

KMH



KMH1000/1250
HORIZONTAL MACHINING CENTERS

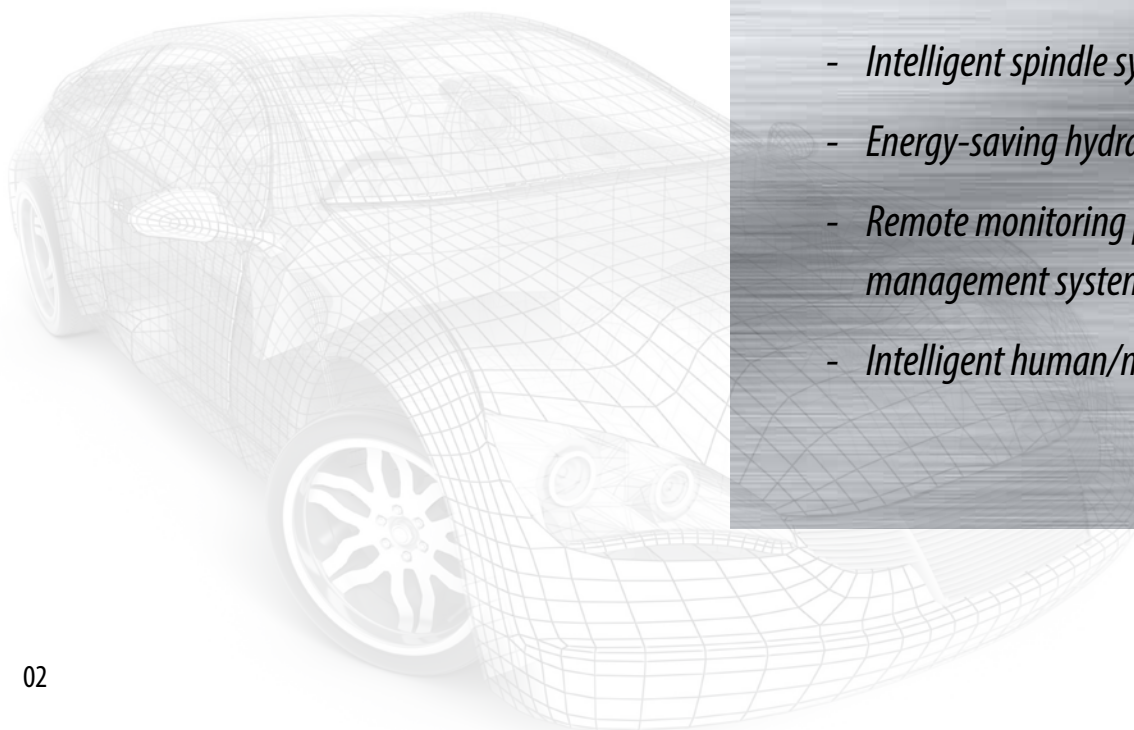
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KMH1000/1250

- *High-rigidity T-structure design*
- *62° inclined shuttle-type APC*
- *Intelligent spindle system*
- *Energy-saving hydraulic module*
- *Remote monitoring parameter management system*
- *Intelligent human/machine interface*





Mechanical Rigidity

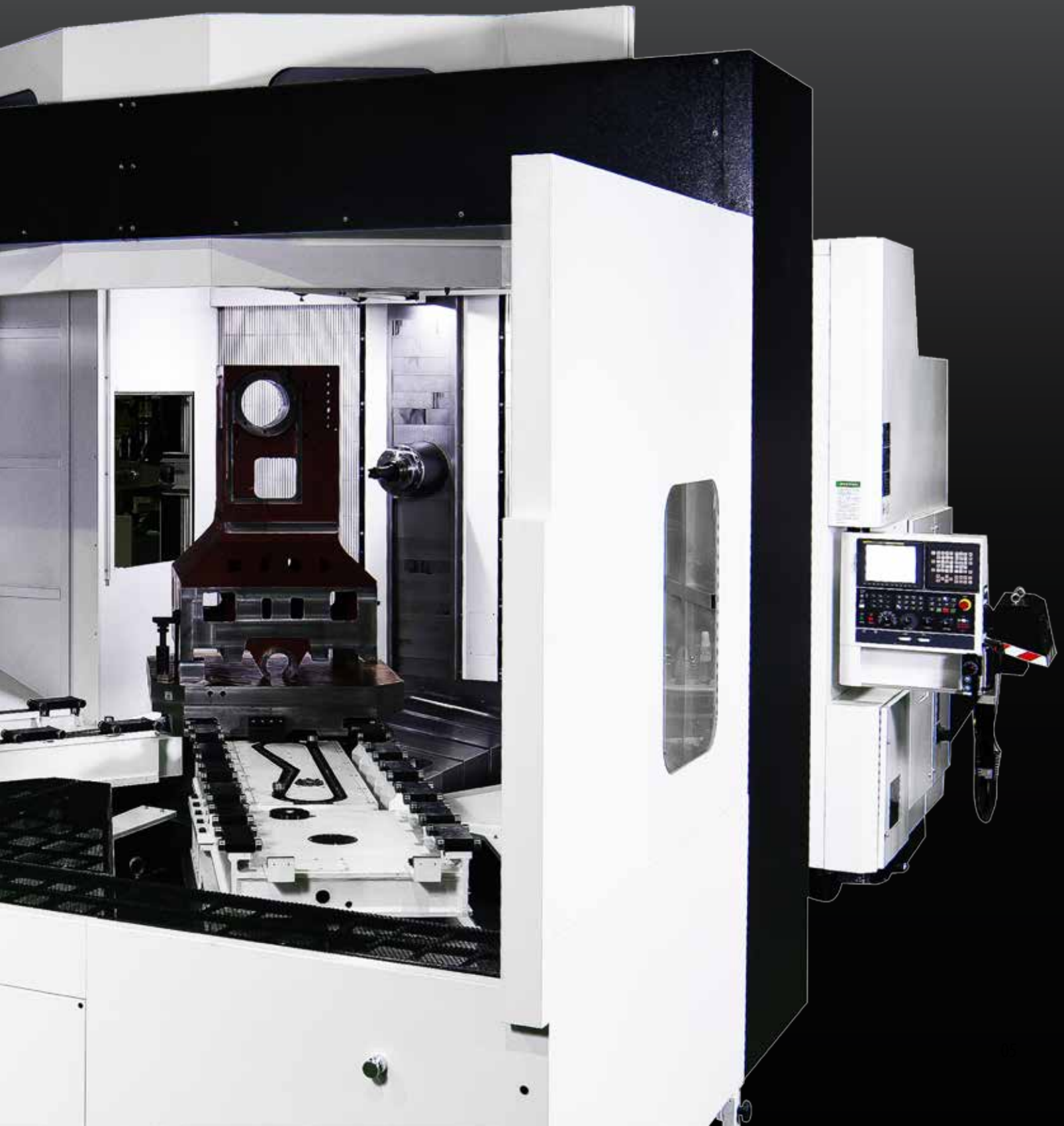
Large-Scale Intelligent Precision Horizontal Machining Center

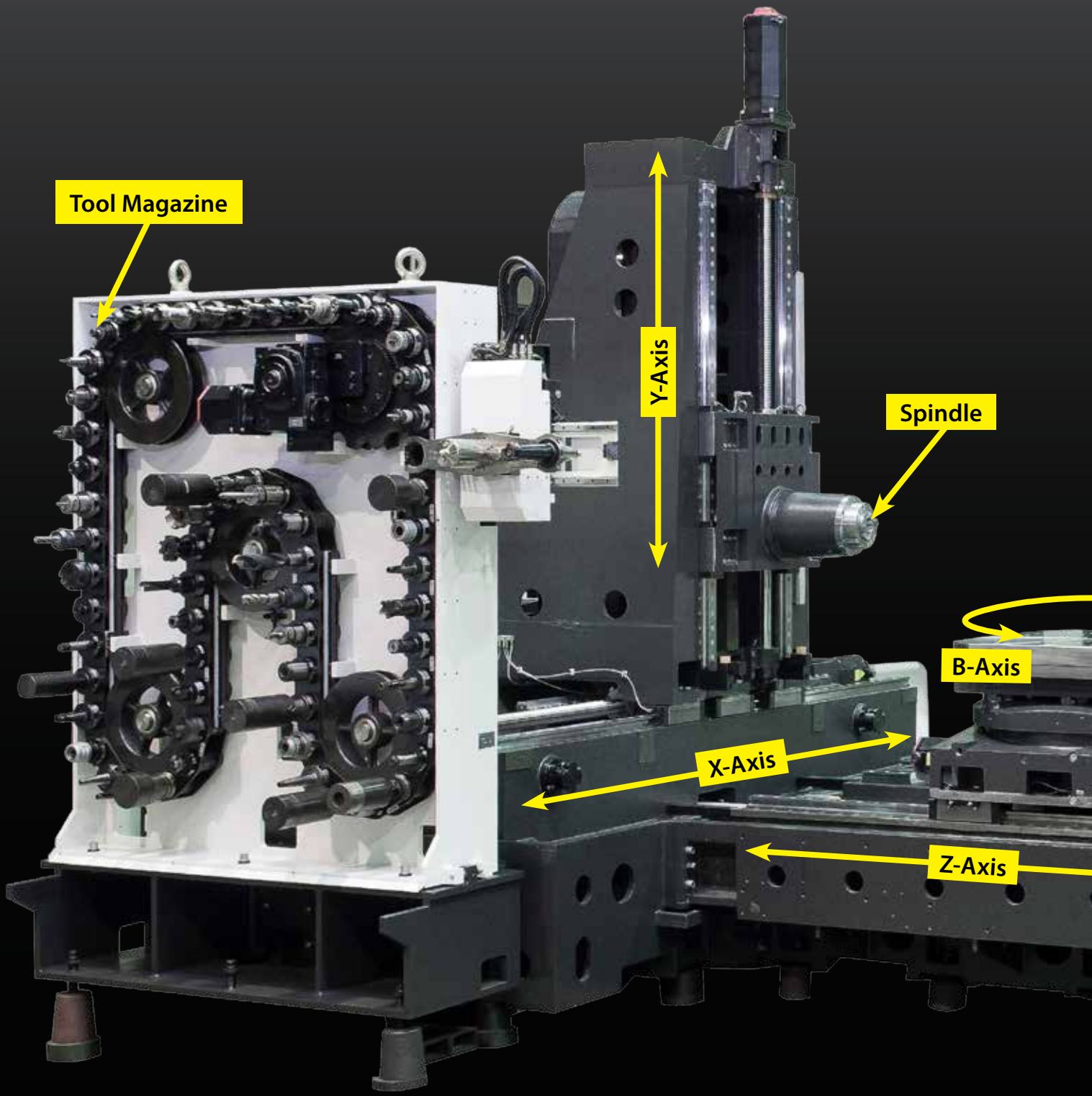
Optimal mechanical structure design, the most ideal machine for any production line.

High-performance machining center for processing large workpieces; easy to load/unload the workpiece.

Optimized design of intelligent spindle facilitates highly efficient processing.







Tool Magazine

Y-Axis

Spindle

B-Axis

X-Axis

Z-Axis

Mechanical Design

Robust and High Precision Machine Structure

The major machine components are manufactured with Meehanite cast iron, which is stable in material composition, ensuring long-lasting machine quality.

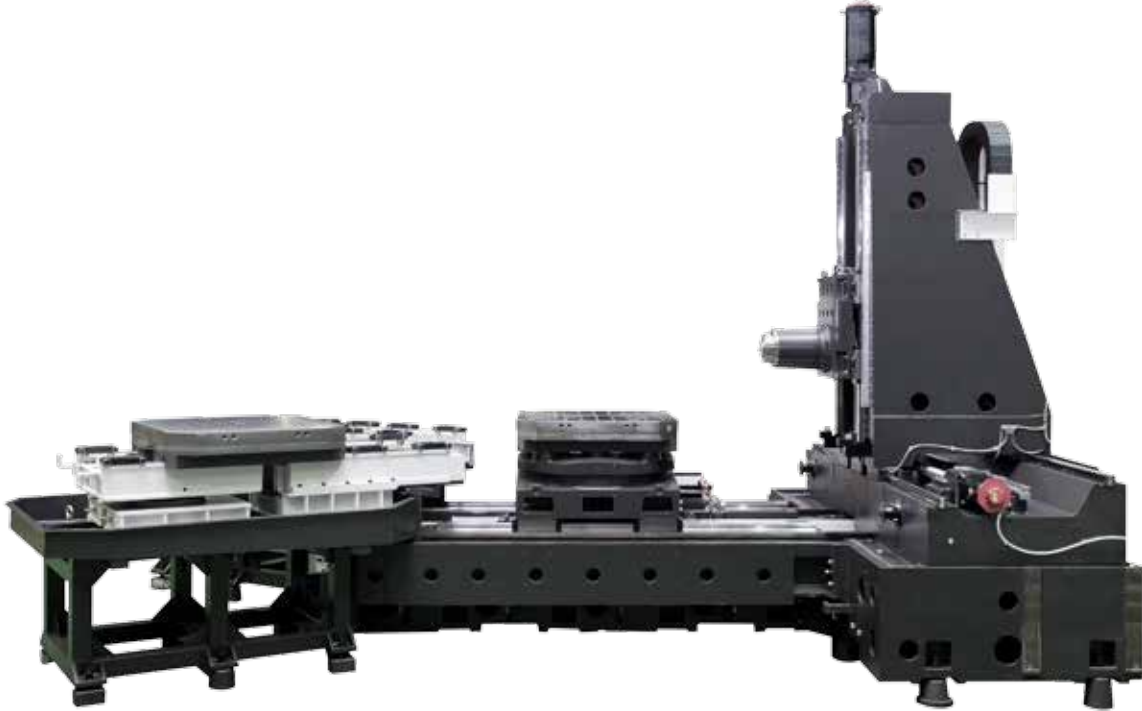
To provide high-rigidity mechanism, Finite Element Analysis is used to calculate finest combination among cast iron components.



High-Low Rail Design



Main Sub-System



Spindle System



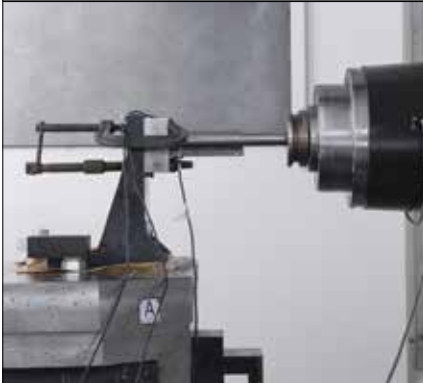
Remote Monitoring



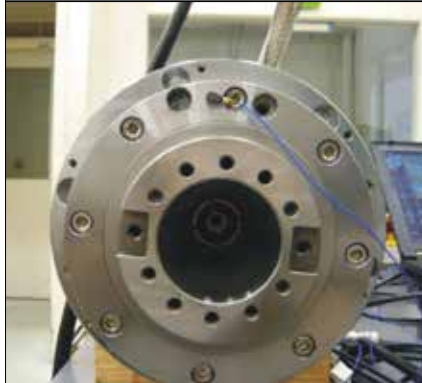
Controller System



Online Measurement System



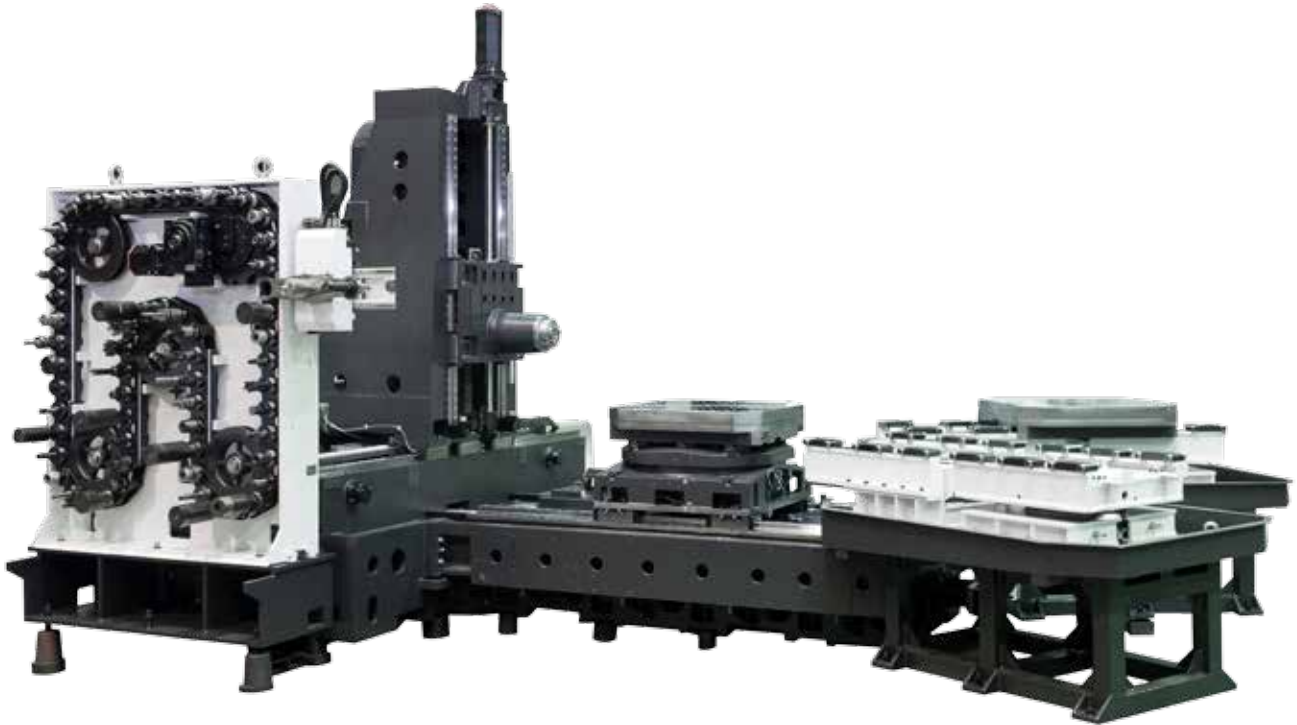
Intelligent Spindle



Automatic Pallet Changer



Main Sub-System



ATC System



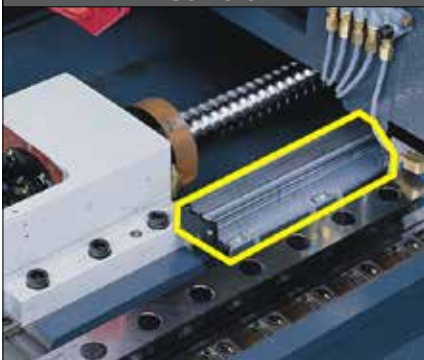
Maintenance & Repair



Machining Application



Thermal Displacement Control



Chip Removal System



Energy Saving & Carbon Reduction



High Accuracy Inspection

Laser Inspection

- ▶ To maintain machine accuracy and calibration result, laser measurement system inspects and compensates for full travel stroke.



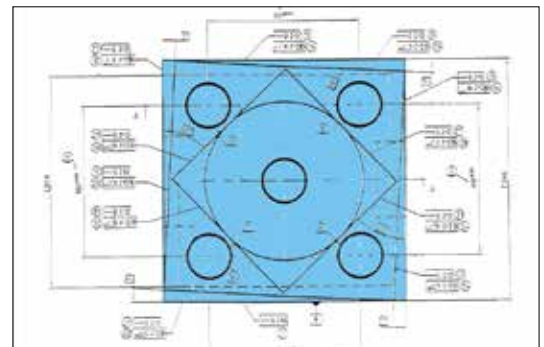
Dynamic Spindle Balancing

- ▶ The IRD dynamic balancing instrument calibrates spindle speed, displacement, and acceleration at the maximum rpm.



Standard Specimen Test

- ▶ Besides inspection by precision instruments, every machine is subject to a dynamic cutting test to meet international standards.



Ball-Bar Ring Gage Inspection

- ▶ The ball-bar instrument is used for calibrating roundness and geometric accuracy of the machine, ensuring precise 3D movement.



Cooling / Chip Removal System

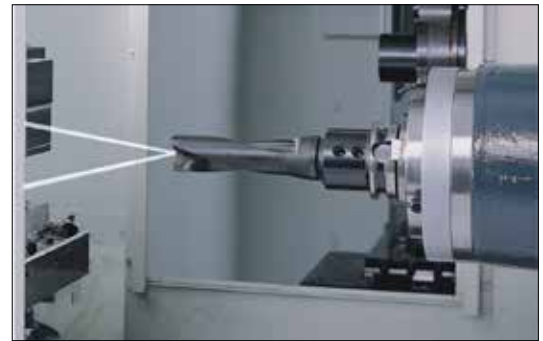
Spindle Splash Ring

- 4 splash nozzles are allocated around the spindle, ensuring best cooling effect of the tool and the workpiece, improving machining quality.



Coolant Through Spindle OP

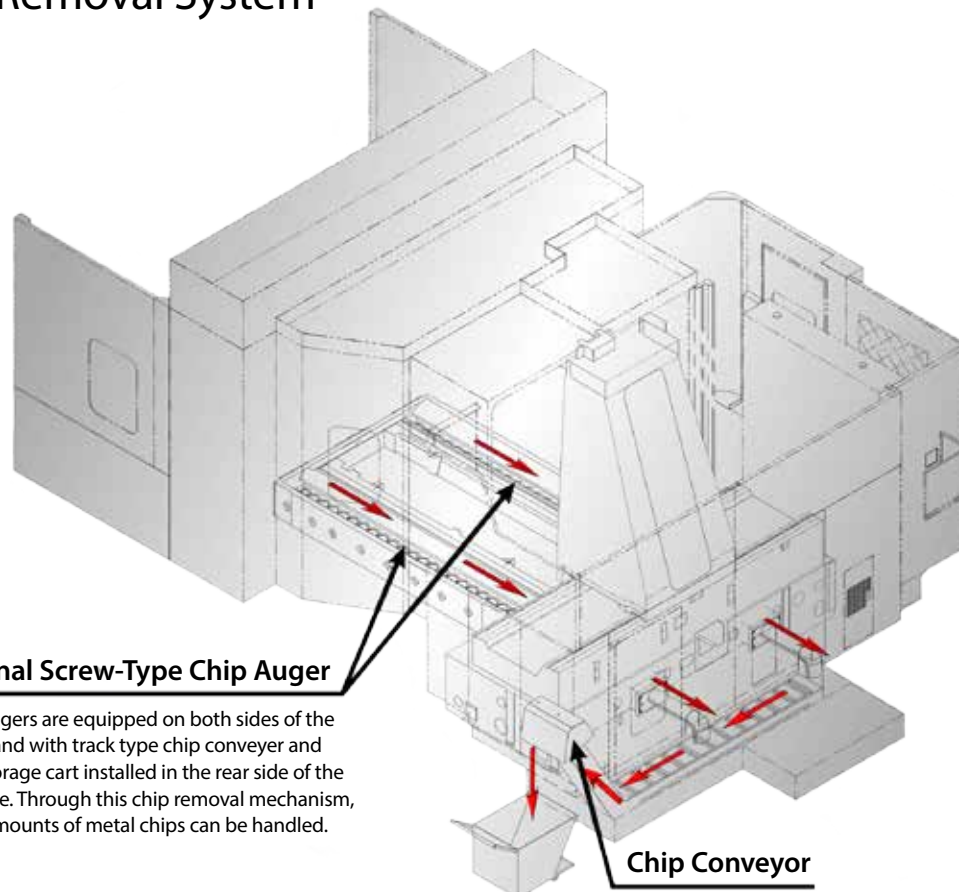
- Coolant runs through the center of the spindle, sprays from the tool nose, and directly cools down the workpiece, while carrying heat away from the tool blade. Quality machining is assured. The system is ideal for deep hole drilling.



Chip Removal System

Internal Screw-Type Chip Auger

Chip augers are equipped on both sides of the pallet, and with track type chip conveyer and chip storage cart installed in the rear side of the machine. Through this chip removal mechanism, large amounts of metal chips can be handled.



Chip Conveyor

Tool Change System (ATC) & Magazine

- ▶ Agile, simple, reliable and long lifespan tool changing system provides excellent tool change operation.
- ▶ The unique tool changing system incorporates advanced cam drive mechanism. Fast tool selection from any tool position can be achieved by using the PLC program.
- ▶ The ATC system passes million-time endurance test which meets reliability requirements.
- ▶ The cam drive mechanism of the magazine ensures precision rotation, and smooth operation of the magazine, even for heavy tools.



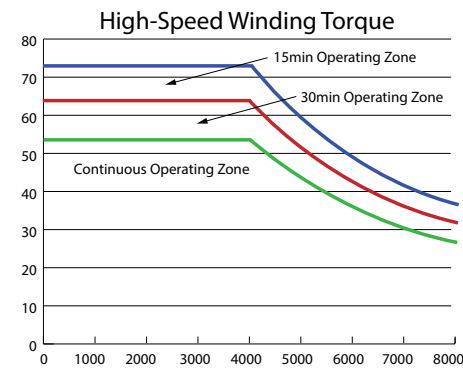
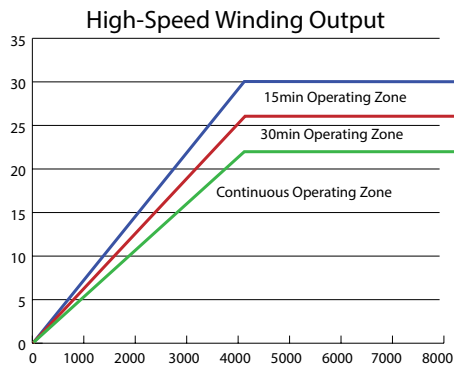
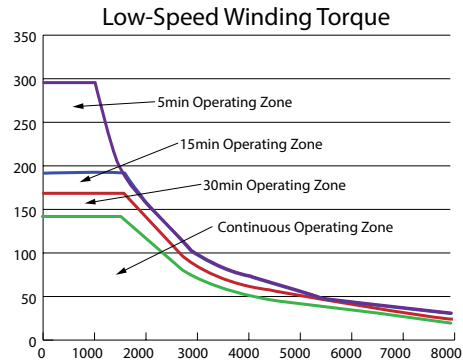
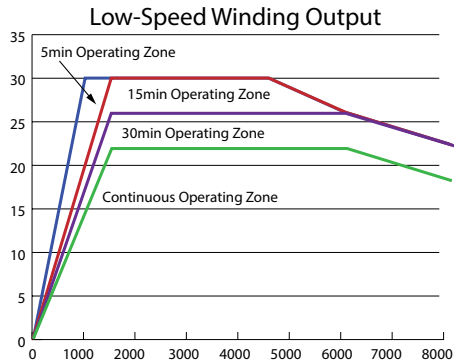
Operation Panel

Tool loading/
unloading door

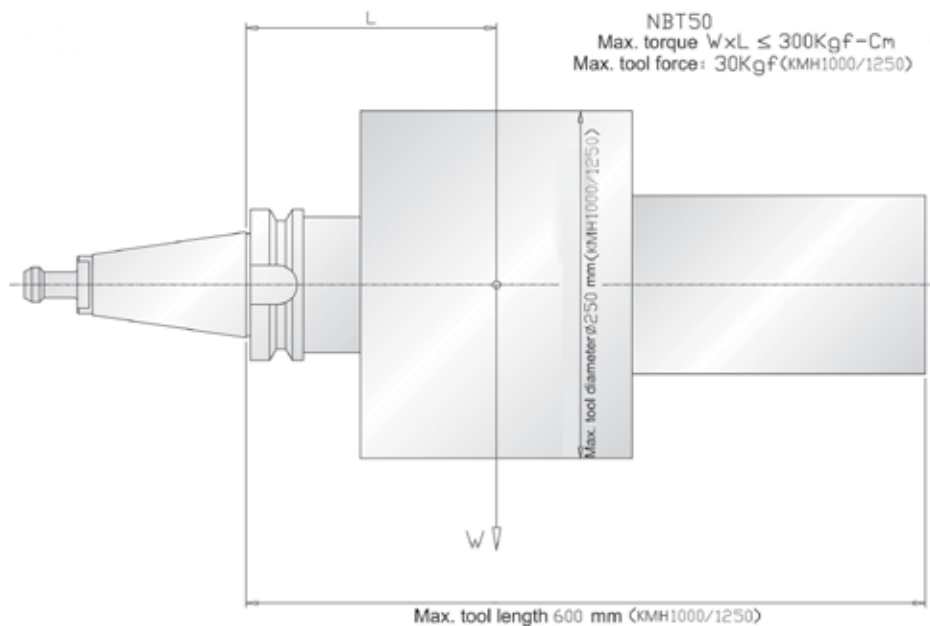


Torque Charts

KMH-1000/1250 (50-Taper)



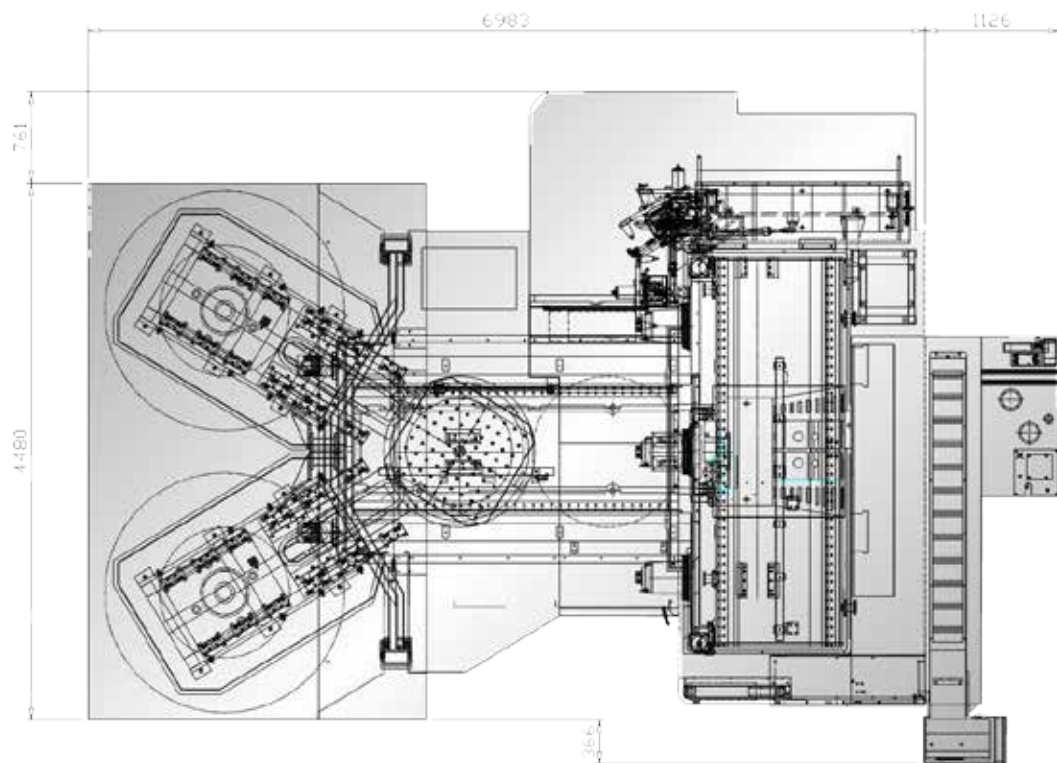
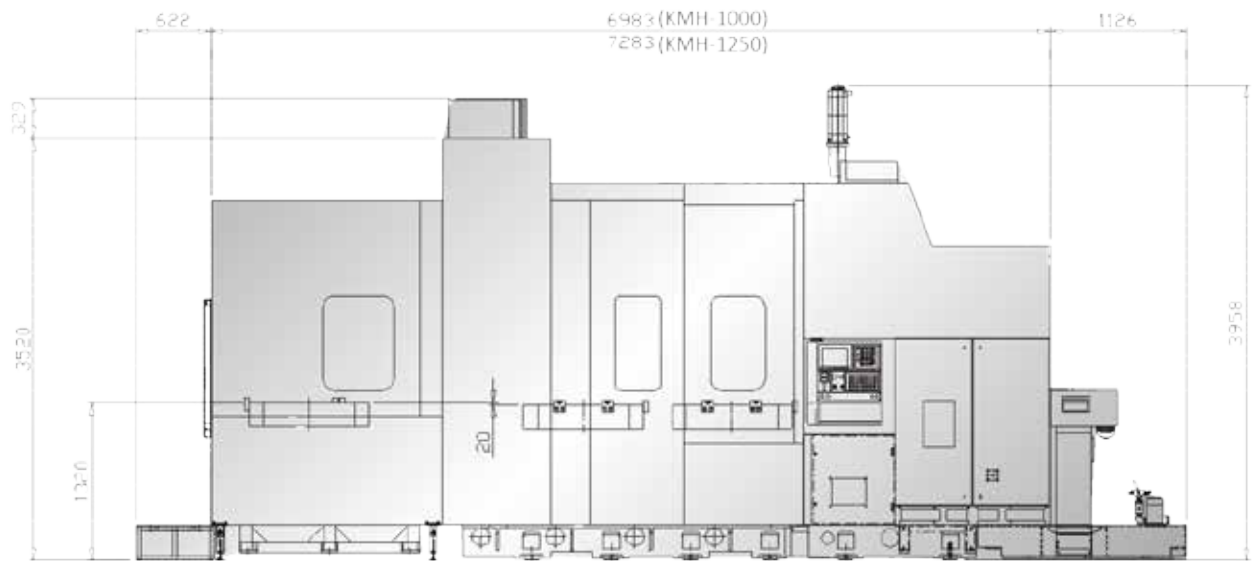
NBT-50



Machine Dimensions

Dimensions

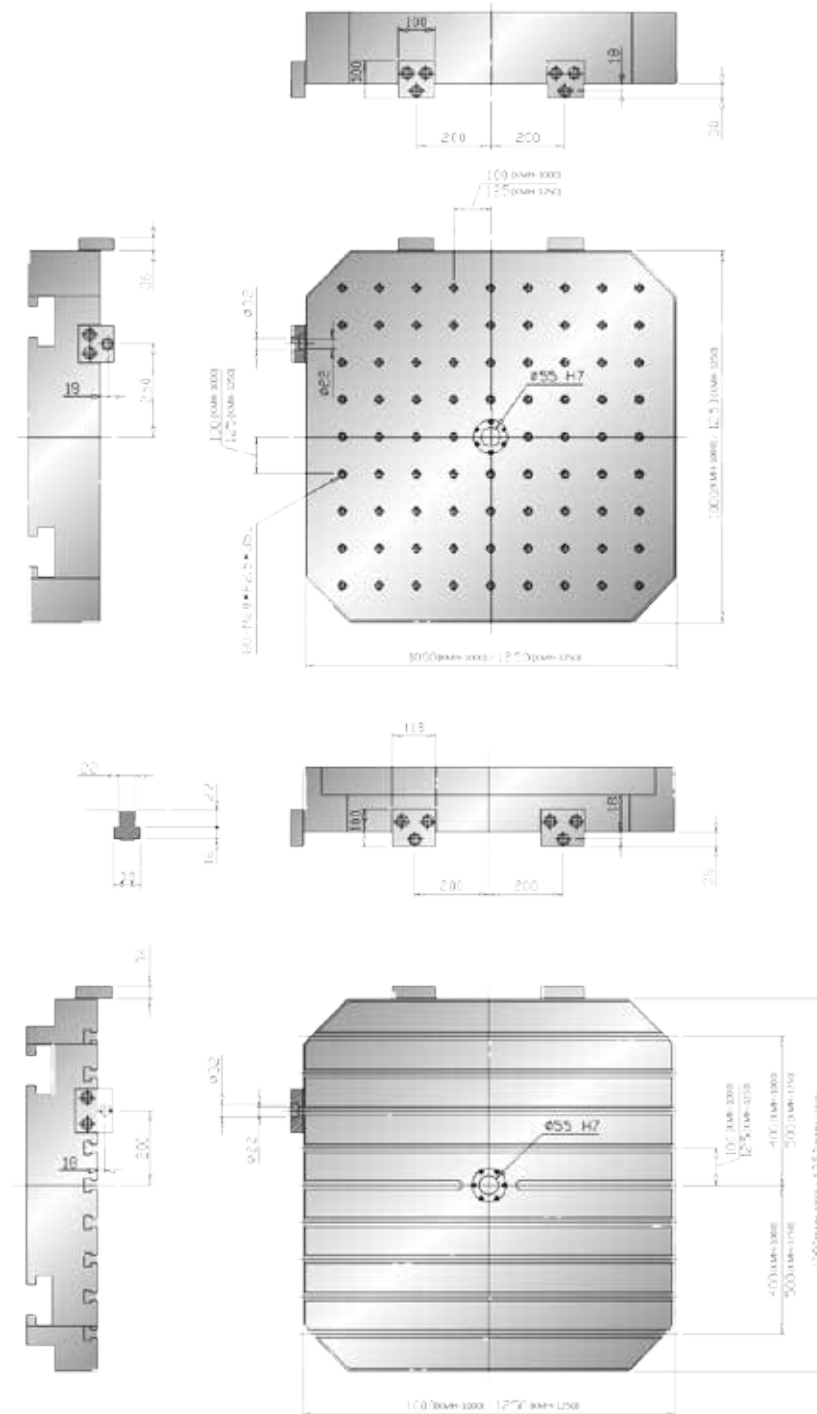
unit : mm



Machine Dimensions

Pallet Dimensions

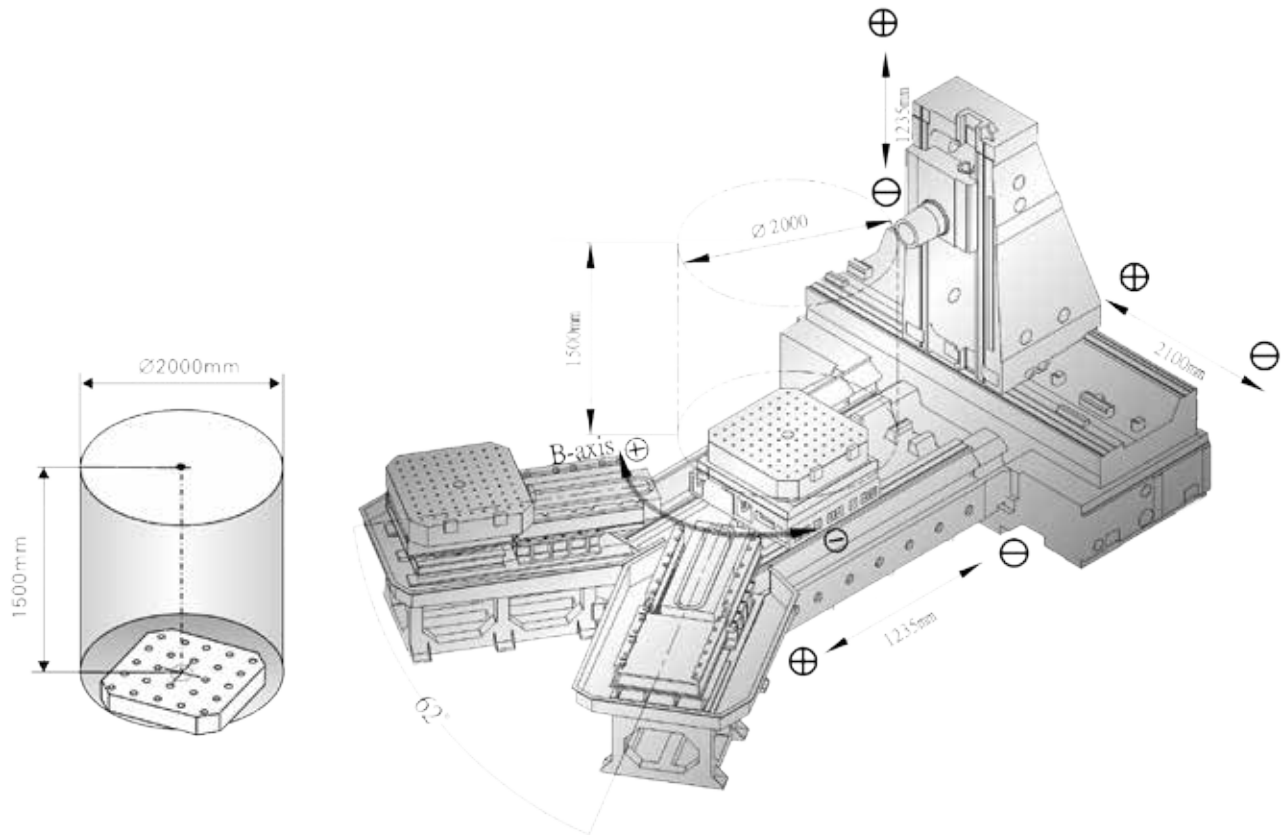
unit : mm



Machine Dimensions

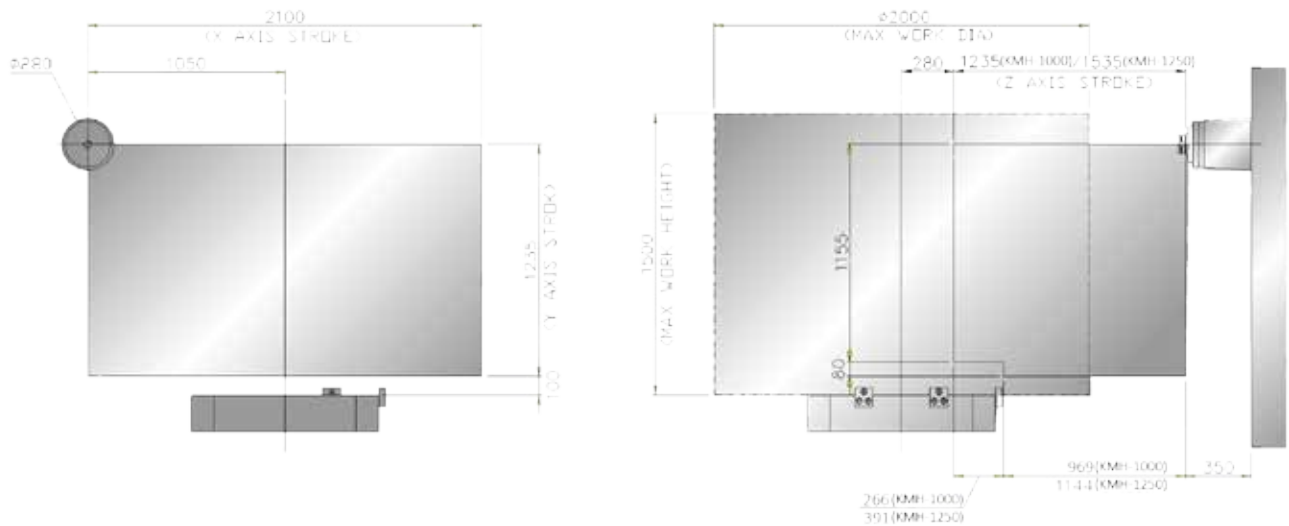
Traverse Diagrams

unit : mm



Machining Range

unit : mm



Option List

	KMH-1000	KMH-1250
Spindle		
Spindle rpm 6000rpm	○	○
Spindle rpm 8000rpm	●	●
Spindle Oil Cooler	●	●
Spindle Air Purge	●	●
Direct Drive Transmission	●	●
Spindle Belt Transmission + ZF Gear	○	○
3-Axis Transmission System		
3-Axis Roller Linear Guide	●	●
3-Axis Chilled Ballscrews	●	●
3-Axis Linear Scales	●	●
4th Axis Scale	○	○
Pallet		
Worktable 0.001 Indexing	●	●
Pallet M20 Fixing Holes	●	●
Pallet T-slot	○	○
Cooling System		
Splash Ring	●	●
Spindle Air Blow	○	○
Center Through Spindle	○	○
Chip Removal		
Chain Type Chip Removal System	●	●
Chip Cart	●	●
Chip Augers	●	●
Overhead chip wash-down system	●	●
Disc-type coolant separator	○	○

	KMH-1000	KMH-1250
Safety System		
Front door/Side Door Safety Switch	●	●
CE Compliance	○	○
Safety Light Grid	○	○
Measuring System		
Tool Length Measuring system NC-45	○	○
Workpiece Measuring System RMP-60	○	○
Tool Breakage Detection (magazine)	○	○
ATC and Magazine Systems		
Tool Storage Capacity 60T	●	●
Tool Storage Capacity 120T	○	○
Tool Storage Capacity 180T	○	○
Tool specification CAT	●	●
Tool Taper No 50	●	●
Electrical		
M30 Automatic Power-Off System	●	●
Working Light (lighting)	●	●
Warning Light	●	●
Electrical Cabin Air-Condition	○	○
Electrical Cabin Heat Exchange System	●	●
Controller		
FANUC 0iMD	●	●
FANUC 3li	○	○
Others		
Mist Collector Unit	○	○
Rotary window	○	○

●: Standard ○: Optional

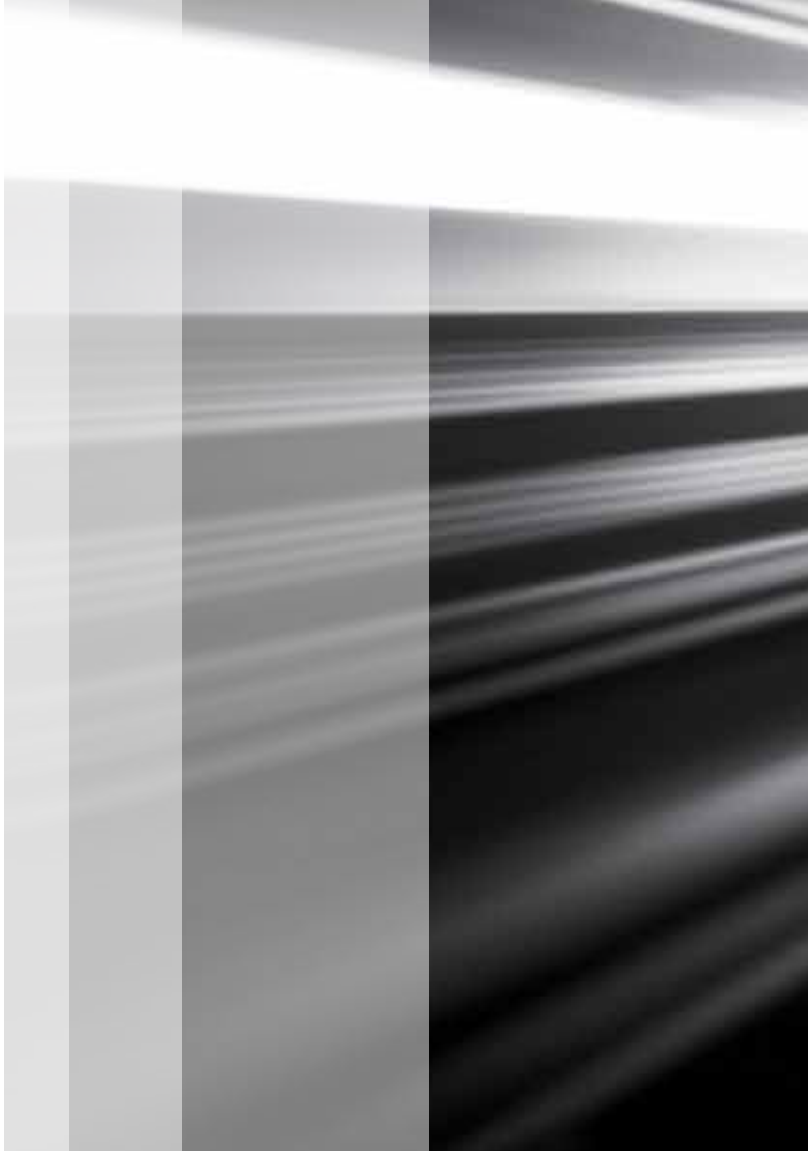
Technical Specifications

Item	Unit	KMH-1000	KMH-1250
Travel			
Travel X/Y/Z	in (mm)	82.7 / 48.6 / 48.6 (2100 / 1235 / 1235)	82.7 / 48.6 / 60.4. (2100 / 1235 / 1535)
Spindle Center to Pallet Face	in (mm)	3.9 - 52.6 (100 - 1335)	3.9 - 52.6 (100 - 1335)
Spindle Nose to Pallet Center	in (mm)	11 - 59.6 (280 - 1515)	11 - 71.45 (280 - 1815)
Pallet			
Pallet Size	in (mm)	39.4 x 39.4 (1000 x 1000)	49.2 x 49.2 (1250 x 1250)
Maximum Workpiece	in (mm)	Ø78.7 (Ø2000)	Ø78.7 (Ø2000)
Maximum Pallet Load	lbs (kg)	7,716 (3500)	11,023 (5000)
Maximum Workpiece Height	in (mm)	59 (1500)	59 (1500)
Pallet Surface Configuration		24-M20 Tapped Holes Pitch 100	24-M20 Tapped Holes Pitch 125
Pallet Minimum Division Angle	deg	1°	1°
Spindle			
Spindle Max. Speed	rpm	8000	8000
Spindle Taper		7/24 Taper, No.50	7/24 Taper, No.50
Spindle Bearing ID	in (mm)	3.9 (100)	3.9 (100)
Spindle Transmission		Direct Couple	Direct Couple
Automatic Tool Change (ATC)			
Type of Tool Shank		ISO 50 or NBT-50	ISO 50 or NBT-50
Tool Capacity		60	60
Max. Tool Diameter (without adjacent tool)	in (mm)	4.7 / 9.1 (120 / 230)	4.7 / 9.1 (120 / 230)
Max. Tool Length	in (mm)	23.6 (600)	23.6 (600)
Max. Tool Weight	lbs (kg)	66.1 (30)	66.1 (30)
ATC Changing Time (T to T)	sec	8	8
Tool Selection Method		Random / Fixed Address	Random / Fixed Address

- ▶ The catalog is only for reference purposes. Actual machine may differ to this specification.
- ▶ Kiwa reserves the rights to modify, or to stop adopting the specification of this catalog.

Technical Specifications

Item	Unit	KMH-1000	KMH-1250
Feed Rate			
Max. X/Y/Z Rapid Speed	in/min (mm/min)	944.9 (24000)	944.9 (24000)
Rapid Feed (4th Axis)	rpm	8	8
Cutting Feed Rate	in/min (mm/min)	1 - 393.7 (1 - 10000)	1 - 393.7 (1 - 10000)
Manual Feed Rate	in/min (mm/min)	49.6 (1260)	49.6 (1260)
Automatic Pallet Changer (APC)			
Number of Pallets	PC	2	2
Pallet Change Method		Inclined Shuttle Type	Inclined Shuttle Type
Time for APC	sec	26	26
Controller System			
Control		0iMD	0iMD
Motor			
Spindle Motor Power	KW	22 / 26	22 / 26
Spindle Max.Torque (30 min)	Nn	286	286
X/Y/Z/B Axis Motor	KW	7 / 6 / 7 / 4	7 / 6 / 7 / 4
Hydraulic System Motor	KW	3.7	3.7
Coolant Pump System Motor	KW	1.6	1.6
Power Supply			
Power Requirement	KVA	65	65
Capacity of Oil/Coolant Tank			
Hydraulic System Capacity	gal (L)	15.9 (60)	15.9 (60)
Lubrication System Capacity	gal (L)	1.1 (4)	1.1 (4)
Coolant System Capacity	gal (L)	221.9 (840)	221.9 (840)
Mechanical Specifications			
Height	in (mm)	155.8 (3958)	155.8 (3958)
Floor Area	in (mm)	230.3 x 319.3 (5850 x 8110)	230.3 x 331.1024 (5850 x 8410)
Weight	lbs (kg)	70547.9 (32000)	77161.7 (35000)



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