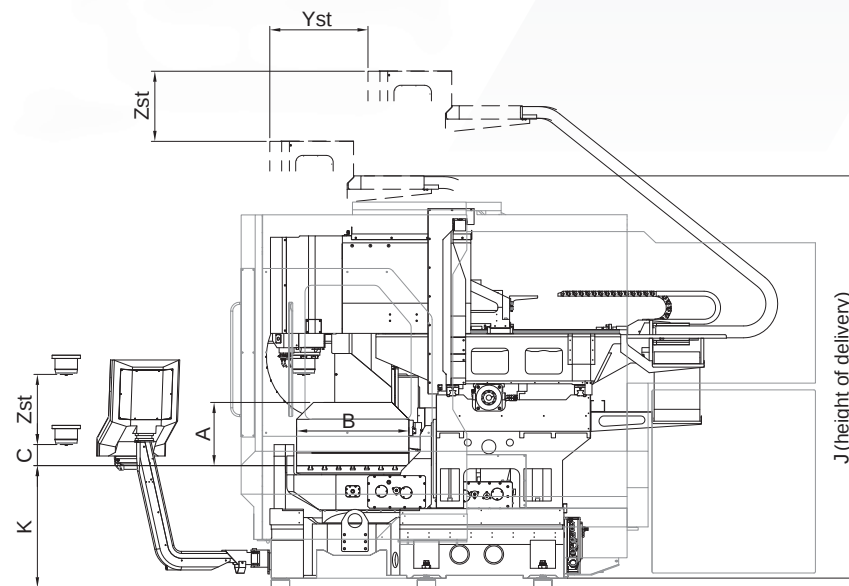
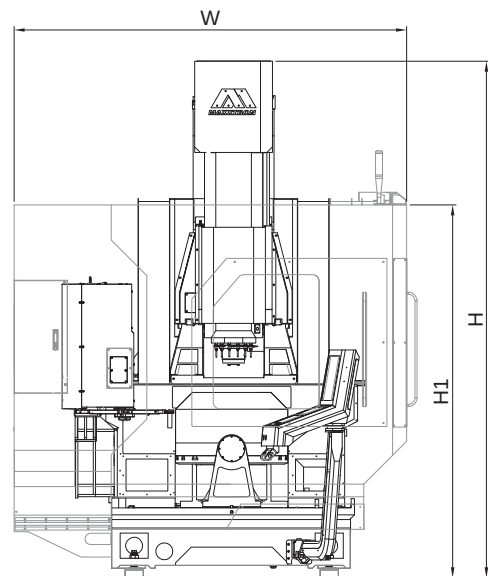
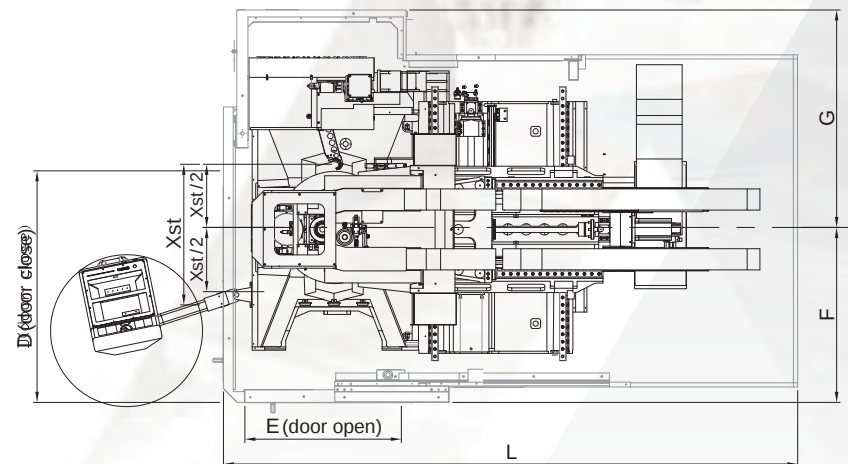


M



MAXXTRON

**ROTARY TABLE 5-AXIS
MACHINING CENTER**

Model	A	B	C	D	E	F	G	H	H1	J	K	L	W	Xst	Yst	Zst
M680	450	680	150	1650	1115	1250	2550	3685	2660	2450	870	3300	2800	700	700	500
M800	450	800	150	1650	1115	1250	2550	3685	2660	2450	870	3300	2800	800	700	500

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M680, M800



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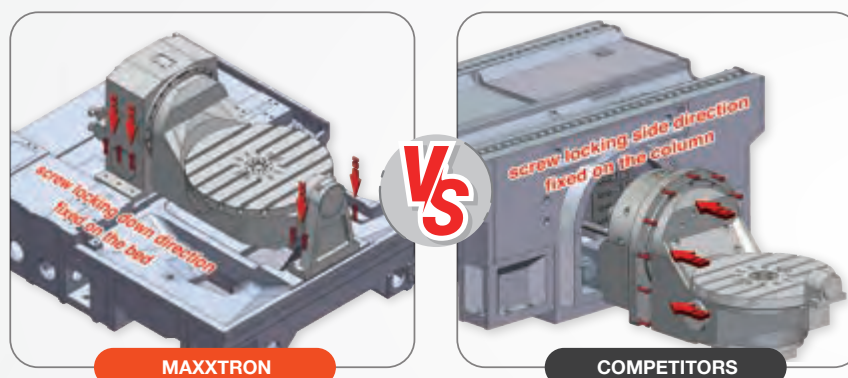
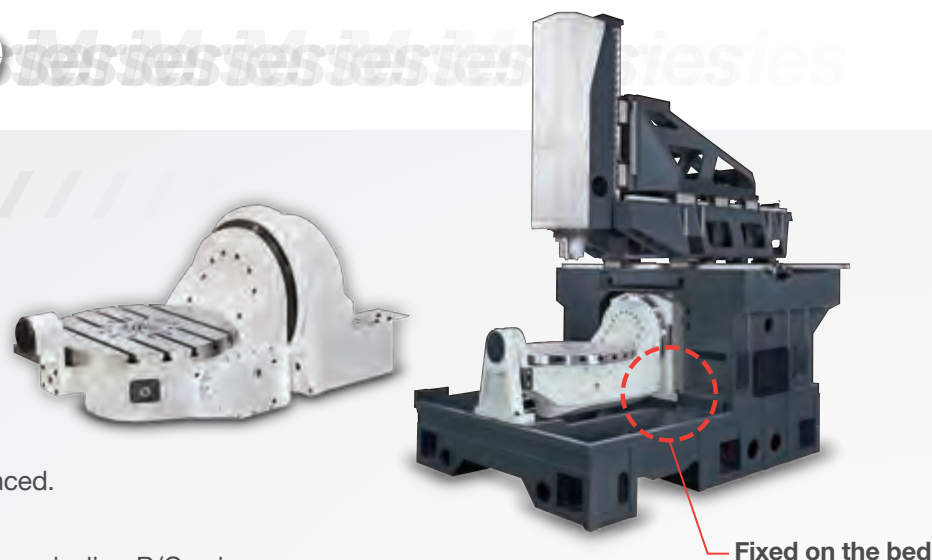


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Characteristic

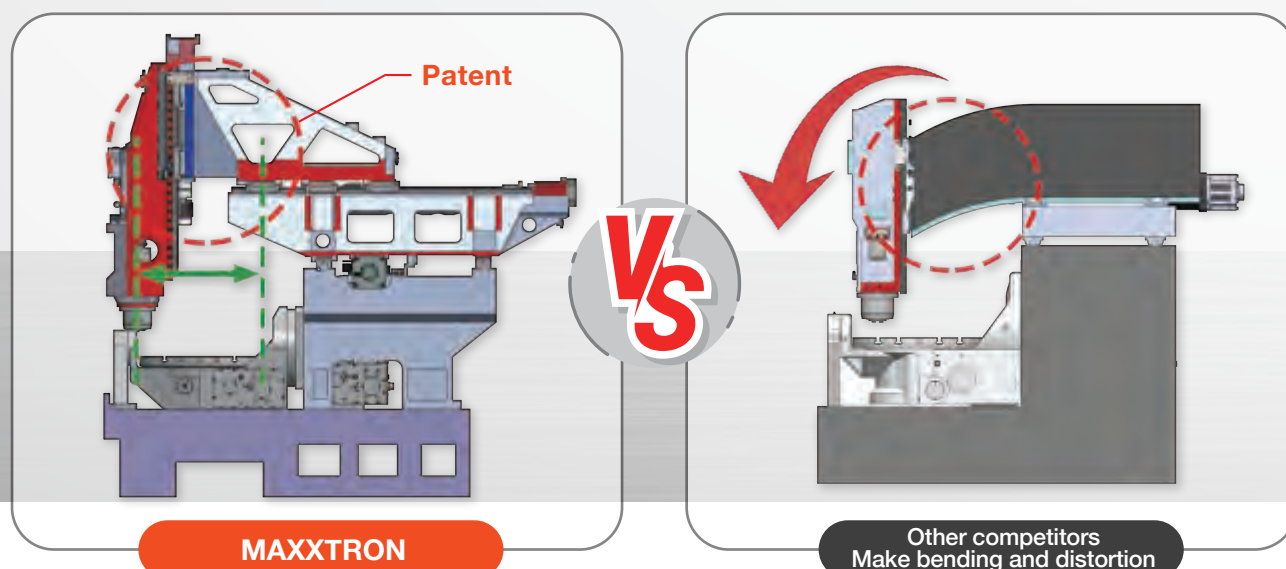
Rigidity

- ▶ **Integration casting**
High damping structure.
High rigidity.
Less deformation.
- ▶ **High dynamic**
The structure have been powerful advanced.
- ▶ **High rigidity**
High rigidity casting base to support the swiveling B/C axis and X/Y axis are with cross slider.
- ▶ **Full stroke support (Patent M642270)**
High rigid structure has full stroke support to guarantee the most dynamic leveling accuracy and no bending and distortion problem.



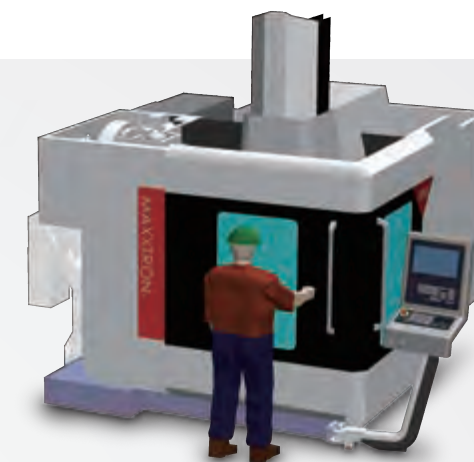
Accuracy

- ▶ **Linear encoders**
3 axis axial position arrange in Heidenhain linear encoder, to increase position precision, to minimize deviation in processing.
- ▶ **Spindle cooler equipment**
The equipment control temperature difference in $\pm 0.1^{\circ}\text{C}$, that can effective control spindle temperature.
- ▶ **5-Axis Alloy Steel Worm Gear rotary table**
Wear resistance
No thermal displacement
Ultra-high efficiency conduction
Long life and maintenance-free
Compact design Wide Machine Range



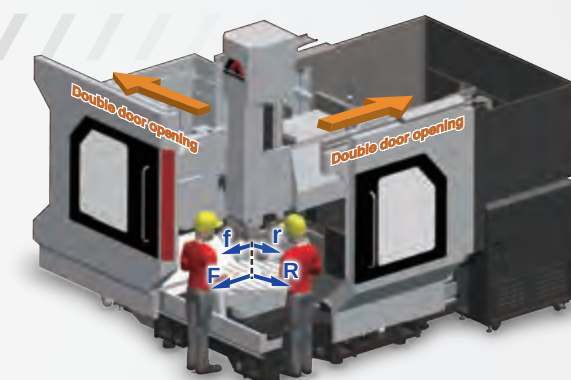
Effectiveness

- ▶ **3 axis moving rapid**
The highest feed at 48m/min and highest cutting feed at 20m/min.
- ▶ **High speed spindle HSK-A63**
Direct-drive spindle speed up to 18000rpm
Build-in spindle speed up to 24000rpm
- ▶ **TCPM axis simultaneously move**
TCPM to reduce extra steps



User-friendly interface and integrated

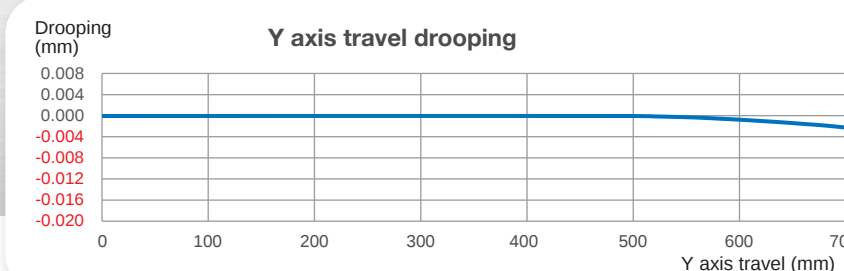
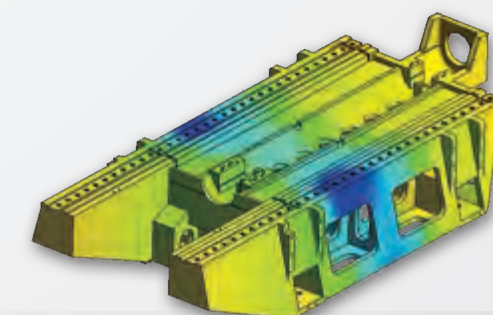
- ▶ **User-friendly operation space**
Approach operation space design, the min. distance of manual-tool-change 200mm.
- ▶ **Swivel operation panel**
According to operator, allow adjusted operating withany position and angle.
- ▶ **Double-door opening**
The winder space of double-door opening makes workpiece easier to be loaded and unloaded.
- ▶ **Indication light bar**
Obviously indication the status of machine, keep watching of the machine situation.



Distance of user operation	M680	M800
r (tool to user)	200	200
R (table center to user)	590	590
f (tool to user)	280	280
F (table center to user)	630	630

FEM

- ▶ **FEM of the cast iron strength**
FEM is used to dynamic analyze of structure and optimize the structure improvement deisgn.
- ▶ **Minimum deformation design**
Improve machine durability and accuracy.
- ▶ **Minimum Y axis travel drooping**
Y axis travel drooping tolerance is superior to the other competitors.



Characteristic

Machining Functions

► 5-axis machining

Work in inclined planes, 3+2, 4+1, etc. and continuous 5-axis RTCP machining.
Library of kinematics.



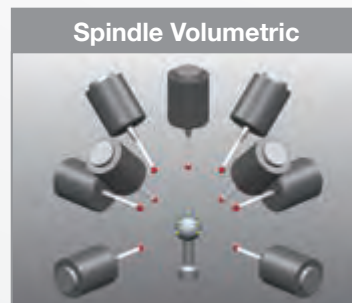
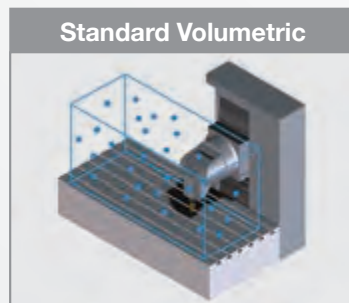
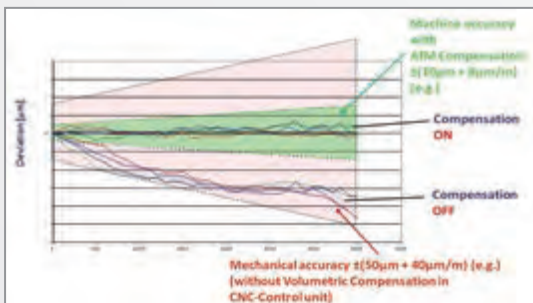
► Automatic kinematics calibration

During the start-up of the machine, due to its continuous use or due to some incident, it is necessary to correct the values that indicate the mechanical situation of kinematics.



► FVC Fagor Volumetric Compensation

50% increase in machine volumetric precision.
Tighter part tolerances may be reached.



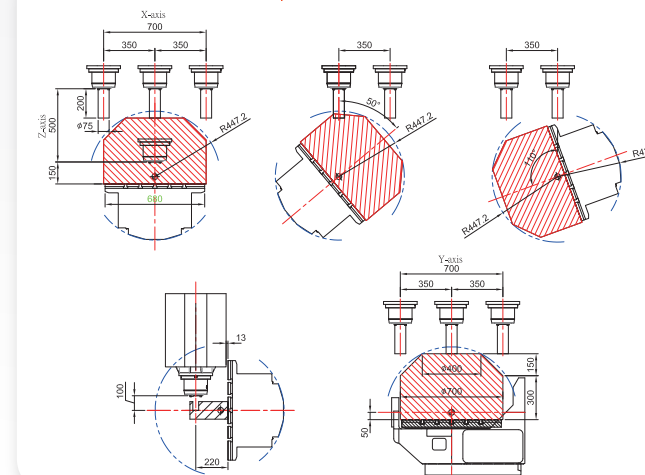
► FCAS (Fagor Collision Avoidance System)

The FCAS (Fagor Collision Avoidance System) option monitors tool movements in real time to avoid collisions with the machine.
When the FCAS option detects the possibility of a collision, it stops the movement, within the safety margin defined by the machine manufacturer.

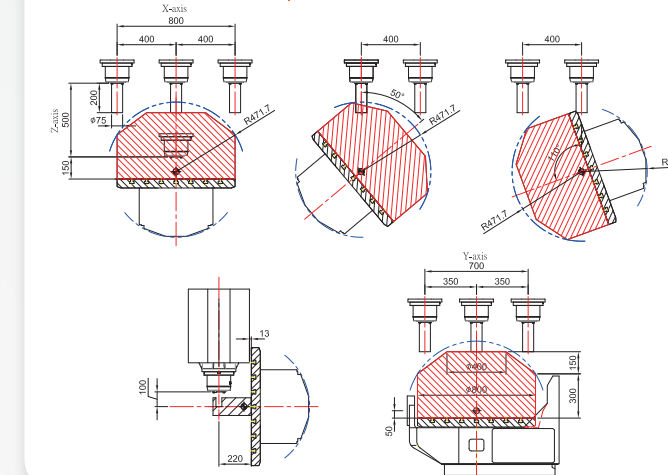


Max. Workpiece space

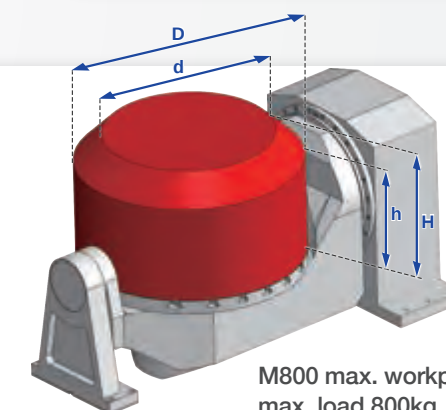
► M680



► M800



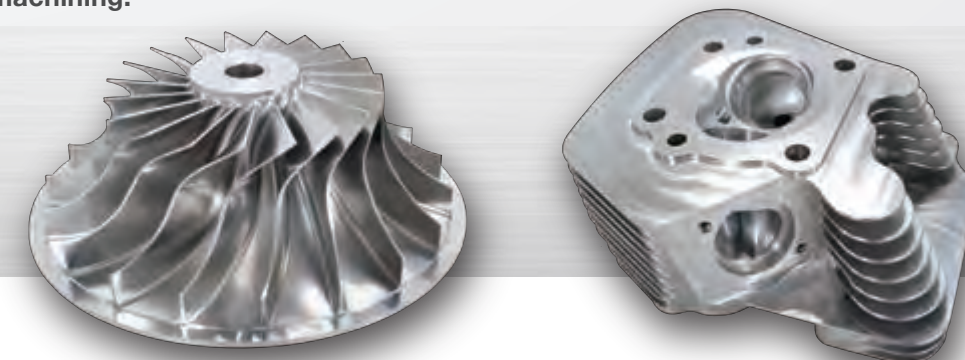
Workpiece	M680	M800
D	Ø700	Ø800
d	Ø500	Ø600
H	450	450
h	350	350
max. load	500/300kg	800kg



M800 max. workpiece Ø800x450mm,
max. load 800kg.

Application

► M series is widely used in the industries of aerospace, 3C, automotive and mold machining.



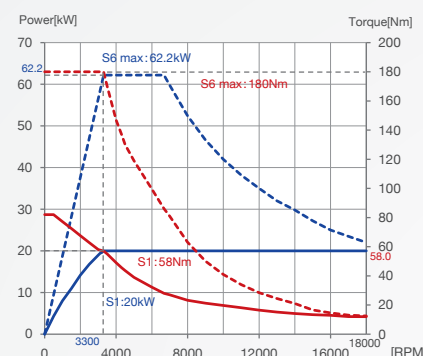
Characteristic

Spindle

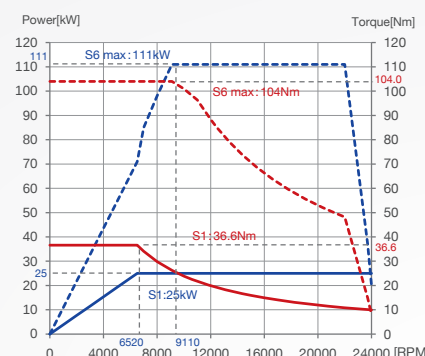
- ▶ M series provide direct-drive and built-in type spindle to meet different machining requirements. The spindle speed ranges from 15000rpm to 24000rpm.
- ▶ The built-in thermal compensation system(optional) decreases the effect of thermal variation, assuring the accuracy during operation.
- ▶ Spindle cooling system reduces thermal variation and prolongs working life of spindle.



▶ Direct drive 18000rpm (Optional)
20/62.2kW, 58/180Nm

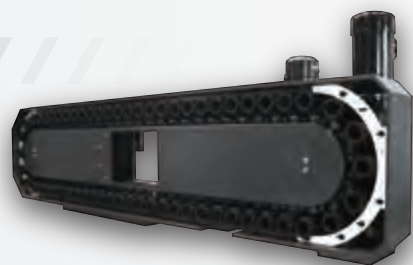


▶ Built-in 24000rpm (optional)
25/111kW, 36.6/104Nm



ATC

- ▶ Arm type (Optional)
40# 60 tools magazine
- ▶ Arm type (Standard)
40# 32 tools magazine



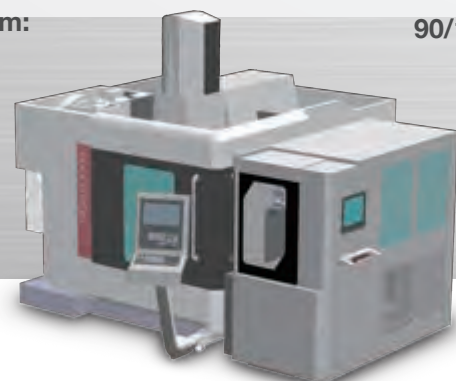
Splash Guard

- ▶ Fully enclosed splash guard with roof (optional) can prevent the chip, oil-mist and coolant throw out.



Automation manufacture

- ▶ Flexible manufacturing system: up to 9+1 tables



90/120 Magazine



Specification

Table	unit	M680	M800
Table dimension	mm	Ø680	Ø800
Drive type		Worm Gear Drive	Worm Gear Drive
Max. workpiece (Diameter x H)	mm	Ø700 x 450	Ø800 x 450
Max. load - Horizontal / Vertical position	kg	500 / 300	800 / 800
T-Slot	mm	7x18HxP100	7x18HxP100
Travel			
Axis travel X/Y/Z	mm	700 / 700 / 500	800 / 700 / 500
Dist. between spindle nose & table surface	mm	150 - 650	150- 650
Axis Motors (Heidenhain)			
Axis motor power X/Y/Z	kW	6.5 / 5.4 / 6.5	6.5 / 5.4 / 6.5
Tilting rotary table B/C Axis			
Motor power B/C	kW	8.6 / 4.5	8.6 / 4.5
Swivelling angle B/C	degree	-50° to +110° / 360°	-50° to +110° / 360°
Max. speed B/C	rpm(360°/S)	13.8 / 16.6	11.1 / 13.8
Clamping torque B/C	Nm	4903 / 2942	8825 / 4903
Indexing accuracy B/C (without encoder)	arc.sec	20" / 10"	30" / 15"
Min. Increment B/C	degree	0.001 / 0.001	0.001 / 0.001
Spindle			
Spindle type		Direct drive	Direct drive
Spindle speed	rpm	15000	18000
Spindle power (s1/Pmax)	kW	11 / 42	20 / 62.2
Spindle torque (s1/Mmax)	Nm	70 / 200	58 / 180
Spindle taper		HSK-63A / ISO40	HSK-63A / ISO40
Feedrate			
Rapid traverse(X/Y/Z)	m/min	36 / 36 / 36 , opt : 48 / 48 / 48	36 / 36 / 36 , opt : 48 / 48 / 48
Cutting feedrate	mm/min	1-20000	1-20000
ATC & Magazine			
ATC type		Arm type	Arm type
Magazine capacity	pcs	32 / 48 / 60	32 / 48 / 60
Max. tool weight	kg	7	7
Max. tool length	mm	250	250
Max. tool diameter(next empty)	mm	75 / 127	75 / 127
System Requirement			
Electrical power consumption	kVA	50	50
Hydraulic pressure	Kg/cm ²	70	70
Pneumatic pressure	Kgf/cm ² (L/min)	6 (1600)	6 (1600)
Dimension (LxWxH)	mm	4200x3800x3500	4200x3800x3500
Machine Weight (without opt.)	kgs	12400	12900

* Tool diameter for use with spindle speed, please see operation manual for more detail.
* Specifications are subject to change without notice.

STANDARD:

- HEIDENHAIN TNC 640 5-axis /15"LCD
- 5 axis absolute encoder motors
- 3 axis linear scales
- Tilting and Rotary Table
- ATC 32 tools magazine
- 3 axis linear guide way
- Centralized automatic lubrication system
- Spindle cooler
- Spindle air blast
- Cutting coolant system
- Cutting air blast
- Working lamp and Indication lamp
- Electric cabinet air conditioner
- Standard enclosed splash guard(no roof)
- Coolant tank and coolant flushing system
- Washing gun and air gun
- Steel belt type chip conveyor and cart
- Oil skimmer
- Hydraulic pressure system
- Leveling blocks and bolts
- Tool kits
- Operation manual

OPTIONAL ACCESSORIES:

- HEIDENHAIN/FAGOR 5-axis controller
- SIEMENS/FANUC 5-axis controller
- KinematicsOPT/DCM/TCPM
- Angle encoder
- Cam Roller Drive rotary table
- Magazine 48/60 Tools
- Built-in/Direct-drive type high speed spindle
- Spindle thermal compensation system
- Centralized auto grease lubrication system
- Tool length measurement system
- Workpiece measurement system
- Transformer and regulator
- Oil mist cutting system
- Oil mist collector
- Scraper type chip conveyor
- CTS
- Roof
- Machine thermal control system
- 4+1 axis / 3+2 axis