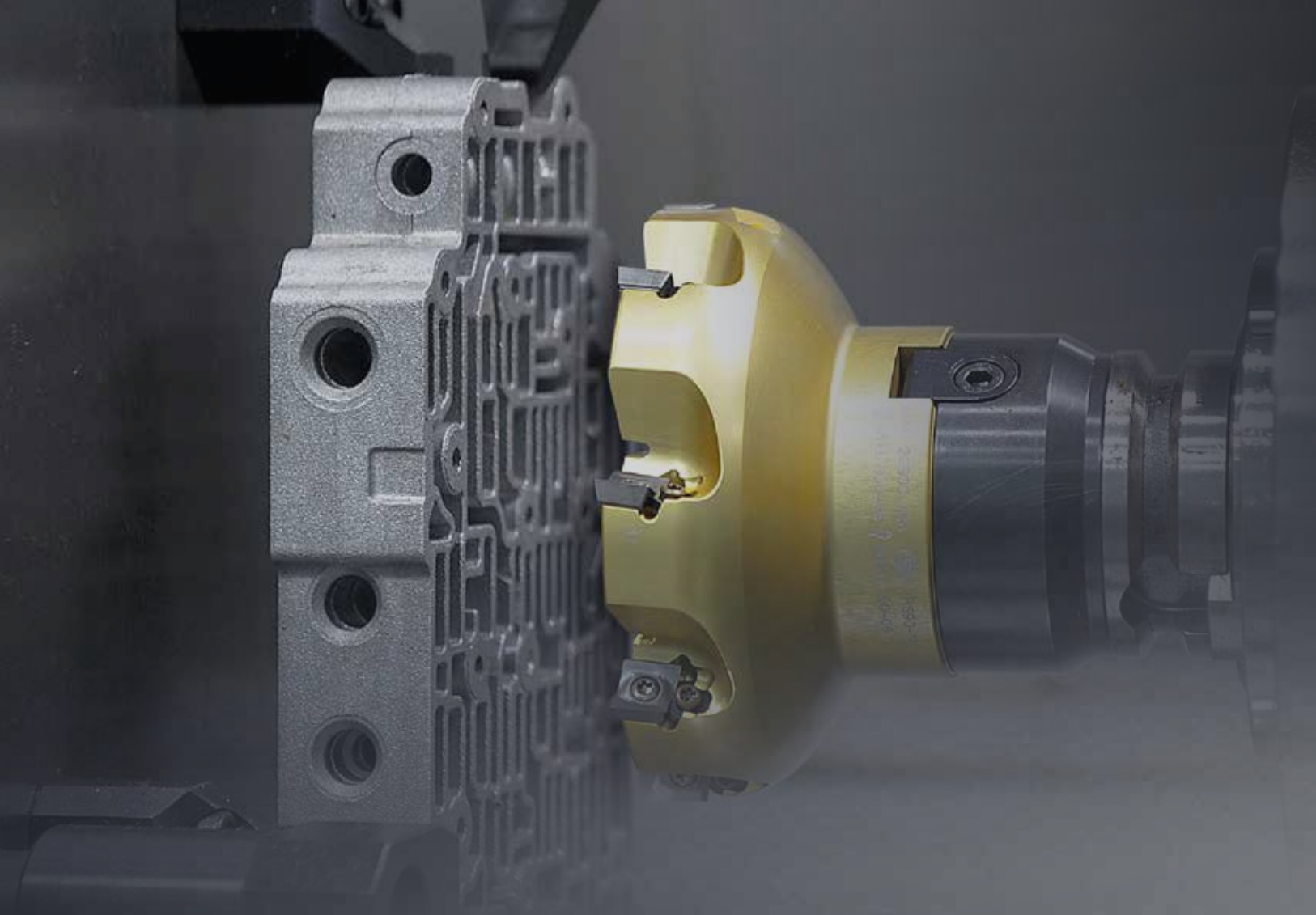
KH 6300/8000

Heavy Duty Horizontal Machining Center

WIA Machine Tools Horizontal Machining Center

WIA MACHINE TOOLS



Technical Leader

Resulting from years of experience, WIA machine tools's KH6300/8000 features a 2 step geared spindle, rigid construction and spacious work area.
This powerful horizontal machining center delivers accurate machining and maximum productivity.

		KH6300	KH8000
Pallet Size (L×W)	mm(in)	2-630×630 (24.8″×24.8″)	2-800×800 (2-31.5″×31.5″)
Max. Load Capacity	kg(lb)	2-1,200 (2,646)	2-2,000 (4,409)
Spindle Taper	-	BBT50	
Spindle Speed	r/min	6,000 [8,000]	
Spindle Output	kW(HP)	45/22 (60/29.5) [35/22 (47/29.5)]	
No. of Tools	EA	60 [90, 120, 150] [Matrix : 240 ~]	
Travel (X/Y/Z)	mm(in)	1,050/850/1,000 (41.3″/33.5″/39.4″)	1,400/1,050/1,200 (55.1″/41.3″/47.2″)
Rapid Traverse Rate (X/Y/Z)	m/min(ipm)	30/30/30 (1,181/1,181/1,181)	24/24/24 (945/945/945)

[ ] : Option

KH 6300/8000

Heavy Duty Cutting & Improved Productivity

- Stable travel capabilities through the application of a large box guide for all axis
- Improved rigidity against the thrust force generated from the Z-axis with step-type bed design
- 2 Step geared spindles for powerful cutting
- Rotary turn APC for high speed pallet change
- Application of the largest tool in its class
- Significant increase in the size of the workpiece compared to the previous models
- Adopted the latest controller of FANUC



01 BASIC **STRUCTURE**

Heavy duty Cutting & High-speed Machining

ATC & Magazine

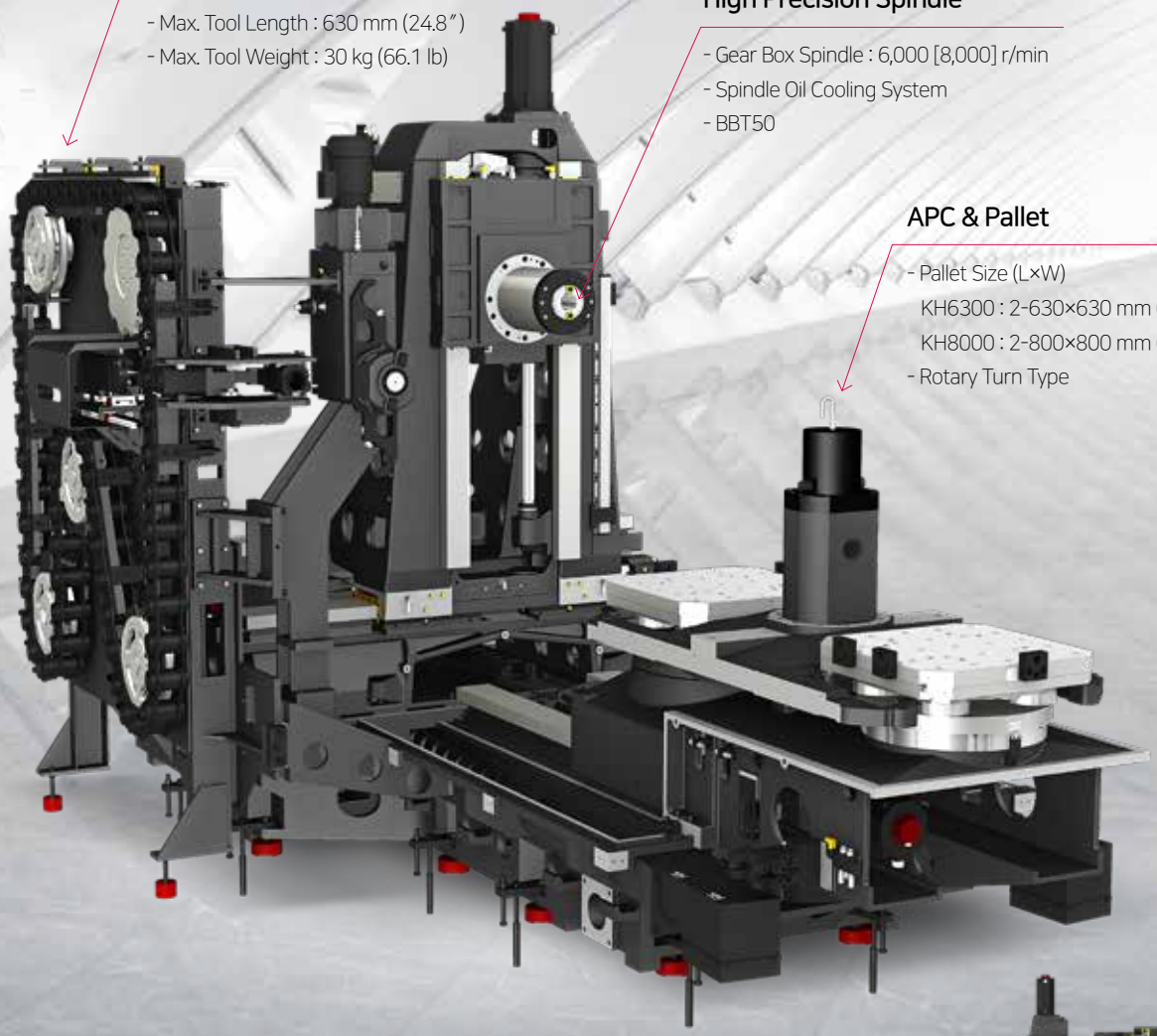
- No. of Tools : 60 (Std.)
- Max. Tool Dia. (W.T/W.O) : Ø135/Ø320 (Ø5.3″/Ø12.6″)
- Max. Tool Length : 630 mm (24.8″)
- Max. Tool Weight : 30 kg (66.1 lb)

High Precision Spindle

- Gear Box Spindle : 6,000 [8,000] r/min
- Spindle Oil Cooling System
- BBT50

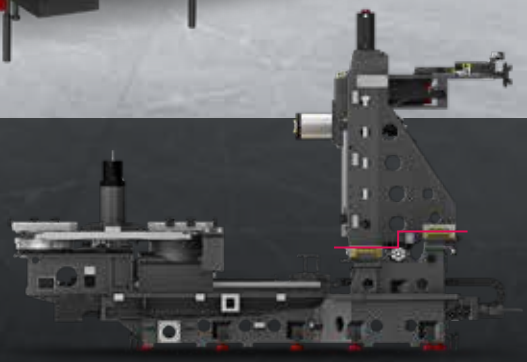
APC & Pallet

- Pallet Size (L×W)
  KH6300 : 2-630×630 mm (24.8″×24.8″)
  KH8000 : 2-800×800 mm (31.5″×31.5″)
- Rotary Turn Type



STEP TYPE BED STRUCTURE

It is designed to minimize the thrust force occurring at the Z-axis direction.
Also, travel stability is increased by column weight optimization.



HIGH RIGIDITY, OPTIMAL MACHINING PERFORMANCE

GUIDEWAY

Large Box Guide

KH6300 has been designed to sufficiently absorb vibration even during heavy duty cutting and traveling by significantly increasing the size of the X-axis box guide compared to the previous models.
Also, KH8000 comes with significantly improved machining capabilities with the application of box guides on all axis.
(Previous model : LM guide on X/Z axis / Box guide on Y axis)

⦿ KH6300 X-axis Guideway Comparison

Previous model
5,750 mm²
{115×50mm (4.5″×2″)}

→

KH6300 : **10,000** mm²
{200×50mm (7.9″×2″)}

4,250 mm² Improvement

⦿ KH8000 X, Z-axis Guideway Comparison



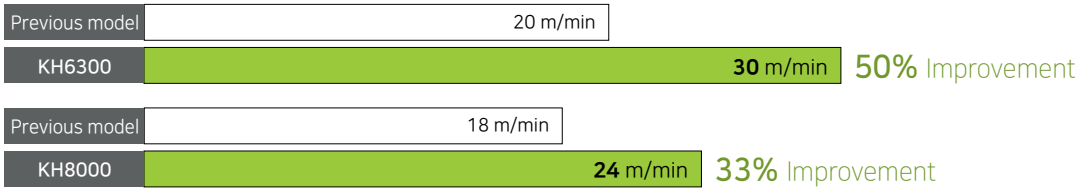
● Previous model : LM Guideway



● KH8000 : **BOX Guideway**

High-speed Travel Structure

KH6300/8000 is designed to be optimized for heavy duty cutting while also contributing towards improving productivity by significantly improving the rapid traveling speed compared to the previous models to improve productivity.



Travel (X/Y/Z)	**Rapid Traverse Rate** (X/Y/Z)
KH6300	KH6300
1,050/850/1,000 mm (41.3″/33.5″/39.4″)	30/30/30 m/min (1,181 ipm)
KH8000	KH8000
1,400/1,050/1,200 mm (55.1″/41.3″/47.2″)	24/24/24 m/min (945 ipm)

02 SPINDLE

Heavy Duty Cutting & Implementation of High-rigidity Gear Driven Spindle



Spindle Specifications

[ ] : Option

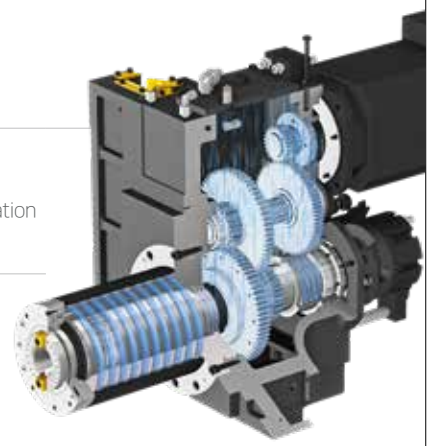
Speed (rpm)	Motor (Max./Cont.)	Torque (Max./Cont.)	Driving Method	Tool Shank
6,000 r/min	**45**/**22** kW (60/29.5 HP)	**2,193**/**1,074** N·m (1,617.5/792.1 lbf·ft)	2 Step Gear	BBT50
[**8,000** r/min]	[**35**/**22** kW (47/29.5 HP)]	[**1,445**/**907** N·m (1,065.8/669 lbf·ft)]		

HIGH-PERFORMANCE SPINDLE

SPINDLE

2-Step Geared Spindle

2-step geared spindle provides powerful torque at low speed and stable rotation at high speed, enabling a wide range of machining.

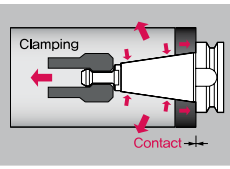


Oil Cooling System

In order to minimize heat generated by gear driving, cooling oil have been supplied for the spindle oil jacket, gears, bearings, and motor shaft to maintain high precision even through machining over long hours.

Dual contact Spindle

The Big Plus spindle system (BBT#50) provides dual contact between the spindle face and the flange face of the tool holder.



High-performance Spindle

The spindle RPM, power, and torque have been improved significantly compared to the previous models by applying the best specifications in its class.

⦿ Spindle Speed

Previous model	(Pallet Ø630 Class)	4,500 rpm	33% Improvement
KH6300/8000		**6,000** rpm	
Previous model	(Pallet Ø800 Class)	4,500 rpm	33% Improvement

⦿ Max. Power

Previous model	(Pallet Ø630 Class)	22 kW (29.5 HP)	105% Improvement
KH6300/8000		**45** kW (60HP)	
Previous model	(Pallet Ø800 Class)	26 kW (35HP)	73% Improvement

⦿ Max. Torque

Previous model	(Pallet Ø630 Class)	1,071 Nm (789.9 lb·ft)	105% Improvement
KH6300/8000		**2,193** Nm (1,617.5 lb·ft)	
Previous model	(Pallet Ø800 Class)	1,500 Nm (1,106.3 lb·ft)	73% Improvement

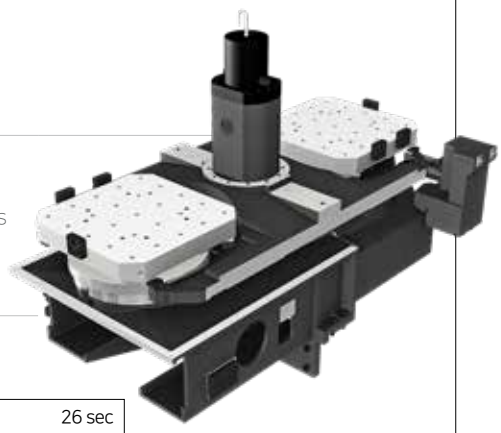
03 APC & PALLET

Productivity Improvement Through Servo Motor Operated APC



HIGH-SPEED PALLET CHANGE SYSTEM

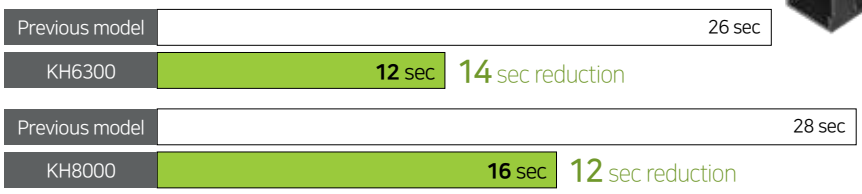
APC & PALLET



High Speed APC

KH6300/8000 provides a lift rotary type APC(automatic pallet changer) as standard. The loading station pallet can be rotated and locked in 90° increments for convenient loading/unoading of workpieces.

⊙ **Improved APC Change Time** (Vacan)



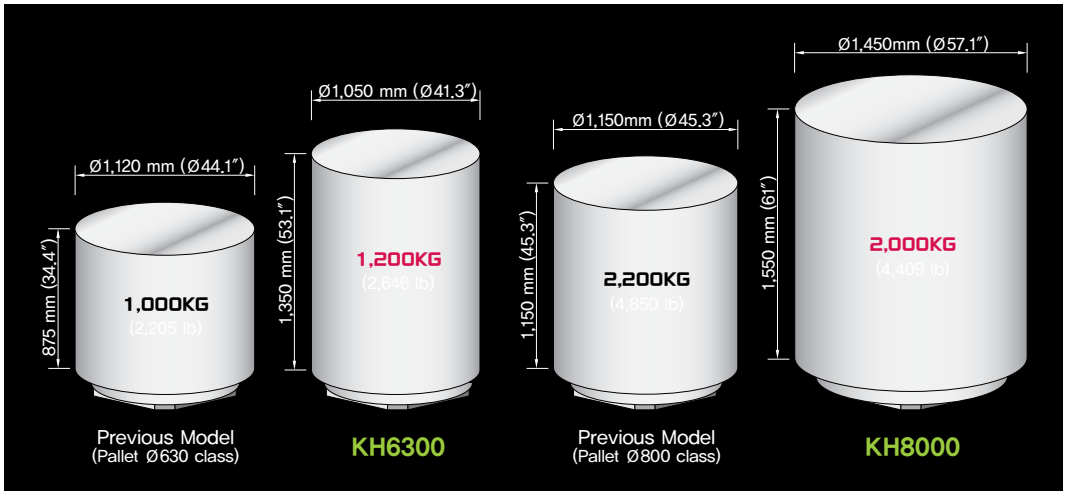
APC & Pallet

[ ] : Option

Model	Pallet Size (L×W)	Max. Load Capacity	Min. Indexing Angle
KH6300	2 - 630×630 (24.8″×24.8″)	2-1,200 kg (2,646 lb)	1° [0.001°]
KH8000	2 - 800×800 (31.5″×31.5″)	2-2,000 kg (4,409 lb)	

Increased Workpiece Size

The workpiece size of KH6300/8000 has been increased significantly compared to previous models for large workpieces machining.



04 ATC & MAGAZINE

Tool Change System of Precision Machining Through High-speed Twin Arm ATC



ATC & Magazine Specifications

[ ] : Option

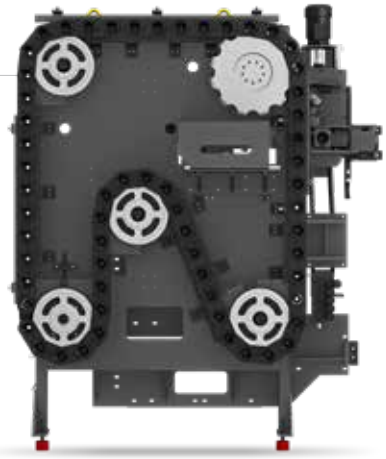
No. of Tools	Max. Tool Dia. (W.T/W.O)	Max. Tool Length	Max. Tool Weight	Tool Selection Method
60 [90, 120, 150] EA	Ø135/Ø320 mm (Ø5.3″/Ø12.6″)	630 mm (24.8″)	30 kg (66.1 lb)	Fixed Address





HIGH-RIGIDITY, HIGH-SPEED TOOL CHANGE SYSTEM

ATC & MAGAZINE



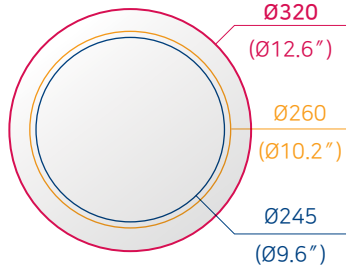
High Speed Servo Motor Driven ATC

The tool magazine holds 60 tools as standard and up to 150 tools as an option. Also, fixed address tool selection method and a separate magazine control panel enhance user convenience. The servo motor driven twin arm ATC contributes to reduce non cutting time through fast and reliable tool change.

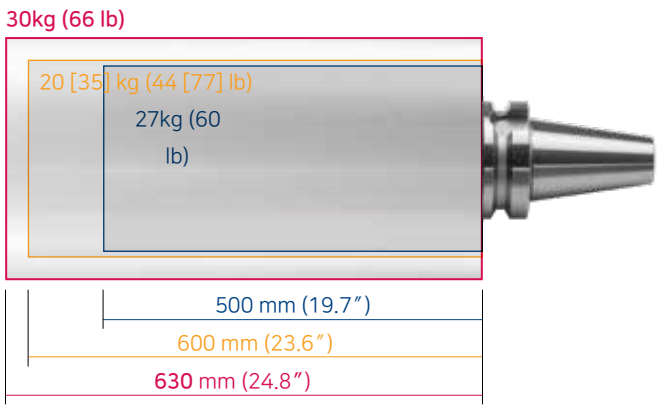
Model	KH6300	KH8000
Chip to Chip Time	**6.9** sec	**7.5** sec

Application of the largest tool size in its class

It is capable of appling the largest tools in its class with the maximum tool diameter of Ø320 (Ø12.6″), maximum tool length of 630mm (24.8″), and the maximum tool weight of 30kg. Thus it is able to allow flexible tooling ranging from large tools to special tools. (※ Maximum tool diameter : If the adjacent port is empty)



- Previous model (Pallet Ø630 Class)
- Previous model (Pallet Ø800 Class)
- **KH6300/8000**







Max. Tool Dia. / Length

Ø320/800 mm

Max. Tool Weight

30 kg (60 ~ 150 Tool)



05 FANUC - SMART PLUS

The Compatible All-round Control

FANUC 31i-B Plus

This is the core model of FANUC CNC with the performance of the world highest level.
With abundant functions and high-speed, highly-accurate and high-quality machining technology, it is the most suitable for a high-grade and machining center.



15″ Touch Screen Monitor Applied

- Control axis : 4 axis (X, Y, Z, B)
- Simultaneously controlled axis : 3 axis [Max. 4 axis]
- Part program storage size : 4 Mbyte (10240m)
- No. of registerable programs : 1,000 EA
- Tool offset pairs : 400 pairs
- Look-ahead block : 1,000 block
- Conversational auto program : Smart Guide i

The KH6300/8000 has a 15″ large monitor for enhanced visibility.
In particular, we can create more convenient use conditions by improving the operating environment such as program setup and simulation through a large screen.



Convenience is increased when inputting and outputting program. The USB port is available in addition to the former input output methods such as CF memort card and LAN.

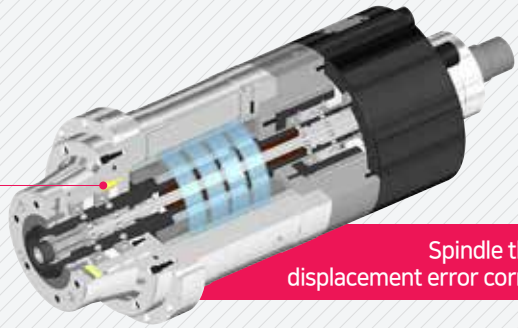
8Ch. Thermal displacement compensation OPTION





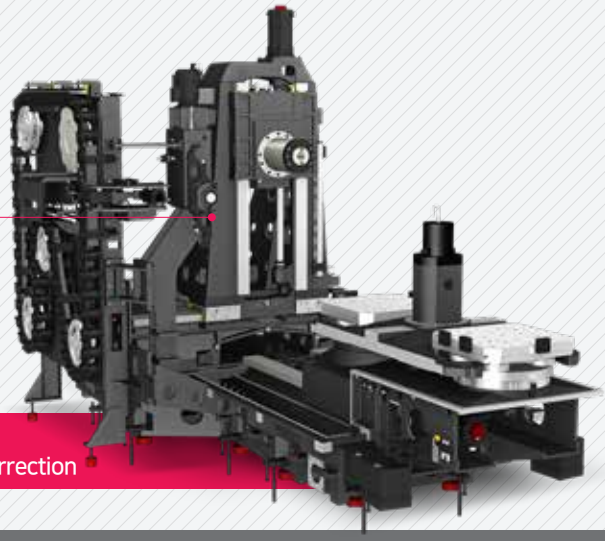
Control Software

Thermal Sensor



Spindle thermal displacement error correction

Thermal Sensor



Structure thermal displacement error correction

Machine tools generate thermal displacement due to heat during machining.
WIA machine tools detect thermal changes through thermal sensors installed on the main thermal sources of the machine.
In addition, a thermal displacement compensation device that predicts the amount of thermal displacement according to the amount of thermal change and provides a command to the motor with a compensated value to maintain consistent precision is provided as an option.

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

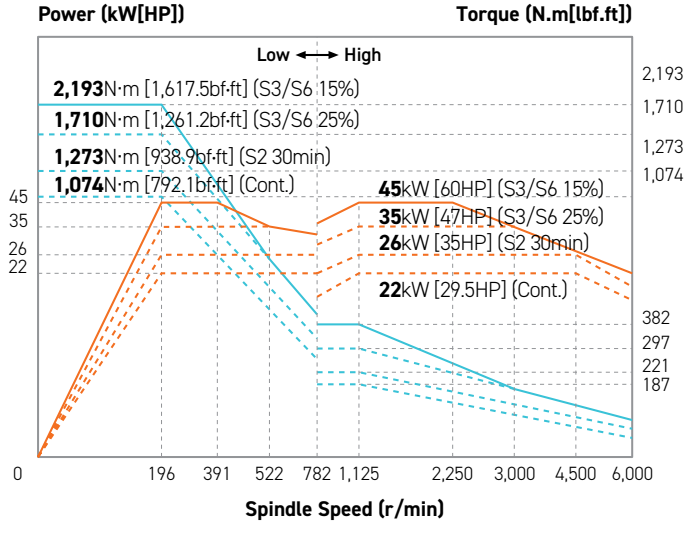
Spindle		KH6300	KH8000
6,000rpm (45/22kW)	2 Step Gear	●	●
8,000rpm (35/22kW)	2 Step Gear	○	○
Spindle Cooling System		●	●
ATC			
ATC Extension	60	●	●
	90	○	○
	120	○	○
	150	○	○
	240 (Matrix)	○	○
Tool Shank Type	BBT50	●	●
	HSK-A100	-	-
	BCV50	○	○
Max. Tool Weight	30kg (66 lb)	●	●
U-Center	D'andrea	☆	☆
Pull Stud	45°	●	●
Servo Motor Magazine		●	●
Table, APC & Pallet			
APC	Rotary Turn	●	●
Tap Type Pallet		●	●
T-Slot Pallet		○	○
B Axis Table	1°	●	●
	0.001°	○	○
Coolant System			
Std. Coolant (Nozzle)		●	●
Bed Flushing Coolant		●	●
*1) Through Spindle Coolant	20bar	○	○
	30bar, 20 ℓ (5.3 gal)	○	○
	70bar, 15 ℓ (3.9 gal)	○	○
	70bar, 20 ℓ (5.3 gal)	○	○
	70bar, 30 ℓ (7.9 gal)	○	○
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 (Sub Tank)		☆	☆
Power Coolant System (For Automation)		☆	☆
Chip Disposal			
Coolant Tank	800 ℓ (211.3 gal)	●	-
	900 ℓ (237.8 gal)	-	●
Chip Conveyor (Hinge/Scraper)	Left/*2) Rear	○	○
Chip Conveyor (Magnetic)	Left/*2) Rear	○	○
Chip Conveyor (Mesh Drum)	Left/*2) 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			
Dialogue Program (W-DPRO)		○	○
DNC software (W-eDNC)		○	○
Smart Guide-i : FANUC		●	●
Smart S/W		☆	☆

Safety Device		KH6300	KH8000
Total Splash Guard		●	●
Electric Device			
Call Light	1 Color : ■	●	●
Call Light & Buzzer	3 Color : ■■■B	○	○
Work Light		●	●
Electric Cabinet Light		○	○
Remote MPG		●	●
3 Axis MPG		○	○
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
Multi Tool Counter	6 EA	☆	☆
	9 EA	☆	☆
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	65kVA	○	○
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	○	○
Pallet Close Confirmation Device		○	○
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		☆	☆
Control of Additional Axis	1Axis	☆	☆
	2Axis	☆	☆
External M Code 4EA		○	○
Automation Interface		☆	☆
I/O Extension (In & Out)	16Contact	☆	☆
	32Contact	☆	☆
6PPL		○	○
PLS		○	○
Hyd. Device			
Std. Hyd. Unit	70bar/45 ℓ (11.8 gal)	●	●
Center Type Hyd. Supply Unit (Upper)	2×2 (4P)	☆	☆
	2×4 (8P)	☆	☆
	2×8 (16P)	☆	☆
Hyd. Unit for Fixture	45bar	☆	☆
	70bar	☆	☆
	100bar	☆	☆
	Customized	☆	☆
ETC			
Tool Box		●	●
Customized Color	Need for Munsel No.	☆	☆
CAD&CAM Software		☆	☆
Thermal displacement compensation		○	○

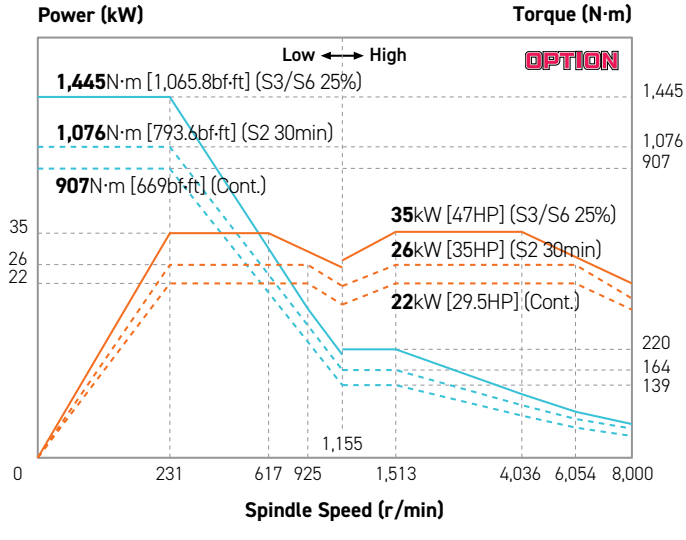
*1) Through Spindle Coolant : Please check the filter types with sales representative. *2) Chip Conveyor : When ordering a rear chip conveyor, prior consult with hyudai wia's sales person.
Specifications are subject to change without notice for improvement.

Spindle Output/Torque Diagram

6,000rpm



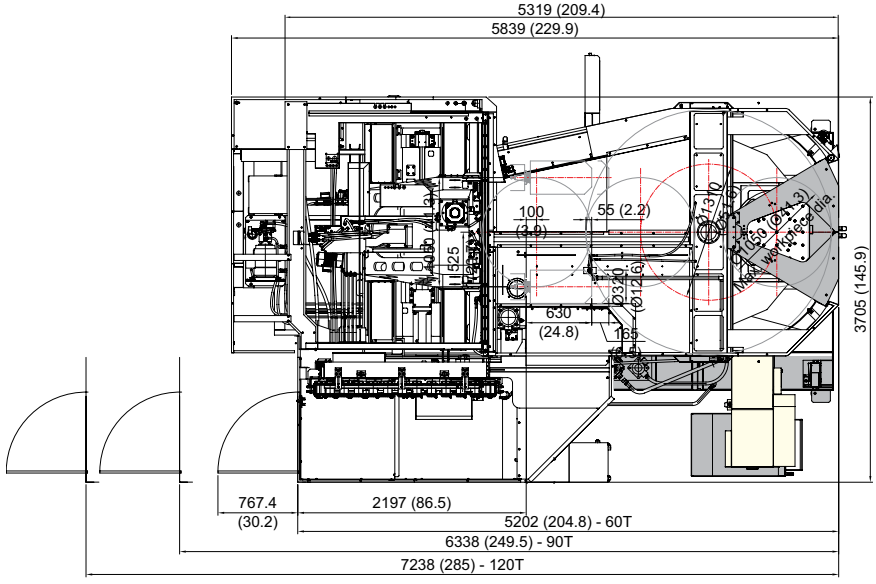
8,000rpm

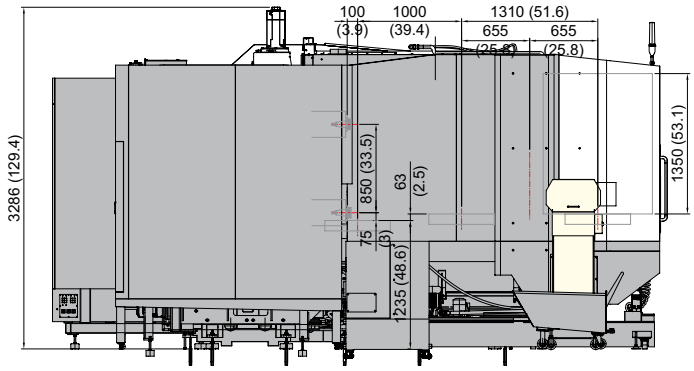


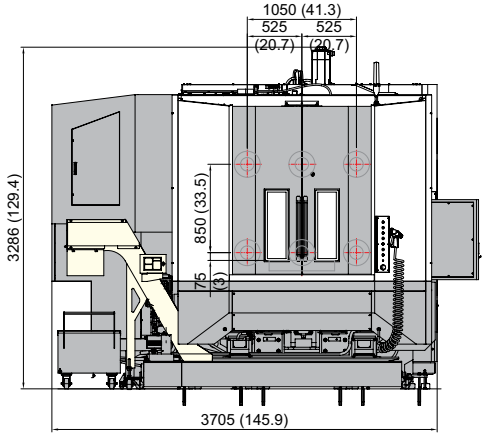
SPECIFICATIONS

External Dimensions (KH6300)

unit : mm(in)

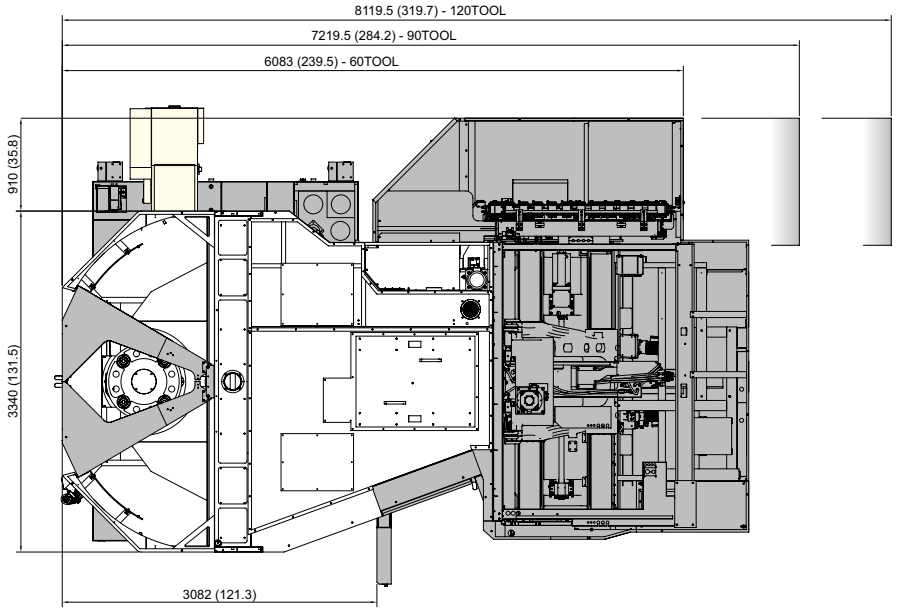


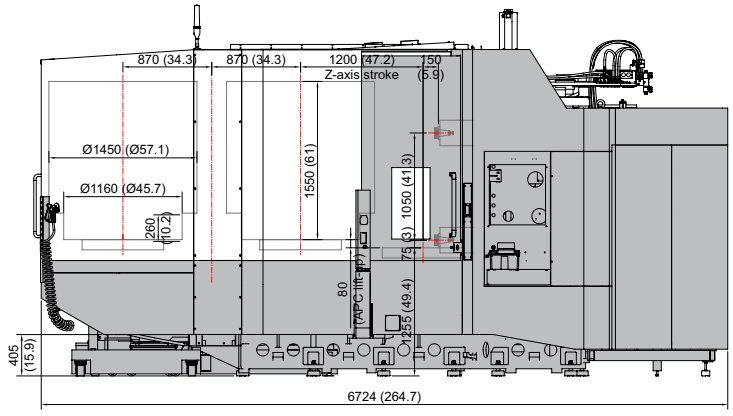


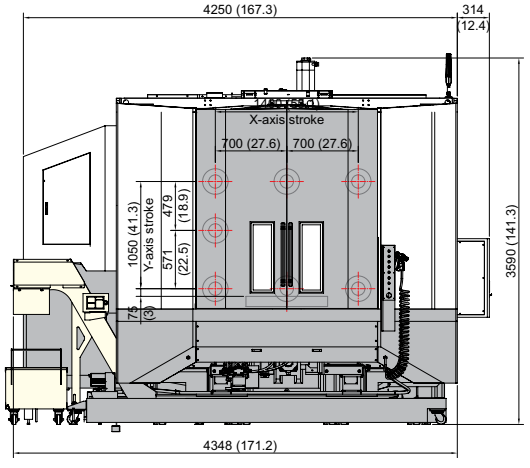


External Dimensions (KH8000)

unit : mm(in)



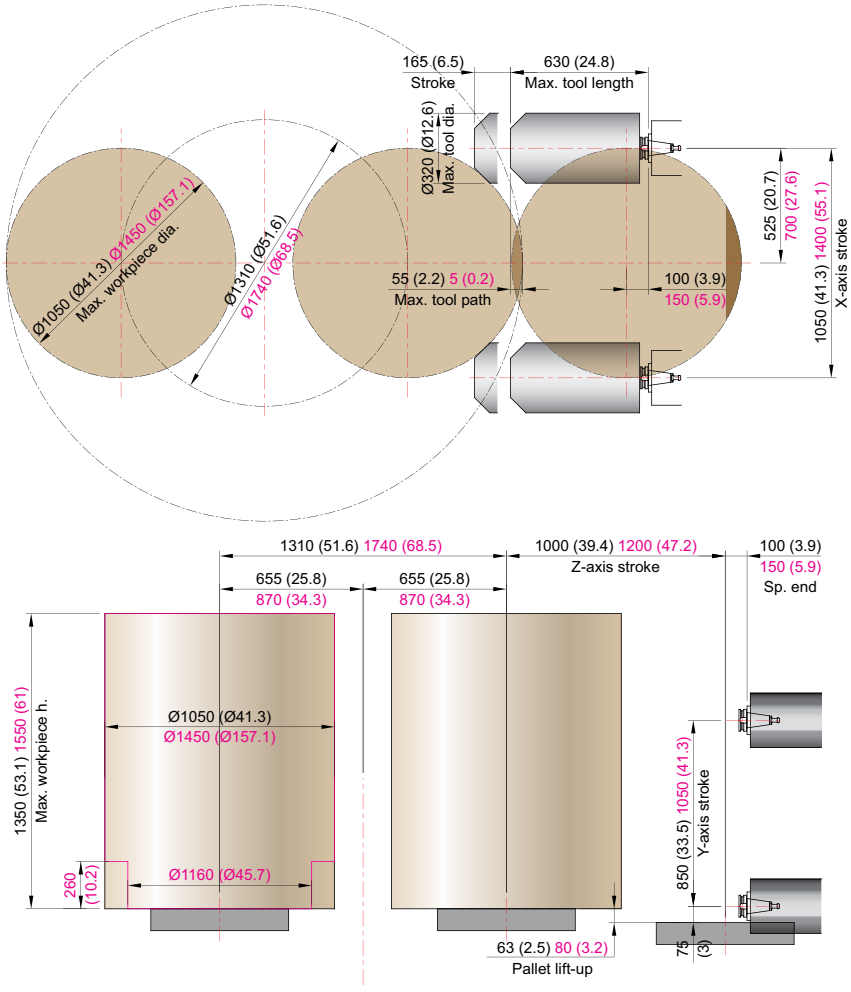




SPECIFICATIONS

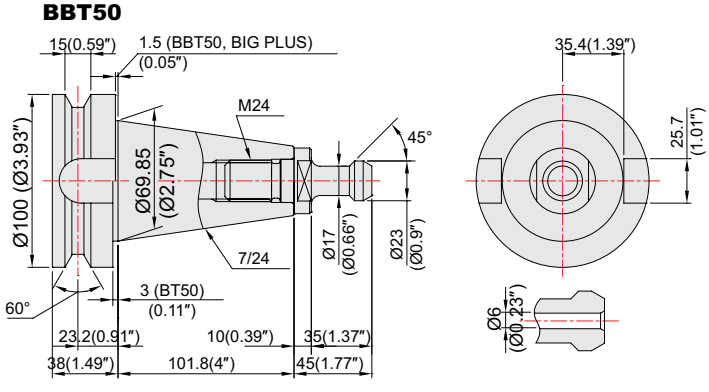
Transfer Range & Machining Area (KH6300 | KH8000)

unit : mm(in)



Tool Shank

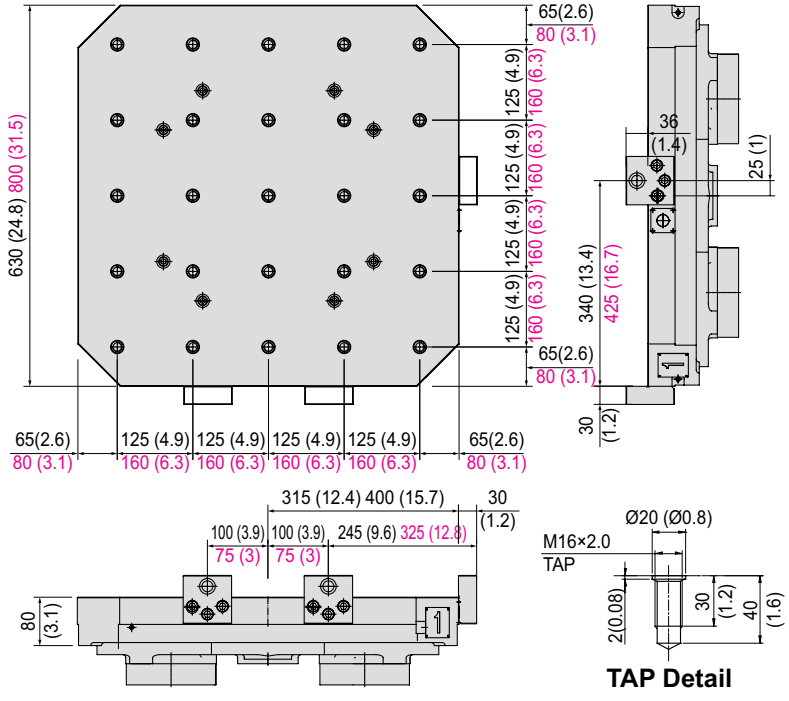
unit : mm(in)



SPECIFICATIONS

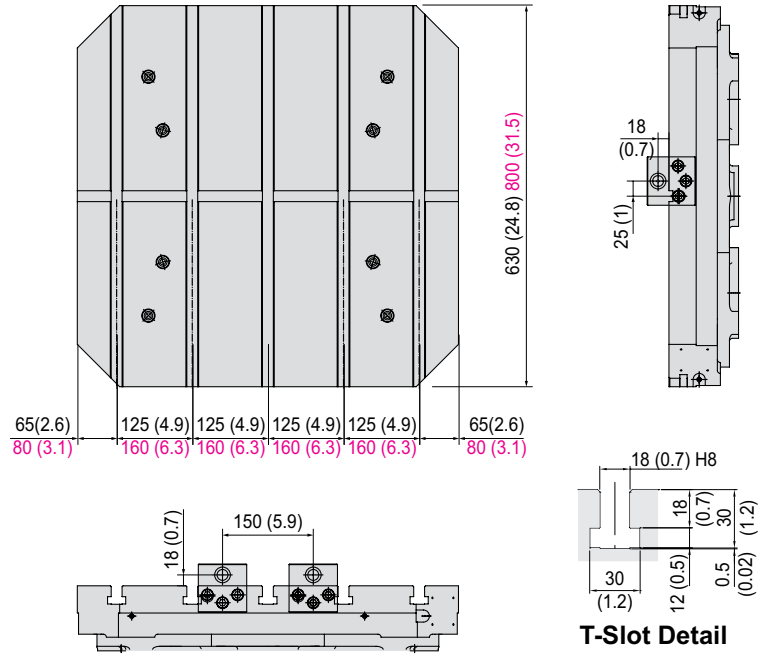
Table Dimensions (KH6300 | KH8000)

unit : mm(in)



TAP Detail

OPTION



T-Slot Detail

SPECIFICATIONS

Specifications

[ ] : Option

ITEM				KH6300	KH8000
PALLET	Pallet Size (L×W)		mm(in)	2 - 630×630 (24.8″×24.8″)	2 - 800×800 (31.5″×31.5″)
	Maximum Load Capacity		kgf(lbf)	2-1,200 (2,646) [0.001° : 1,000 (2,205)]	2 - 2,000 (4,409)
	Maximum Workpiece Size		mm(in)	Ø1,050×H1,350 (Ø41.3″×H53.1″)	Ø1,450×H1,550 (Ø57.1″×H61″)
	Min. Indexing Angle		deg	1° [0.001°]	
SPINDLE	Spindle Taper		-	BIG PLUS#50	
	Spindle RPM		r/min	6,000 [8,000]	
	Spindle Motor Output (Max./Cont.)		kW(HP)	45/22 (60/29.5) [35/22 (47/29.5)]	
	Spindle Torque (Max./Cont.)		N·m(lbf·ft)	2,193/1,074 (1,617.5/792.1) [1,445/907 (1,065.8/669)]	
	Spindle Driving Method		-	GEAR BOX	
FEED	Travel (X/Y/Z axis)		mm(in)	1,050/850/1,000 (41.3″/33.5″/39.4″)	1,400/1,050/1,200 (55.1″/41.3″/47.2″)
	Distance from Table Top to Sp. Center		mm(in)	75 ~ 925 (3″/36.4″)	75 ~ 1,125 (3″/44.3″)
	Distance from Table Center to Sp. Nose		mm(in)	100 ~ 1,100 (3.9″/43.3″)	150 ~ 1,350 (5.9″/53.1″)
	Rapid Traverse Rate (X/Y/Z)		m/min	30/30/30	24/24/24 (945/945/945)
	Slide Type		-	BOX GUIDE	
ATC	Number of Tools		EA	60 [90,120,150] [Matrix : 240 ~]	
	Tool Shank		-	BBT50	
	Max. Tool Dia. (W.T/W.O)		mm(in)	Ø135/Ø320 (Ø5.3″/Ø12.6″)	
	Max. Tool Length		mm(in)	630 (24.8″)	
	Max. Tool Weight		kg(lb)	30 (66.1)	
	Tool Selection Method		-	FIXED ADDRESS	
	Tool Change Time	T-T	sec	2	2
		C-C	sec	6.9	7.5
APC	No. of Pallet		ea	2	
	APC Type		sec	DIRECT TURN	
	Pallet Change Time (Vacan)		-	*12	*16
TANK CAPACITY	Coolant Tank		ℓ (gal)	800	900
	Lubricating Tank		ℓ (gal)	3 (0.8)	
	Hyd. Tank Unit		ℓ (gal)	45 (11.9)	
POWER SUPPLY	Air Consumption (0.5MPa)		ℓ /min(gal/min)	520 (137.4)	
	Electric Power Supply		KVA	52	
	Thickness of Power Cable		mm^2	Over 35	
	Voltage		V/Hz	220/60 (200/50*)	
MACHINE	Floor Space (L×W)		mm(in)	3,705×5,839 (145.9″×229.9″) - 60 Tool	4,348×6,724 (171.2″×264.7″) - 60 Tool
	Height		mm(in)	3,286 (129.4″)	3,590 (141.3″)
	Weight		kg(lb)	20,500 (4,5195)	27,000 (5,2911)
CNC	Controller		-	FANUC 31i-B [FANUC i Series - Smart Plus]	

* APC changing time can vary depending on the weight of work piece.
*) 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 Plus

[ ] : Option ☆ Needed technical consultation

Controlled axis / Display / Accuracy Compensation	
Control axis	4 axis (X, Y, Z, B)
Simultaneously controlled axis	3 axis [Max. 4 axis]
Least setting Unit	X, Y, Z axis : 0.001 mm (0.0001 inch)
	B axis : 1 deg [0.001] deg
Least input increment	X, Y, Z axis : 0.001 mm (0.0001 inch)
	B axis : 1 deg [0.001] deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axis / Each axis
Machine lock	All axis
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	15″ color LCD with Touch screen
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
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, Stroek check before move
Single block	
Search function	Program Number / Sequence Number
Retraction for rigid tapping	
Manual guide i	Smart Guide i
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Cylinderical interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
One-way positioning	G60
Inverse-time feed	G93
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28
	2, 3, 4 reference : G30 P2, P3, P4
	Ref. position check : 27
Thread synchronous cutting	G33
Helical interpolation	Circular + Linear interpolation 2 axis(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	1,000 Block
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 ~ P48)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100~#199, #500~#599, #98000~#98499
Programmable mirror image	G51.1, G50.1

Controlled axis / Display / Accuracy Compensation	
Polar coordinate command	G15, G16
Do not look ahead function	G4.1
Including Chamfering / Corner R	
Canned cycle	G73, G74, G76, G80 ~ G89
Coordinate rotation	G68, G69
Scaling	G50, G51
Auxiliary function / Spindle speed function	
Auxiliary function	M 4 digit
Level-up M Code	Multi / By-Pass
Spindle speed command	S 5 digit , Binary output
Spindle override	50% ~ 120% (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	400 pairs
Tool nose radius compensation	G40, G41, G42
Tool nose length compensation	G43, G44, G49
Tool offset memory C	Tool length, diameter, abrasion (Length/Dia.)
Tool length measurement	Z axis Input C
Editing function	
Part program storage size	10240m (4MB)
No. of registerable programs	1,000 ea
Program protect	
Background editing	
Extended part program editing	
Memory card program edit	Copy, move and change of NC program
Protection of data at 8 levels	
Data input / output & Interface	
I/O interface	Memory card, USB memory interface
	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	
Power consumption monitoring	Spindle & Servo
Multi language display	Support 25 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Macro Excutor	Custom software 8MB (WIA Screen)☆
Processing select	Speed/ridigity setting

Option	
Fast ethernet	Needed option board
Data server	Needed option board (1GB, 2G, 4GB)
Sub Spindle control	☆
Polar coordinate interpolation	G12.1, G13.1
Cylinderical interpolation	G07.1
Manual handle feed	2/3 units
Tool offset number	Max. 2,000 pair
Program storage capacity	~ 8 MByte
Program registration number	Max. 4,000 ea
Additional work coordinate	300 pair (G54.1 P1 ~ P300)

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

FANUC i Series - Smart Plus

[ ] : Option ☆ Needed technical consultation

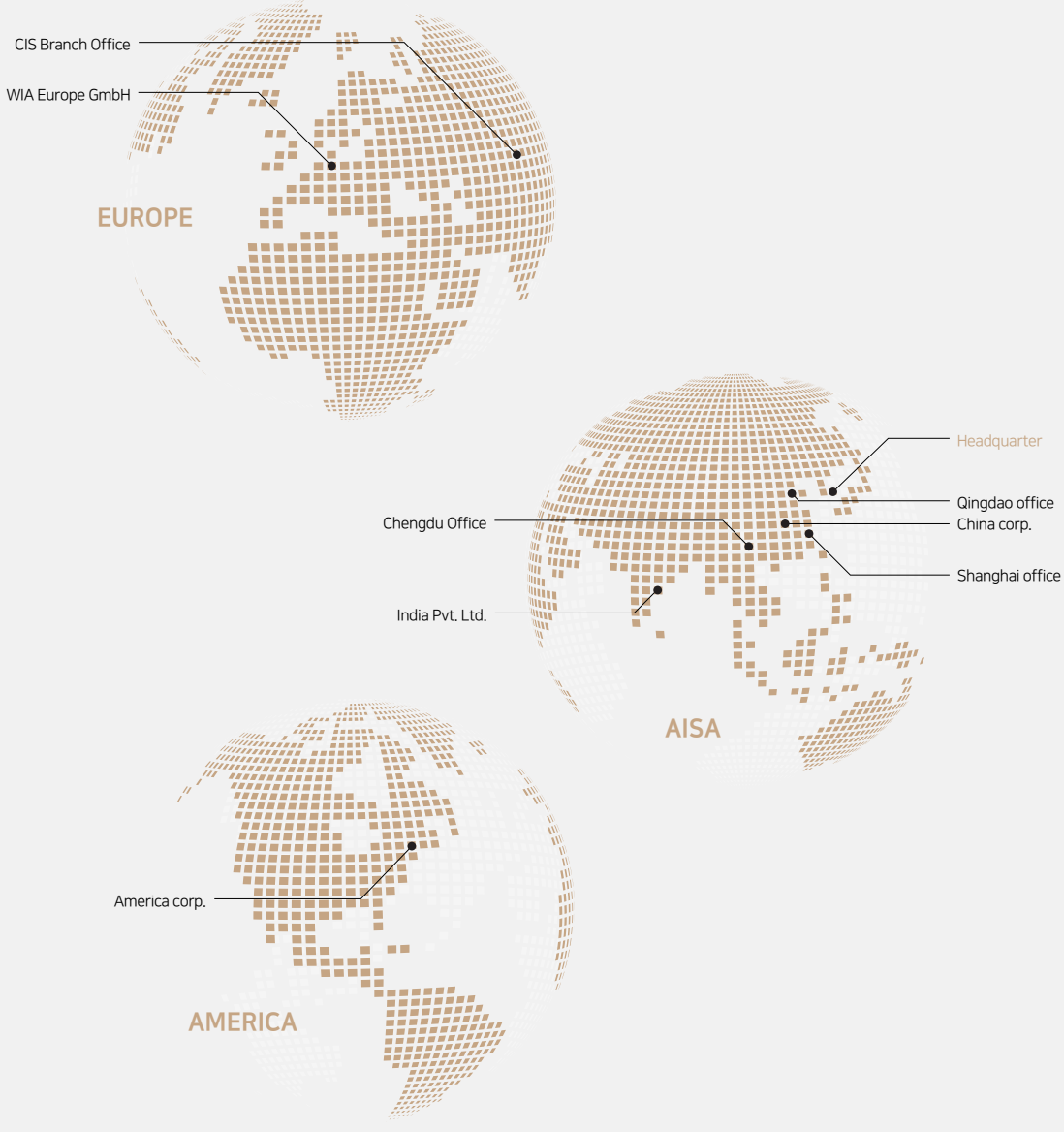
Controlled axis / Display / Accuracy Compensation	
Control axis	3 axis (X, Y, Z)
	[4 axis (X, Y, Z, A)] [5 axis (X, Y, Z, A, C)]
Simultaneously controlled axis	3 axis [Max. 4 axis]
Least setting Unit	X, Y, Z axis : 0.001 mm (0.0001 inch)
	B axis : 1 deg [0.001] deg
Least input increment	X, Y, Z axis : 0.001 mm (0.0001 inch)
	B axis : 1 deg [0.001] deg
Inch / Metric conversion	
High response vector control	
Interlock	All axis / Each axis
Machine lock	All axis
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	15 inch LCD unit (with Touch Panel)
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
Stored pitch error compensation	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run, Program check, Z axe Machine lock
	Stored limit check before move
Single block	
Search function	Program Number / Sequence Number
Handle interruption	
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference, G28 / 2nd reference, G30
	Ref. position check, G27
Single direction positioning	G60
Thread synchronous cutting	G33
Helical interpolation	Circular + Linear 2 axis (Max.)
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse
	Jog : 0~2,000mm/min (79 ipm)
	Manual handle : x1, x10, x100 pulses
	Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	1%, 25%, 50%, 100%
Override cancel	
Feed per minute	G94
Feed per revolution	G95
Cylindrical interpolation	G07.1
Inverse time feed	G93
Look-ahead block	200 blocks (AI APC)
Program input	
Tape Code	EIA / ISO
Optional block skip	9 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y, G17 / Z-X, G18 / Y-Z, G19
Workpiece coordinate system	G52, G53, 48 pairs (G54.1 P1 ~ 48)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #199, #500 ~ #999
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Optional chamfering corner R	

Program input	
Polar coordinate command	G15, G16
Canned cycle	G73, G74, G76, G80 ~ G89
Scaling	G50, G51
Coordinate system rotation	G68, G69
Conversational Program	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 axe Input C
Editing function	
Part program storage size	5,120m (2MB)
No. of registerable programs	1,000 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	CF card, USB memory
	Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 24 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver

Option	
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Additional Axis	
Manual handle feed	2/3 units
Addition of custom macro	#100 ~ #199,
	#500 ~ #999, #98000 ~ #98499
Add. Workpiece	Max. 300 pairs (G54.1 P1 ~ P300)
AICC II	400 blocks ☆

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

GLOBAL NETWORK



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