm : 20, 24]
Travel(X/Y/Z)	mm(in)	700/450/330 (27.6"/17.7"/13") [Twin Arm : Z-Axis 460 (18.1")]
Rapid Traverse	m/min	56/56/56 (2,205/2,205/2,205)
CNC	-	HYUNDAI-ITROL [HW FANUC i Series]

i-CUT400TD

[Option]

Table Size	mm(in)	2-650×400 (2-25.6"×15.7")
Maximum Load Capacity	kg(lb)	2-250 (2-551)
Spindle Taper	-	BIG PLUS #30
Spindle RPM	r/min	12,000 [15,000]
Output (Max.)	kW(HP)	14.1 [14.1] (18.9 [18.9])
No. of Tools	EA	14 [21] [TwinArm : 20, 24]
Travel(X/Y/Z)	mm(in)	520/400/330 (20.5"/15.7"/13") [Twin Arm : Z-Axis 460 (18.1")]
Rapid Traverse	m/min	56/56/56 (2,205/2,205/2,205)
CNC	-	HYUNDAI-ITROL

New Leader of Vertical Tapping Center

i-CUT Series

- Max. 24,000rpm direct connection high-speed main spindle application (i-CUT400M)
- Servo motor is applied on the ATC to reduce tool change time
- Z-axis Roller LM Guide applies travel safety improvement
- Best-in-class all axis 56m/min(2,205 ipm) rapid traverse rate
- Machining area expanded to best-in-class 450mm (17.7)" Y-axis travel (i-CUT450T)
- Latest HYUNDAI-iTROL controls with user convenience improvement

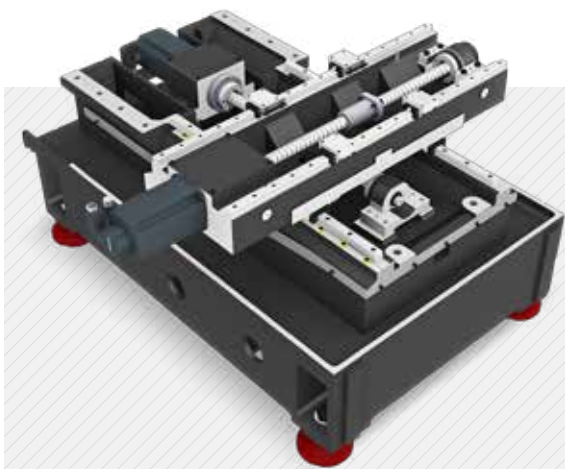


01

i-CUT Series

Basic Features

High Speed, Productivity & Compact Design
i-CUT400M | 400T | 450T



LM Guideway

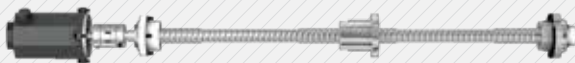
High speed axis movement is achieved by the use of LM guideways. This reduces non-cutting time and decreases machining time for greater productivity.

(Z-axis : Roller LM guideway)

Ball Screw

In order to eliminate thermal growth and increase accuracy, all axes are driven by high precision double anchored ballscrews.

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



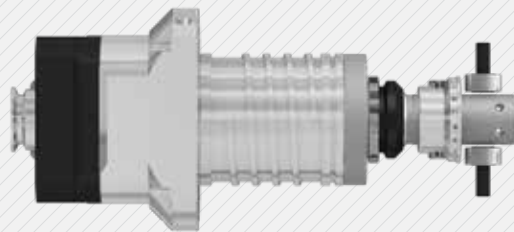
Total weight reduction through structural analysis

Existing Model	2.9 t (6,393 lb)
Current Model	2.2 t (4,850 lb)

01

Spindle

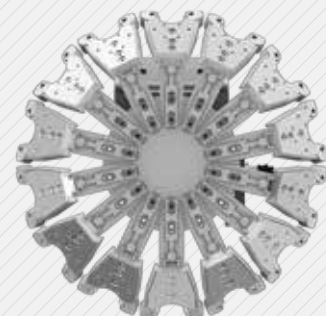
Rigidity is enhanced by increasing the spindle diameter and thickness. Precision is maintained by the use of high accuracy angular contact ball bearings.



02

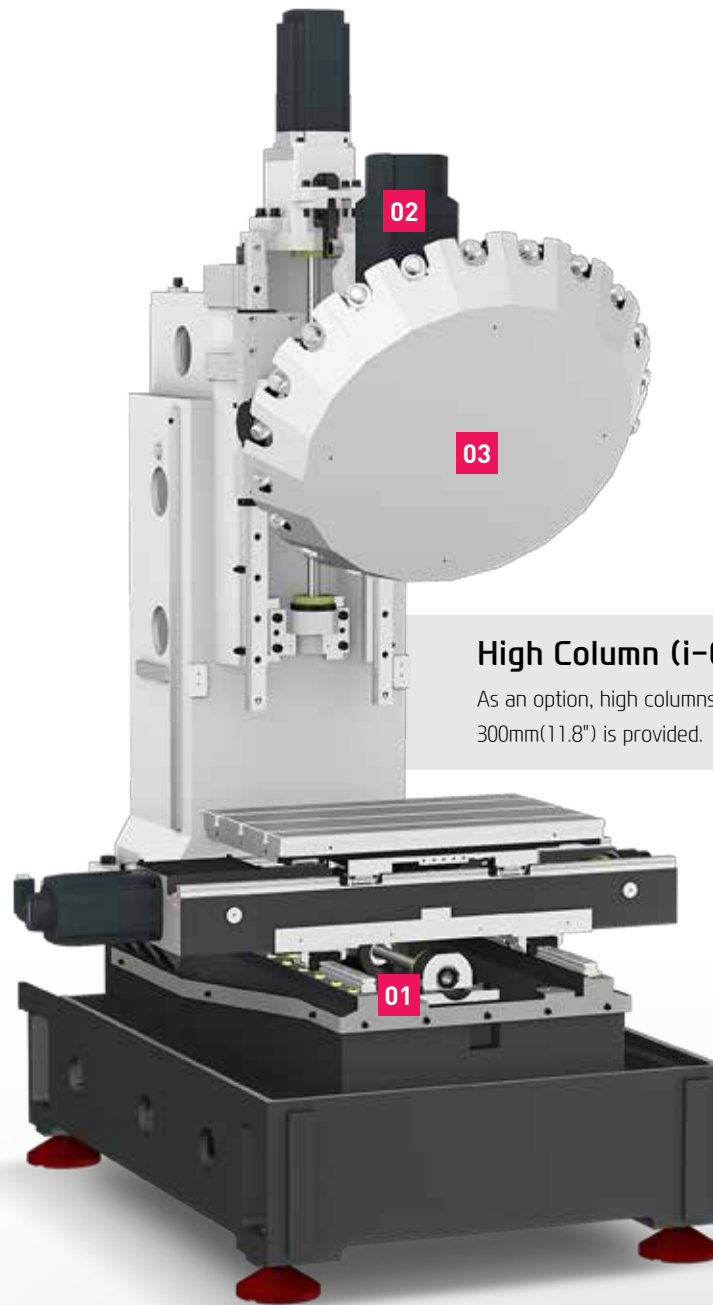
Servo ATC

The 14 Tool Turret Type ATC is provided as standard and 21 Tool is provided as an option.



03

Basic Features



High Column (i-CUT400T/450T)

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

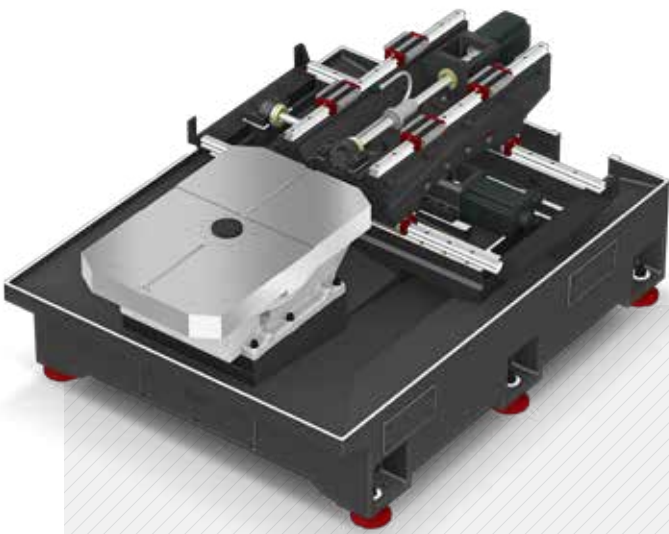
Reduction of non-cutting time

- ◎ **Rapid Traverse Rate** (X/Y/Z axis) : **56/56/56** m/min (**2,205/2,205/2,205** ipm)
- ◎ **Travel** (X/Y/Z axis) : i-CUT400T/M : **500/400/330** mm (**19.7"/15.7"/13"**)
i-CUT450T : **700/450/330** mm (**27.6"/17.7"/13"**)
[Twin Arm : Z-Axis **460** (**18.1"**)]

02 Basic Features

i-CUT Series

High Speed, Productivity & Compact Design
Dual Table Type, i-CUT400TD



LM Guideway

i-CUT400TD is designed with LM Guide of excellent speed and response. This enables to minimize non-cutting time, leading to higher productivity. (Z-Axis : Roller LM Guide)

04 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.

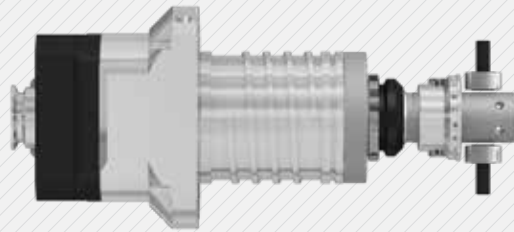
- ◉ **Table Size (L×W) :**
2-650×400 mm (25.6"×15.7")
- ◉ **Max. Load Capacity :** 2-250 kg (551 lb)
- ◉ **Table Change Time :** 6 sec

01 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.

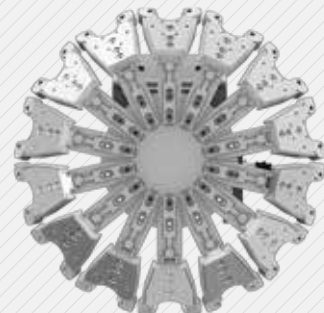
Spindle

Rigidity is enhanced by increasing the spindle diameter and thickness. Precision is maintained by the use of high accuracy angular contact ball bearings.

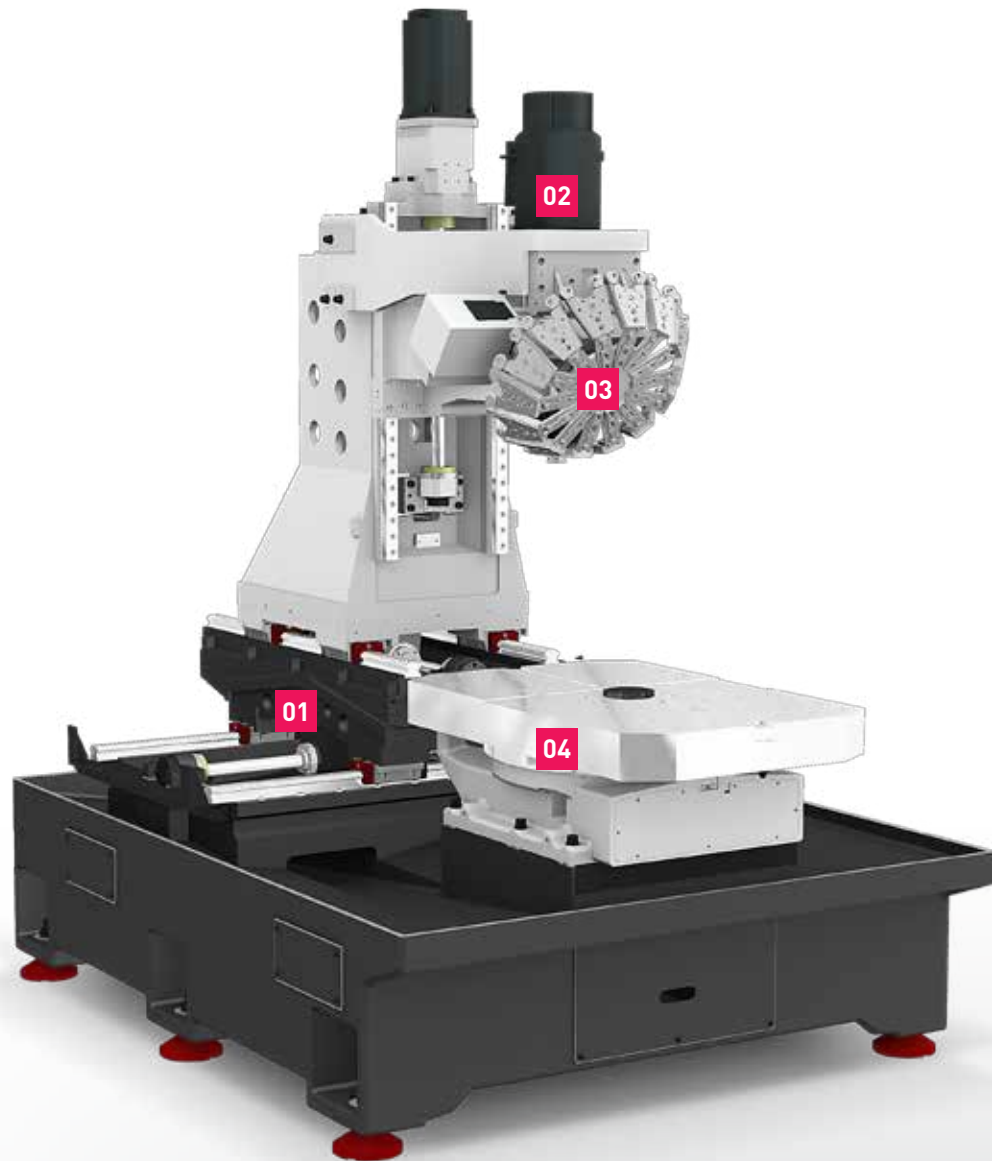


Servo ATC

The 14 Tool Turret Type ATC is provided as standard and 21 Tool is provided as an option.



Basic Features



Reduction of non-cutting time

- ◎ **Rapid Traverse Rate** (X/Y/Z axis) : **56/56/56** m/min (**2,205/2,205/2,205** ipm)
- ◎ **Travel** (X/Y/Z axis) : **520/400/330** mm (**20.5"/15.7"/13"**) [Twin Arm : Z-Axis **460 (18.1")**]
- ◎ **Spindle Speed** : **12,000 [15,000]** rpm
- ◎ **Spindle Driving Method** : **Direct**

n3
i-CUT Series

High-Precision Spindle

Long Lasting High Accuracy & Excellent Performance
Tapping Center



Main 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-CUT400M), various type of machining is possible. While in reverse rotation, Double Speed Return function reduces processing time.

Rigid Tapping

The rigid tapping function enables quick and accurate tapping. Also enhances precision and tool life.

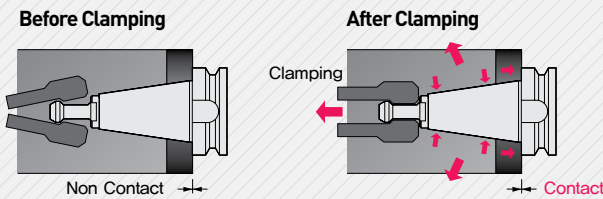
Through Spindle Coolant **OPTION**

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



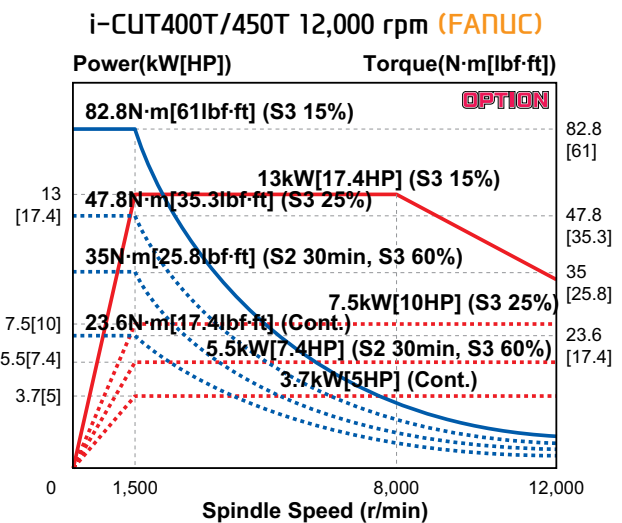
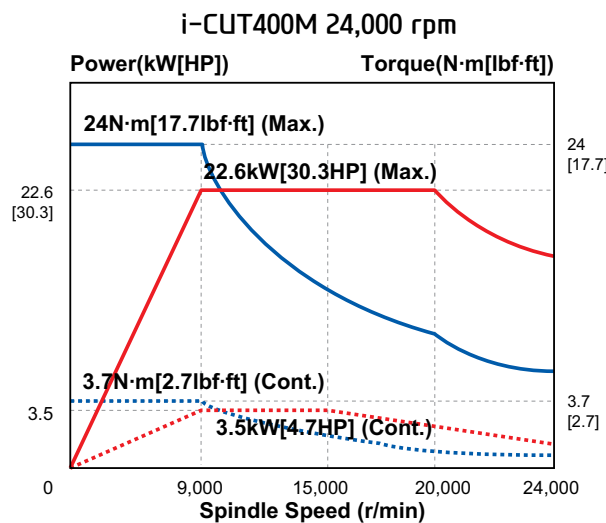
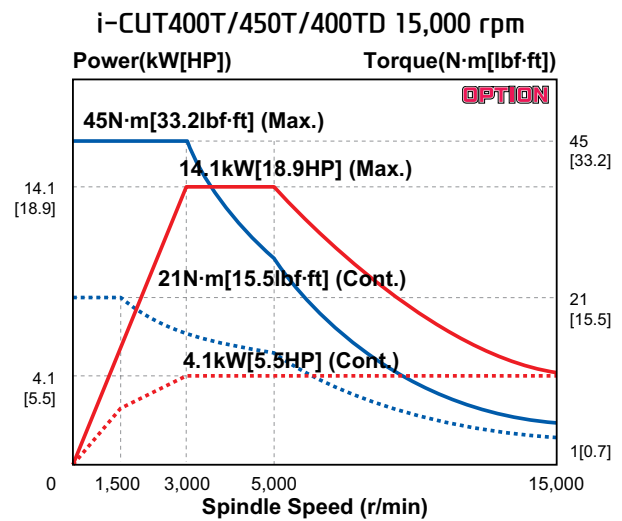
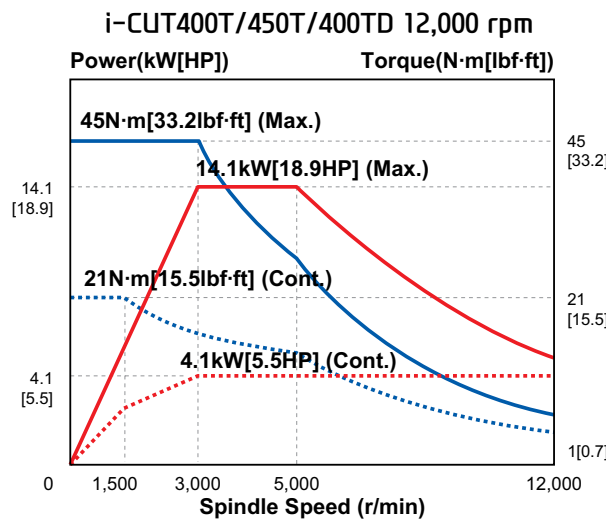
20 bar (290 psi)

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.

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

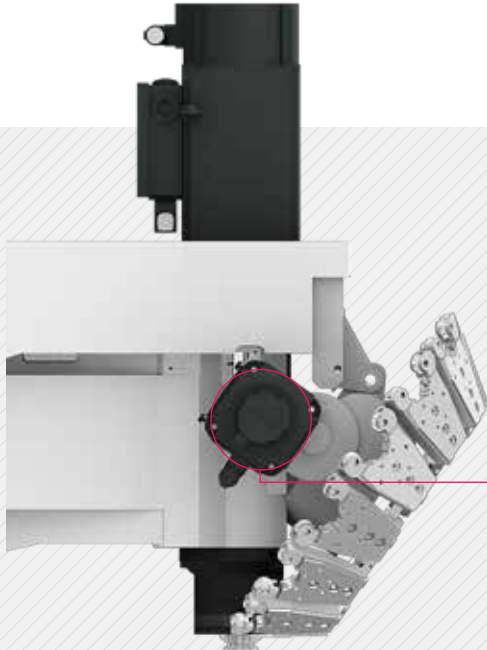


04
i-CUT Series

ATC & Magazine

High Productivity Achieved with High Rigidity,
Accuracy Machining



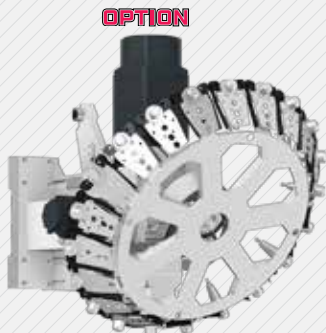


Magazine & ATC

The 14 Tool Turret Type magazine is provided as standard and 21 Tool Turret Type magazine is provided as an option. Due to the decrease of tool change time, non-cutting time is minimized. (1.06 sec for Tool to Tool and 1.6 sec for Chip to Chip).

Servo ATC

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



Turret Type 21 Tool



Twin Arm 20, 24 Tool
(i-CUT450T/400TD)

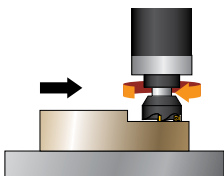
Turret Type

- No. of Tools : 14 [21] EA
- Tool Selection Method : Fixed Address

Twin Arm Type (i-CUT450T/400TD)

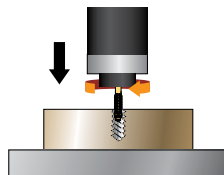
- No. of Tools : 20, 24 EA
- Tool Selection Method : Random

i-CUT400T/450T/400TD



FACE CUTTER (Material AL.) HYUNDAI-ITROL

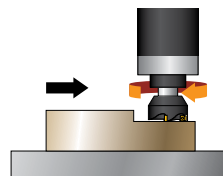
Tool diameter	Ø63 (Ø2.48") x 5F
Cutting depth	4 mm (0.157")
Cutting width	50 mm (1.968")
Spindle rpm	3,000 r/min
Feed rate	5,700 mm/min (224.4 ipm)
Chip quantity	114 cc/min



TAP (Material AL.) HYUNDAI-ITROL

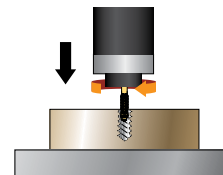
Tap spec./Pitch	M27 x P3.0
Cutting depth	50 mm (1.96")
Spindle rpm	320 r/min
Feed rate	960 mm/min (37.8 ipm)

i-CUT400M



FACE CUTTER (Material AL.) HYUNDAI-ITROL

Tool diameter	Ø63 (Ø2.48") x 5F
Cutting depth	3.5 mm (0.137")
Cutting width	53 mm (2.08")
Spindle rpm	3,841 r/min
Feed rate	4,500 mm/min (177.2 ipm)
Chip quantity	835 cc/min



TAP (Material AL.) HYUNDAI-ITROL

Tap spec./Pitch	M22 x P2.5
Cutting depth	45 mm (1.77")
Spindle rpm	362 r/min
Feed rate	995 mm/min (39.2 ipm)

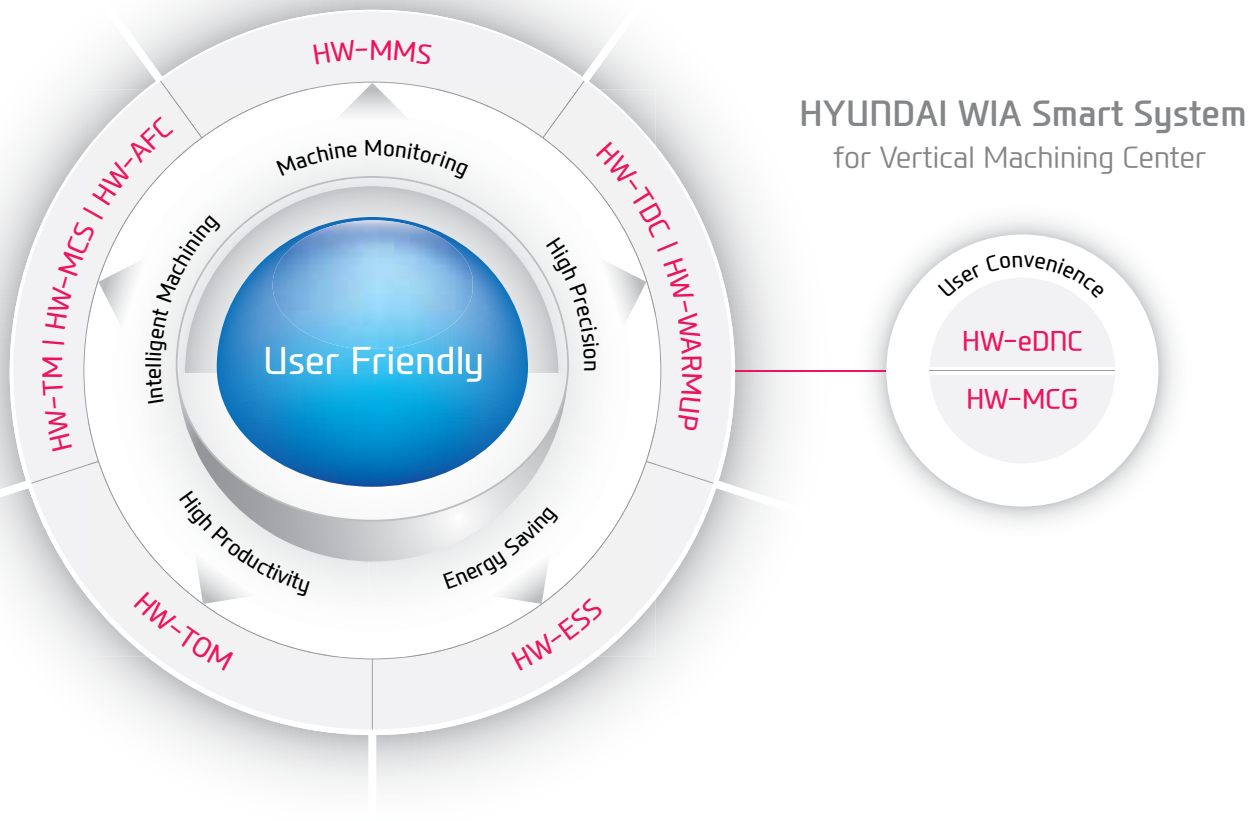
05

i-CUT Series

Smart System

Software for smart operating and machining

Faster processing and enhanced accuracy in are possible through the **HYUNDAI WIA Smart System**. The user friendly software and equipment monitoring of the Smart System maximizes productivity.



Mold-related Software



HW-AFC
HYUNDAI WIA
Adaptive Feed Control

Software that controls the feed automatically to maintain a certain working load to extend tool life as well as productivity.



HW-MCS
HYUNDAI WIA
Machining Condition Selection

Software that automatically sets cutting and feeding parameters according to the machining types (speed, degree, quality)

Smart Factory HW-MMS (HYUNDAI WIA-Machine Monitoring System) **OPTION**

A brand new manufacturing machine by HYUNDAI WIA, HW-MMS is a unique software capable of monitoring the operation status of manufacturing machines in factories, a smart solution to improve manufacturing conditions of customers.



- 01 Real-time monitoring of machine operation status (Cloud)
- 02 History and statistics of machine operation (Cloud)
- 03 History and statistics of alarm occurrence (Cloud)
- 04 History and statistics of work count (Cloud)
- 05 Remote diagnosis (Remote)



HW-MCG
HYUNDAI WIA
Machine Guidance

Software that offers operation, maintenance, management monitoring and various user friendly features.



HW-TDC **OPTION**
HYUNDAI WIA Thermal
Displacement Compensation

Software that measures the changes in the external environment as well as heat emission during processing to help reduce thermal displacement.



HW-WARMUP
HYUNDAI WIA
WARMing Up

Warm-up software that measures main spindle halt and offers system warm-up time automatically.



HW-ESS
HYUNDAI WIA
Energy Saving System

An environmental friendly software that reduces the unnecessarily wasted standby power waiting for an operation.



HW-TOM **OPTION**
HYUNDAI WIA
Tool Offset Measurement

User friendly GUI software that indicates tool length, diameter, and damage (H/W excluded)



HW-TM **OPTION**
HYUNDAI WIA
Tool Monitoring

A tool monitoring software which analyzes the load of the spindle motor to determine and monitor possible damage of tools.

n6
i-CUT Series

HYUNDAI-iTROL

The Powerful CNC platform for Machine Tools



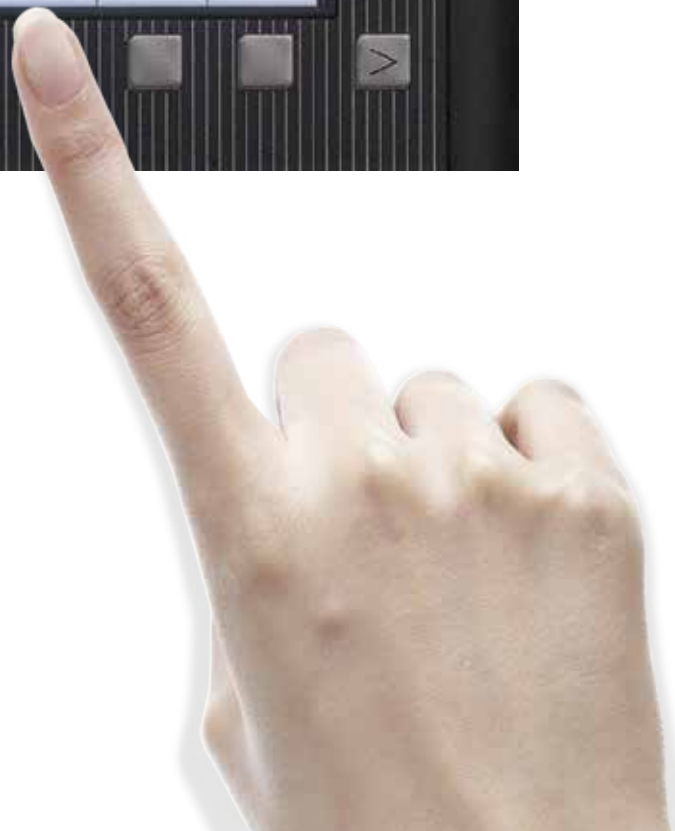
HYUNDAI - iTROL

HYUNDAI Intelligent Control

Convenient and Easy-to-Use Machine Tool...

Hyundai WIA take operator convenience to a higher level with the new controller, HYUNDAI-iTROL.

Experience the new operating environment with HYUNDAI-iTROL.





Dynamic servo control, highly efficient Siemens servo drive and Siemens servo motor with durability and quick response have been applied.

HYUNDAI-iTROL Convenient Function

Smart System operation preparation

When power is on, HYUNDAI-iTROL gives the worker instructions to do warm-up. HYUNDAI-iTROL also informs the worker of machine problems beforehand by showing current machine status.



Quick & Easy Machining Support

The three essential operations for machining are program check, tool measurement and coordinates system setup. HYUNDAI-iTROL provides three operations in consecutive order to prevent error and to enable quick and easy setup.



Tool & Spindle Monitoring

Tool and spindle monitoring can be easily done with a simpler operation. This helps with tool management, spindle protection and factory automation.



HYUNDAI-iTROL Technology

COMMUNICATION FUNCTION

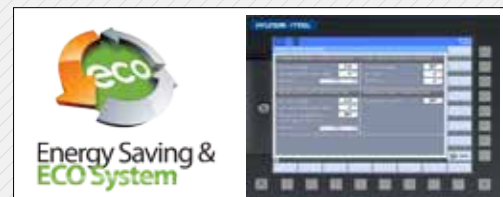
RJ 45 Ethernet

USB 2.0

Compact Flash Card



Easy input/output of program is possible with the use of USB memory card, CF memory card and LAN.



You can use energy saving function (ECO) and machining optimization function (SMART) with the MCP button.

SPECIFICATIONS

Standard & Optional

Spindle		i-CUT400T	i-CUT400M
12,000rpm (iTROL)	Direct	●	-
15,000rpm (iTROL)	Direct	○	-
12,000rpm (FANUC)	Direct	○	-
24,000rpm (iTROL)	Direct	-	●
Spindle Cooling System (Fan Cooler)		-	●
ATC			
ATC Extension	14 (Turret)	●	●
	21 (Turret)	○	○
	24 (Twin Arm)	-	-
Tool Shank Type	BBT30	●	●
	CAT30	-	-
U-Center	D'andrea	-	-
Pull Stud	45°	●	●
	60°	-	-
	90°	-	-
Table & Column			
APC	Rotary Turn	-	-
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)	-	-
	70bar (1,015 psi), 15 ℓ (4 gal)	-	-
	70bar (1,015 psi), 30 ℓ (7.9 gal)	-	-
Top Cover		●	●
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	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			
Spindle Monitoring : iTROL		●	●
ATC Maintenance : iTROL		●	●
Soft MCP : iTROL		●	●
Multiple functions such as Working Ration/Work Monitoring : iTROL		●	●
Spindle Heat Distortion Compensation(HW-TDC)		○	○
Tool Monitoring (HW-TM)		○	○
DFC Software (HW-eDFC)		○	○
Spindle Warm up Function (HW-WARMUP)		●	●
Energy Saving System (HW-ESS)		●	●
Machine Monitoring System (HW-MMS)		○	○
Tool Offset Measurement (HW-TOM)		☆	☆

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

S/W		i-CUT400T	i-CUT400M
Machining Condition Selection (HW-MCS)		●	●
Adaptive Feed Control (HW-AFC)		●	●
Machine Guidance (HW-MCG)		●	●
Conversational Program (HW-DPRO)		○	○
Electric Device			
Call Light	1 Color : ■	○	○
Call Light	2 Color : ■ ■	●	●
Call Light	3 Color : ■ ■ ■	○	○
Call Light & Buzzer	3 Color : ■ ■ ■ B	○	○
Work Light		●	●
Electric Cabinet Light		○	○
Remote MPG		-	-
3 Axis MPG	FANUC	-	-
	iTROL	-	-
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
Multi Tool Counter	6 EA	○	○
	9 EA	○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer (220V : 35kVA)	FANUC	●	-
Transformer (380V : 25kVA)	iTROL	●	●
Auto Power Off		○	○
Back up Module for Black out		-	-
Measuring Device			
Air Zero	TACO	○	○
	SMC	○	○
Work Measuring Device		☆	☆
TLM (Marposh/Renishaw/Blum)	Touch	○	○
	Laser	○	○
Tool Broken Detecting Device		☆	☆
Linear Scale	X/Y/Z Axis	☆	☆
Coolant Level Sensor (Only for Chip Conveyor, Bladder Type)		☆	☆
Environment			
Air Conditioner		○	○
Dehumidifier		○	○
Oil Mist Collector		☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
Fixture & Automation			
Auto Door	Std.	○	○
	High Speed	○	○
Auto Shutter (Only for Automatic System)		-	-
Sub O/P		☆	☆
NC Rotary Table/F	Single	○	○
	Channel	☆	☆
Control of Additional Axis	1Axis	○	○
	2Axis	-	-
External M Code 4ea		○	○
Automation Interface		☆	☆
I/O Extension (In & Out)	16 Contact	○	○
	32 Contact	○	○
Hyd. Device			
Std. Hyd. Unit	45bar (652.7 psi) / 30 ℓ (7.9 gal)	-	-
	2x3 (6Port)	-	-
Center Hyd. Supply Device	2x5 (10Port)	-	-
	2x3 (6Port)	-	-
Compact Center Hyd. Supply Device	45bar (652.7 psi)	○	○
	70bar (1,015 psi)	○	○
Hyd. Unit for Fixture	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.
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Standard & Optional

		i-CUT450T	i-CUT400TD
Spindle			
12,000rpm (iTROL)	Direct	●	●
15,000rpm (iTROL)	Direct	○	○
12,000rpm (FANUC)	Direct	○	-
Spindle Cooling System (Fan Cooler)			
		-	-
ATC			
ATC Extension	14 (Turret)	●	●
	21 (Turret)	○	○
	20 (Twin Arm)	○	○
	24 (Twin Arm)	○	○
Tool Shank Type	BBT30	●	●
	CAT30	-	-
U-Center	D'andrea	-	-
	45°	●	●
Pull Stud	60°	-	-
	90°	-	-
Table & Column			
APC	Rotary Turn	-	-
Tap Type Pallet		-	●
T-Slote Pallet		●	○
PC 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)	-	-
	70bar (1,015 psi), 15 ℓ (4 gal)	-	-
	70bar (1,015 psi), 30 ℓ (7.9 gal)	-	-
Top Cover		○	○
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	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			
Spindle Monitoring : iTROL		●	●
ATC Maintenance : iTROL		●	●
Soft MCP : iTROL		●	●
Multiple functions such as Working Ration/Work Monitoring : iTROL		●	●
Spindle Heat Distortion Compensation(HW-TDC)		○	○
Tool Monitoring (HW-TM)		○	○
DNC Software (HW-eDNC)		○	○
Spindle Warm up Function (HW-WARMUP)		●	●
Energy Saving System (HW-ESS)		●	●
Machine Monitoring System (HW-MMS)		○	○
Tool Offset Measurement (HW-TOM)		☆	☆
Machining Condition Selection (HW-MCS)		●	●

Through Spindle Coolant* : Please check the filter types with sales representative.
Specifications are subject to change without notice for improvement.

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

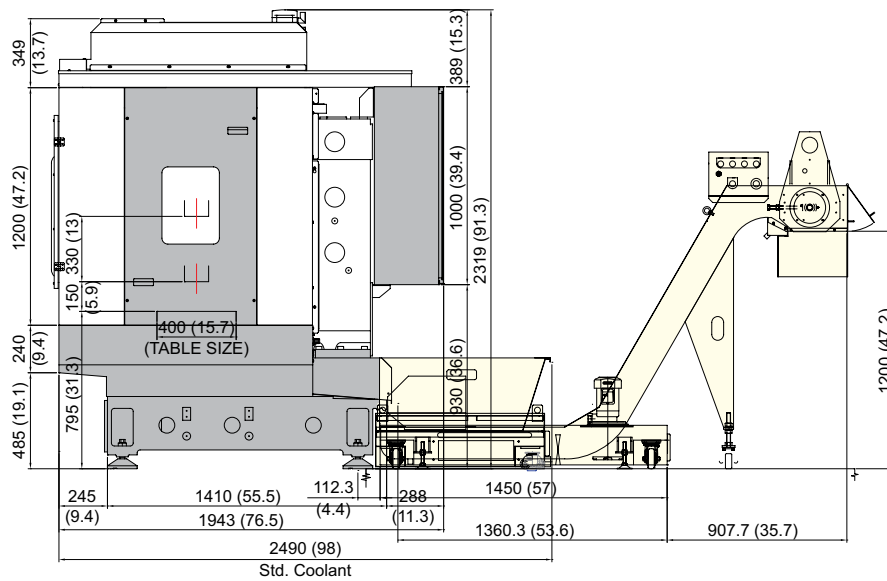
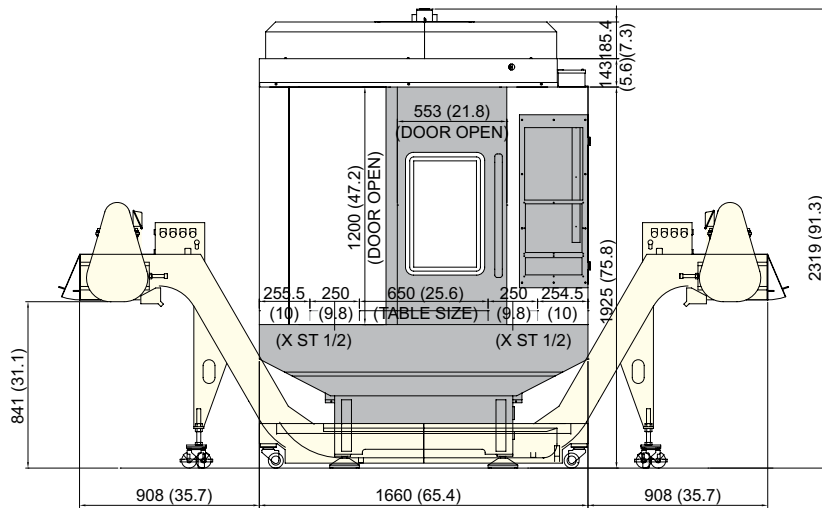
		i-CUT450T	i-CUT400TD
S/W			
Adaptive Feed Control (HW-AFC)		●	●
Machine Guidance (HW-MCG)		●	●
Conversational Program (HW-DPRO)		○	○
Electric Device			
Call Light	1 Color : ●	○	○
Call Light	2 Color : ●●	●	●
Call Light	3 Color : ●●●	○	○
Call Light & Buzzer	3 Color : ●●● B	○	○
Work Light		●	●
Electric Cabinet Light		○	○
Remote MPG		●	●
3 Axis MPG	FANUC	-	-
	iTROL	-	-
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
	6 EA	○	○
Multi Tool Counter	9 EA	○	○
		○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer (220V : 35kVA)	FANUC	●	-
	iTROL	●	●
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)		☆	☆
Enviroment			
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		☆	☆
PC Rotary Table/F	Single	○	○
	Channel	☆	☆
Control of Additional Axis	1Axis	○	○
	2Axis	-	-
External M Code 4ea		○	○
Automation Interface		☆	☆
I/O Extension (In & Out)	16 Contact	○	○
	32 Contact	○	○
Hyd. Device			
Std. Hyd. Unit	45bar (652.7 psi) / 30 ℓ (7.9 gal)	-	●
Center Hyd. Supply Device	2x3 (6Port)	-	○
	2x5 (10Port)	-	○
Compact Center Hyd. Supply Device	2x3 (6Port)	-	-
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		☆	☆

SPECIFICATIONS

External Dimensions

unit : mm(in)

i-CUT400M/T

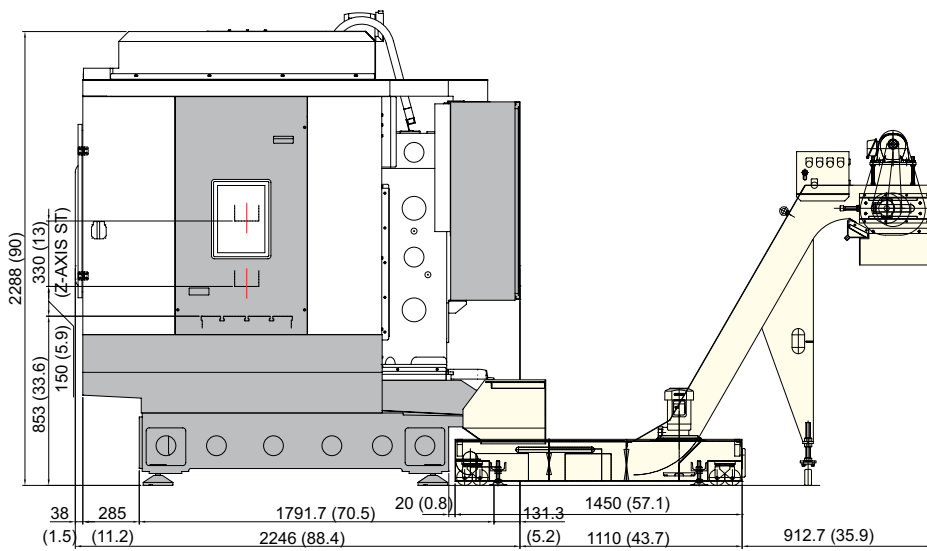
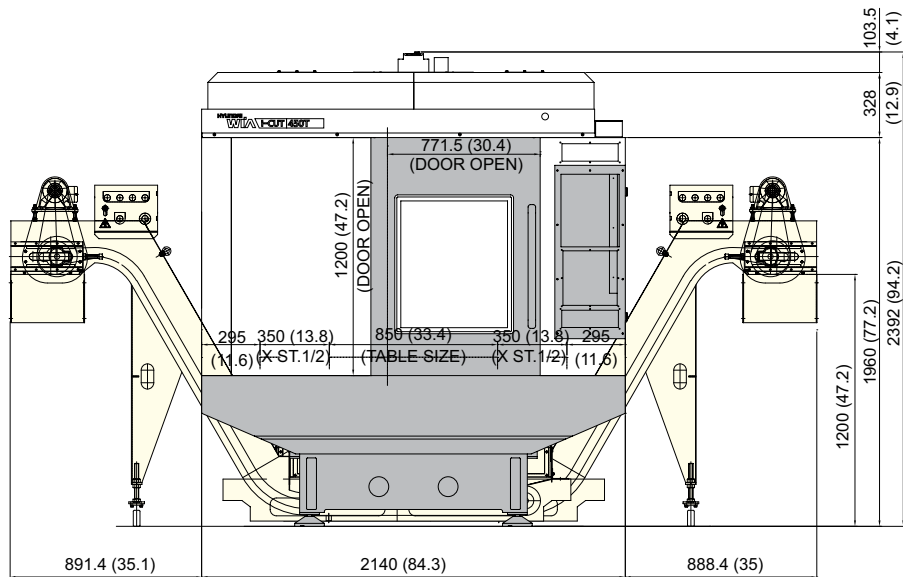


SPECIFICATIONS

External Dimensions

unit : mm(in)

i-CUT450T

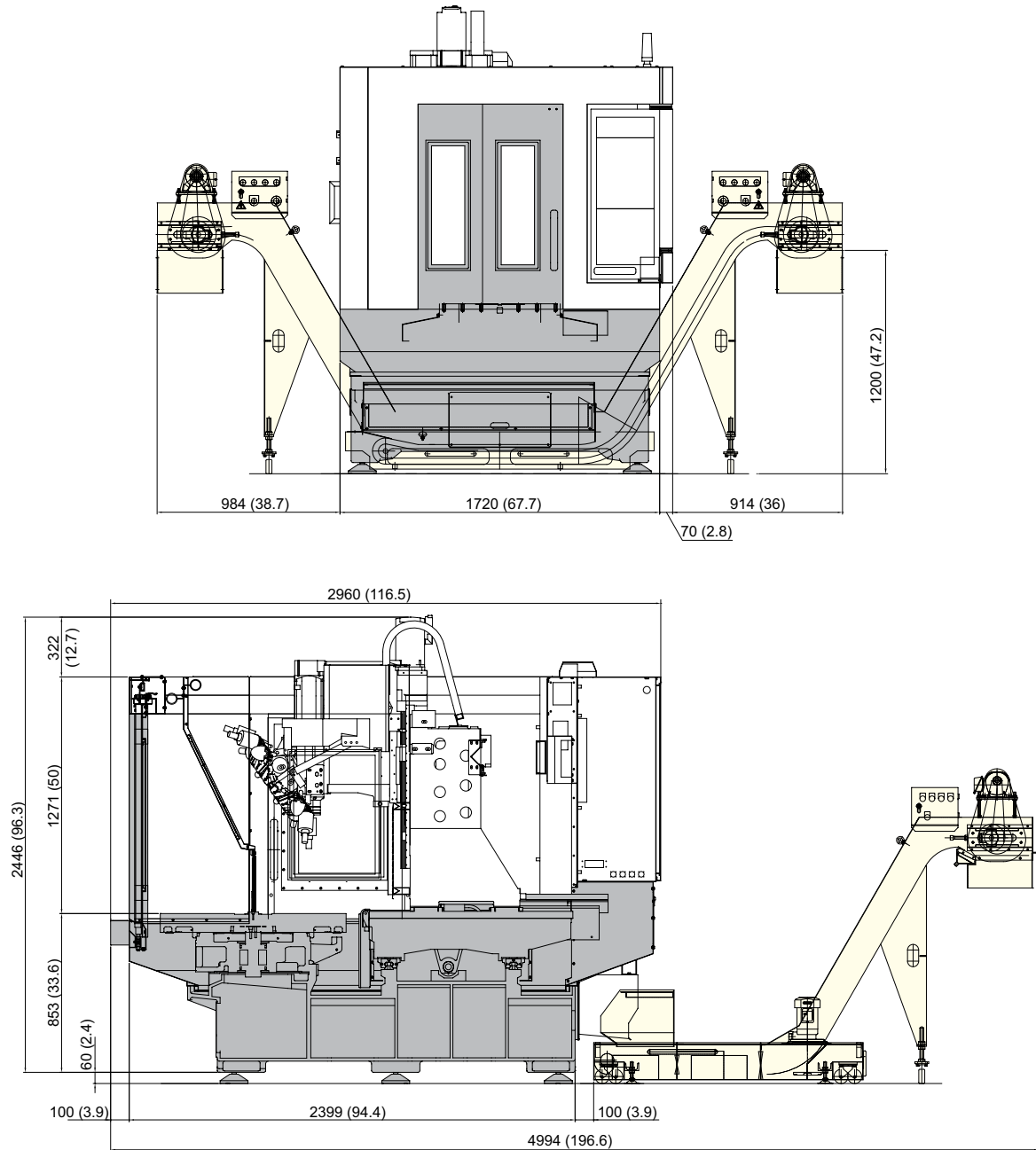


SPECIFICATIONS

External Dimensions

unit : mm(in)

i-CUT400TD

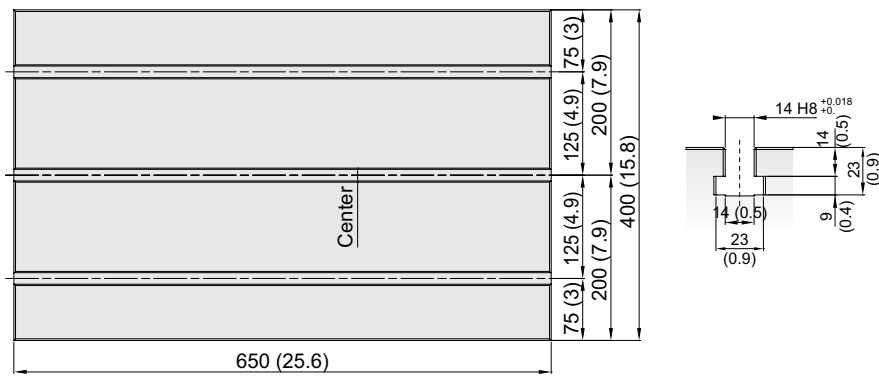


SPECIFICATIONS

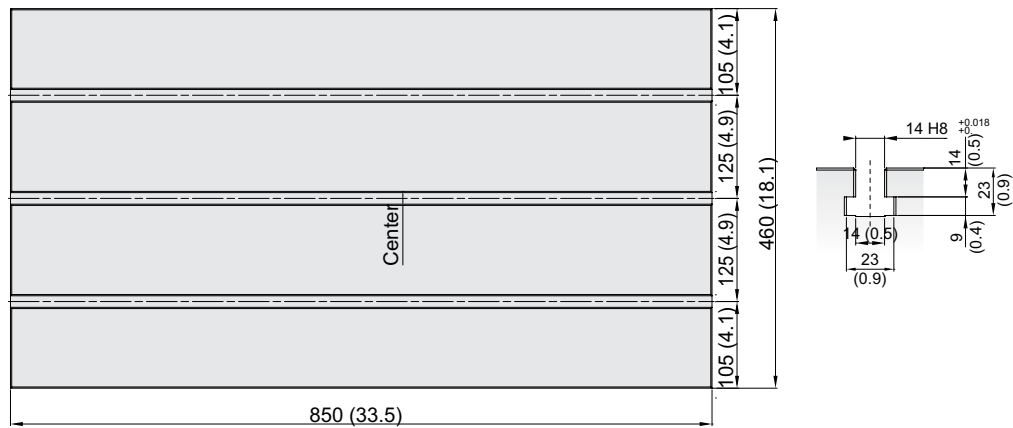
Table Dimensions

unit : mm(in)

i-CUT400M/T



i-CUT450T

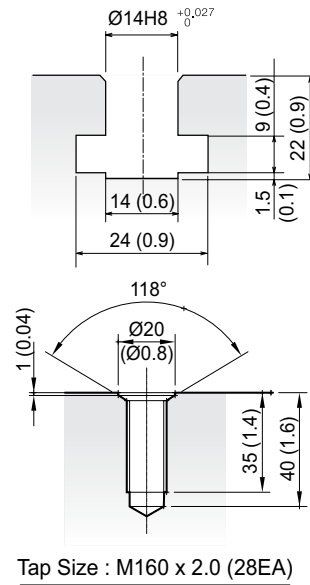
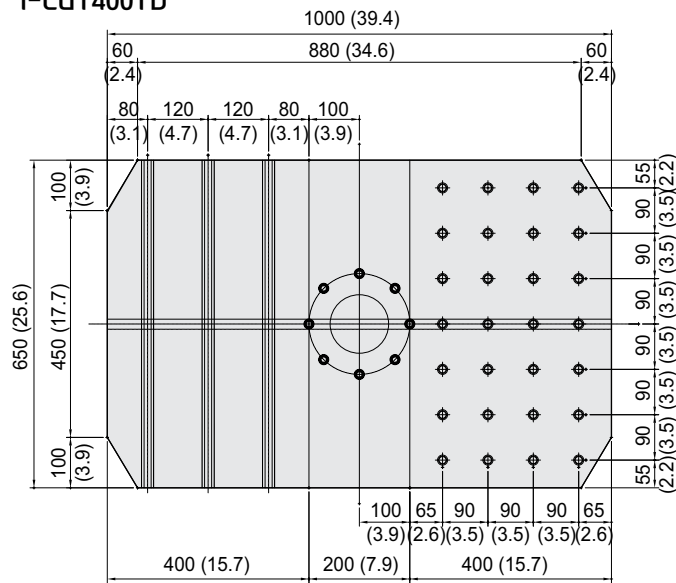


SPECIFICATIONS

Table Dimensions

unit : mm(in)

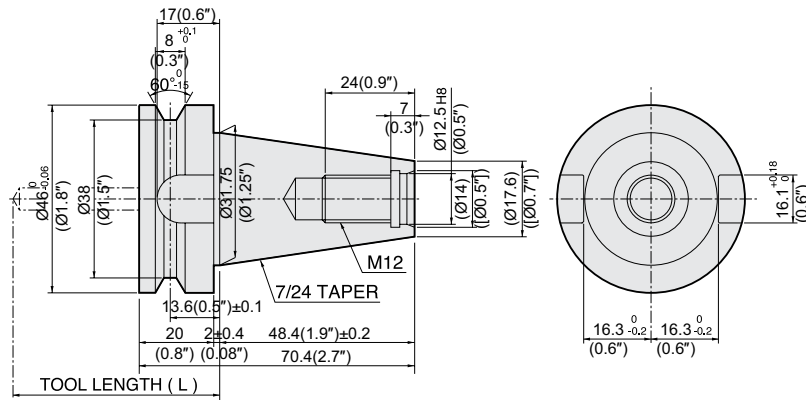
i-CUT400TD



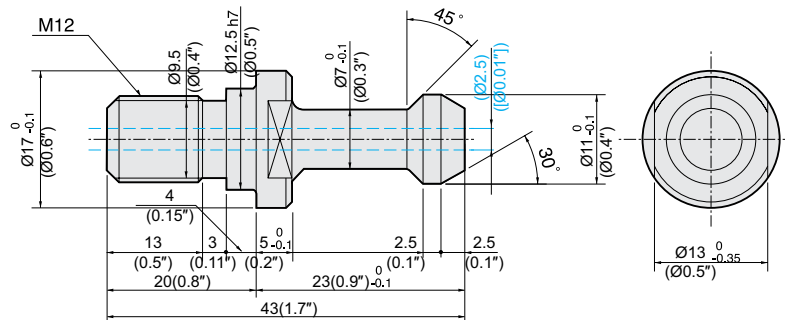
Tool Shank

unit : mm(in)

BBT 30 TOOL



MAS403 P30T-1



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

SPECIFICATIONS

Specifications

[] : Option

ITEM			i-CUT400T (iTROL)	i-CUT400T (FANUC)	i-CUT400M
TABLE	Table Size	mm(in)	650×400 (25.6"×15.7")		
	Maximum Load Capacity	kg(lb)	300 (661.4)		
	Table Change Time	sec	-		
	Change Method	-	-		
	Table Driving Method	-	-		
SPINDLE	Spindle Taper	-	BIG PLUS #30		
	Spindle RPM	r/min	12,000 [15,000]	12,000	24,000
	Spindle Power Output (Max./Cont.)	kW(HP)	14.1/4.1 (18.9/5.5) [14.1/4.1 (18.9/5.5)]	13/3.7 (17.4/5)	22.6/3.5 (30.3/4.7)
	Spindle Torque (Max./Cont.)	N·m(lbf·ft)	45/21 (33.2/15.5) [45/21 (33.2/15.5)]	82.8/23.6 (61/17.4)	24/3.7 (17.7/2.7)
	Spindle Driving Method	-	DIRECT		
FEED	Travel (X/Y/Z)	mm(in)	500/400/330 (19.7"/15.7"/13")		
	Distance from Table Surface to SP	mm(in)	150 ~ 480 (5.9"~18.9")		
	Distance from Column to SP. center	mm(in)	484 (19")		
	Rapid Traverse Rate (X/Y/Z)	m/min(ipm)	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		
	Max. Tool Dia. (W.T / W.O)	mm(in)	Ø80/Ø80(Ø3.1"/Ø3.1")		
	Max. Tool Length	mm(in)	200 (7.9")		
	Max. Tool Weight	kg(lb)	3 (6.6)		
	Number of Tools	EA	14 [21]		
	Tool Selection Method	-	FIXED ADDRESS		
	Tool Change Time	T-T	sec	1.06	1.4
C-C		sec	1.6 [21Tool :1.8]	2.1 [21Tool : 2.1]	1.6 [21 Tool:1.8]
TANK CAPACITY POWER SUPPLY	Coolant Tank	ℓ (gal)	200 (52.8)		
	Lubricating Tank	ℓ (gal)	2 (0.5)		
	Air Consumption (0.5MPa)	ℓ /min(gal)	200 (52.8)		
	Cutting Air Blow Air Consumption* (0.5MPa)	ℓ /min(gal)	[300 (79.3)]		
POWER SUPPLY	Electric Power Supply	kVA	20	25	20
	Thickness of Power Cable	Sq	Over 25		
	Voltage	V/Hz	380/60(50*)	220/60(50*)	380/60(50*)
MACHINE	Floor Space (L×W)	mm(in)	1,665×2,435 (65.6"×95.9")		
	Height	mm(in)	2,319 (91.3")		
	Weight	kg(lb)	2,200 (4,850)		
PC	Controller	-	HYUNDAI-iTROL	HW FANUC i Series	HYUNDAI-iTROL

Cutting Air Blow Air Consumption* : Option

*) 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 ■ : Twin Arm

ITEM			i-CUT450T (ITROL)	i-CUT450T (FANUC)	i-CUT400TD	
TABLE	Table Size	mm(in)	850×460 (33.5"×18.1")		2-650×400 (25.6"×27.6")	
	Maximum Load Capacity	kg(lb)	300 (661.4)		2-250 (551.2)	
	Table Change Time	sec	-		6	
	Change Method	-	-		ROTARY TURN	
	Table Driving Method	-	-		ROTARY CYLINDER	
SPINDLE	Spindle Taper	-	BIG PLUS #30			
	Spindle RPM	r/min	12,000 [15,000]	12,000	12,000 [15,000]	
	Spindle Power Output (Max./Cont.)	kW(HP)	14.1/4.1(18.9/5.5) [14.1/4.1(18.9/5.5)]	13/3.7 (17.4/5)	14.1/4.1(18.9/5.5) [14.1/4.1(18.9/5.5)]	
	Spindle Torque (Max./Cont.)	N·m(lbf·ft)	45/21 (33.2/15.5) [45/21 (33.2/15.5)]	82.8/23.6 (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)	700/450/330 (27.6"/17.7"/13") [Z-Axis : 460 (18.1")]		520/400/330 (20.5"/15.7"/13") [Z-Axis : 460 (18.1")]	
	Distance from Table Surface to SP	mm(in)	150 ~ 480 (5.9"~18.9") [150 ~ 610 (5.9"~24")]		200 ~ 530 (7.9"~20.9") [200~660 (7.9"~26")]	
	Distance from Column to SP. center	mm(in)	484 (19")			
	Rapid Traverse Rate (X/Y/Z)	m/min(ipm)	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			
	Max. Tool Dia. (W.T / W.O)	mm(in)	Ø80/Ø80(Ø3.1"/Ø3.1") [20T : Ø80/125 (Ø3.1"/Ø4.9")] [24T : Ø67/125 (Ø2.6"/Ø4.9")]			
	Max. Tool Length	mm(in)	200 (7.9")			
	Max. Tool Weight	kg(lb)	3 (6.6)			
	Turret Type	Number of Tools	EA	14 [21]		
		Tool Selection Method	-	FIXED ADDRESS		
		Tool Change Time	T-T	sec	1.06	1.4
	C-C		sec	1.6 [21Tool :1.8]	2.1 [21Tool : 2.1]	1.74 [21Tool : 2.1]
	Twin Arm (Option)	Number of Tools	EA	[20, 24]		
		Tool Selection Method	-	[Random]		
Tool Change Time		T-T	sec	[1.0]		
	C-C	sec	[2.5]			
TANK CAPACITY POWER SUPPLY	Coolant Tank	ℓ (gal)	240 (52.8)		210 (55.5)	
	Lubricating Tank	ℓ (gal)	2 (0.5)			
	Air Consumption (0.5MPa)	ℓ /min(gal)	200 (52.8)			
	Cutting Air Blow Air Consumption* (0.5MPa)	ℓ /min(gal)	[300 (79.3)]			
POWER SUPPLY	Electric Power Supply	KVA	20	25	20	
	Thickness of Power Cable	Sq	Over 25			
	Voltage	V/Hz	380/60(50*)	220/60(50*)	380/60(50*)	
MACHINE	Floor Space (L×W)	mm(in)	2,140×2,246 (84.3"×88.4")		1,720×2,960 (67.7"×116.5")	
	Height	mm(in)	2,392 (94.2")		2,446 (96.3")	
	Weight	kg(lb)	3,800 (8,377.5)		4,800 (10,582)	
PC	Controller	-	HYUNDAI-iTROL	HW FANUC i Series	HYUNDAI-iTROL	

Cutting Air Blow Air Consumption* : Option

*) 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-iTROL

Control & Composition

Number of axis/Spindles	3 axis (X, Y, Z)
Number of axis/Spindles, max.	6 axis (Axis + Spindle)
Color display	TFT 10.4" Color (800 x 600)
Keyboard	QWERTY Full Keyboard
Part program	1MB, 3MB, 5MB

Addition of part program on CF card

Transfer Function

Feedrate override	0% ~ 200%
Transfer value input range	± 999999999
Unlimited rotation of rotation axis	
Acc./Dec. with jerk limitation	
Measuring systems 1 and 2, selectable	
Travel to fixed stop	
Auto servo drive tuning	

Spindle Function

Spindle override	0% ~ 150%
Spindle speed, max. programmable value ange	1000000 ~ 0.0001
Automatic gear stage selection	
Spindle orientation	
Spindle speed limitation	
Rigid tapping	

Interpolation

Linear interpolation axis, max.	4 axis
Circle via center point and end point	
Circle via interpolation point	
Helical interpolation	
Non-uniform rational B splines	
Compressor for 3-axis machining	
Advanced surface	

Program Function

Subroutine levels, max.	11
Interrupt routines, max.	4
Number of levels for skip blocks	2
Polar Coordinates	
Dimensions inch/metric, changeover manually or via program	
Dynamic preprocessing memory FIFO	
Look ahead	50, 100, 150
Absolute/Incremental command	G90 / G91
Scaling/Rotation	
Read/Write system variables	
Block search	
Edit background	
Processing program number, max.	750
Using of CF Card, USB	

Basic coordinate number, max.	1
Work coordinate number, max.	100
Basic/Work coordinate programming change	
Scratching function	
Global and Local user data (GUD/LUD)	
Global program user data	
Interactive cycle program	

Tool Function

Tool radius compensations	
Tool offset selection via T/D numbers	
Tools / Cutting edges in tool list	80/160, 128/256, 256/512

Monitoring Function

Working area limit	
Software and Hardware limit	
Zero-speed/Clamping monitoring	
2D/3D protection zones	
Contour monitoring	

Compensation

Backlash compensation	
Leadscrew error compensation	
Measuring system error compensation	
Feedforward control (Speed control)	

Safety Function

Safe torque off (STO)	
Safe brake control (SBC)	
Safe stop 1 (SS1)	

Diagnostic Function

Alarm/Message, Alarm log	
PLC status/LAD online display	
PLC remote connection (Ethernet)	

Automation Support Function

Actual velocity display	
Tool life management	As time / As amount
Work counter/Cycle time	Embedded
2D simulation	

Manual Operation

Manual handle/Jog transfer	
Manual measurement of workpiece / tool offset	
Automatic tool/Workpiece measurement	
Automatic/Program reference approach	

Automatic Operation

Program run as using CF card/USB	
Program control/modification	
Block search	
Reposition	
Preset (Set actual value)	

Data Transmission

Ethernet network	
USB memory stick & CF card	

Convenience Function

Processing setting	Coordinate setting, Auto tool length measurement
Processing support	Tool Monitoring, Spindle overload monitoring
Maintenance	Turret Guidance, I/O monitoring, Manual
Maintenance / Management	Soft MCP, Spindle warming-up M/G code list
SMART machining	
Energy saving function (ECO)	
Machine Monitoring System (MMS Lite)	

Language

Standard support language	Chinese Simplified, English, Korean
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Option

Maximum skip block number	10
DRF offset	
MDI program save/load	
Teach-In mode	
3D simulation	Except for working area/Collision check
Real time simulation	
Shop Mill	Conversational Program
Spline interpolation	
Program remote control in network	
Language	Chinese Traditional, French, German, Italian, Portuguese, Spanish

CONTROLLER

HYUNDAI WIA FANUC i Series

☆ Needed technical consultation

Controlled axis / Display / Accuracy Compensation	
Control axes	3 axes (X, Y, Z) 4 axes (X, Y, Z, B)
Simultaneously controlled axes	3 axes [Max. 4 axes]
Least setting Unit	X, Y, Z axes : 0.001 mm (0.0001 inch) B axes : 1 deg [0.001] deg
Least input increment	X, Y, Z axes : 0.001 mm (0.0001 inch) B axes : 1 deg [0.001] deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axes / Each axis
Machine lock	All axes
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	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 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 ~ 9999.999 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 ~ 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
Cylindrical interpolation	G07.1
Inverse time feed	G93
Look-ahead block	20 blocks (AI APC)
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, 48 pairs (G54.1 P1 ~ 48)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #149, #500 ~ #549
G code system	A

Program input	
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Optional chamfering corner R	
Polar coordinate command	G15, G16
Scaling	G50, G51
Coordinate system rotation	G68, G69
Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
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	1248m (512KB)
No. of registerable programs	400 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	RS 232C serial port, 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 20 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Option	
Additional optional block skip	9 ea ☆
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Additional Axis	
MANUAL GUIDE i	Conversational auto program
Manual handle feed	2/3 units #100 ~ #199, #500 ~ #999, #98000 ~ #98499
Addition of custom macro	
Tool management function	
Part program storage size	5120m (2MB)
No. registerable programs	Max. 1000 EA
Add. Workpiece	Max. 300 pairs (G54.1 P1 ~ P300) 40 blocks
AICC II	200 blocks 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.

GLOBAL NETWORK



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India Branch Office

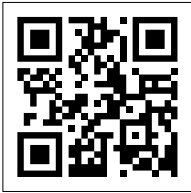
#4/169, Rajiv Gandhi Salai, (OMR),
Kandanchavadi, Chennai-600 096,
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Guangzhou Branch Office

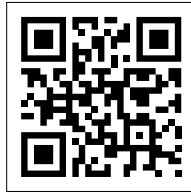
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Chongqing Office

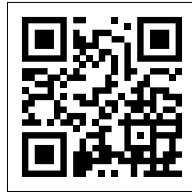
Room 951, #3, Jinrongcheng T3, Jiangbei,
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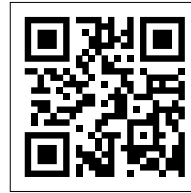
i-CUT400T Movie
(Complex Shape)



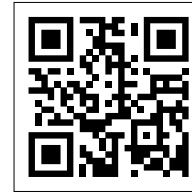
i-CUT400M Movie
(Headlamp Mold)



i-CUT400TD Movie
(Handphone Case)



i-CUT450T Movie
(Valve Body)



i-CUT400M 3D Movie



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