

KF Series

HYUNDAI WIA Vertical Machining Center

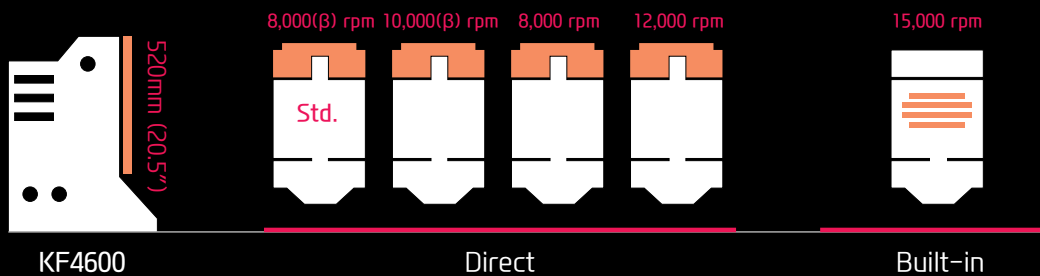




KF SERIES

The Fastest, the Most Versatile High end Linear Machining Center

The Vertical Machining Center KF Series, designed by Hyundai WIA with years of expertise and the latest technology, maximizes productivity while maintaining rigidity and accuracy.



KF4600

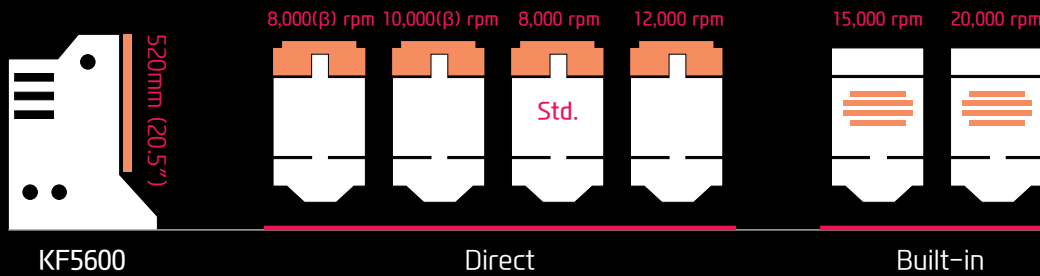
520mm (20.5")

8,000(β) rpm 10,000(β) rpm 8,000 rpm 12,000 rpm

Std.

15,000 rpm

Direct Built-in



KF5600

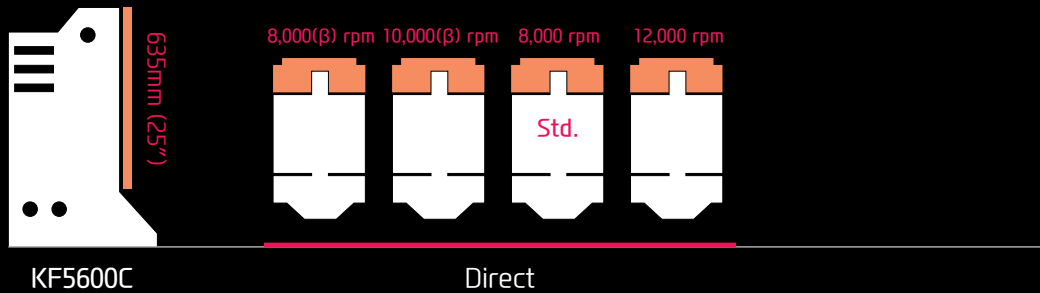
520mm (20.5")

8,000(β) rpm 10,000(β) rpm 8,000 rpm 12,000 rpm

Std.

15,000 rpm 20,000 rpm

Direct Built-in



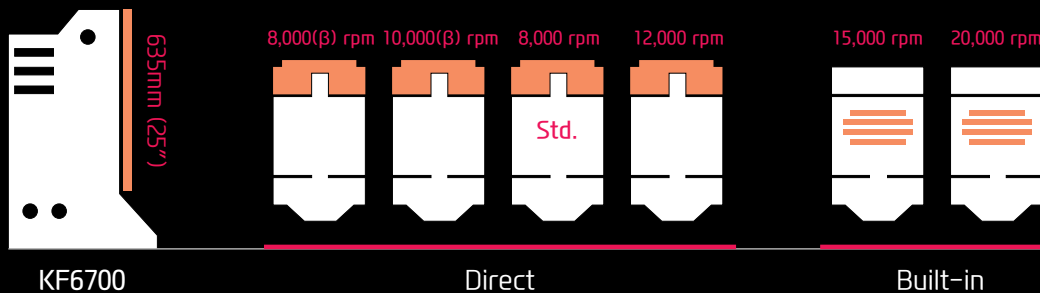
KF5600C

635mm (25")

8,000(β) rpm 10,000(β) rpm 8,000 rpm 12,000 rpm

Std.

Direct



KF6700

635mm (25")

8,000(β) rpm 10,000(β) rpm 8,000 rpm 12,000 rpm

Std.

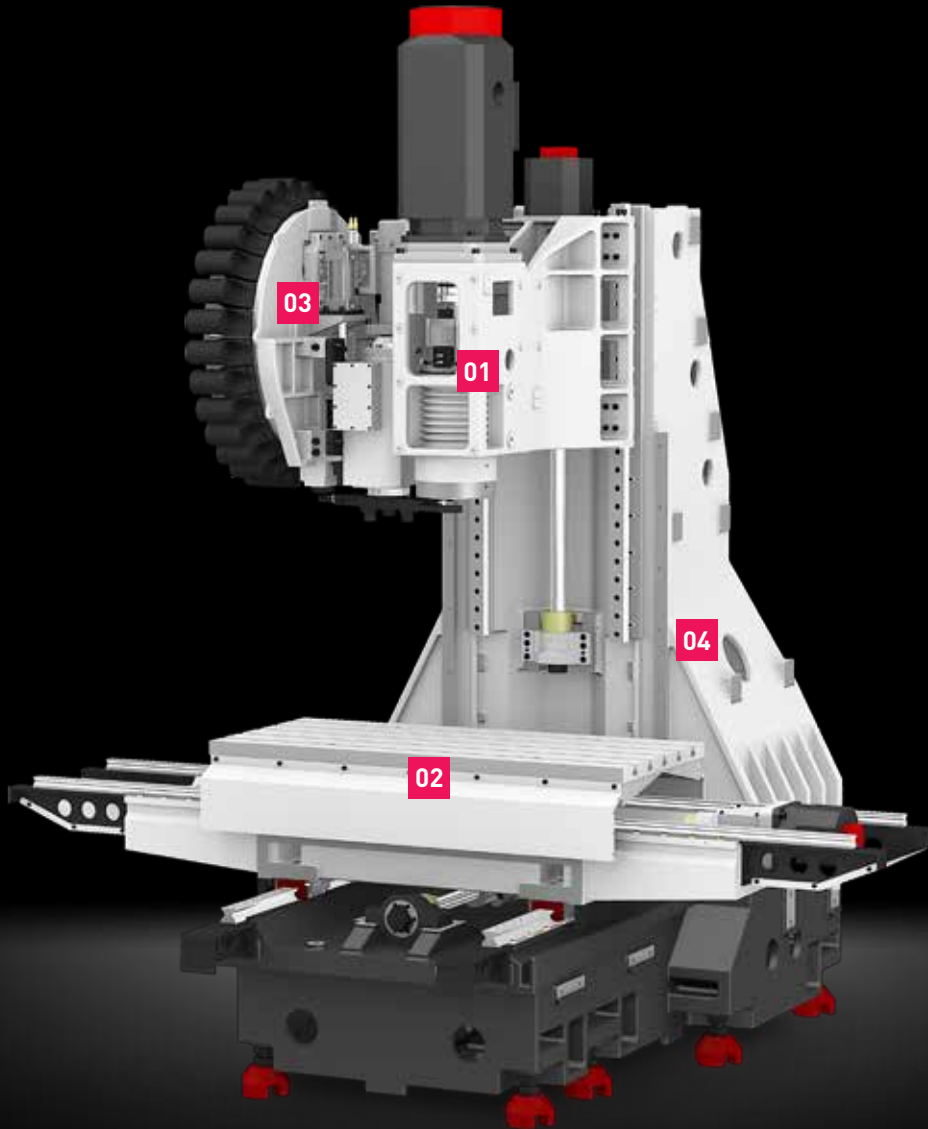
15,000 rpm 20,000 rpm

Direct Built-in

01
KF Series

KF4600

High Speed & Productivity



900/460/520 mm
Travel (X/Y/Z)

35.4/18.1/20.5 inch
Travel (X/Y/Z)

36/36/36 m/min
Rapid Traverse Rate (X/Y/Z)

1,417/1,417/1,417 ipm
Rapid Traverse Rate (X/Y/Z)

Basic Features

01 Direct Driven Spindle

By connecting the motor directly to the spindle, acc/dec. time has shortened. A wide range of machining can be done with spindle speed of up to 12,000rpm.

Built-in Spindle

The 15,000rpm built-in spindle can minimize vibration transmitted to the spindle. It allows excellent machining performance in mold and high-precision products.

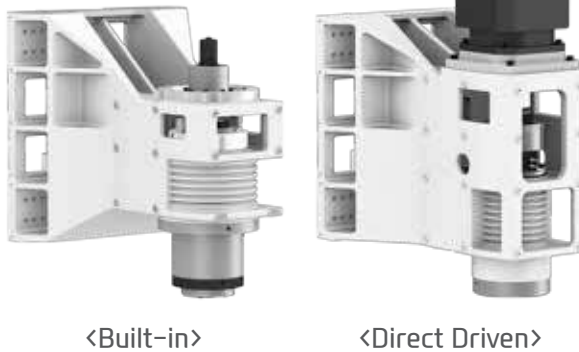
Direct Driven Spindle

8,000(β)/10,000(β)/8,000/12,000 rpm

Built-in Spindle

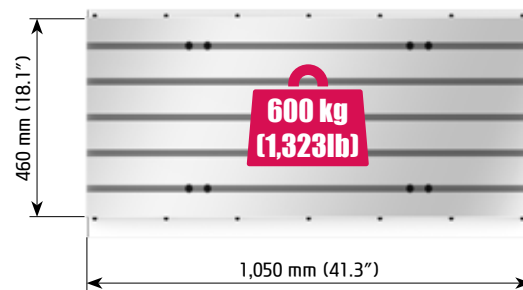
15,000 rpm

※ Thermal Displacement Compensation as Standard



02 Table

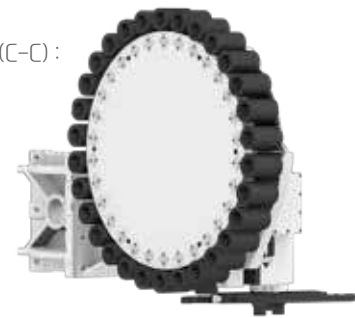
Compared to competitive machines, the KF4600 has a large working capacity to make setup easier and provide convenience to the operator.



03 ATC & Magazine

The tool magazine holds 30 tools as standard and 40 tools as an option. Due to the wider selection of tools and the random tool selection method, tool change time has improved.

- Tool Change Time (C-C) : **3.2 sec**



04 Optimal Structural Analysis

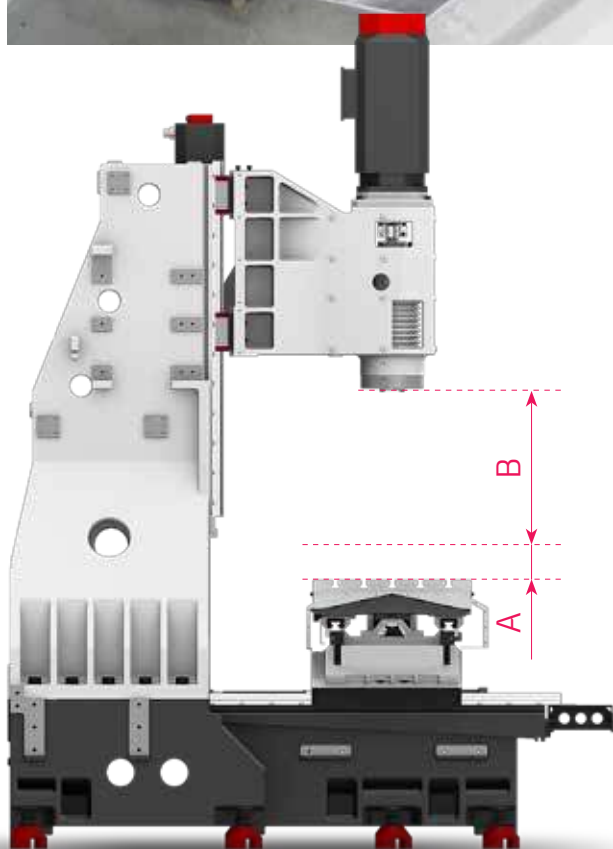
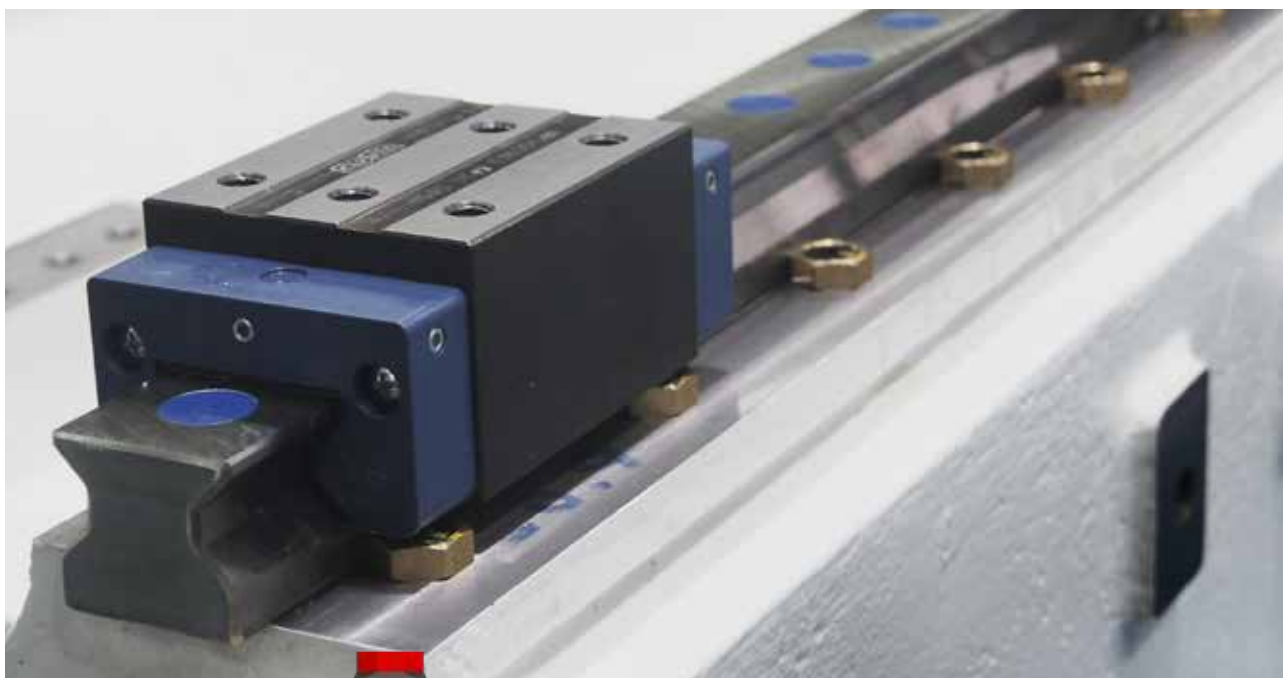
KF4600 is designed to have optimal structure through Hyundai WIA's unique structural analysis. In particular, enhancement of bed and column's rigidity makes excellent performance even in heavy duty cutting.

● KF4600 Rigidity

X Axis : Compared to the previous model **186% UP** Y Axis : Compared to the previous model **158% UP**
 Z Axis : Compared to the previous model **179% UP**

KF4600 Slideway

High-Precision & Speed Vertical Machining Center



One Piece High Column Structure (8K, 12K)

One piece high column is provided as an option up to z-axis height of 200 mm (7.9"). This option helps to process bigger products such as rack housing.

KF4600 (A~B)

150~670 mm
Distance from Table Surface to SP

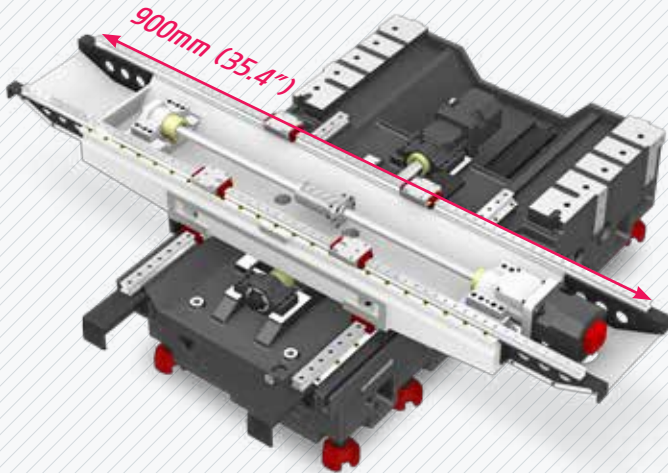
5.9~26.4 inch
Distance from Table Surface to SP

KF4600 High Column (A~B)

OPTION

350~870 mm
Distance from Table Surface to SP

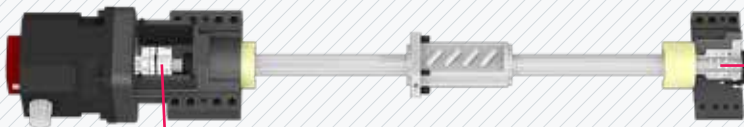
13.8~34.3 inch
Distance from Table Surface to SP



Expanded X-axis Design

The X-axis travel is increased to 900mm(35.4") and machining area has been enhanced.

Previous Machine (X-Axis)	800 mm (31.5")
KF4600 (X-Axis)	900 mm (35.4")



3 Row bearing + Oil Lubricated
Rigidity 147% UP
 compared to previous model

Double anchored ball screw

The pretensioned ball screw minimizes the expansion and contraction according to the heat and further reinforces the rigidity by the double anchor support method.

In addition, the coupling of the ballscrews and the highly reliable digital servo motors are connected by **metal plate couplings**, to reduce coupling breakage and backlash.



High-Speed Roller LM Guideway

Linear roller guideways are applied to reduce non-cutting time and bring high rigidity.

Rigidity has increased 200% compared to the Ball Bearing LM Guide



⦿ **Rapid Traverse Rate (X/Y/Z) :**
36/36/36 m/min (1,417/1,417/1,417 ipm)

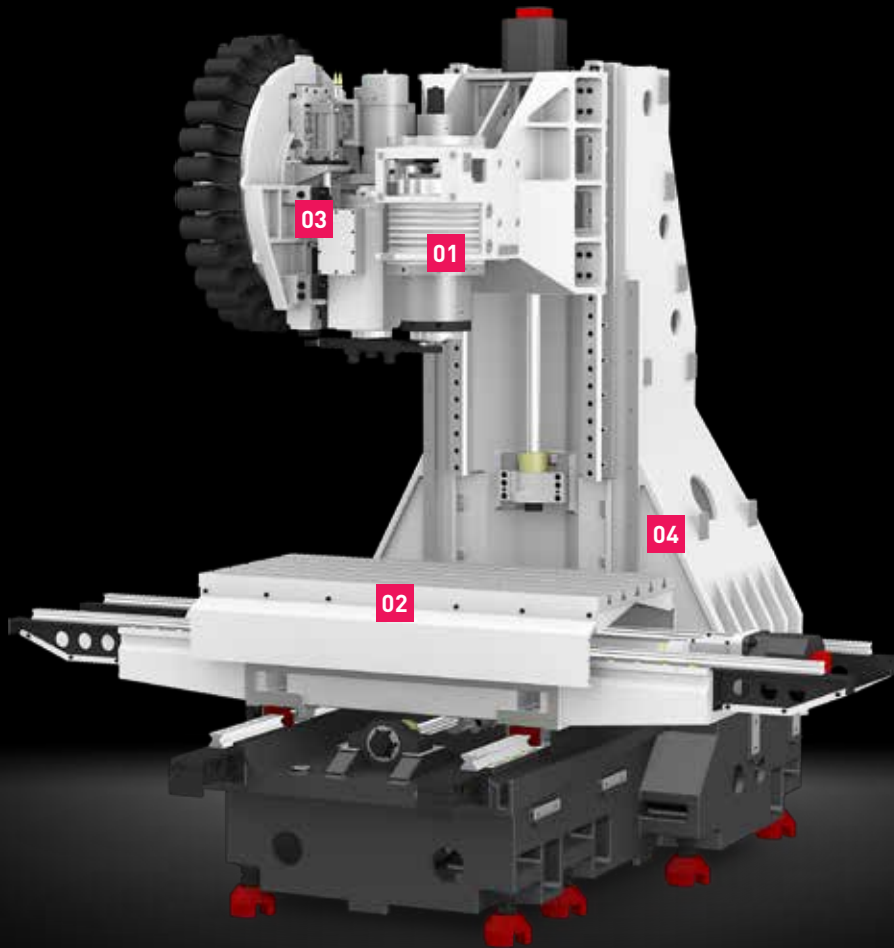
Previous Model	32 m/min (1,260 ipm)
KF4600	36 m/min (1,417 ipm)

4 m/min UP
(157 ipm)

02
KF Series

KF5600

High Speed & Productivity



KF5600 (8K, 10K(β), 12K, 15K, 20K)

1,100/560/**520** mm
Travel (X/Y/Z)

43.3/22/**20.5** inch
Travel (X/Y/Z)

KF5600 | 5600C (8K, 10K(β), 12K, 15K, 20K)

40/40/36 m/min
Rapid Traverse Rate (X/Y/Z)

1,575/1,575/1,417 ipm
Rapid Traverse Rate (X/Y/Z)

KF5600C (8K, 10K(β), 12K)

1,100/560/**635** mm
Travel (X/Y/Z)

43.3/22/**25** inch
Travel (X/Y/Z)

KF5600 (10K(β))

36/36/36 m/min
Rapid Traverse Rate (X/Y/Z)

1,417/1,417/1,417 ipm
Rapid Traverse Rate (X/Y/Z)

Basic Features

01 Direct Driven Spindle

By connecting the motor directly to the spindle, acc/dec. time has shortened. A wide range of machining can be done with spindle speed of up to 12,000rpm.

Built-in Spindle

The 15,000rpm and 20,000rpm built-in spindle can minimize vibration transmitted to the spindle. It allows excellent machining performance in mold and high-precision products.

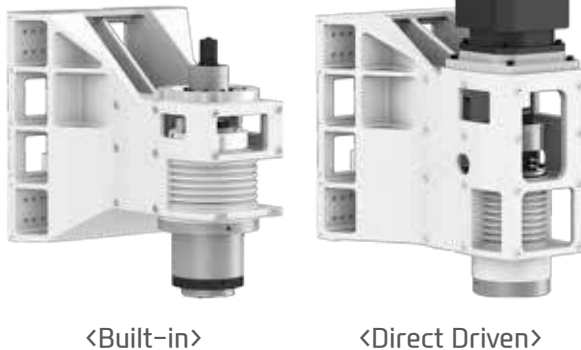
Direct Driven Spindle

8,000(β)/10,000(β)/8,000/12,000 rpm

Built-in Spindle

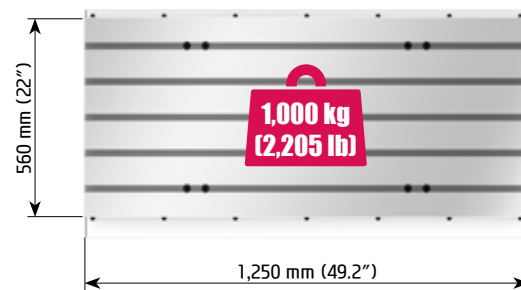
15,000/20,000 rpm

※ Thermal Displacement Compensation as Standard



02 Table

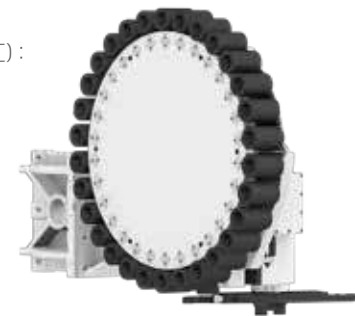
Compared to competitive machines, the KF5600 has a large working capacity to make setup easier and provide convenience to the operator.



03 ATC & Magazine

The tool magazine holds 30 tools as standard and 40 tools as an option. Due to the wider selection of tools and the random tool selection method, tool change time has improved.

- Tool Change Time (C-C) : **3.2 sec**



04 Optimal Structural Analysis

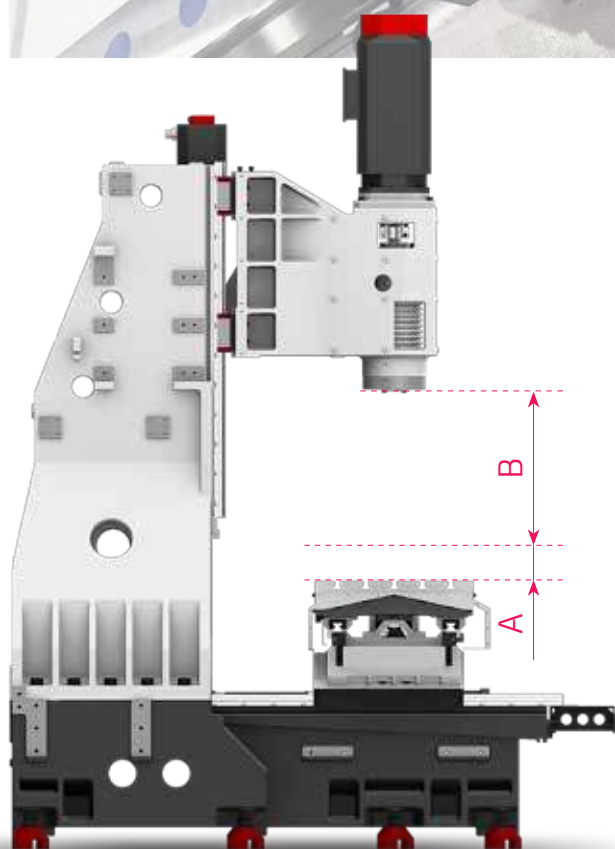
KF5600 is designed to have optimal structure through Hyundai WIA's unique structural analysis. In particular, enhancement of bed and column's rigidity makes excellent performance even in heavy duty cutting.

● KF5600 Rigidity

X Axis : Compared to the previous model **113% UP** Y Axis : Compared to the previous model **121% UP** Z Axis : Compared to the previous model **129% UP**

KF5600 Slideway

High-Precision & Speed Vertical Machining Center



KF5600 (A~B)

150~670 mm
Distance from Table Surface to SP

5.9~26.4 inch
Distance from Table Surface to SP

KF5600C (A~B)

150~785 mm
Distance from Table Surface to SP

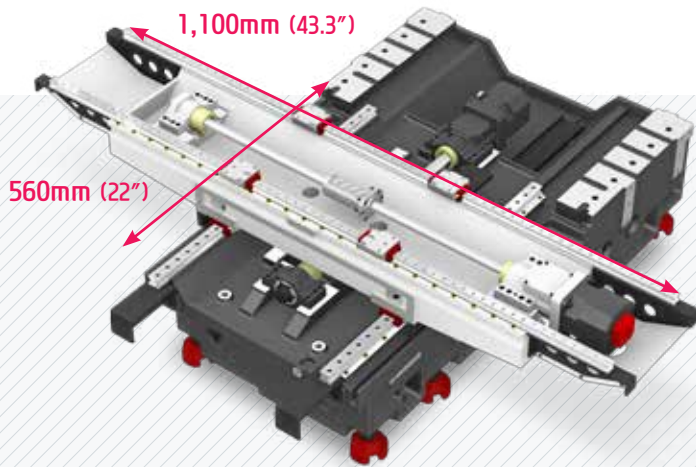
5.9~30.9 inch
Distance from Table Surface to SP

KF5600C High Column (A~B)

OPTION

450~1,085 mm
Distance from Table Surface to SP

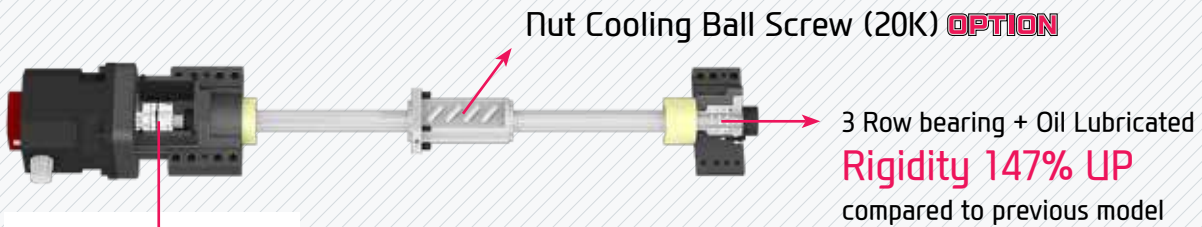
17.7~42.7 inch
Distance from Table Surface to SP



Expanded Y-axis Design

The Y-axis travel is increased to 560mm(22") and machining area has been enhanced.

Previous Machine (Y-Axis)	510 mm (20")
KF5600 (Y-Axis)	560 mm (22") 50mm (2") UP
Previous Machine (X-Axis)	1,060 mm (41.7")
KF5600 (X-Axis)	1,100 mm (43.3") 40mm (1.6") UP



Double anchored ball screw

The pretensioned ball screw minimizes the expansion and contraction according to the heat and further reinforces the rigidity by the double anchor support method.

In addition, the coupling of the ballscrews and the highly reliable digital servo motors are connected by **metal plate couplings**, to reduce coupling breakage and backlash.



High-Speed Roller LM Guideway

Linear roller guideways are applied to reduce non-cutting time and bring high rigidity. Each axis is directly connected to a highly reliable digital servo motor to provide high rigidity and minimal thermal displacement.

Rigidity has increased 130% compared to the Ball Bearing LM Guide

⊙ **Rapid Traverse Rate (X/Y/Z) : 40/40/36 m/min (1,575/1,575/1,417 ipm)**
[10K(β) : 36/36/36 m/min (1,417/1,417/1,417 ipm)]

X/Y Axis (Std.)

Previous Machine	36 m/min (1,417 ipm)
KF5600	40 m/min (1,575 ipm) 4 m/min UP (158 ipm)

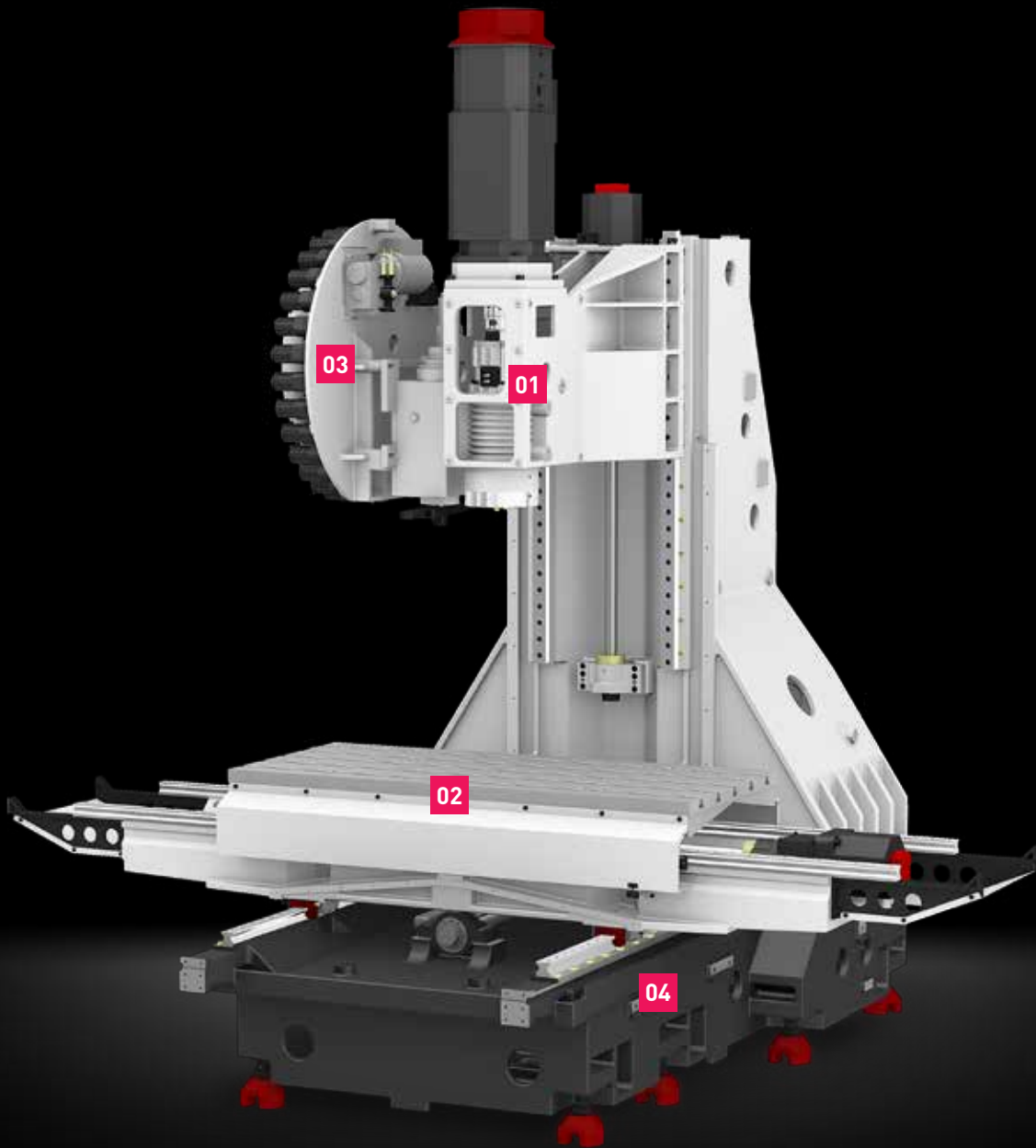
Z Axis (Std.)

Previous Machine	30 m/min (1,181 ipm)
KF5600	36 m/min (1,417 ipm) 6 m/min UP (236 ipm)

n3
KF Series

KF6700

High Speed & Productivity



1,300/670/635 mm
Travel (X/Y/Z)

51.2/26.4/25 inch
Travel (X/Y/Z)

36/36/30 m/min
Rapid Traverse Rate (X/Y/Z)

1,417/1,417/1,181 ipm
Rapid Traverse Rate (X/Y/Z)

❖ 20000 rpm Built-in : 30/30/30 m/min
(1,181/1,181/1,181 ipm)

Basic Features

01 Direct Driven Spindle

By connecting the motor directly to the spindle, acc/dec. time has shortened. A wide range of machining can be done with spindle speed of up to 12,000rpm.

Built-in Spindle

The 15,000rpm(Opt. 20,000rpm) built-in spindle can minimize vibration transmitted to the spindle. It allows excellent machining performance in mold and high-precision products.

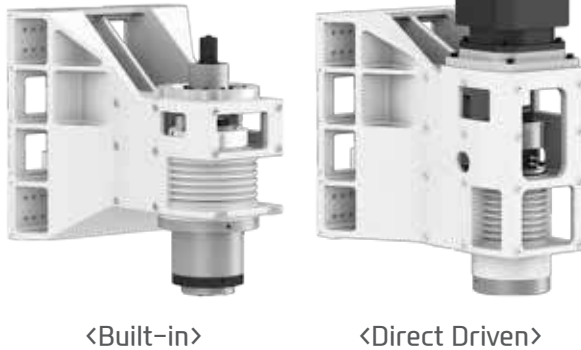
Direct Driven Spindle

8,000(β)/10,000(β)/8,000/12,000 rpm

Built-in Spindle

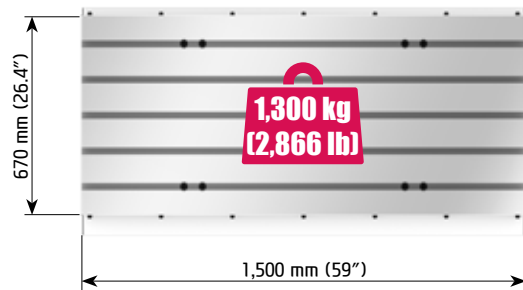
15,000/20,000 rpm

※ Thermal Displacement Compensation as Standard



02 Table

Compared to competitive machines, the KF6700 has a large working capacity to make setup easier and provide convenience to the operator.



03 ATC & Magazine

The tool magazine holds 30 tools as standard and 40 tools as an option. Due to the wider selection of tools and the random tool selection method, tool change time has improved.

- ◎ Tool Change Time (C-C) :
Direct Driven Spindle : **3.2 sec**
Built-in Spindle : **3.3 sec**



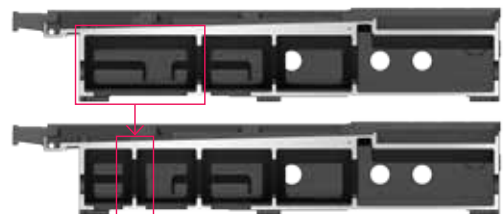
04 Optimal Structural Analysis

In order to increase the structural rigidity, KF6700 has **added rib** to the front of the bed. Static stiffness has increased compared to the base model, thus making heavy-duty cutting possible.

- ◎ Rigidity has increased compare to the base model of KF6700

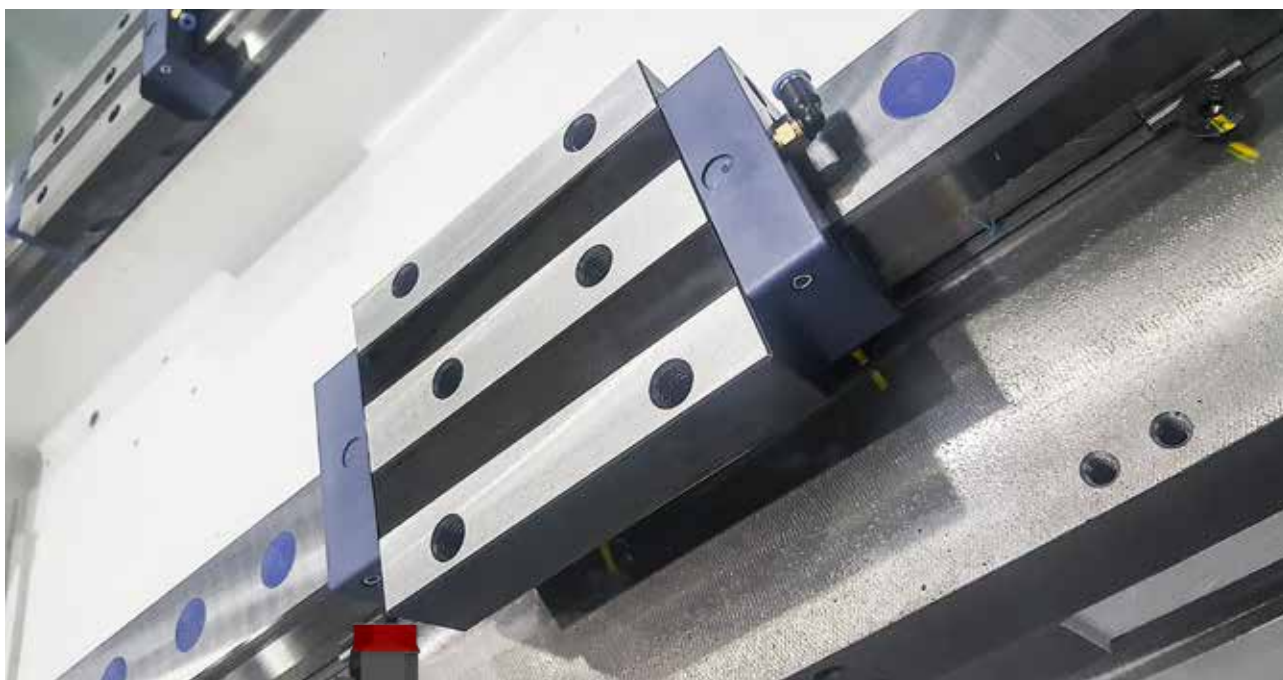
X Axis : **139% UP** X Axis : **144% UP**

Maintain optimized rigidity through reinforcement of rib structure



KF6700 Slideway

High-Precision & Speed Vertical Machining Center



One Piece High Column Structure (Direct Spindle)

Additional 300mm(11.8") extension can be applied on the KF6700 as an option.

KF6700 (A~B)

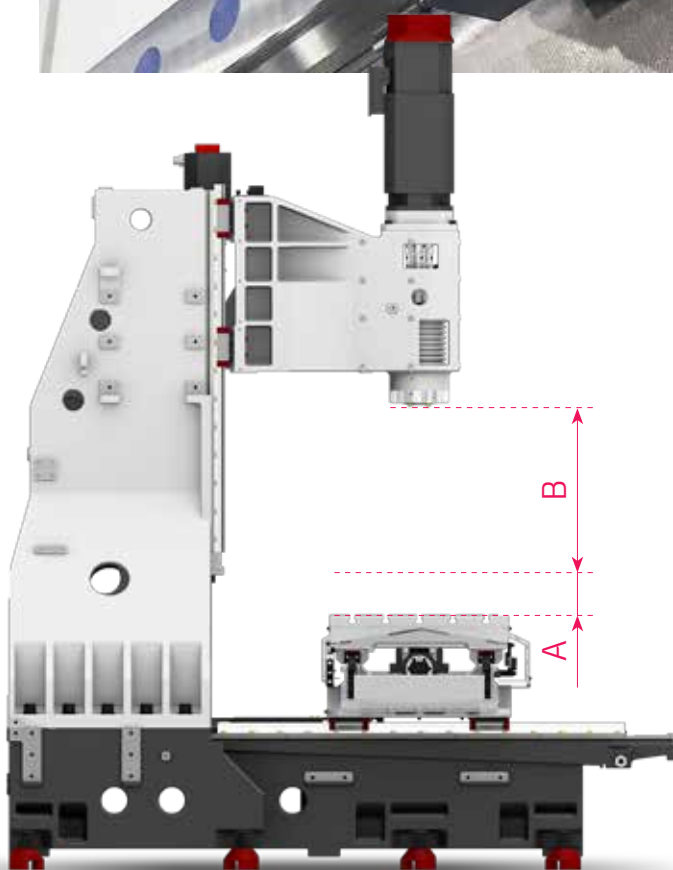
150~785 mm
Distance from Table Surface to SP

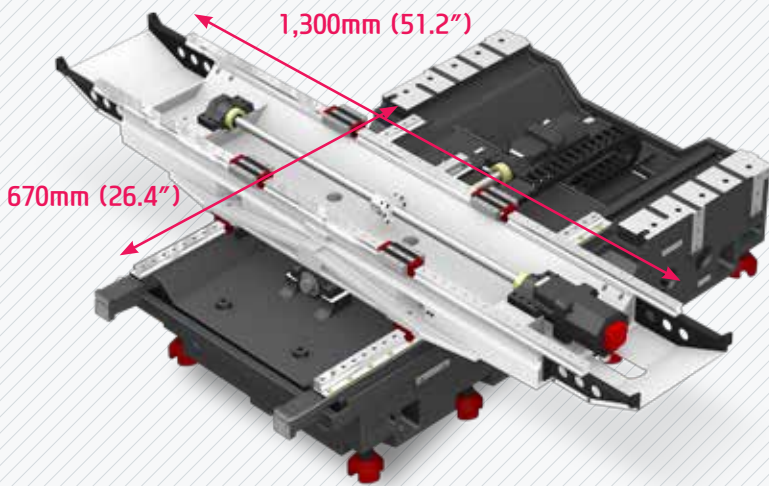
5.9~30.9 inch
Distance from Table Surface to SP

KF6700 High Column (A~B) **OPTION**

450~1,085 mm
Distance from Table Surface to SP

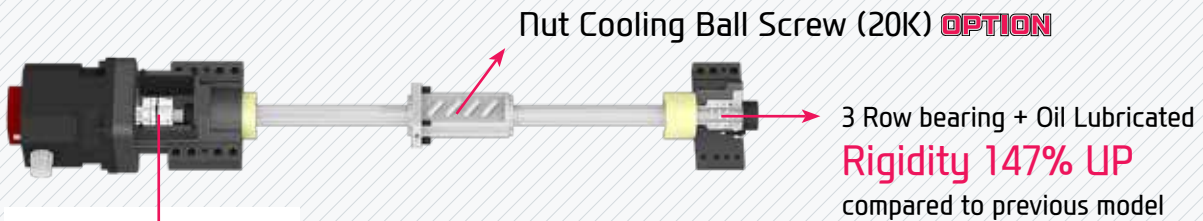
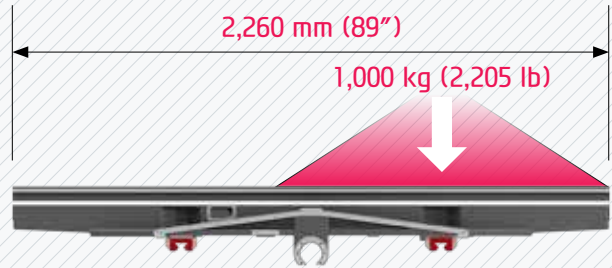
17.7~42.7 inch
Distance from Table Surface to SP





Increase of Saddle Rigidity

The KF6700 with the largest saddle among the KF series has almost same level of saddle-end displacement as the base model. This improvement leads to the high quality machining.



Double anchored ball screw

The pretensioned ball screw minimizes the expansion and contraction according to the heat and further reinforces the rigidity by the double anchor support method.

In addition, the coupling of the ballscrews and the highly reliable digital servo motors are connected by **metal plate couplings**, to reduce coupling breakage and backlash.



High-Speed Roller LM Guideway

Linear roller guideways are applied to reduce non-cutting time and bring high rigidity. Each axis is directly connected to a highly reliable digital servo motor to provide high rigidity and minimal thermal displacement.

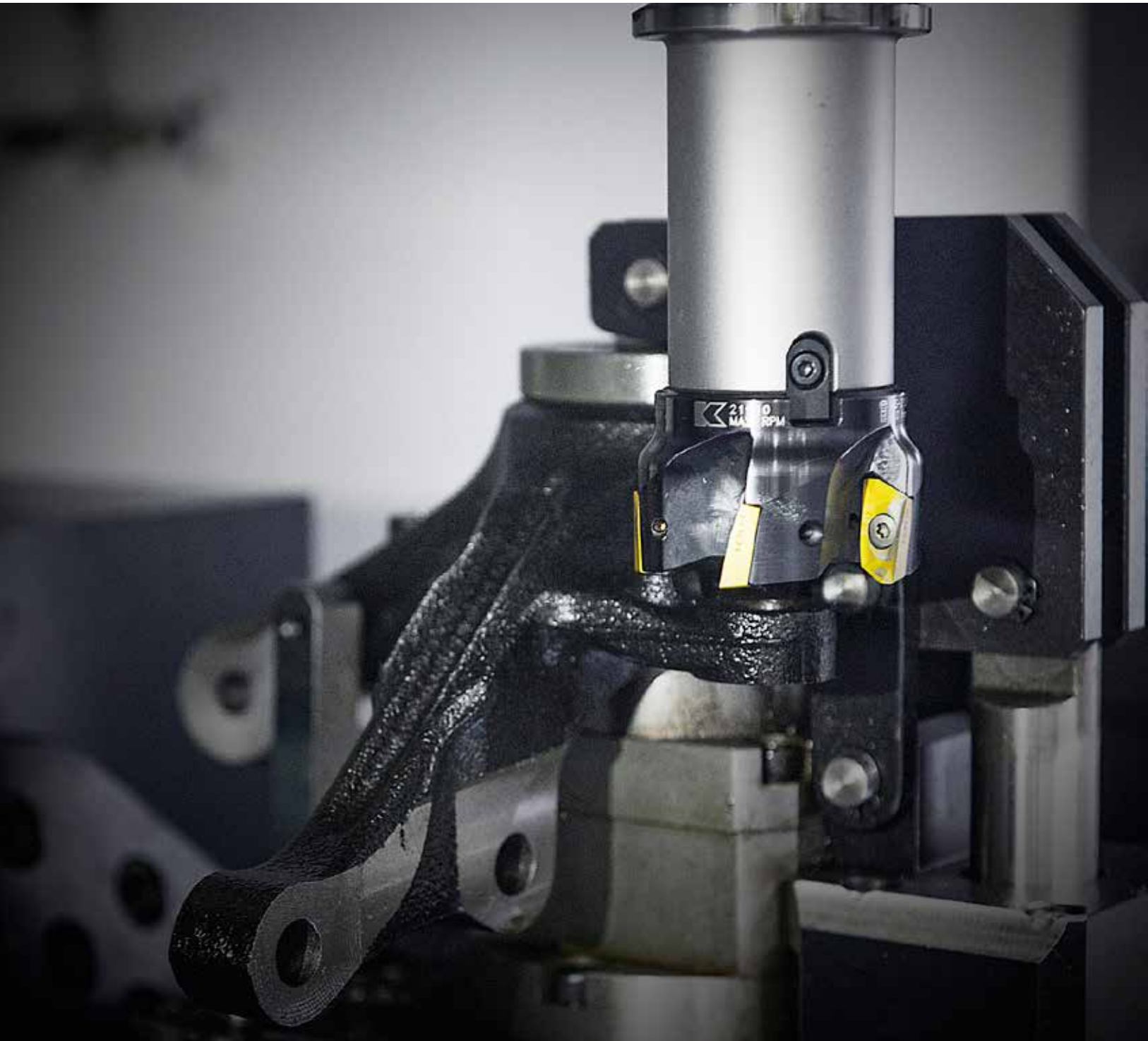
Rigidity has increased 168% compared to the Ball Bearing LM Guide



n4
KF Series

Direct Driven Spindle

Long Lasting High Accuracy & Excellent Performance

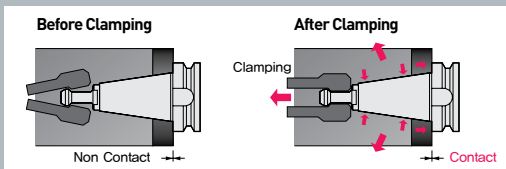


Spindle

High-Performance, Direct Driven Spindle

The directly coupled spindle at a maximum revolution of 12,000rpm, allows high-speed processing. Additionally, the large diameter and the thickness of the spindle add to the stability of the machine.

To meet various user's demand, HSK type spindle is also available. (HSK-A63 : 12K)



Dual Contact Spindle

The Big Plus spindle system (BBT40) 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.

- Tool Lock Type : **Hydraulics**

Through Spindle Coolant **OPTION**

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

20 bar / 30 bar / 70 bar
(290 psi / 435 psi / 1,015 psi)



Spindle Cooling (12K Std.)

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

<External cooling via head frame enhances chilling ability>

8,000(β) rpm	10,000(β) rpm	8,000 rpm	12,000 rpm
18.5 kW Max. Output	18.5 kW Max. Output	15 kW Max. Output	18.5 kW Max. Output
118 N·m Max. Torque	118 N·m Max. Torque	286 N·m Max. Torque	118 N·m Max. Torque
24.8 HP Max. Output	24.8 HP Max. Output	20.1 HP Max. Output	24.8 HP Max. Output
87 lbf·ft Max. Torque	87 lbf·ft Max. Torque	210.9 lbf·ft Max. Torque	87 lbf·ft Max. Torque

05
KF Series

Built-in Spindle

Long Lasting High Accuracy & Excellent Performance

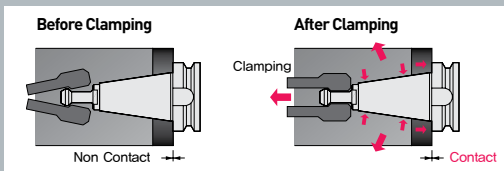


High-Precision

20,000rpm Built-in Spindle

By using ultra precision angular ball bearings, fast acceleration and deceleration of the main spindle is achieved.

The spindle head is designed to minimize the heat displacement of main spindle, and with the use of hydraulic tool lock system, the machining stability has increased.



Dual Contact Spindle

The Big Plus spindle system (BBT40) 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.

- Tool Lock Type : **Hydraulics**

Through Spindle Coolant **OPTION**

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

20 bar / 30 bar / 70 bar
(290 psi / 435 psi / 1,015 psi)



HSK Tool Holder **OPTION**

HSK tool holder is utilized for precise positioning with less expansion in the spindle taper during high speed rotation. This ensures an excellent level of precision for die mold machining.



Spindle Cooling

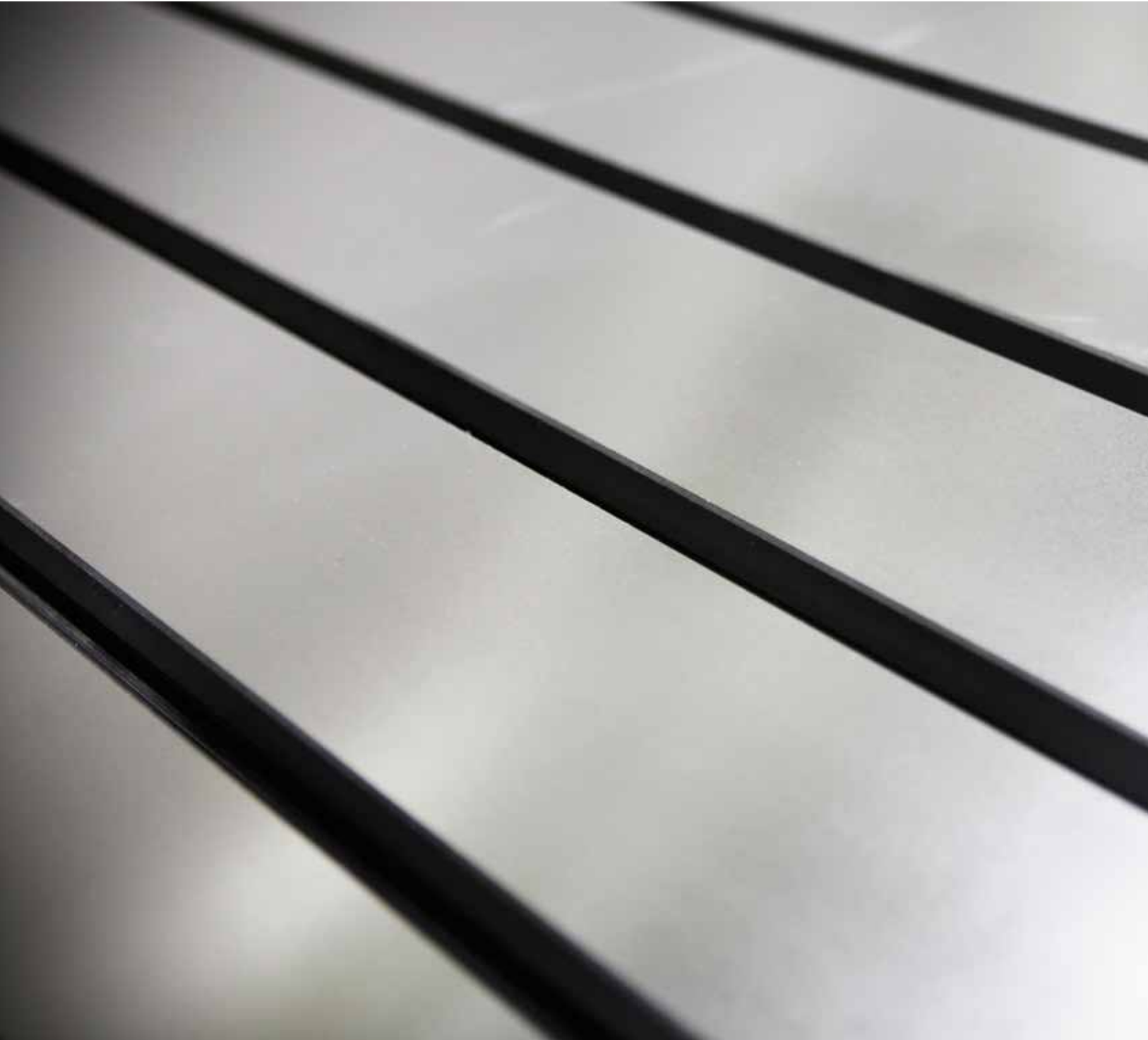
The spindle cooling system minimizes thermal displacement which can happen during lengthy machining operations, and offers continued accuracy based on the thermal stability.

15,000 rpm	20,000 rpm (Mold)
25 kW Max. Output	22 kW Max. Output
167 N·m Max. Torque	98 N·m Max. Torque
33.5 HP Max. Output	29.5 HP Max. Output
123.2 lbf·ft Max. Torque	72.3 lbf·ft Max. Torque

n6
KF Series

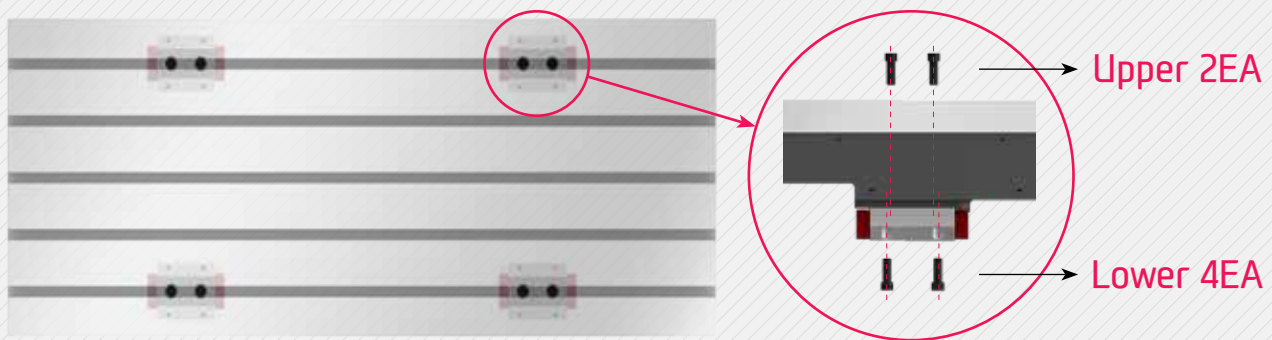
Table

High Productivity Achieved with High Rigidity,
Accuracy Machining



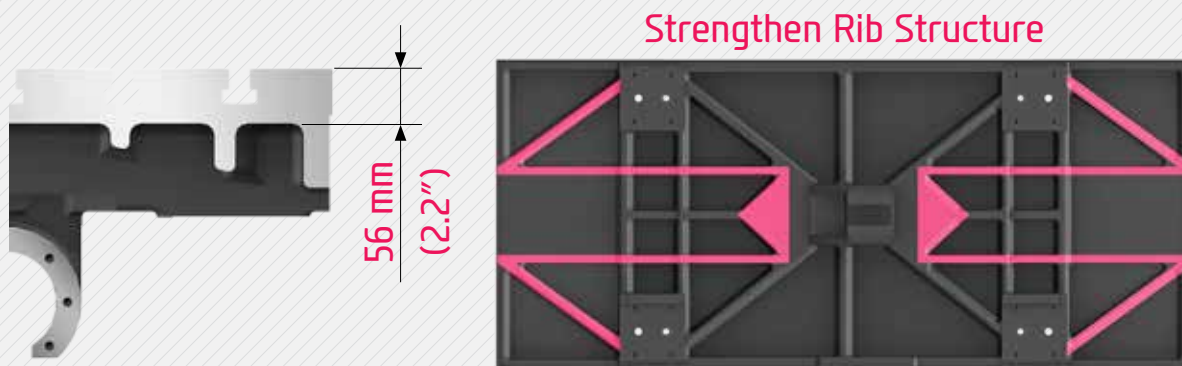
Increase of Table Rigidity

The rigidity of the table has increased by fastening the table and LM guide with 6 bolts. (Previous model, Competitive models: 4 bolts)



Rigidity of KF6700 Table has Increased by Structural Analysis.

The thickness of the table has been increased by 9mm(0.4") compared to the base equipment by reinforcing the rib structure of the KF6700 table. This makes it possible to process the product under severe cutting and high load.



KF Series Table

Model	KF4600	KF5600	KF6700
Table Size	1,050×460 mm (41.3"x18.1")	1,250×560 mm (49.2"x22")	1,500×670 mm (59"x26.4")
Max. Load Capacity	600 kg (1,323 lb)	1,000 kg (2,205 lb)	1,300 kg (2,866 lb)

07
KF Series

ATC & Magazine

High Productivity Achieved with High Rigidity,
Accuracy Machining



ATC & Magazine

High Speed ATC

Position control through twin arm ATC on servo motors has been improved drastically. In addition, tool exchanging has become easier, reducing specific cutting time tremendously.

ATC Speed Improvement

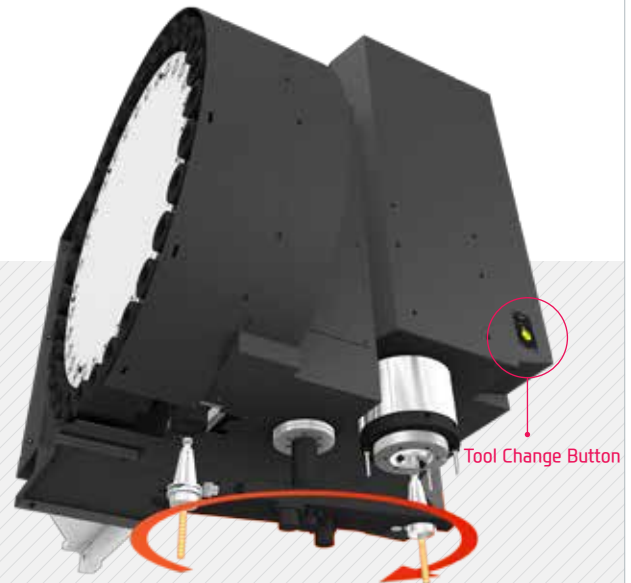
Tool to Tool Time

Previous Machine	2.6 sec
KF Series	1.4 sec

❖ KF6700 : 1.2sec

Servo ATC

Position control on the Twin Arm ATC using Servo Motors has improved drastically. The twin arm ATC enables faster tool change and increased productivity.



Chip to Chip Time

Previous Machine	6.6 sec
KF Series	3.2 sec

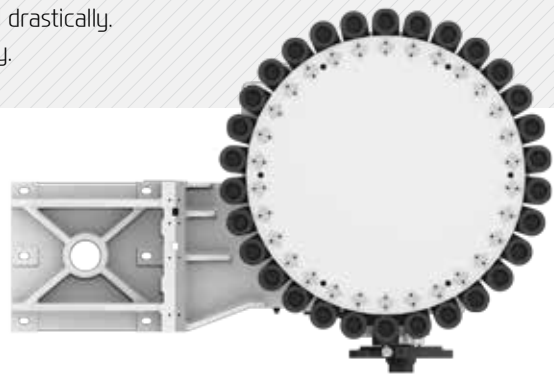
❖ KF6700 : Built-in Spindle - 3.3 sec

Magazine

The tool magazine holds 30 tools as standard and 40 tools as an option. Due to the wider selection of tools and the random tool selection method, tool change time has improved.

❖ When selecting 40 tool magazine :
Servo Motor (30 Tool : Gearing Motor)

- ⊙ No. of Tools : **30 [40]** EA
- ⊙ Tool Selection Method : **Random**



- ⊙ Tool Shank : **BBT40 [HSK-A63 : 12K, 15K, 20K]**
- ⊙ Max. Tool Weight : **8 kg (18 lb)**
- ⊙ Max. Tool Dia. (W.T / W.O) : **Ø80[Ø76]/Ø125 (Ø3.1"[Ø3"]/Ø4.9")**
- ⊙ Max. Tool Length : **300 mm (11.8")**

n8

KF Series

Smart System



Software for Smart Operating and Machining



Interface Port

Convenience is increased when inputting and outputting program. Because it is now capable of using USB port in addition to current way like CF memory card or LAN



Energy Saving Function(ECO) & SMART Machining

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



Mold-related Software (Standard when selecting 20K Built-in Spindle)



HW-AFC

HYUNDAI WIA
Adaptive Feed Control

OPTION



HW-MCS

HYUNDAI WIA
Machining Condition Selection

OPTION

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

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.



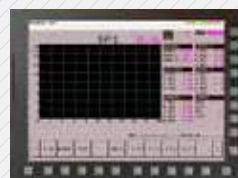
HW-ESS
HYUNDAI WIA
Energy Saving System

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.

n9

KF Series

Mold Package (20K Built-in)

Powerful Mold Package, HYUNDAI-WIA Mold All in One



HWM ALL-IN-ONE

To enhance mold machining, the "HWM ALL-IN-ONE" is provided as a standard feature for KF Series.

This ensures accurate and high quality surface finishing and contouring.



Mold Package Option (20K Built-in)

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

CONTROLLER



- ◉ High Speed Contouring Control (AICC II)
Recognizes NC Data prior to the current processing phase
- ◉ Development S/W
HW-MCS (Selectable Process Conditions)
HW-AFC (Adaptive Feed Control)
- ◉ Automatic Power Off Device



- ◉ Main Spindle Cooling Device (8-channel)
Maintains temperature on the main spindle from thermal displacement. (heat sensor)



- ◉ Cutting Air Blow
Cutting air blow is provided for mold machining.



- ◉ Auto Tool Measuring Device (RENISHAW TS27R or LTS)
Detects and sets tool length, and attrition (Graphic User Interface included)

Thermal Displacement Compensation Device

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



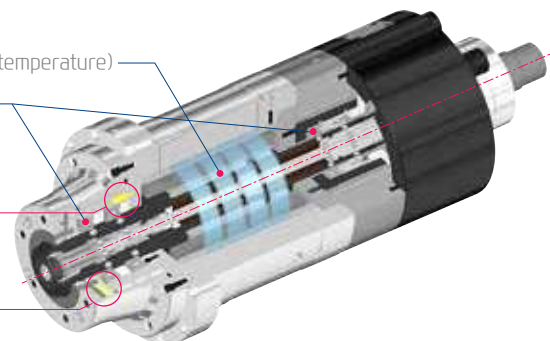
Interface

Cooling system (Opt, control of setting temperature)

Lubrication system (Oil-Air)

T.D.C With PT100 Sensor

T.D.C With DISP. Sensor



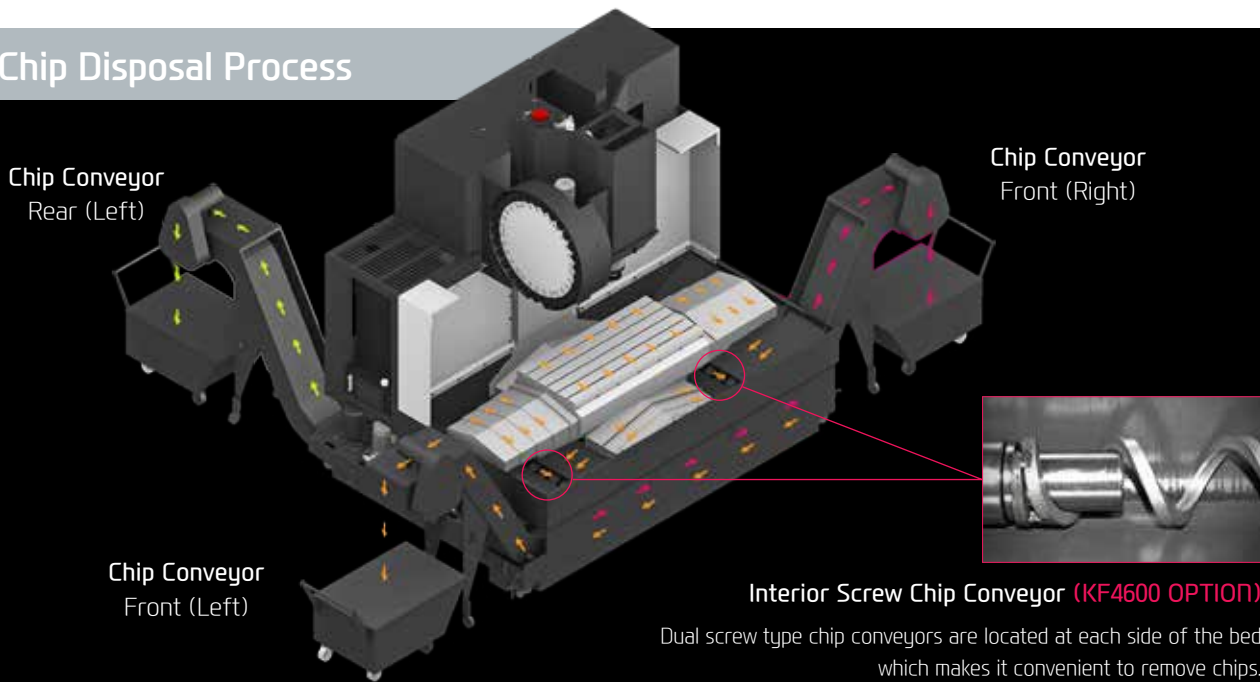
10

KF Series

User Convenience

Various Devices for User Friendly

Chip Disposal Process



Interior Screw Chip Conveyor (KF4600 OPTION)

Dual screw type chip conveyors are located at each side of the bed which makes it convenient to remove chips.

The interior screw and the chip conveyor operate at the same time and can be controlled separately at the time of prior consultation.

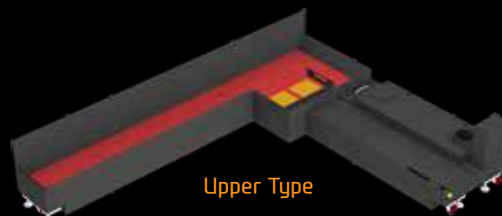
Coolant Unit & Chip Conveyor

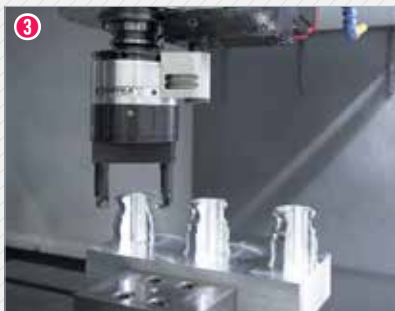
Timely and effective disposal of chips will enhance productivity as well as the working environment.

☉ Coolant Capacity : 400 ℓ (105.7 gal)

Chip Conveyor	Chip Type	Coolant Tank Type	Chip Exhaust Direction
Hinge	Chip Type : Roughing Chip, Long Chip, Chip complex Material : SS41, 45C, Cast Steel	Flood Type	Left, Right, Rear
		Upper Type	Left, Right, Rear
Scraper	Chip Type : Finely broken chip blown out Material : cast Iron, Nonferrous	Flood Type	Left, Right, Rear
❖ Screw	Chip Type : The lower portion of micro-chips Material : Steel, Casting	-	Left, Right
❖ Drum Filter	Chip Type : Powder, Micro Chip Material : AL	-	Left, Right, Rear

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





1 Linear Scale **OPTION**

Linear scales can be applied when highly accurate positioning is required.

2 NC Rotary Table **OPTION**

Additional axis machining is possible with the installation of NCRT.

3 U-Center **OPTION**

The U-Center makes external and internal diameter turning possible, allowing for a wide range of variety in products.

4 Hydraulic Supply Unit **OPTION**

Instead of the standard hydraulic supply unit, an optional fixture unit can bring the pressure up to 100 bar(1,450 bar) maximizing the clamping force on the fixture.

5 Spindle Cooling Unit (More than 12K standard) **OPTION**

The cooling unit is installed within the side of the machine to minimize the installation area.

1 1

KF Series

Measuring System

Automatic Measurement Applications for High-Precision



Automatic Workpiece Measuring Device

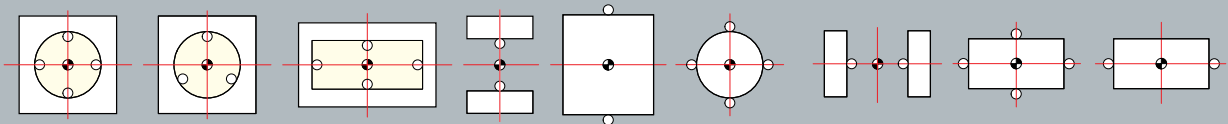
OPTION

Workpiece coordinates can be set automatically using the optional spindle probe.

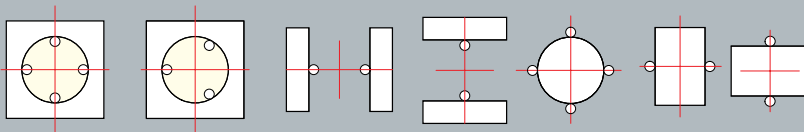


Automatic measurement applications

Centering - Automatically sets the zero position of the work piece.



Measurement - Automatically measures the dimension of the work piece.



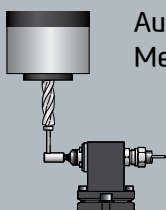
TLM (Laser & Touch) **OPTION**

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

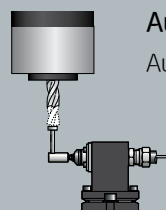
- ❖ Touch type TLM (TS27R) as standard with 20K Built-in spindle.



Automatic measurement applications



Automatic Tool Length Measurement



Automatic Tool Broken Detection
Automatically detects breakage of tools.

Touch

SPECIFICATIONS

Standard & Optional

Spindle		KF4600	KF5600	KF5600C	KF6700
8,000rpm (15kW [20.1HP])	DIRECT	○	●	●	●
8,000rpm (β/18.5kW [24.8HP])	DIRECT	●	○	○	○
10,000rpm (β/18.5kW [24.8HP])	DIRECT	○	○	○	○
12,000rpm (18.5kW [24.8HP])	DIRECT	○	○	○	○
15,000rpm (25kW [33.5HP])	BUILT-IN	○	○	-	○
20,000rpm (22kW [29.5HP])	BUILT-IN	-	○	-	○
Spindle Cooling System	8,000rpm	○	○	○	○
	Over 12,000rpm	●	●	●	●
ATC					
ATC Extension	30	●	●	●	●
	40	○	○	○	○
Tool Shank Type	BBT40	●	●	●	●
	HSK-A63 (12K, 15K, 20K) CAT40/BCV40	○	○	○	○
U-Center	D'andrea	○	○	○	○
	45°	●	●	●	●
Pull Stud	60°	-	-	-	-
	90°	-	-	-	-
	90°	-	-	-	-
Table & Column					
APC		-	-	-	-
Tap Type Table		-	-	-	-
T-Slot Table		●	●	●	●
NC Rotary Table		☆	☆	☆	☆
High Column	200mm (7.9")	○ (15K -)	-	-	-
	300mm (11.8")	-	-	○	○
	-Direct Sp.)	-	-	○	○
Coolant System					
Std. Coolant (Main Spindle Nozzle)		●	●	●	●
Through Spindle Coolant	20bar (290 psi)	○	○	○	○
	30bar (435 psi), 20 ℓ (5.3 gal)	○	○	○	○
	70bar (1,015 psi), 15 ℓ (4 gal)	○	○	○	○
	70bar (1,015 psi), 30 ℓ (7.9 gal)	○	○	○	○
Top Cover		●	●	●	●
Shower Coolant		○	○	○	○
Gun Coolant		○	○	○	○
Bed Flushing Coolant		●	☆	☆	☆
Air Gun		○	○	○	○
Cutting Air Blow		○	○ (20K ●)	○	○ (20K ●)
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	400 ℓ (105.7 gal)	●	●	●	●
Interior Screw Chip Conveyor		○*	●	●	●
Flood Chip Conveyor (Hinge/Scraper)	Left	○	○	○	○
	Right	○	○	○	○
	Rear	○	○	○	○
Upper Chip Conveyor (Hinge)	Left	○	○	○	○
	Right	○	○	○	○
Screw Type Chip Conveyor	Left	☆	☆	☆	☆
	Right	☆	☆	☆	☆
Drum Filter Type Chip Conveyor	Left	☆	☆	☆	☆
	Right	☆	☆	☆	☆
	Rear	☆	☆	☆	☆
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	☆	☆	☆	☆

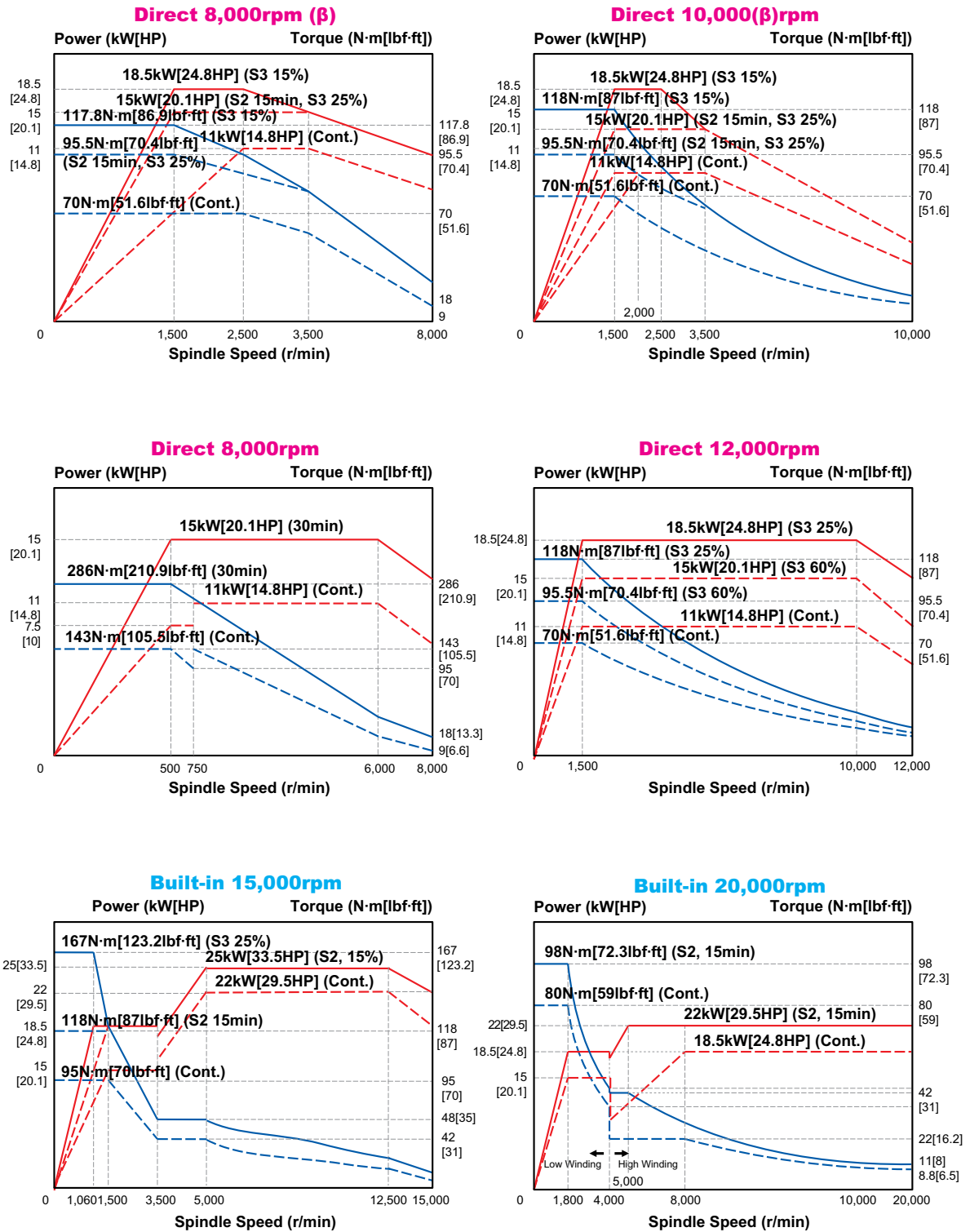
* KF4600 : No bed flushing coolant for interior screw conveyor option.
Specifications are subject to change without notice for improvement.

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

S/W		KF4600	KF5600	KF5600C	KF6700
Machine Guidance (HW-MCG)		●	●	●	●
Tool Monitoring (HW-TM)		○	○	○	○
DNC Software (HW-eDNC)		○	○	○	○
Spindle Heat Distortion Compensation (HW-TDC)		○	○ (20K ●)	○	○ (20K ●)
Spindle Warm up Function (HW-WARMUP)		●	●	●	●
Energy Saving System (HW-ESS)		●	●	●	●
Machine Monitoring System (HW-MMS)		○	○	○	○
Tool Offset Measurement (HW-TOM)		☆	☆ (20K ●)	☆	☆ (20K ●)
Machining Condition Selection (HW-MCS)		☆	☆ (20K ●)	☆	☆ (20K ●)
Adaptive Feed Control (HW-AFC)		☆	☆ (20K ●)	☆	☆ (20K ●)
Conversational Program (HW-DPRO)		○	○	○	○
Electric Device					
Call Light	1 Color : ■	●	●	●	●
Call Light	2 Color : ■ ■	○	○	○	○
Call Light	3 Color : ■ ■ ■	○	○	○	○
Call Light & Buzzer	3 Color : ■ ■ ■ B	○	○	○	○
Electric Cabinet Light		○	○	○	○
Remote MPG		●	●	●	●
3 Axis MPG		○	○	○	○
Work Counter	Digital	○	○	○	○
Total Counter	Digital	○	○	○	○
Tool Counter	Digital	○	○	○	○
Multi Tool Counter	Digital	○	○	○	○
Electric Circuit Breaker		○	○	○	○
AVR (Auto Voltage Regulator)		☆	☆	☆	☆
Transformer	25kVA	○	○	○	○
Auto Power Off		○	○ (20K ●)	○	○ (20K ●)
Back up Module for Black out		○	○	○	○
Measuring Device					
Air Zero	TACO	○	○	○	○
	SMC	○	○	○	○
Work Measuring Device		○	○	○	○
TLM (Marposh/Renishaw/Blum)	Touch	○	○ (20K ●)	○	○ (20K ●)
	Laser	○	○	○	○
Tool Broken Detective Device		☆	☆	☆	☆
Linear Scale	X/Y/Z Axis	○	○	○	○
Coolant Level Sensor (Only for Chip Conveyor, Bladder Type)		☆	☆	☆	☆
Environment					
Air Conditioner		○	○	○	○
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 (653 psi)	-	-	-	-
	70bar (1,015 psi)	○	○	○	○
	100bar (1,450 psi)	○	○	○	○
	Customized	☆	☆	☆	☆
ETC					
Tool Box		●	●	●	●
Customized Color	Need for Munsel No.	☆	☆	☆	☆
CAD&CAM Software		☆	☆	☆	☆

SPECIFICATIONS

Spindle Output/Torque Diagram

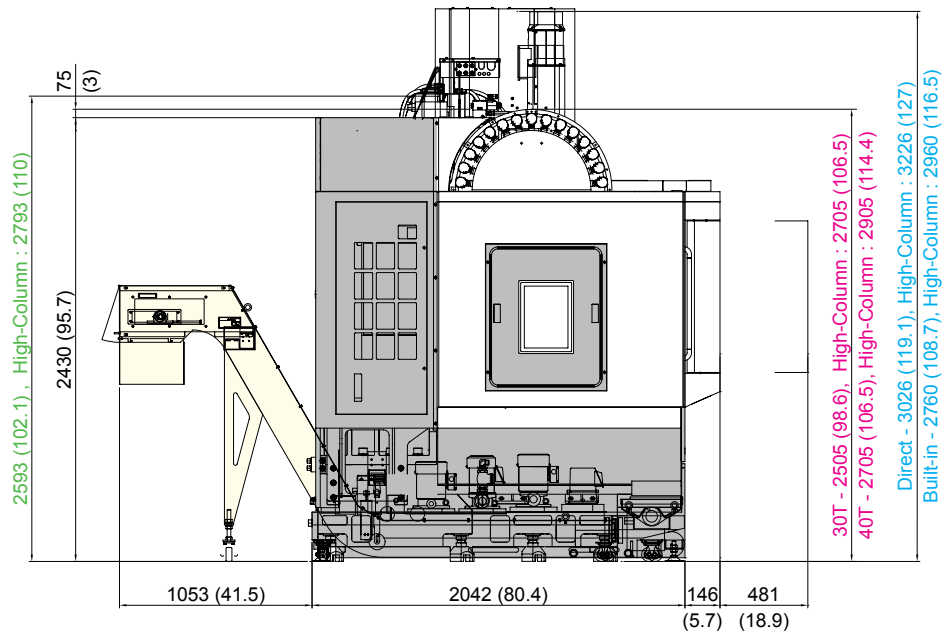
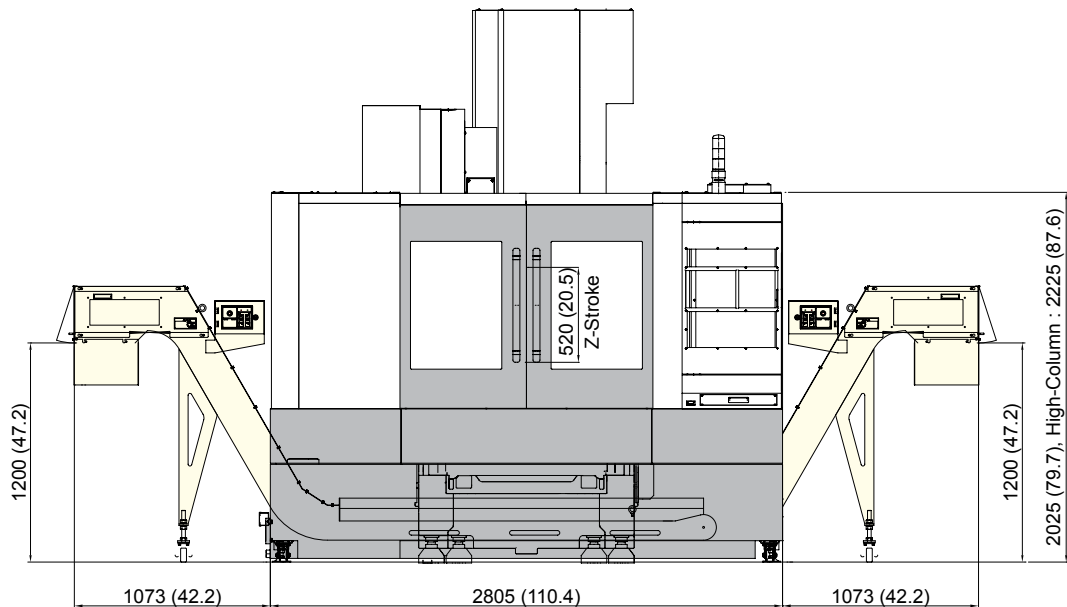


SPECIFICATIONS

External Dimensions

unit : mm(in)

KF4600



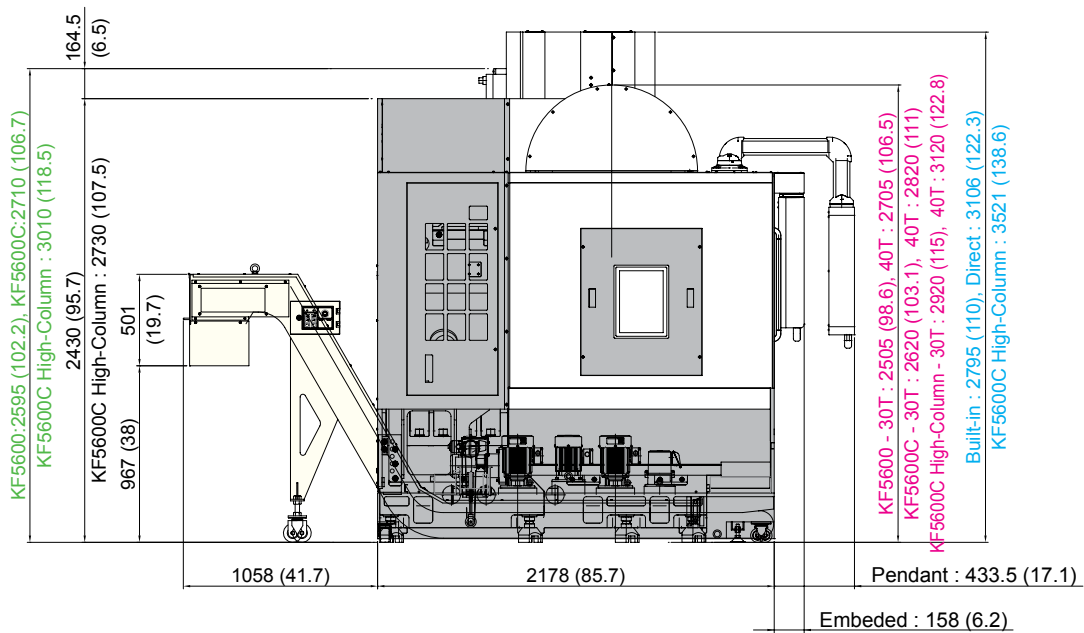
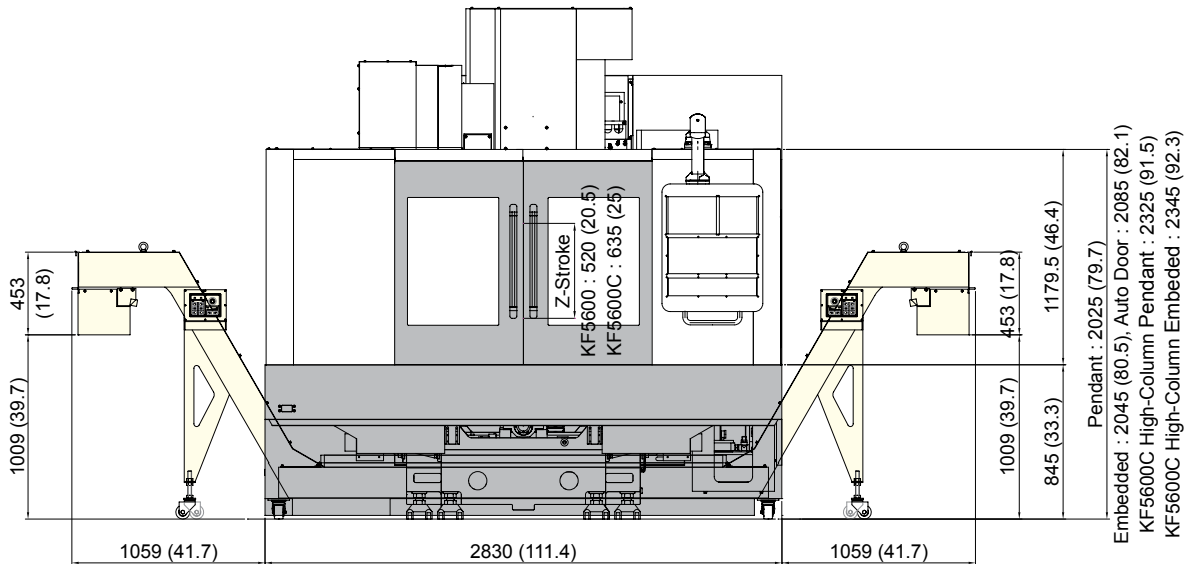
■ : Max. height | ■ : Height to ATC cover | ■ : Height to Z-axis motor

SPECIFICATIONS

External Dimensions

unit : mm(in)

KF5600



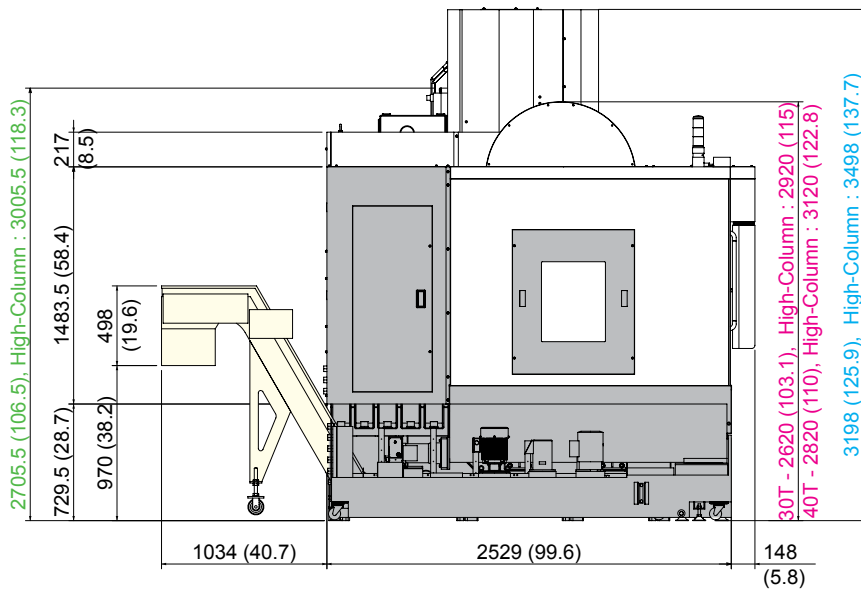
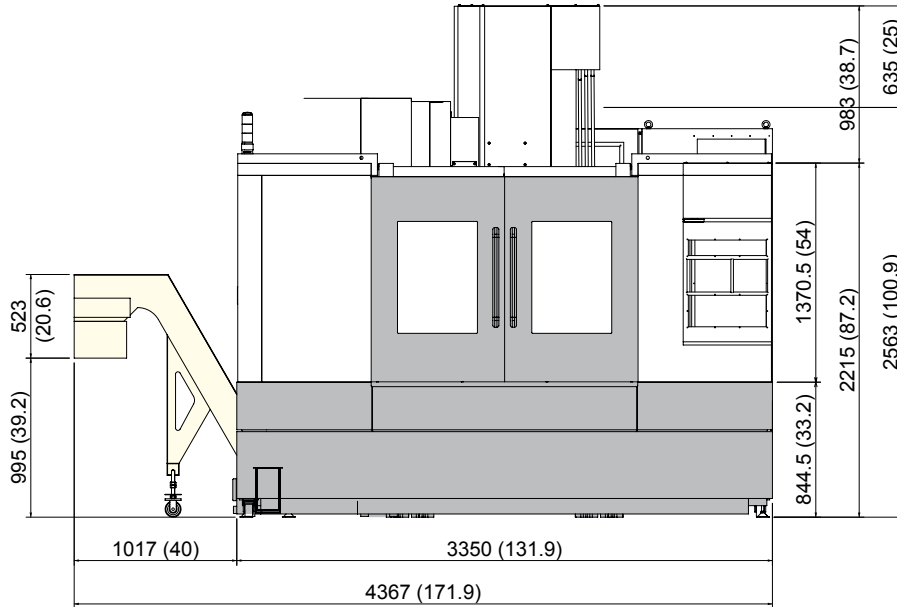
■ : Max. height | ■ : Height to ATC cover | ■ : Height to Z-axis motor

SPECIFICATIONS

External Dimensions

unit : mm(in)

KF6700



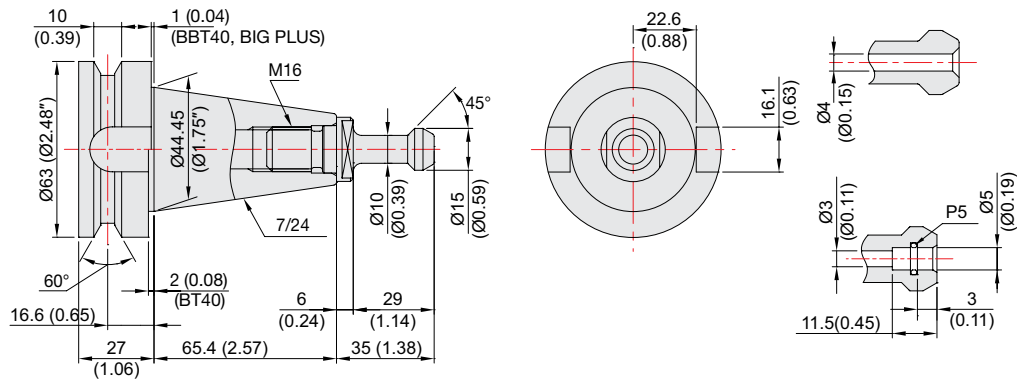
■ : Max. height | ■ : Height to ATC cover | ■ : Height to Z-axis motor

SPECIFICATIONS

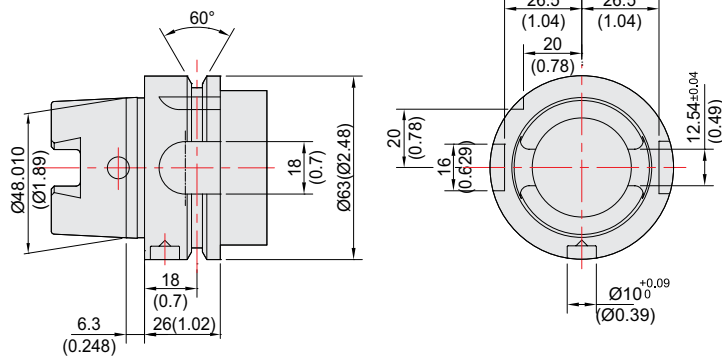
Tool Shank

unit : mm(in)

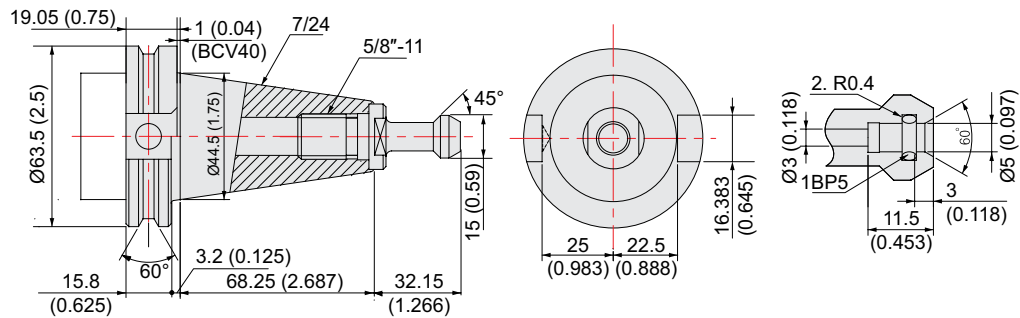
BT40/BBT40, BIG PLUS



HSK A-63 (Built-in)



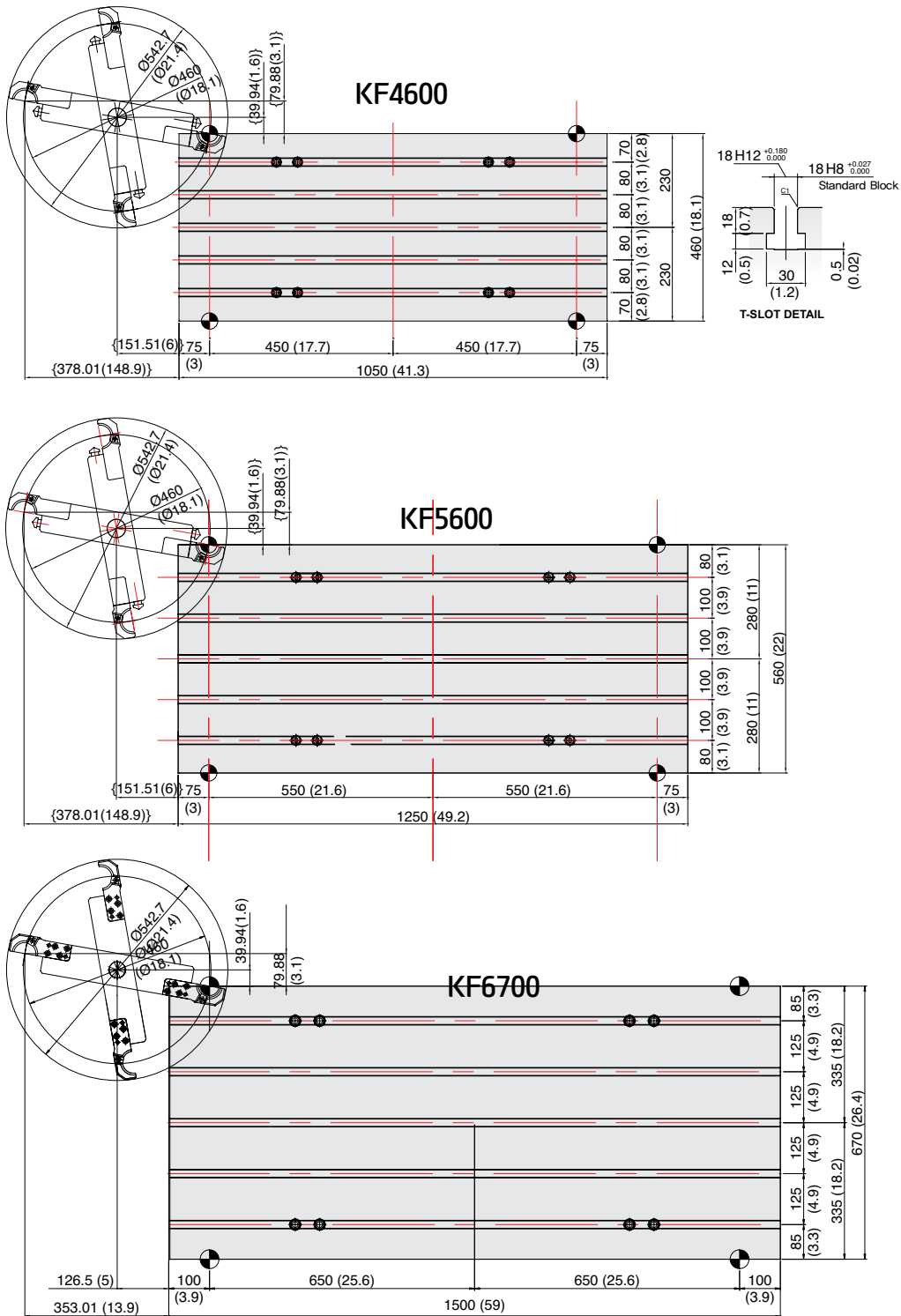
CAT40/BCV40



SPECIFICATIONS

Table Dimensions

unit : mm(in)



SPECIFICATIONS

Specifications

[] : Option

MODEL		KF4600					
TABLE	Table Size (L×W)	mm(in)	1,050×460 (41.3"×18.1")				
	Maximum Load Capacity	kg(lb)	600 (1,323)				
SPINDLE	Spindle Taper	-	ISO #40				
	Spindle RPM	r/min	8,000 (β)	[10,000 (β)]	[8,000]	[12,000] [15,000]	
	Spindle Driving Method	-	DIRECT			BUILT-IN	
	Spindle Power Output (Max./Cont.)	kW(HP)	18.5/11 (24.8/14.8)	18.5/11 (24.8/14.8)	15/11 (20.1/14.8)	18.5/11 (24.8/14.8) 25/22 (33.5/29.5)	
	Spindle Torque (Max.)	N·m(lbf·ft)	118/70 (87/51.6)	118/70 (87/51.6)	286/143 (210.9/105.5)	118/70 (87/51.6) 167/95 (123.2/70)	
	Travel (X/Y/Z)	mm(in)	900/460/520 (35.4"/18.1"/20.5")				
FEED	Rapid Traverse Rate (X/Y/Z)	m/min	36/36/36 (1,417/ 1,417/ 1,417)				
	Distance from Table Surface to SP	mm(in)	150 ~ 670 [870] (5.9" ~ 26.4" [34.3"])			150 ~ 670 (5.9" ~ 26.4")	
	Distance from Column to SP. center	mm(in)	680 (26.8")				
	Slide Type	-	ROLLER TYPE LM GUIDE				
	Number of Tools	ea	30 [40]				
ATC	Tool Shank	-	BBT40		BBT40 [HSK-A63]		
	Max. Tool Dia. (W.T / W.O)	mm(in)	Ø80 (Ø3.1") [Ø76 (Ø3")]/Ø125 (Ø4.9")				
	Max. Tool Length	mm(in)	300 (11.8")				
	Max. Tool Weight	kg(lb)	8 (18)				
	Tool Selection Method	-	RANDOM				
	Tool Change Time	T-T	sec	1.4			
		C-C	sec	3.2			
TANK CAPACITY	Coolant Tank	ℓ (gal)	400 (105.7)				
	Lubricating Tank	ℓ (gal)	4 (1)		4+2 (1+0.5)		
	Hydraulic Tank	ℓ (gal)	15 (4)				
POWER SUPPLY	Air Consumption (0.5MPa)	ℓ /min(gal)	110 (29)				
	Electric Power Supply	KVA	32				
	Thickness of Power Cable	Sq	Over 25				
	Voltage	V/Hz	220/60 (200/50*)				
MACHINE	Floor Space (L×W)	mm(in)	2,805×2,180 (110.4"×85.8")				
	Height	mm(in)	3,026 (119.1")			2,760 (108.7")	
	Weight	kg(lb)	6,000 (13,228)				
NC	Controller	-	HW F i Series		HW F i Series [F 32i-B]		

*) 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

MODEL		KF5600						
TABLE	Table Size (L×W)	mm(in)	1,250×560 (49.2"×22")					
	Maximum Load Capacity	kg(lb)	1,000 (2,205)					
SPINDLE	Spindle Taper	-	ISO #40					
	Spindle RPM	r/min	[8,000 (β)]	[10,000 (β)]	8,000	[12,000]	[15,000]	[20,000]
	Spindle Driving Method	-	DIRECT				BUILT-IN	
	Spindle Power Output (Max./Cont.)	kW(HP)	18.5/11 (24.8/14.8)	18.5/11 (24.8/14.8)	15/11 (20.1/14.8)	18.5/11 (24.8/14.8)	25/22 (33.5/29.5)	22/18.5 (29.5/24.8)
	Spindle Torque (Max.)	N·m(lbf·ft)	118/70 (87/51.6)	118/70 (87/51.6)	286/143 (210.9/105.5)	118/70 (87/51.6)	167/95 (123.2/70)	98/80 (72.3/59)
FEED	Travel (X/Y/Z)	mm(in)	1,100/560/520 (43.3"/22"/20.5")					
	Rapid Traverse Rate (X/Y/Z)	m/min	36/36/36 (1,417/1,417/1,417)			40/40/36 (1,575/1,575/1,417)		
	Distance from Table Surface to SP	mm(in)	150 ~ 670 (5.9" ~ 26.4")					
	Distance from Column to SP. center	mm(in)	680 (26.8")					
	Slide Type	-	ROLLER TYPE LM GUIDE					
ATC	Number of Tools	ea	30 [40]					
	Tool Shank	-	BBT40			BBT40 [HSK-A63]		
	Max. Tool Dia. (W.T / W.O)	mm(in)	Ø80 (Ø3.1") [Ø76 (Ø3")]/Ø125 (Ø4.9")					
	Max. Tool Length	mm(in)	300 (11.8")					
	Max. Tool Weight	kg(lb)	8 (18)					
	Tool Selection Method	-	RANDOM					
	Tool Change Time	T-T	sec	1.4				
C-C		sec	3.2					
TANK CAPACITY	Coolant Tank	ℓ (gal)	400 (105.7)					
	Lubricating Tank	ℓ (gal)	4 (1)			4+2 (1+0.5)		
	Hydraulic Tank	ℓ (gal)	15 (4)					
POWER SUPPLY	Air Consumption (0.5MPa)	ℓ/min(gal)	110 (29)					
	Electric Power Supply	KVA	32					
	Thickness of Power Cable	Sq	Over 25					
	Voltage	V/Hz	220/60 (200/50*)					
MACHINE	Floor Space (L×W)	mm(in)	2,830×2,178 (111.4"×85.7")					
	Height	mm(in)	3,106 (122.3")			2,795 (110")		
	Weight	kg(lb)	7,400 (1,6314)					
PC	Controller	-	HW F i Series		HW F i Series [F 32i-B]		F 31i-B [32i-B]	

*) 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

MODEL		KF5600C			
TABLE	Table Size (L×W)	mm(in)	1,250×560 (49.2"×22")		
	Maximum Load Capacity	kg(lb)	1,000 (2,205)		
SPINDLE	Spindle Taper	-	ISO #40		
	Spindle RPM	r/min	[8,000 (β)]	[10,000 (β)]	8,000 [12,000]
	Spindle Driving Method	-	DIRECT		
	Spindle Power Output (Max./Cont.)	kW(HP)	18.5/11 (24.8/14.8)	18.5/11 (24.8/14.8)	15/11 (20.1/14.8) 18.5/11 (24.8/14.8)
	Spindle Torque (Max.)	N·m(lbf·ft)	118/70 (87/51.6)	118/70 (87/51.6)	286/143 (210.9/105.5) 118/70 (87/51.6)
FEED	Travel (X/Y/Z)	mm(in)	1,100/560/635 (43.3"/22"/25")		
	Rapid Traverse Rate (X/Y/Z)	m/min	36/36/36 (1,417/1,417/1,417)	40/40/36 (1,575/1,575/1,417)	
	Distance from Table Surface to SP	mm(in)	150 ~ 785 (5.9" ~ 30.9") [450 ~ 1,085 (17.7" ~ 42.7")]		
	Distance from Column to SP. center	mm(in)	680 (26.8")		
	Slide Type	-	ROLLER TYPE LM GUIDE		
ATC	Number of Tools	ea	30 [40]		
	Tool Shank	-	BBT40	BBT40 [HSK-A63]	
	Max. Tool Dia. (W.T / W.O)	mm(in)	Ø80 (Ø3.1") [Ø76 (Ø3")]/Ø125 (Ø4.9")		
	Max. Tool Length	mm(in)	300 (11.8")		
	Max. Tool Weight	kg(lb)	8 (18)		
	Tool Selection Method	-	RANDOM		
	Tool Change Time	T-T	sec	1.4	
	C-C	sec	3.2		
TANK CAPACITY	Coolant Tank	ℓ (gal)	400 (105.7)		
	Lubricating Tank	ℓ (gal)	4 (1)		
	Hydraulic Tank	ℓ (gal)	15 (4)		
POWER SUPPLY	Air Consumption (0.5MPa)	ℓ /min(gal)	110 (29)		
	Electric Power Supply	KVA	26		
	Thickness of Power Cable	Sq	Over 35		
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	2,830×2,178 (111.4"×85.7")		
	Height	mm(in)	3,221 (126.8") [3,521 (138.6")]		
	Weight	kg(lb)	7,550 (16,645)		
NC	Controller	-	HW F i Series	HW F i Series [F 32i-B]	

*) 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

MODEL		KF6700						
TABLE	Table Size (L×W)	mm(in)	1,500×670 (59"×26.4")					
	Maximum Load Capacity	kg(lb)	1,300 (2,866)					
SPINDLE	Spindle Taper	-	ISO #40					
	Spindle RPM	r/min	[8,000 (β)]	[10,000 (β)]	8,000	[12,000]	[15,000]	[20,000]
	Spindle Driving Method	-	DIRECT				BUILT-IN	
	Spindle Power Output (Max./Cont.)	kW(HP)	18.5/11 (24.8/14.8)	18.5/11 (24.8/14.8)	15/11 (20.1/14.8)	18.5/11 (24.8/14.8)	25/22 (33.5/29.5)	22/18.5 (29.5/24.8)
	Spindle Torque (Max.)	N·m(lbf·ft)	118/70 (87/51.6)	118/70 (87/51.6)	286/143 (210.9/105.5)	118/70 (87/51.6)	167/95 (123.2/70)	98/80 (72.3/59)
FEED	Travel (X/Y/Z)	mm(in)	1,300/670/635 (51.2"/26.4"/25")					
	Rapid Traverse Rate (X/Y/Z)	m/min	36/36/30 (1,417/1,417/1,181)					
	Distance from Table Surface to SP	mm(in)	150 ~ 785 (5.9" ~ 30.9")					
	Distance from Column to SP. center	mm(in)	680 (26.8")					
	Slide Type	-	ROLLER TYPE LM GUIDE					
ATC	Number of Tools	ea	30 [40]					
	Tool Shank	-	BBT40			BBT40 [HSK-A63]		
	Max. Tool Dia. (W.T / W.O)	mm(in)	Ø80 [Ø76]/Ø125 (Ø3.1"/Ø3")/Ø4.9")					
	Max. Tool Length	mm(in)	300 (11.8")					
	Max. Tool Weight	kg(lb)	8 (17.6)					
	Tool Selection Method	-	RANDOM					
	Tool Change Time	T-T	sec	1.2				
C-C		sec	3.2			3.3		
TANK CAPACITY	Coolant Tank	ℓ (gal)	400 (105.7)					
	Lubricating Tank	ℓ (gal)	4 (1)			4+2 (1+0.5)		
	Hydraulic Tank	ℓ (gal)	15 (4)					
POWER SUPPLY	Air Consumption (0.5MPa)	ℓ/min(gal)	110 (29)					
	Electric Power Supply	KVA	32					
	Thickness of Power Cable	Sq	Over 25					
	Voltage	V/Hz	220/60 (200/50*)					
MACHINE	Floor Space (L×W)	mm(in)	3,350×2,529 (131.9"×99.6")					
	Height	mm(in)	3,198 (125.9")					
	Weight	kg(lb)	9,500 (20,944)					
PC	Controller	-	HW F i Series		HW F i Series [F 32i-B]		F 31i-B [32i-B]	

*) 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

[] : Option ☆ 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 axis Machine lock Stored limit check before move
Single block	
Search function	Program Number / Sequence Number
Handle interruption	
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28 2nd reference : G30 Ref. position check : G27
Single direction positioning	G60
Thread synchronous cutting	G33
Helical interpolation	Circular + Linear 2 axes (Max.)
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0 ~ 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 (± 99,999.9999 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 ~ #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
Spindle speed function	S & 5 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Spindle orientation	M19
Retraction for rigid tapping	
FSSB high speed rigid tapping	
Tool function / Tool compensation	
Tool function	Max. T8 digit
Tool life management	
Tool offset pairs	400 pairs
Tool nose / radius compensation	G40, G41, G42
Tool length offset	G43, G44, G49
Tool offset memory C	Tool geometry and wear (Cutter and tool length)
Tool length measurement	Z axis Input C
Editing function	
Part program storage size	1280m (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
Addition of custom macro	#100 ~ #199, #500 ~ #999, #98000 ~ #98499
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.

CONTROLLER

FANUC 32i-B

[] : Option ☆ 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 axes Machine lock, Stroke check before move
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Cylindrical interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28 2nd reference : G27 Ref. position check : G30
Thread synchronous cutting	G33
Helical interpolation	Circular + Linear interpolation 2 axes(max.)
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0~5,000mm/min (197 ipm) Manual handle : x1, x10, x100 pulses Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	F0% (F1%), F25%, F50%, F100%
Override cancel	
Feed per minute	G94
Feed per revolution	G95
Look-ahead block	40 Block 200 Block (Mold)
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #149, #500 ~ #549
G code system	A
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Including Chamfering / Corner R	
Canned cycle	G73, G74, G76, G80 ~ G89
Coordinate rotation	G68, G69

Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
Level-up M Code	Multi / Bypass M code
Spindle speed command	S & 5 digit , Binary output
Spindle override	0% ~ 150% (10% Unit)
Spindle orientation	M19
FSSB high speed rigid tapping	
Tool function / Tool compensation	
Tool function	Max. T 8 digit
Tool life management	256 pairs ☆
Tool offset pairs	64 pairs
Tool nose radius compensation	G40, G41, G42
Tool nose length compensation	G43, G44, G49
Tool offset memory C	Tool length, diameter, abrasion(length, diameter)
Tool length measurement	Z axes Input C
Editing function	
Part program storage size	640m (256KB)
No. of registerable programs	500 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	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	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 Save	Screen saver
Processing select	Speed/rigidity setting
Option	
Additional optional block skip	9 ea ☆
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Sub Spindle control	
Polar coordinate command	G15, G16
Polar coordinate interpolation	G12.1, G13.1
Cylindrical interpolation	G07.1
One-way positioning	G60
Stored stroke check 2, 3	
Inverse-time feed	G93
Scaling	G50, G51
Manual guide i	Conversational auto program
Handle interrupt	
Manual handle feed	2/3 units
Additional custom macro variables	#100~#199, #500~#999 #100~#199, #500~#999, #98000~#98499
Retraction for rigid tapping	
Tool management function	
Tool offset number	Max. 400 pair
Program storage capacity	512KB ~ 2MB
Program registration number	Max. 1000 ea
Additional work coordinate	48 pair (G54.1 P1 ~ P48)
AICC II	200 block 400 block ☆

Figures in inch are converted from metric values.

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

CONTROLLER

FANUC 31i-B

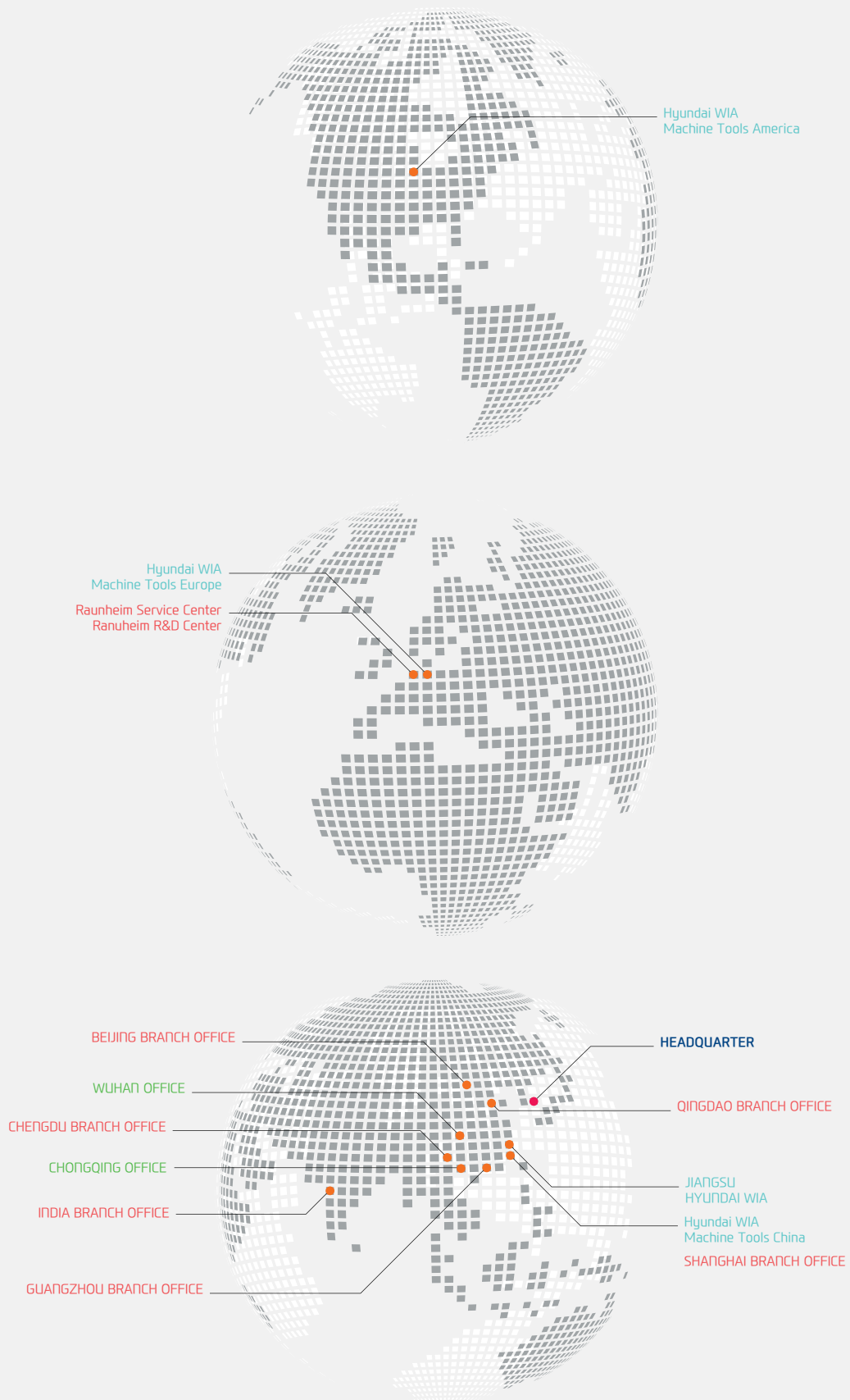
[] : Option ☆ Needed technical consultation

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 axes Machine lock, Stroke check before move
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
나노보간	
위치결정	G00
직선보간	G01
원호보간	G02, G03
이그젝트 스톱모드	Single : G09, Continuous : G61
드웰	G04, 0 ~ 9999.9999 sec
스킵 기능	G31
원점 복귀	1st reference : G28
	2nd reference : G27
	Ref. position check : G30
나사절삭 동기미승	G33
헬리컬 보간	Circular + Linear interpolation 2 axes(max.)
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse
	Jog : 0~5,000mm/min (197 ipm)
	Manual handle : x1, x10, x100 pulses
	Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	F0% (F1%), F25%, F50%, F100%
Override cancel	
Feed per minute	G94
Feed per revolution	G95
Look-ahead block	40 Block
	200 Block (Mold)
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #149, #500 ~ #549
G code system	A
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Including Chamfering / Corner R	
Canned cycle	G73, G74, G76, G80 ~ G89
Coordinate rotation	G68, G69

Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
Level-up M Code	Multi / Bypass M code
Spindle speed command	S & 5 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Spindle orientation	M19
FSSB high speed rigid tapping	
Tool function / Tool compensation	
Tool function	Max. T 8 digit
Tool life management	256 pairs ☆
Tool offset pairs	64 pairs
Tool nose radius compensation	G40, G41, G42
Tool nose length compensation	G43, G44, G49
Tool offset memory C	Tool length, diameter, abrasion(length, diameter)
Tool length measurement	Z axes Input C
Editing function	
Part program storage size	640m (256KB)
No. of registerable programs	500 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	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	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 Save	Screen saver
Processing select	Speed/ridigity setting
Option	
Additional optional block skip	9 ea ☆
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Sub Spindle control	
Polar coordinate command	G15, G16
Polar coordinate interpolation	G12.1, G13.1
Cylindrical interpolation	G07.1
One-way positioning	G60
Stored stroke check 2, 3	
Inverse-time feed	G93
Scaling	G50, G51
Manual guide i	Conversational auto program
Handle interrupt	
Manual handle feed	2/3 units
Additional custom macro variables	#100~#199, #500~#999 #100~#199, #500~#999, #98000~#98499
Retraction for rigid tapping	
Tool management function	
Tool offset number	Max. 2000 pair ☆
Program storage capacity	512KB ~ 8MB ☆
Program registration number	Max. 4000 ea ☆
Additional work coordinate	Max. 48 pair (G54.1 P1 ~ P48)
AICC II	200 block 400 / 600 / 1000 block ☆

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

GLOBAL NETWORK



GLOBAL NETWORK



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KF5600 Movie
(Tire Wheel Mold)



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