

STANDARD ACCESSORIES

SPINDLE

- Spindle speed 6,000rpm
- Tool specification BT-40

COOLING SYSTEM

- Programmable air blast system
- Coolant system

ELECTRIC

- Work light
- Warning lamp
- M30 auto power off function
- Heat exchanger for electrical cabinet

THREE AXES TRANSMISSION SYSTEM

- Belt / Coupling type

CONTROLLER

- SYNTEC 21MA

OTHERS

- Automatic lubrication
- Semi-splash guard

OPTIONAL ACCESSORIES

SPINDLE

- Spindle speed 8000rpm
- Spindle speed 10000rpm
- Spindle oil cooler
- Coolant through spindle (CTS)
- ZF gearbox + cooling system
- Tool specification CAT-40 / DIN-40

COOLING SYSTEM

- Stop for coolant through tool holder
- Coolant jets around spindle (arm type only)

CHIP REMOVING SYSTEM

- Screw type chip auger
- Link chain type chip conveyor
- Chip cart
- Coolant gun
- Air gun
- Chip flushing device
- Fully enclosed splash guard

MEASURING DEVICE

- Tool length measuring device
- Workpiece measuring device

FACTORY & WORKSHOP

- Oil mist cleaner

OIL FLUID SEPARATION DEVICE

- Disk type oil fluid separation device

ATC

- Automatic tool changer (ATC)
- 16-tool carousel type magazine
- 24-tool arm type magazine

CONTROLLER

- Mitsubishi M80
- Fanuc 0i-MF
- Siemens 828D
- Fagor 8055

ELECTRIC

- Air conditioner for electrical cabinet

OTHERS

- 4th axis (rotary table)
- Tools
- CE
- CSA

KM
series

CNC MILLING MACHINE



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PRIMERO PRIMERO MACHINE TOOLS CORP.

CNC MILLING MACHINE

Powerful Design With Full - Featured Machine



2 Hard Box Ways Design
Rigid, accurate & dynamic for a long service life.

■ KM-80

X-axis travel: 800 mm
Y-axis travel: 400 mm
Z-axis travel: 450 mm
Table size: 355 x 1270 mm



■ KM-100

X, Y, Z-axis travel: 1000/500/520 mm
Table size: 406 x 1370 mm

■ KM-120

X, Y, Z-axis travel: 1300/635/620 mm
Table size: 420 x 1600 mm



■ KM-150

X, Y, Z-axis travel: 1500/650/620 mm
Table size: 450 x 1800 mm

■ KM-158

X, Y, Z-axis travel: 1500/850/710 mm
Table size: 610 x 1854 mm



CNC MILLING MACHINE

Powerful Design With Full - Featured Machine



4 Hard Box Ways Design

One piece, 4-box way casting, heavy duty, hi stability.

■ KM-170

X, Y, Z-axis travel: 1700/850/710 mm
Table size: 762 x 1830 mm

■ KM-220

X, Y, Z-axis travel: 2500/850/710 mm
Table size: 810 x 3000 mm

■ KM-200

X, Y, Z-axis travel: 2000/850/710 mm
Table size: 810 x 2180 mm

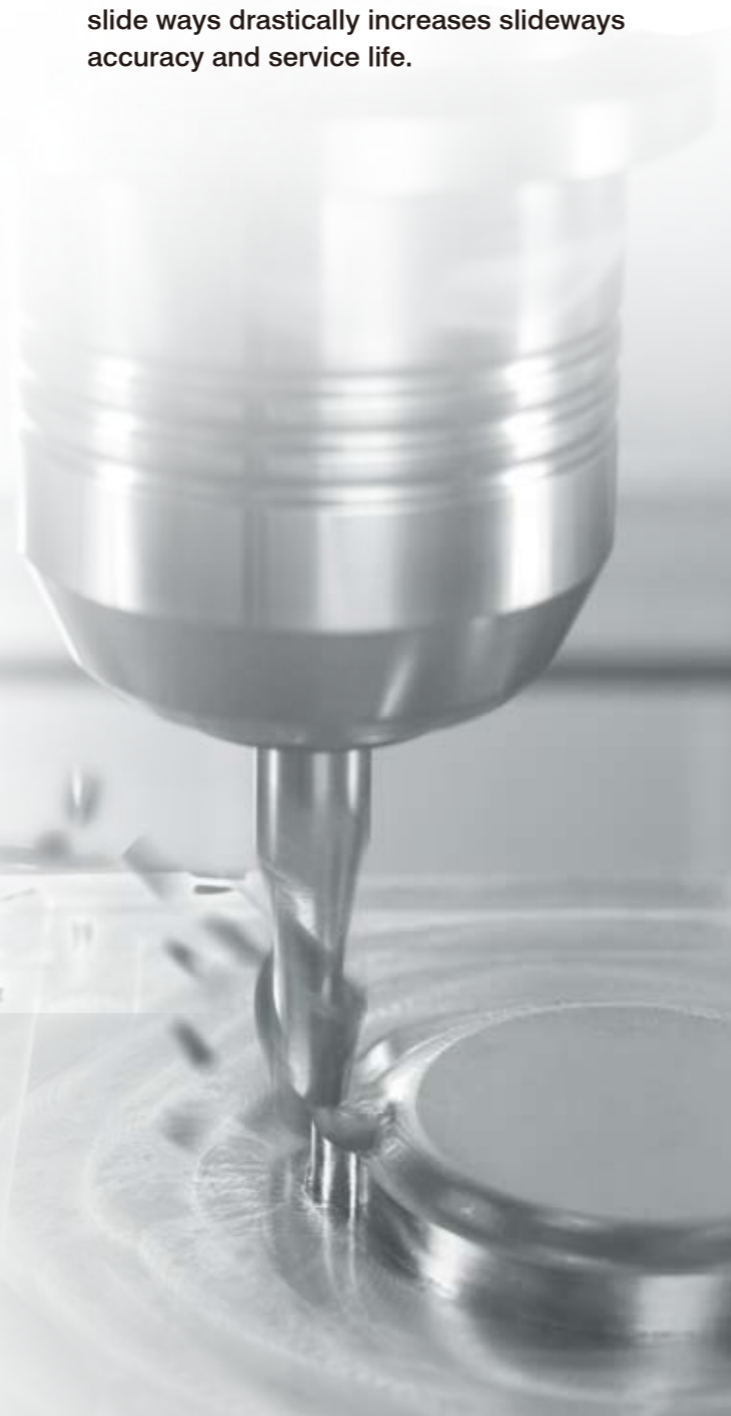
■ KM-300

X, Y, Z-axis travel: 3000/900/750 mm
Table size: 810 x 3200 mm



HIGH RIGIDITY, HIGH PRECISION STRUCTURE DESIGN

- All major structural parts are manufactured from high quality Meehanite cast iron, featuring maximum stability of material to ensure lifetime quality.
- The structural parts are analyzed by the Finite Element Analysis software in combination with outstanding structural strength and internal ribbing to ensure the superb rigidity.
- Heavy loading capacity is achieved through the design of the massive base, box type column, extra wide and long saddle, fully supported load as well as robust structure.
- The headstock is rib reinforced in combination with a proper contact ratio between the headstock and the column, providing a solid support of the spindle head.
- Three axes ball screws are directly coupled to motors with pretensioned ball screws so as to raise the rigidity and accuracy.
- With ball bar test to pre-adjust parameters for achieving the best possible accuracy.
- Box ways on X, Y, Z-axis make optimal cutting rigidity possible.
- Highly rigid structure design enables the weight of the spindle head to be uniformly distributed on the base. In addition, the one-piece fabricated box ways on Z-axis provide increased rigidity while minimizing the backlash of the spindle head.
- Three axes box ways are all one-piece fabricated, hardened, precision scraped and coated with Turcite-B wear-resistant media. This combined with automatic lubrication to slide ways drastically increases slideways accuracy and service life.



VARIOUS CONTROLLERS

Choice Of CNC Various Controllers



Syntec controller 21MA (standard)



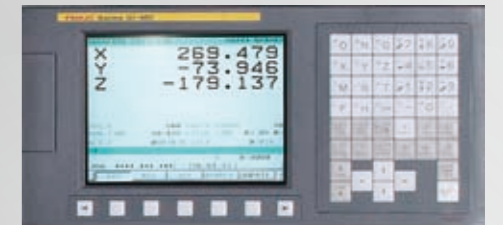
Siemens controller 828D (optional)



Fagor controller 8055 (optional)



Mitsubishi controller M80 (optional)



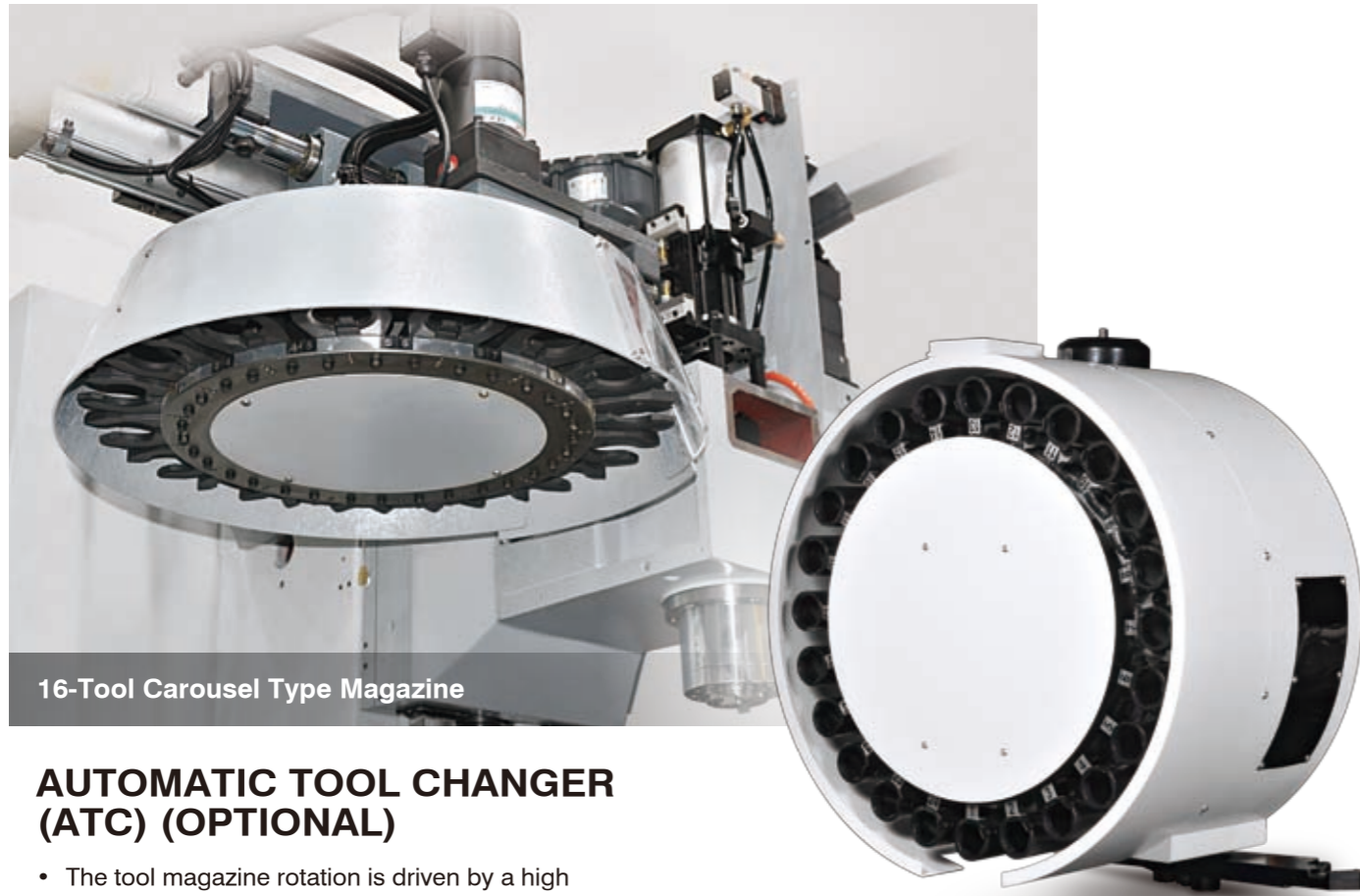
Fanuc controller 0i-MF (optional)



HIGHLY RIGID SPINDLE

- 6,000 rpm spindle speed (standard)
- 8,000 / 10,000 rpm spindle speeds (optional)
- The spindle is transmitted through high speed, silent timing belts with the features of positive transmission without slipping problem.
- A labyrinth design on the spindle noise together with spindle air curtain protection, that fully prevents any foreign matters from entering while ensuring the spindle accuracy and life.
- The spindle runs in ABEC class 7 (class P4) high precision angular contact ball bearings with large spacing between bearings, allowing the spindle to resist radial and axial thrust force with excellent rigidity.

POWERFUL DESIGN WITH FULL - FEATURED MACHINE



16-Tool Carousel Type Magazine

AUTOMATIC TOOL CHANGER (ATC) (OPTIONAL)

- The tool magazine rotation is driven by a high precision cam allowing for fast, stable and dependable tool change motions.
- With the PLC software control, tool change can be fast accomplished that reduces non-cutting time to a minimum.
- Choice of tool loading capacity: 16 or 24 tools.

24-Tool Arm Type Magazine



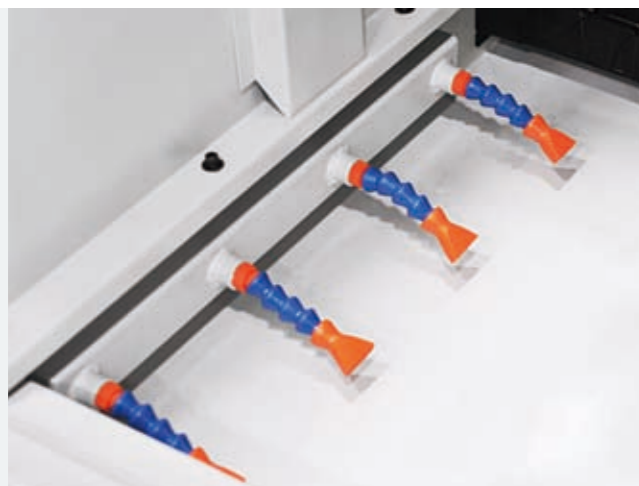
SPINDLE OIL COOLER (OPTIONAL)

The use of the spindle oil cooler may effectively suppress the thermal growth of the spindle to ensure machining accuracy. The spindle oil cooler is mounted at the machine back for integration with the machine, that does not affect space occupation and working area.



THREE AXES BOX WAYS

- Box ways on three axes feature extra high rigidity, stability and precision make the machine ideal for heavy cutting applications and the best choice for high quality machining.
- Three axes feeds are transmitted through pretensioned class C3 precision ball screws.
- The one-piece casted robust base is designed with oil/fluid separation.



CHIP FLUSHING DEVICE (OPTIONAL)

The highly efficient powerful chip flushing device easily flushes chips to the chip auger that delivers chips to a chip cart located outside of the machine. It not only maintains a clean working environment, but also protects operator safety.



HEAT EXCHANGER FOR ELECTRICAL CABINET

The electrical cabinet utilizes a heat exchanger for circulated heat exchange that reduces the temperature in the electrical cabinet due to a long time of operation. Additionally, it may also avoid the risk of machine down making operation more stable while upgrading working efficiency and throughput.

TABLE SIZE: 3T

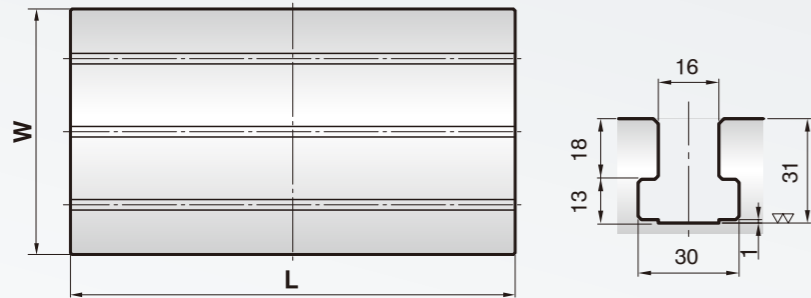
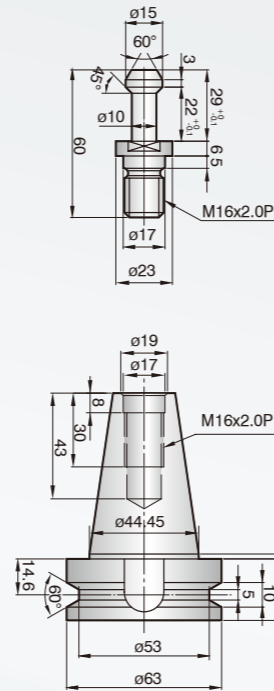


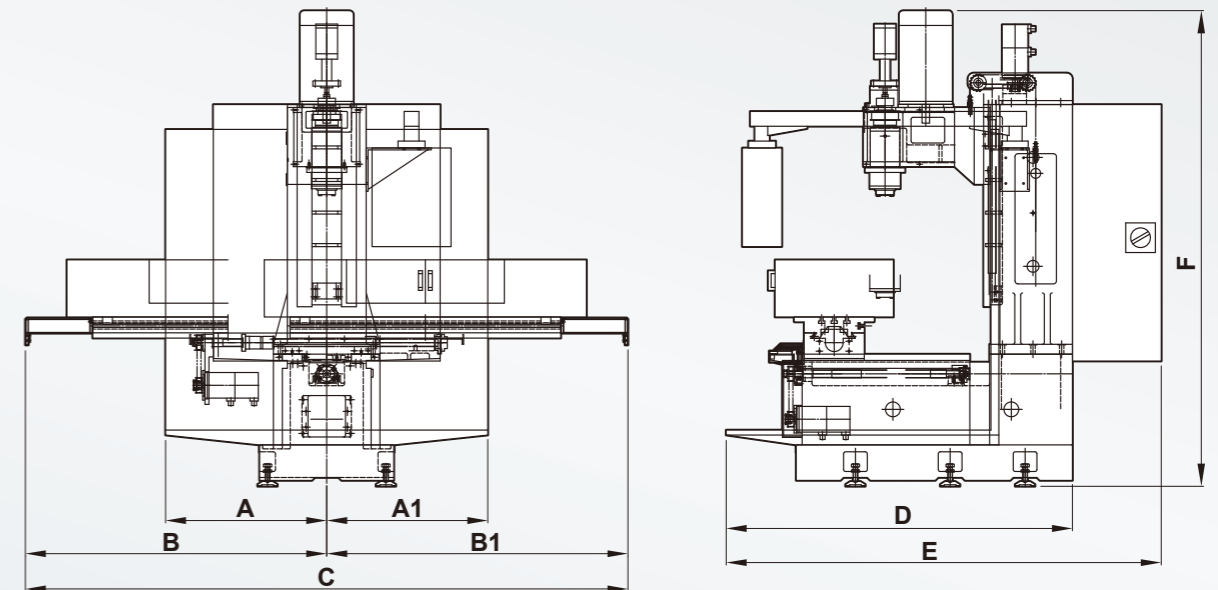
TABLE SIZE: 5T



BT-40 TOOL SHANK



SEMI-GUARDING MACHINE DIMENSION



UNIT:mm

TYPE	KM-80	KM-100	KM-120	KM-150	KM-158	KM-170	KM-200	KM-220	KM-300
A	680	705	810	810	1085	1240	1240	3855	3805
A1	680	705	810	810	1085	1240	1240	3855	3805
B	1300	1545	1915	2155	2180	2400	2780	3620	3685
B1	1300	1545	1895	2145	2180	2400	2775	3580	3685
C	2600	3090	3810	4300	4360	4800	5655	7200	7370
D	1575	1720	1920	2080	2470	2760	2760	2820	2780
E	2025	2170	2380	2540	2930	2930	2930	2930	2930
F	2335	2500	2680	2680	2740	2730	2730	2730	3020

MACHINE SPECIFICATIONS

MODEL	unit	KM-80	KM-100	KM-120	KM-150	KM-158	KM-170	KM-200	KM-220	KM-300	
TABLE	Table surface (W x L)	mm	355 x 1270	406 x 1370	420 x 1600	450 x 1800	610 x 1854	762 x 1830	810 x 2180	810 x 3200	
	T-slot	mm	16 x 3T x 64	16 x 3T x 64	16 x 5T x 60	16 x 5T x 60	18 x 5T x 70	18 x 5T x 100	18 x 5T x 100	18 x 7T x 100	
	Table load capacity	kg	500	600	850	1000	1500	1500	1800	2000	2200
TRAVELS	X-axis travel	mm	800	1000	1300	1500	1500	1700	2000	2500	3000
	Y-axis travel	mm	400	500	635	650	850	850	850	850	900
	Z-axis travel	mm	450	520 (600)	620	620	710	710	710	710	750
	Spindle center to column	mm	430	500	635	650	870	870	870	870	950
	Spindle nose to table	mm	100~550	100~620 (700)	100~720	100~720	100~810	100~810	100~810	100~810	100~850
SPINDLE	Taper of spindle nose		BT-40 (Opt. CAT-40 or DIN-40)				BT-40 (Opt. CAT-40 or DIN-40)				BT-50 (Opt. CAT-50 or DIN-50)
	Spindle speed	rpm	6000 RPM (Opt. 8000 rpm or 10000 rpm)				6000 RPM (Opt. 8000 rpm or 10000 rpm)				6000 RPM
FEED	Rapid on X, Y, Z axis		10000 mm/min (Opt. 20000 mm/min)				10000 mm/min (Opt. 20000 mm/min)				
MOTOR	Spindle motor	HP	7.5	10	10	15	15	15	20	20	25
	Power required	KVA	15	15	20	20	20	30	30	35	35
GENERAL	Machine weight	kg	2500	3000	4000	4500	6000	6500	7000	10000	16000
	Measurement (L x W x H)	mm	1950 x 2100 x 2200	2080 x 2280 x 2200	2510 x 2280 x 2540	2610 x 2280 x 2540	3000 x 2280 x 2550	3000 x 2280 x 2550	3000 x 2280 x 2550	3500 x 2280 x 2550	6100 x 2280 x 2550