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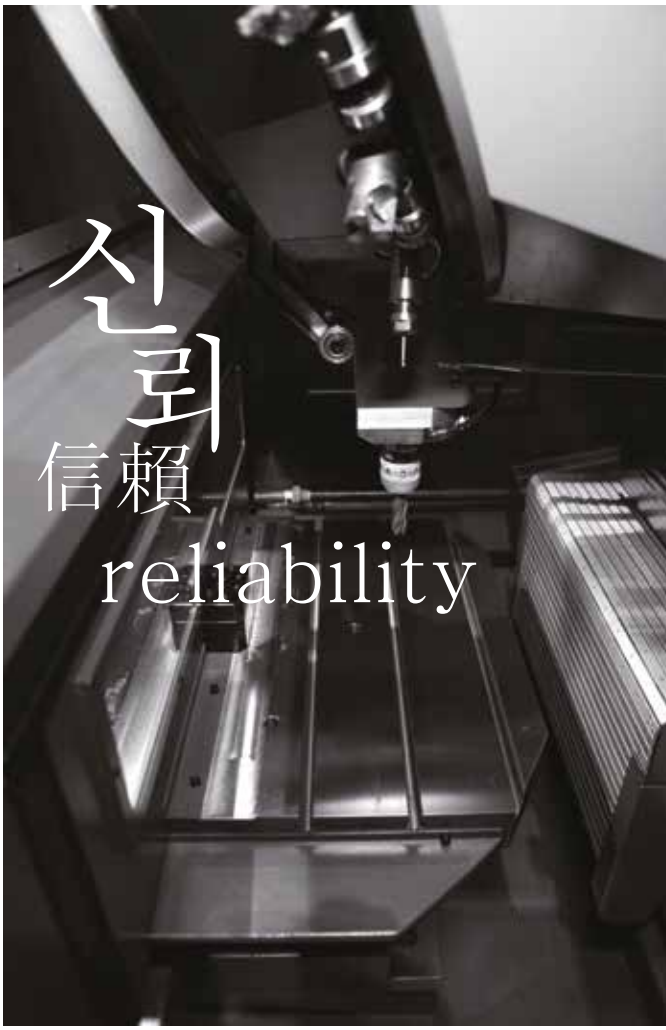
The specification of the catalog are subject to change without prior notice. 2020.12 / 700

PRODUCT LINEUP



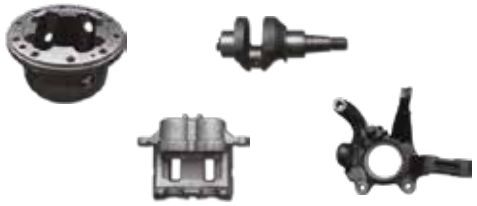
KOMATECH

KOMATECH

MACHINE TOOLS LINE-UP

Examples of target workpieces

IT, Automobile & General parts



BT 40

BT 30

GMT 4000 / 6000

HIGH SPEED TAPPING CENTER

KT 420

KT 420A

KT 420DH

KT 420L

KT 420AL

KT 360D

KT 500

KT 700

CNC MACHINING CENTER

KM 430

KM 450

KM 450DH

KM 450D

KM 520

LONG TABLE MACHINING CENTER

GMT 4000

GMT 6000

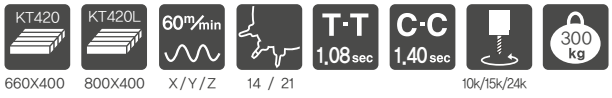
TURNING CENTER

KL 2100A(B)

HIGH SPEED TAPPING CENTER

KT 420(**KT** 420L)

Ultra-high speed tapping center with higher acceleration more than 1G and 60 m/min of rapids



660X400 800X400 X/Y/Z 14 / 21 10k/15k/24k

Travels(X/Y/Z)	mm	560(700) / 420 / 300
Spindle speed	rpm	10,000 [15,000] [24,000], [High Torque 10,000]
Spindle power	kW	21.2/4.8 [21.2/4.8],[26.2/3.5],[20.9/8.5]
Spindle taper		ISO No.30 (7/24)
Tool storage	pcs	14 [21]
Rapids(X/Y/Z)	m/min	60 / 60 / 60 (50 / 50 / 60)

[ ]Opt

KT 420A(**KT** 420AL)

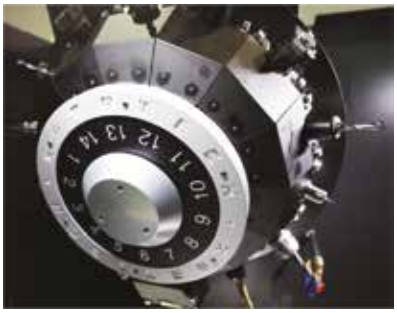
Ultra-high speed tapping center with 60 m/min of rapids and max. 26 tool storage magazine to be available for various machining applications.

660X400 800X400 X/Y/Z 20 / 26 10k/15k/24k

Travels(X/Y/Z)	mm	560(700) / 420 / 430
Spindle speed	rpm	10,000 [15,000], [24,000], [High Torque10,000]
Spindle power	kW	21.2/4.8 [21.2/4.8],[26.2/3.5],[20.9/8.5]
Spindle taper		ISO No.30 (7/24)
Tool storage	pcs	20 [26]
Rapids(X/Y/Z)	m/min	60 / 60 / 60 (50 / 50 / 60)

[ ]Opt

TURRET TYPE TOOL CHANGER KT420 / KT420L



Tool to Tool

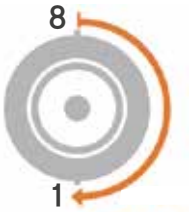
Ⓢ 1.08 sec Ⓜ 1.07 sec

Chip to Chip

Ⓢ 1.40 sec Ⓜ 1.36 sec

High durability and ultra-high speed tool change is possible with optimized structure by own develop servo motor driven type.

The farthest tool change time (T-T)
ex) From T1 to T8 : 1.6 sec



TWIN ARM TYPE TOOL CHANGER KT420A / KT420AL

Tool to Tool

1.2 sec

Chip to Chip

1.8 sec

High-speed cam motor-driven type tool changer. The optimized tool change section ensures faster, more stable motion and high durability.

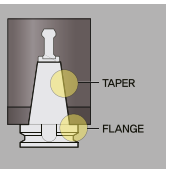
*Tool storage capacity: 20 pcs **[Opt: 26 pcs]**

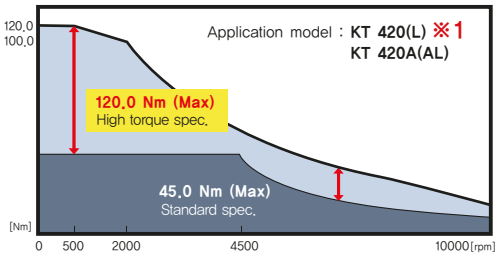
HIGH PERFORMANCE SPINDLE

Ensure precise and stable cutting performance by high precision angular ball bearing , high tension spring and prevention of cutting oil inflow design are applied. And various machining applications are available with a wide spindle speed (10k /15k/24k rpm) specifications .
*CTS is available in all spindle speed (Opt) .

BIG PLUS BBT (Opt.)

The 2-face locking tool system(Big plus) is available. It offers longer tool life, higher power and more precise machining by the dual contact both flange face and taper face.

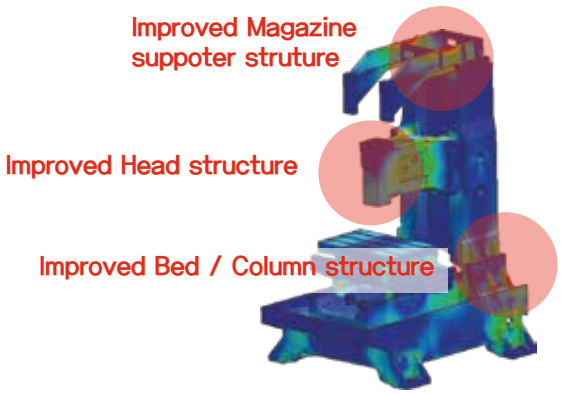




Max. torque 120.0 Nm Max. power 20.9 kW

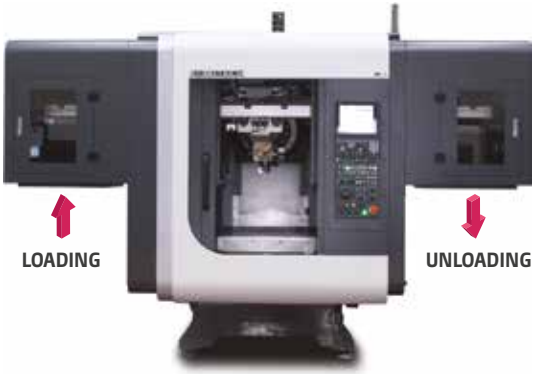
It is possible to achieve over BT30 grade machining performance with Max. 120Nm high torque Spindle motor (Opt.)

HIGH DURABILITY



Ensures high durability and stability with 25% improved base structure rigidity than the conventional model.

AUTOMATION (BUILT-IN GANTRY LOADER)



Komatech designed high speed the built-in type gantry loader automation enables remarkable cost reduction and optimized investment.

Ⓢ SIEMENS 828D Ⓜ MITSUBISHI M80 ※1 High torque 10,000 rpm is only available in 21 tools magazine.

KT 420DH

Overwhelming productivity dual spindle high rigidity tapping center

Travels(X/Y/Z)	mm	560 / 420 / 430
Spindle speed	rpm	10,000 [15,000] [24,000], [High Torque 10,000]
Spindle power	kW	21.2/4.8 [21.2/4.8],[26.2/3.5],[20.9/8.5]
Spindle taper		ISO No.30 (7/24)
Tool storage	pcs	20 X 2 [26 X 2]
Rapids(X/Y/Z)	m/min	48 / 48 / 56

[ ]Opt

KM 450DH

High productivity dual spindle machining center with BT40 machining performance.

Travels(X/Y/Z)	mm	560 / 450 / 430
Spindle speed	rpm	8,000 [12,000]
Spindle power	kW	20.9 / 8.5 [20.9 / 8.5]
Spindle taper		ISO No.40
Tool storage	pcs	20 X 2 [30 X 2]
Rapids(X/Y/Z)	m/min	48 / 48 / 56

[ ]Opt

DUAL HEAD STRUCTURE

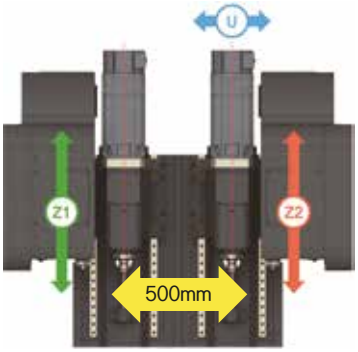
Ultra-high productivity base on 2 spindles simultaneous machining.

Minimize plant utility, floor space, optional devices.

Reduce total investment cost compared to 1 spindle machine.

KT 420DH is optimized for same accuracy after simultaneous machining as two independent Z-axis and head structure. Convenient tool length and Z-axis work coordinate setup is available and various machining application is possible th-rough separated motion when it is necessary.

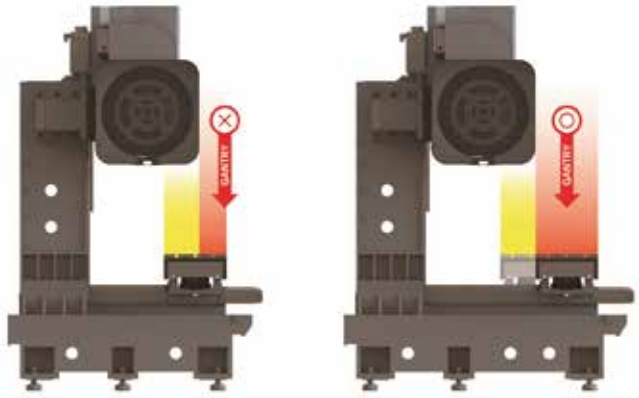
CONVENIENT JIG APPLICATION



Distance between spindle is 500mm and a various Jig application is available.

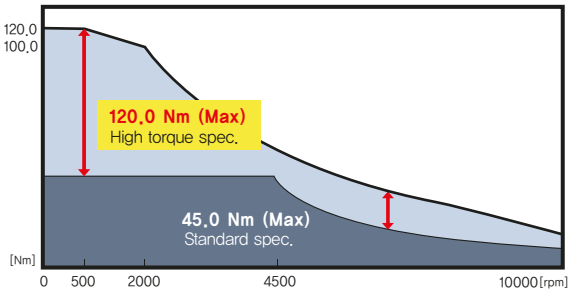
Convenient jig setup is possible with the ±2mm U-axis fine adjustment function.

Y-AXIS EXPANSION (OPT)



Y-axis front part is extendable 200mm to the Gantry loader enters the machine inside without interference.

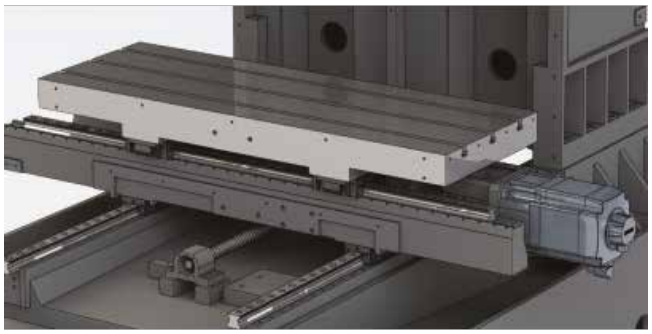
HIGH TORQUE SPINDLE MOTOR (OPT)



Max. torque **120.0** Nm Max. power **20.9** kW

It is possible to achieve over BT30 grade machining performance with Max.120Nm high-torque spindle motor.

SLIDEWAY



Achieve silent and fast traverse capability through high-precision LM guide, ball screw, and link-type slide cover application. And various jig fixtures are available with wide table size and travels.

HIGH SPEED TOOL CHANGER

KT 420DH

Tool to Tool **1.2** sec
Chip to Chip **1.8** sec

KM 450DH

Tool to Tool **1.7** sec
Chip to Chip **2.3** sec

High-speed cam motor-driven type tool changer. The optimized tool change section ensures faster, more stable motion and high durability.

HIGH SPEED TAPPING CENTER

KT 360D

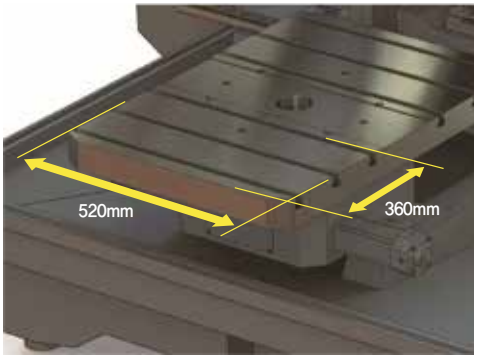
High productivity column moving type dual table tapping center.

650X900 | 14/21 | T-T 1.08sec | C-C 1.40sec | 10k/15k/24k | 200kg 200*2

Travels(X/Y/Z)	mm	520 / 360 / 300
Spindle speed	rpm	10,000 [15,000], [24,000] [High Torque 10,000]
Spindle power	kW	21.2/4.8 [21.2/4.8], [26.2/3.5], [High Torque 20.4/4.8]
Spindle taper		ISO No.30 (7/24)
Tool storage	pcs	14 [21]
Pallet change time	sec	4.5
Rapids(X/Y/Z)	m/min	50 / 50 / 60

[ ]Opt

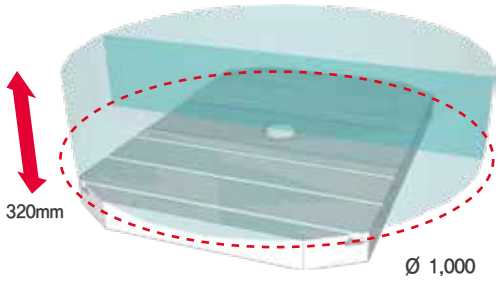
HIGH RELIABLIE DUAL TABLE



PALLET CHANGE TIME
4.5 sec

Hirth coupling gear type precision dual table is operated with oil pressure and performs positioning quickly and accurately without additional UP & DOWN operation.

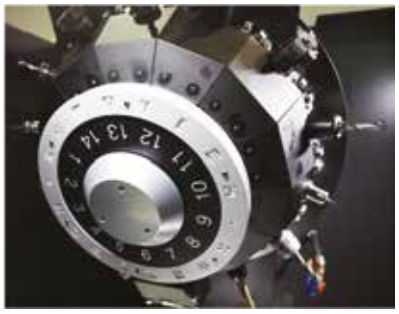
APPLICATION RANGE OF JIG



Turn diameter	Ø1,000
Jig height	320 mm
Loading weight	200kg x 2

※1

HIGH SPEED SERVO MOTOR TYPE ATC



Tool to Tool

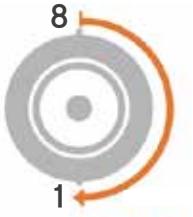
Ⓢ 1.08 sec Ⓜ 1.07 sec

Chip to Chip

Ⓢ 1.40 sec Ⓜ 1.37 sec

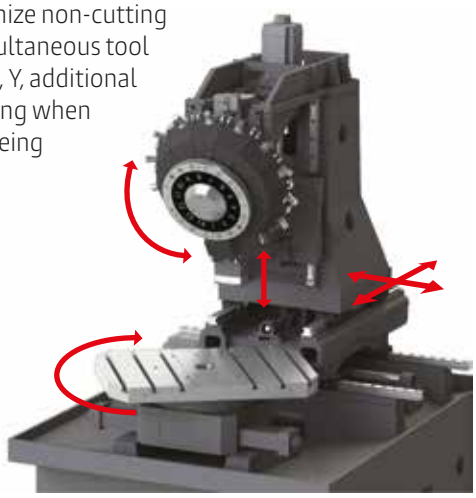
High durability and ultra-high speed tool change is possible with optimized structure by own develop servo motor driven type.

The farthest tool change time (T-T)
ex) From T1 to T8 : 1.6 sec



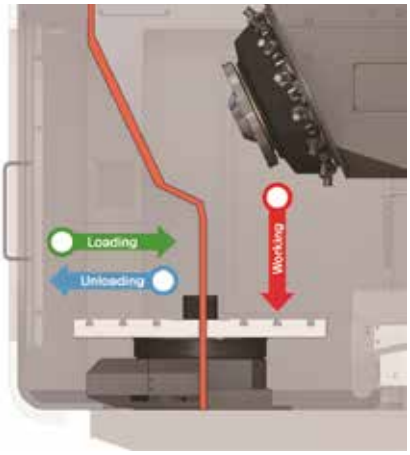
SIMULTANEOUS MOTION CONTROL

It could minimize non-cutting time by a simultaneous tool change and X, Y, additional axes positioning when the pallet is being changed.



MINIMIZE NON-CUTTING TIME

The workpiece can be exchanged during machining to minimize non-cutting time.



PROCESS DUALIZATION

The application of the dual table and the 21-tool magazine can perform 2 processes in one machine and the line balance can be improved. And the user is an available optimized investment.

Ⓢ SIEMENS 828D Ⓜ MITSUBISHI M80 ※1 If tool length is longer than Jig&fixture height, the crush will occur when dual-table rotates.

HIGH SPEED TAPPING CENTER

KT 500

High speed tapping center with Max. working area "1000 x 500 mm" in its class and 50 m/min of rapids

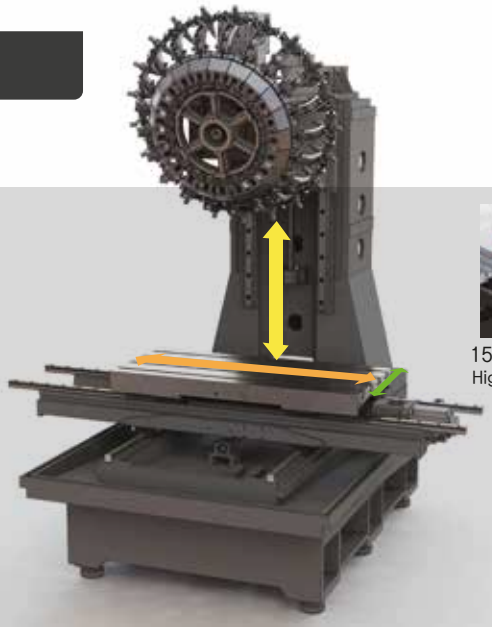
Travels(X/Y/Z)	mm	1000 / 500 / 300
Spindle speed	rpm	10,000 / [15,000 / 24,000] [High Torque 10,000]
Spindle power	kW	21.2/4.8 [21.2/4.8], [26.2/3.5], [20.9/8.5]
Spindle taper		ISO No.30 (7/24)
Tool storage	pcs	14 [21]
Rapids(X/Y/Z)	m/min	50 / 50 / 50

[ ]Opt

WIDE STROKE

It is possible to load large size workpiece and multiple small workpieces with a wide working area.
(High column is available up to 250mm)

* Travels
X-axis 1,000mm / Y-axis 500mm / Z-axis 300 mm



150 / 250 mm
High Column (Opt)

HIGH PERFORMANCE SPINDLE

STD. **10,000** rpm

OPT. **10,000** rpm
[High Torque] ※1

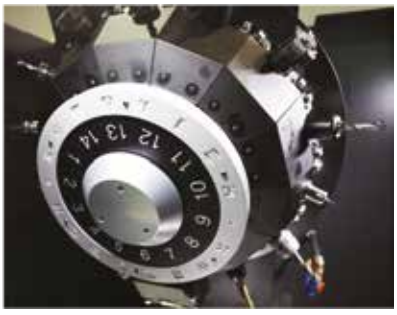
15,000 rpm

24,000 rpm

※CTS is available in all spindle speed(Opt.)

A wide range spindle speed enables to variable workpiece application from high-speed machining to heavy-duty machining.

TURRET TYPE TOOL CHANGER



Tool to Tool
1.2 sec

Chip to Chip
1.5 sec

High durability and ultra-high speed tool change is possible with optimized structure by own develop servo motor driven type.

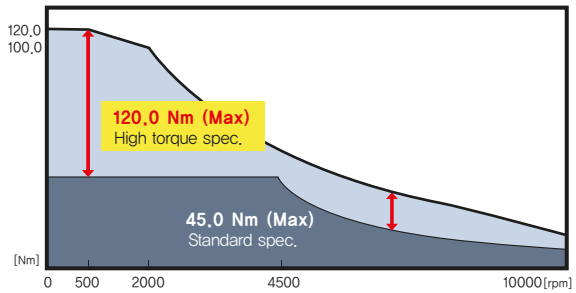
The farthest tool change time (T-T)
ex) From T1 to T8 : 1.6 sec

SLIDEWAY

X/Y/Z Rapids **50 / 50 / 50** m/min

A high-performance feed motor with excellent response, high-precise L/M guide, and ball screw are used for silent and fast feed capability.

HIGH TORQUE SPINDLE MOTOR (OPT)



Max. torque **120.0** Nm Max. power **20.9** kW

It is possible to achieve over BT30 grade machining performance with Max.120Nm high-torque spindle motor.

SIEMENS 828D **MITSUBISHI** M80 ※1 High torque 10,000 rpm spindle motor is only available in 21 tools magazine.

HIGH SPEED TAPPING CENTER

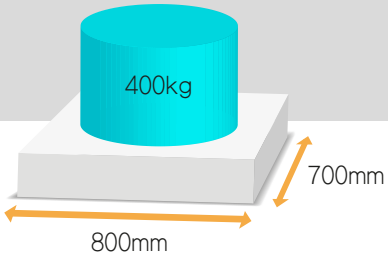
KT 700

Double column structure high rigidity high-speed tapping center of "800 x 700" wide stroke.

Travels(X/Y/Z)	mm	800 / 700 / 300
Spindle speed	rpm	10,000 / [15,000 / 24,000] [High Torque 10,000]
Spindle power	kW	21.2/4.8, [21.2/4.8], [26.2/3.5], [20.9/8.5]
Spindle taper		ISO No.30
Tool storage	pcs	14 [21]
Rapids(X/Y/Z)	m/min	48 / 48 / 60

HIGH RIGIDITY DOUBLE COLUMN STRUCTURE

It is advantageous to high-precision machining in a separate travel structure of the X, Y-axis, and 800x700 wide-area stroke, and up to 400kg weight can be applied. As well as various jig and fixtures can be applied such as loading large workpieces and multiple small workpieces.



HIGH PERFORMANCE SPINDLE

STD. **10,000** rpm

OPT. **10,000** rpm
[High Torque] ※1

15,000 rpm

24,000 rpm

※CTS is available in all spindle speed(Opt.)

A wide range spindle speed enables to variable workpiece application from high-speed machining to heavy-duty machining.

TURRET TYPE TOOL CHANGER

Tool to Tool
1.2 sec

Chip to Chip
1.5 sec

High durability and ultra-high speed tool change is possible with optimized structure by own develop servo motor driven type.

The farthest tool change time (T-T)
ex) From T1 to T8 : 1.6 sec

SLIDEWAY

The separate transport structure of the X / Y axis minimizes the load on each axis Rapid feed speed and precise processing are possible, and a heavy-duty jig is installed.

MULTI COVER

The travel area is sealed with a multi cover to prevent chips from the machining area, leading to improved travel area's durability and reliability.

SIEMENS 828D MITSUBISHI M80 ※1 High torque 10,000 rpm spindle motor is only available in 21 tools magazine.

KM 430

High speed machining center with 50 m/min rapids.

Travels(X/Y/Z)	mm	800 / 430 / 430
Spindle speed	rpm	8,000 [12,000]
Spindle power	kW	20.9 / 8.5 [20.9 / 8.5]
Spindle taper		ISO No.40 (7/24)
Tool storage	pcs	20
Rapids(X/Y/Z)	m/min	50 / 50 / 50

[ ]Opt

KM 450

High performance machining center with powerful cutting and high accuracy machining capability.

Travels(X/Y/Z)	mm	800 / 450 / 480 [420]
Spindle speed	rpm	8,000 [12,000]
Spindle power	kW	20.9 / 8.5 [20.9 / 8.5]
Spindle taper		ISO No.40 (7/24)
Tool storage	pcs	24 [30]
Rapids(X/Y/Z)	m/min	36 / 36 / 36

[ ]Opt

High rigidity base structure

The optimal foundation design through structural analysis secures a high-rigidity foundation structure that minimizes vibration and deformation to support powerful and precise machining.

ROLLER TYPE L/M GUIDE (OPT)

Roller type L/M guide is available to upgrade rigidity.

HIGH PERFORMANCE SPINDLE

KM 430

STD. **8,000**rpm

OPT. **12,000**rpm

Max. Torque : 120.0 Nm

KM 450

STD. **8,000**rpm

OPT. **12,000**rpm

Max. Torque : 175.0 Nm

The direct driven spindle that is applied high-precision angular ball bearing, high-tension spring and design of cutting oil inflow prevention achieves high durability, precise and stable machining. And a wide machining application is available with optimized torque and acceleration depends on the low speed and high-speed section.

TWIN ARM TYPE TOOL CHANGER

KM 430

T-T **1.4** sec

C-C **2.5** sec

KM 450

T-T **1.5** sec

C-C **2.9** sec

The tool changer is a cam motor driving type and optimized tool change section for fast and stable tool change. Magazine tool port moves next tool position during machining to reduce tool change time and various machining application is available with max. 30-tool storage magazine.

SLIDEWAY

KM 430

TABLE SIZE **900 X 430** mm

TRAVELS (X / Y / Z)

800 / 430 / 430 mm

RAPIDS (X / Y / Z)

50 / 50 / 50 m/min

KM 450

TABLE SIZE **950 X 450** mm

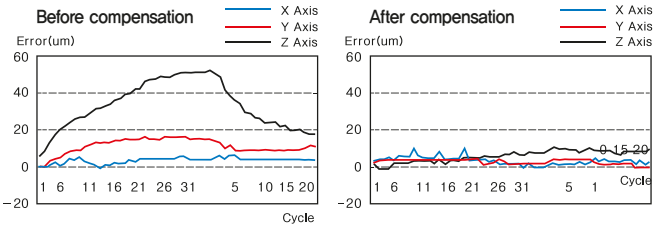
TRAVELS (X / Y / Z)

800 / 450 / 510 mm

RAPIDS (X / Y / Z)

36 / 36 / 36 m/min

HIGH ACCURACY MACHINING



Komatech's own test program (limitation test)

The optimized thermal deformation compensation system for Komatech's machine is realized by analyzing actual operation /non-operation hours. The differentiated positioning control function compares with others enables high precision machining.

KM 450D

HIGH PRODUCTIVITY DUAL TABLE MACHINING CENTER

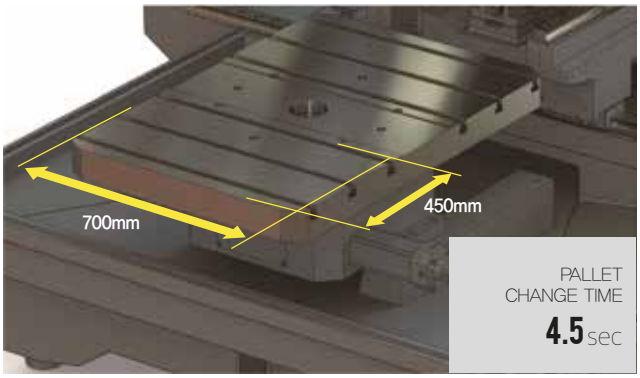
KM 450S (Flat Table Type) is selectable.

700X1140 24[30] 8k/12k

Travels(X/Y/Z)	mm	700 / 450 / 480 [700/450/420]
Spindle speed	rpm	8,000 [12,000]
Spindle power	kW	20.9 / 8.5 [20.9 / 8.5]
Spindle taper		ISO No.40
Tool storage	pcs	24 [30]
Rapids(X/Y/Z)	m/min	36 / 36 / 42

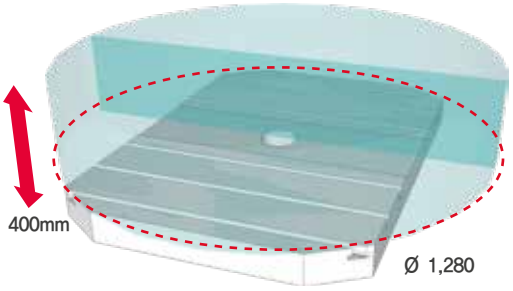
[ ]Opt

HIGH RELIABLILTY DUAL TABLE



Hirth coupling gear type precision dual table is operated with oil pressure and performs positioning quickly and accurately without additional UP & DOWN operation.

APPLICATION RANGE OF JIG



Turn diameter	Ø1,280
Jig height	400 mm
Loading weight	200kg x 2

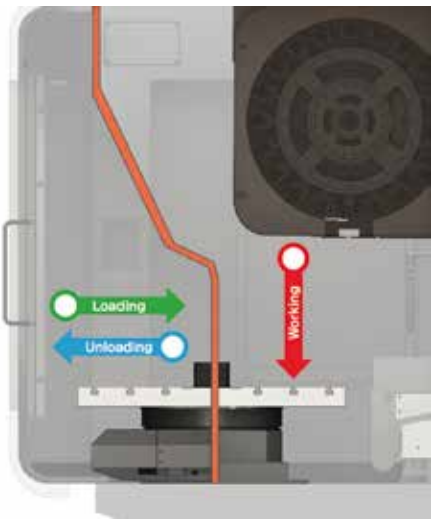
※1

FLAT TABLE (OPT)

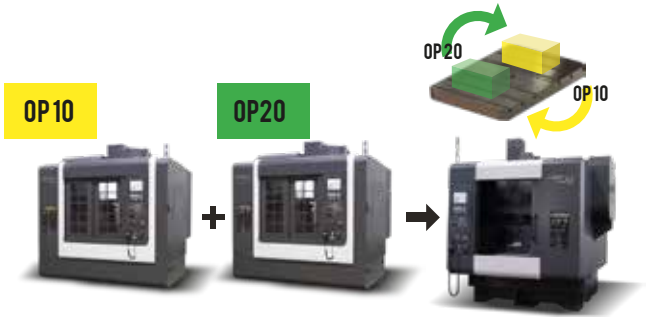
High rigidity flat table is suitable to mount a jig without weight limitation and a large workpiece.

REDUCTION NON-CUTTING TIME

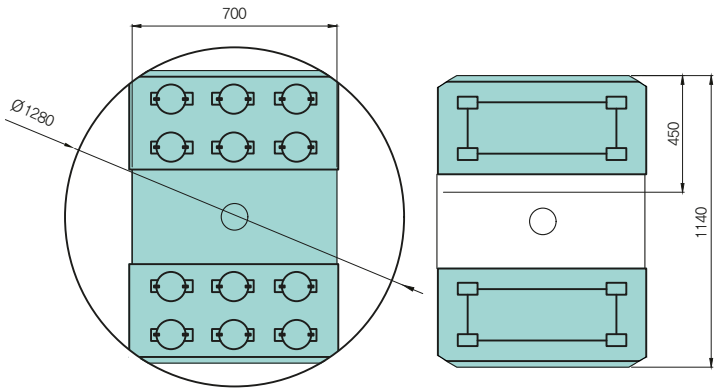
The workpiece can be exchanged during machining to minimize non-cutting time.



PROCESS DUALIZATION



The application of the dual table and the max. 30-tool magazine can perform 2 processes in one machine and the line balance can be improved. And the user is an available optimized investment.



Example of jig application

※1 If tool length is longer than Jig&fixture height, the crush will occur when dual-table rotates.

KM 520

High performance machining center with a wide stroke and heavy weight loading capability.

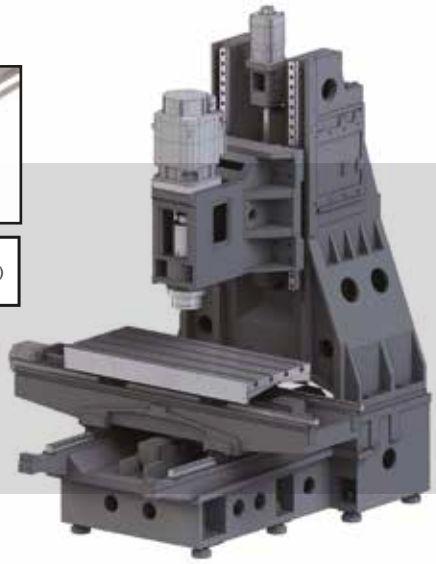
Travels(X/Y/Z)	mm	1050 / 520 / 520
Spindle speed	rpm	8,000 [12,000]
Spindle power	kW	24.0/11.0 [24.0/11.0]
Spindle taper		ISO No.40 (7/24)
Tool storage	EA	24 [30]
Rapids(X/Y/Z)	m/min	36 / 36 / 30

[ ]Opt

HIGH RIGIDITY BASE STRUCTURE

ROLLER TYPE L/M GUIDE (OPT)

Roller type L/M guide is available to upgrade rigidity.



Designed high rigidity base structure to ensure powerful and precise machining with utilizing structure analysis to minimize vibration and deformation.

HIGH PERFORMANCE SPINDLE

Max. Speed
STD. **8,000**rpm
OPT. **12,000**rpm
Max. Torque
175.0 Nm

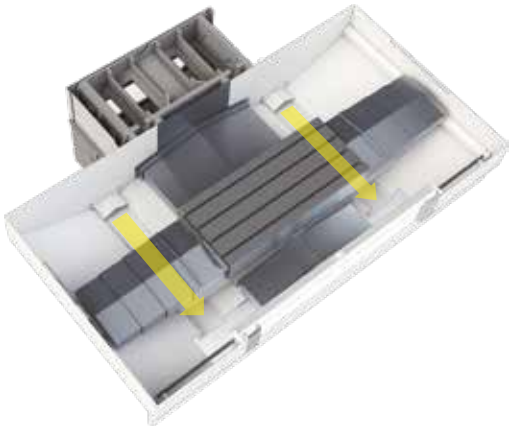
The direct driven spindle that is applied high-precision angular ball bearing, high-tension spring and design of cutting oil inflow prevention achieves high durability, precise and stable machining. And a wide machining application is available with optimized torque and acceleration depends on the low speed and high-speed section.

HIGH SPEED TOOL CHANGER

Tool to Tool
1.7 sec
Chip to Chip
3.4 sec

The tool changer is a cam motor driving type and optimized tool change section for fast and stable tool change. Magazine tool port moves next tool position during machining to reduce tool change time and various machining application is available with max. 30-tool storage magazine.

CHIP DISPOSAL SYSTEM



Cutting chips are easily discharged by a slanted bed cover and a high-pressure coolant pump.

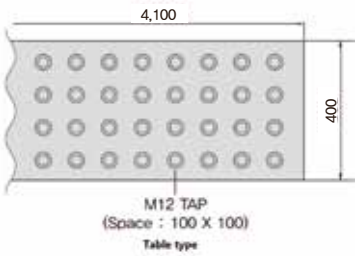
DOUBLE DOOR

The double-door with open space at the top is easy to apply a heavyweight workpiece or jig by using a hoist.

GMT 4000

HIGH PRECISION LONG TABLE MACHINING CENTER WITH X, Y, Z AXES BALL SCREW TYPE OPTIMIZED FOR LARGE WORKPIECES MACHINING.

Application of low-inertia spindle motor.
X axis length is selectable from 2,000 to 4,000.



GMT 4000

Item		Unit	GMT 2000	GMT 3000	GMT 4000
Table size		mm	2,100~4,100 x 400		
Travels(X/Y/Z)		mm	2,000~4,000/380/300		
Spindle taper		—	ISO No.30 (7/24) [ISO No.40]		
Spindle speed		rpm	10,000 [15,000]		
Spindle motor power (Max. / Cont.)		kW	21.2 / 4.8		
Rapid feedrate (X/Y/Z)		m / min	30 / 36 / 60 [26 / 36 / 36]		
Tool storage		pcs	14 [20]		
Tool change time	T – T	sec	1.1		
	C – C		1.9		

[ ] Opt.

GMT 6000

HIGH PRECISION CNC PROFILE MACHINING CENTER WITH 6,000mm STROKE

Optimized a long aluminum profile machining.
X-axis length is selectable from 5,000 mm to 8,000mm

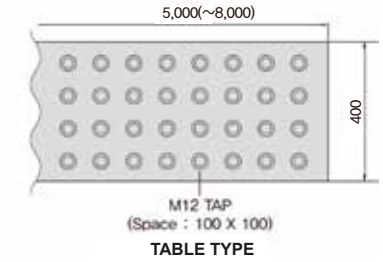
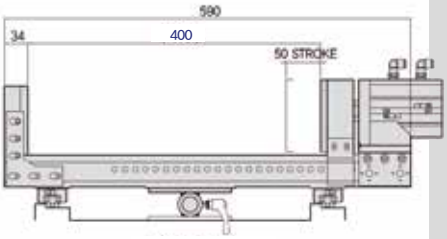


TABLE TYPE



VISE TYPE

GMT 6000

Item		Unit	GMT 5000	GMT 6000	GMT 7000	GMT 8000
Table size		mm	5,000~8,000 x 400			
Travels(X/Y/Z)		mm	5,000~8,000/360/300			
Spindle taper		—	ISO No.30 (7/24)			
Spindle speed		rpm	10,000 [15,000]			
Spindle motor power (Max. / Cont.)		kW	21.2 / 4.8			
Rapid feedrate (X/Y/Z)		m / min	36 / 36 / 60			
Tool storage		pcs	14			
Tool change time	T – T	sec	1.1			
	C – C		1.9			

[ ] Opt.

TWO-AXIS HORIZONTAL TURNING CENTER

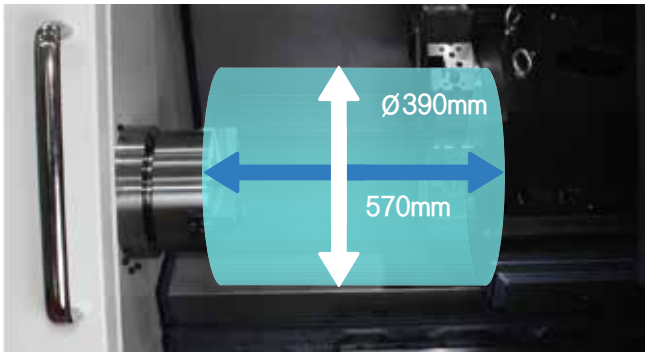
KL 2100A(B)

8"(10") compact turning center with powerful machining performance.

Chuck Size	inch	8'(10')
Travels(X/Z)	mm	220 / 570
Max. turning length.	mm	570(552)
Max. turning dia.	mm	390
Spindle speed	r/min	4,500 (3,500)
Spindle power	kW	15/18.5
Tool size (OD/ID)	mm	25 / 40
Tool storage	pcs	12
Rapids (X/Z)	m/min	24 / 30

[ ]Opt

MACHINING AREA



The large machining area increases work efficiency, with a max. turning diameter of Ø390 mm and a max, turning length of 570 mm.

HIGH PERFORMANCE SPINDLE

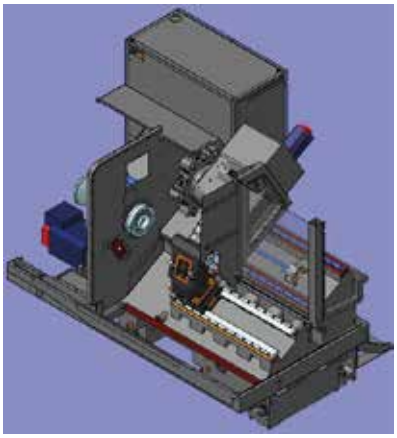
A type: 8 inch / B type: 10 inch

The powerful spindle motor and high rigidity type spindle bearing supports high precision and heavy-duty cutting.

TURRET

12 tool stations support a various machining applications. and the fast tool change speed of 0.11 sec. (C-C) helps to shorten machining time.

HIGH RIGIDITY SLANTED BED STRUCTURE



Tail stock travel : 570 mm
Quill Dia. : 65 mm
Quill bore taper : MT4(Live Center)
Quill travel: 80 mm

KL2100 series designed 30 degrees slanted one-piece bed structure with square type and this enhances rigidity and durability.

SPEC

wing over bed	mm	–	Power consumption	kva	35(40)	Travel (X axis)	mm	220
Swing over saddle	mm	390	Machine height	mm	1,750	Travel (Y axis)	mm	570
Max. turning dia.	mm	390	Machine size	mm	2750 x 1865	Rapids (X axis)	m/min	24
Max. turning length	mm	570(552)	Machine weight	kg	4000(4300)	Rapids (Y axis)	m/min	30
Spindle speed	rpm	4500(3500)	Spindle motor	kw	15/18.5			
Spindle nose	ASA	A2 #6(A2 #8)	Servo motor(X axis)	kw	1.8			
Spindle bearing size	mm	76(90)	Servo motor(Z axis)	kw	1.8			
Chuck size	inch	8(10)						

Standard features

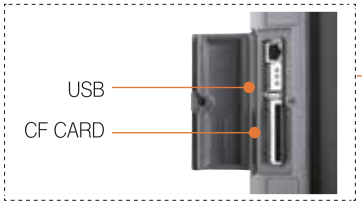
1. Coolant pump
2. Lubrication unit
3. Auto. door lock device
4. Soft Jaw
5. Work light
6. Indicator light
7. Hyd. chuck & Cylinder
8. Hyd. unit
9. Leveling bolt and block
10. Std. toolkit

Optional specifications

1. Additional tool holder and sleeve
2. Air cleaner
3. Air gun
4. Auto door
5. Auto. measurement system
6. Bar feeder interface
7. Chip conveyor & bucket
8. Coolant level switch
9. Cool–jet interface
10. Pressure chucking of selectable function
11. Hard Jaw
12. Level checking plate
13. Oil skimmer
14. Workpiece traverse device (ø 65 x L140)
15. Pressure switch for Chuck's pressure checking
16. Proximity switch for tail stock quill position
17. Special chuck
18. Tool presetter (Electric type)
19. Tool presetter (Manual type)
20. Tail stock
21. Foot switch

CONTROLLER

Convenient Data Expandability



USB driver and CF memory card interface are standard for expansion of memory, easy for file copy & save.

Simple Programming

G-Code, M-Code and interactive program input mode (Shop Mill) are available including user friendly function, copy, cut, paste, search etc.

Administrator Edit Setting

NC Control lock function is applied to prevent operation mistake and lock level setting is available upon operator's level.

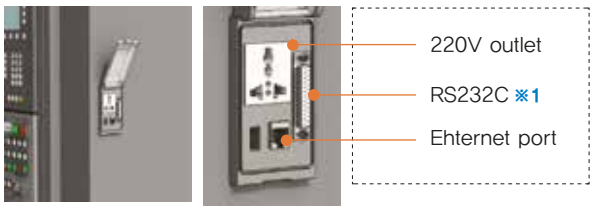
User Friendly Centralized Control Panel

Rotary switch and On/Off buttons are added on each function for operator's convenience and common buttons are user friendly located for easy to operate and access.

Switch Panel

CL/UNCL, START, FEED HOLD, SINGLE BLOCK and EMERGENCY STOP buttons are separately configured on the SWITCH PANEL, ensuring ease of operation.

External communication interface



Ethernet port, 220V outlet and 25-pin connector are installed for convenient external communication devices.

※1 RS232C is available with Mitsubishi M80 and Fanuc 0iMF (OPT.)

SIEMENS SINUMERIK 828D

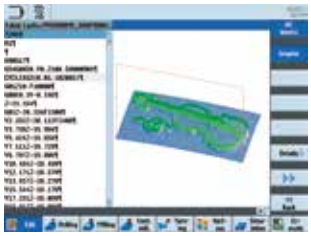
Easy Operation

JOG functions

Tool, spindle, M Commands without coding on JOG mode, saves your time

Tool management

Intuitive tool screen with icons.
Tool life monitoring function is provided as a Standard.



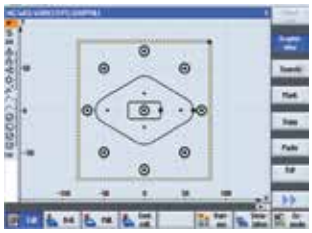
Mold making Quick view

Quick and filtered view on mold & die details

Online help

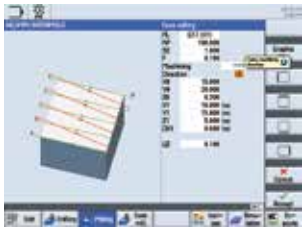
Powerful online help system including user-friendly graphics

Easy Programming



ShopMill

Interactive program input mode.
Achieving shortest programing time.



Program GUIDE

Interactive Cycle provides convenient programing.

ISO Dialect interpreter

Maximum compatibility for operators familiar with ISO codes

Simultaneous recording

Program simulation test and Real time machining simulation are available.

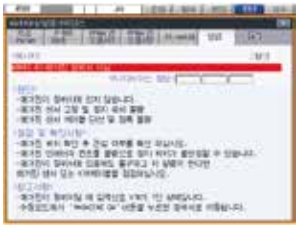
MITSUBISHI ELECTRIC M800/80

Easy Programming

Manual M,S,T,B command
Easy command in manual mode.

Jig weight selection. According to the jig weight, setting with optimum acceleration & deceleration.

Display all G/M code



Alarm guidance function

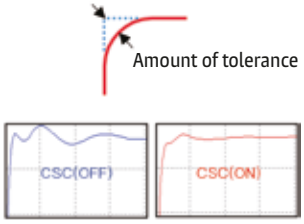
Interactive Programming

Easy machining program creation support.

Supports machining program creation by inputting DXF file to NC

Support Machining

SELECTABLE MACHINING CONDITION



Corner smooth control by applying tolerance control

Application of tolerance control by tool (Precision, Surface accuracy)

Production information display (Calculated based on M code)

SIEMENS SINUMERIK 828D

* Controllable axes : 6 axes (8 axes)
* Simultaneous controlled axes : 4 axes
* Minimum setting unit : 0.0001mm
  0.00001 inch
* Display: 10.4" TFT COLOR
* User memory: 5MB [Extensible] ※1,2
* Program format : G/M code
  [Conversational program]

* Absolute / Incremental
* Scailing / Rotating
* Background editing
* Mirror image
* Program guide
* Optional stop
* Tool dimension interpolation
* Tool life management
* JOG/MDI (Manual operation)
* Single block
* Dry run
* Linear interpolation
* Circular interpolation
* Synchro Tapping
* Auto servo tuning function
* Auto servo tuning function
* Emergency stop
* Thermal displacement compensation
* Inch / Metric
* Block search
* ISO program (G291)
* Program stop
* Progarm test
* 2D simulation
* Max. work oset (100)
* Max.no of tools / cuttings (128/256)
* Ref.1,2 position
* Feed hold
* Block skip
* Helical interpolation
* Advanced surface
* Jerk limitation
* Feed forward control
* Tap return
* soft limit

NC optional specification

* Shop mill
* 3D simulation
* Additional axis control
* Real time simulation
* Network drive

MITSUBISHI ELECTRIC M800/80

* Controllable axes : 8 axes
* Simultaneous controlled axes : 4 axes
* Minimum setting unit : 0.0001mm
  0.00001 inch
* Display : 10.4" Touch Screen
* User memory : 500kbte [Extensible] ※3
* Program format : G/M code
  [Conversational program]

* Absolute / Incremental
* Coordinate system rotating
* Background editing
* Mirror image
* Linear interpolation
* Circular interpolation
* High speed&accuracy control I
* SSS 4G control
* Tool dimension interpolation
* Tool offset pairs (400 pairs)
* JOG/MDI operation
* Single block
* Feed hold
* Rigid tapping
* Block skip
* Backlash compensation
* Emergency stop
* Inch / Metric
* Canned cycle
* Program stop
* Optional block skip
* Helical interpolation
* High accuracy control
* High speed&accuracy control II
* Tolerance control
* Tool length interpolation
* Rapid traverse block overlap
* Auto. Operation
* Dry run
* Tap return
* 3D program check
* Pitch error compensation
* Soft limit
* Interlock

NC optional specification

* Navi mill
* Data server
* NC Visualizer
* Additional axis control

FANUC Oi-MF PLUS

* Controllable axes : 6 axes
* Simultaneous controlled axes : 4 axes
* Minimum setting unit : 0.001mm
  0.0001 inch
* Display : 10.4" TFT COLOR
* User memory : 512kbte [Extensible] ※1
* Program format : G/M code
  [Conversational program]

* Absolute / Incremental
* Skip / High speed skip
* Mirror image
* Circular interpolation
* Tool life management
* Feed hold
* Tap return
* Stored stroke check I/II
* Inch / Metric
* Optional block skip
* Subprogram call
* Nano interpolation
* Tool length interpolation
* JOG/MDI operation
* Optional stop
* Backlash compensation
* Machine lock
* Program test
* Rigid tapping
* Emergency stop
* Coordinate system rotating
* Background editing
* Linear interpolation
* Tool dimension interpolation
* Single block
* Dry run
* Pitch error compensation
* Interlock
* Canned cycle
* Program stop
* Helical interpolation
* AICCII (200 BLK)
* Tool offset pairs (400 pairs)

NC optional specification

* Additional axis control
* Manual Guide i
* Look-ahead 400 blocks
* Data server (1GB / 2GB)

KOMATECH MONITORING SYSTEM (OPT)

1.Machine's real-time monitoring
2.Display factory lay-out
3.Check the cumulative recorded utilization rate
4.Enter the reason for non-operation and express statistics

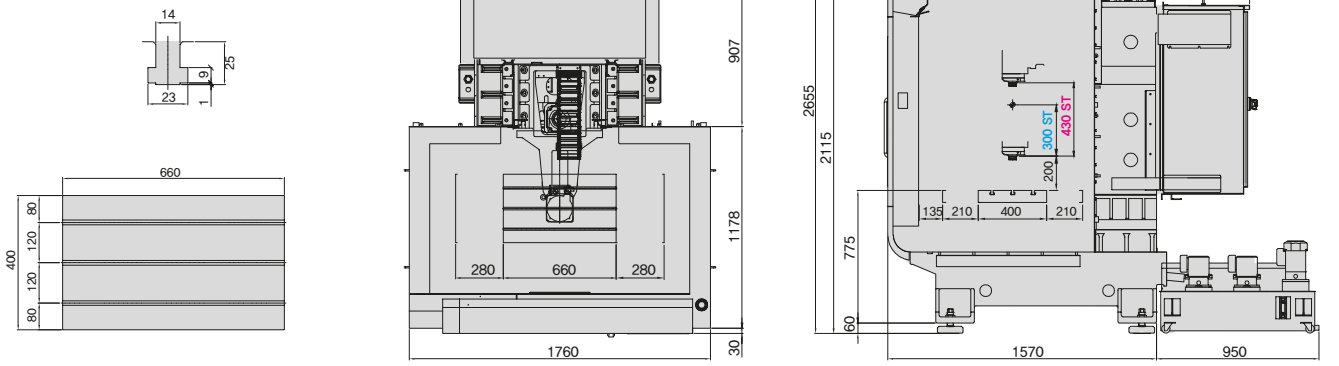
※1 Memory capacity is extensible with USB memory and CF card
※2 The internal memory can be changed to 100MB.
※3 The capacity can be expanded up to 32GB through an SD memory card.

[ ]: OPT

MACHINE DIMENSIONS

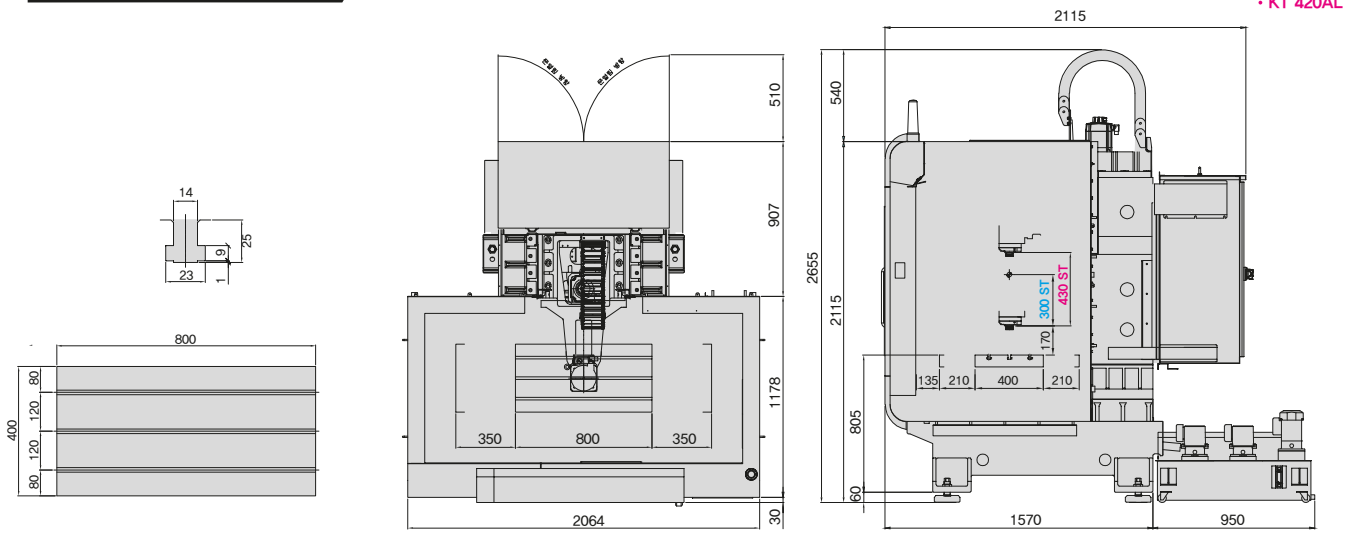
KT 420(A)

• KT 420
• KT 420A

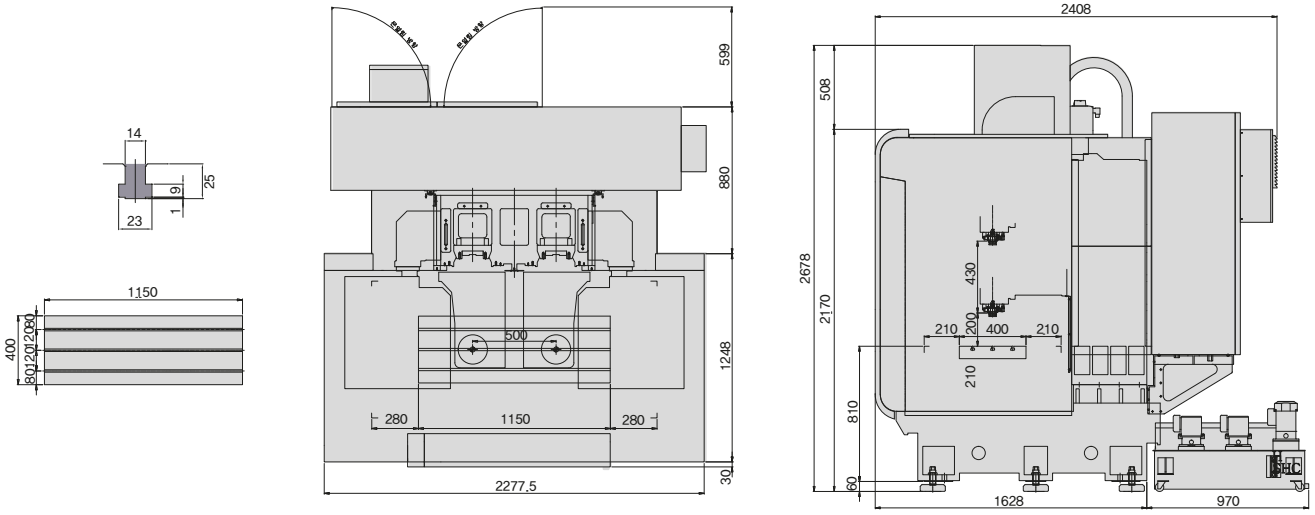


KT 420L(AL)

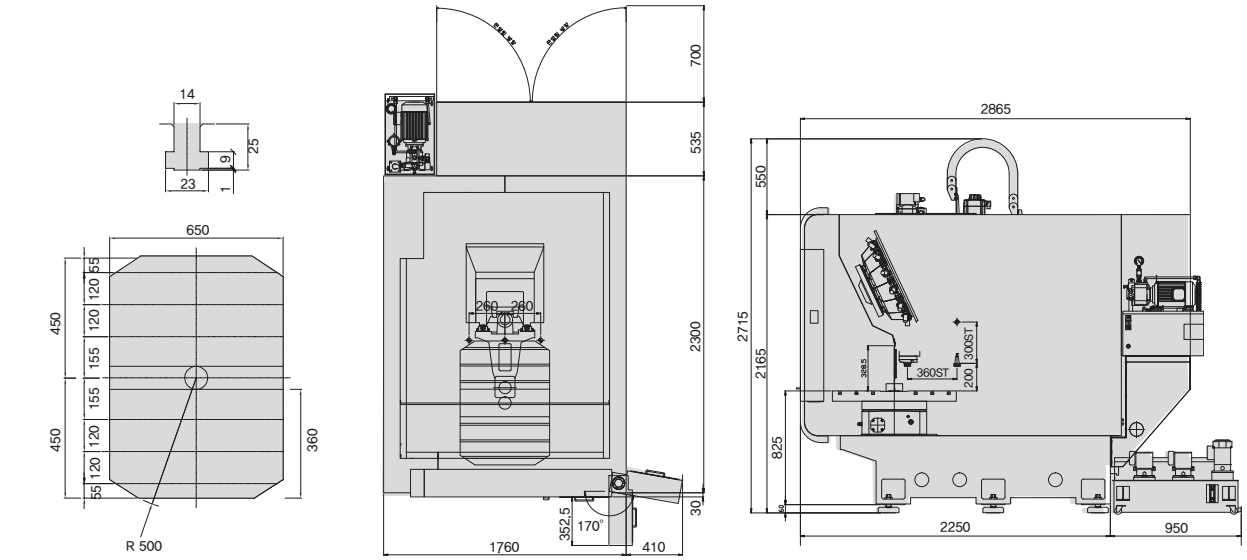
• KT 420L
• KT 420AL



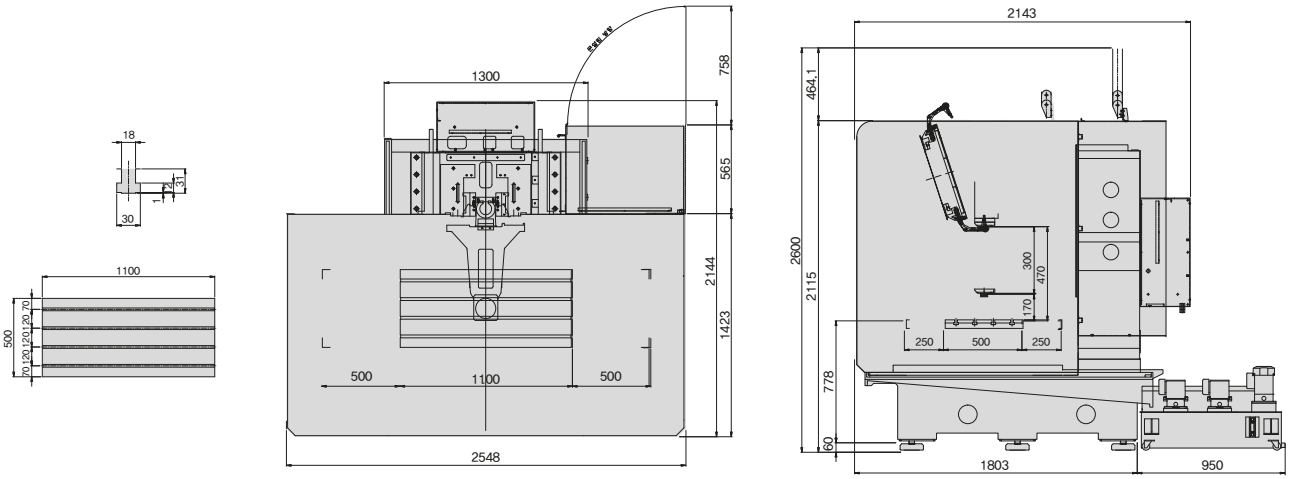
KT 420 DH



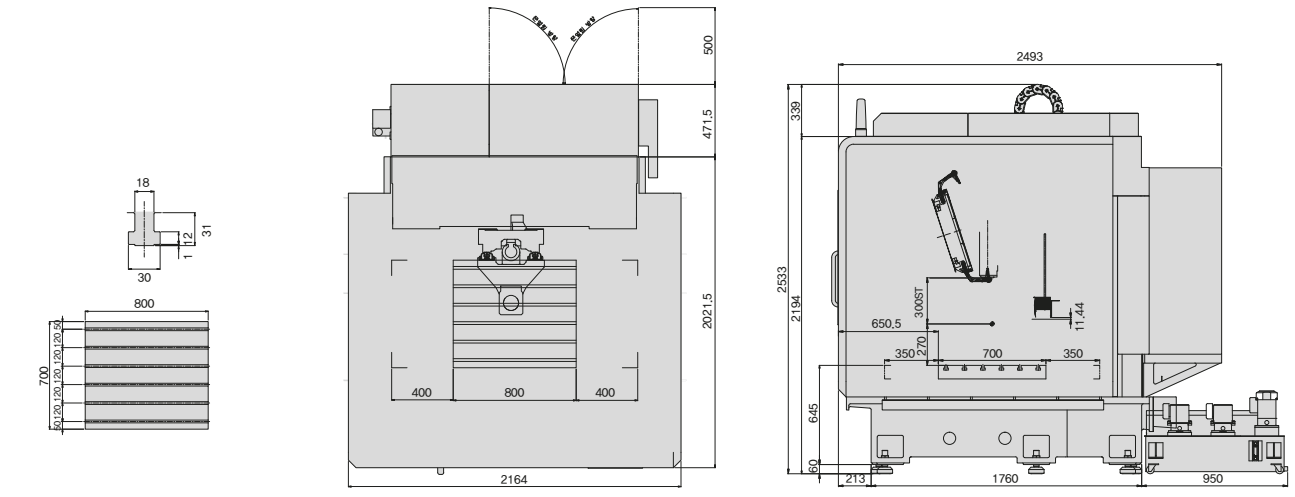
KT 360D



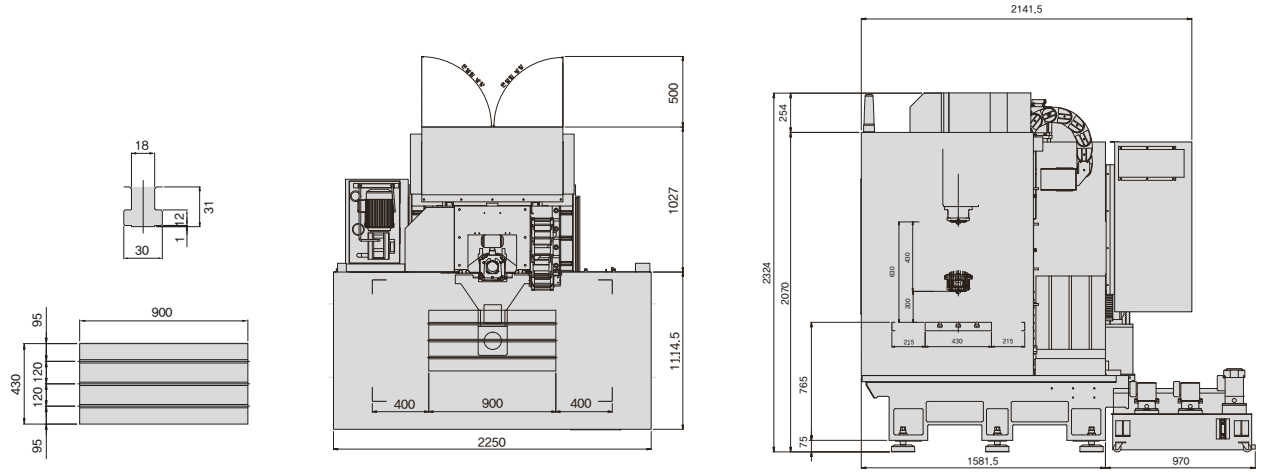
KT 500



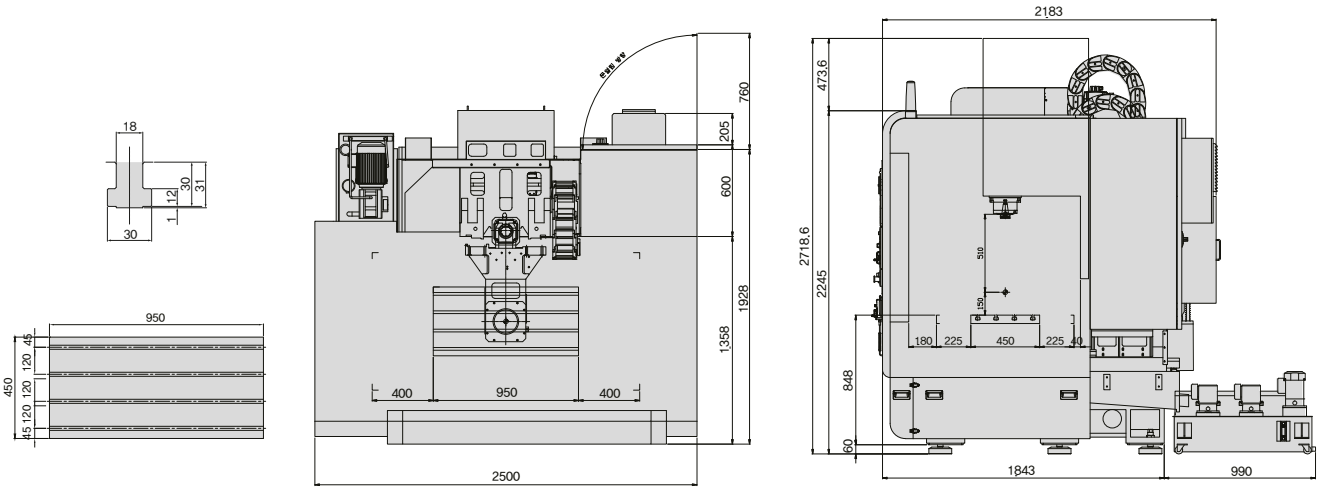
KT 700



KM 430

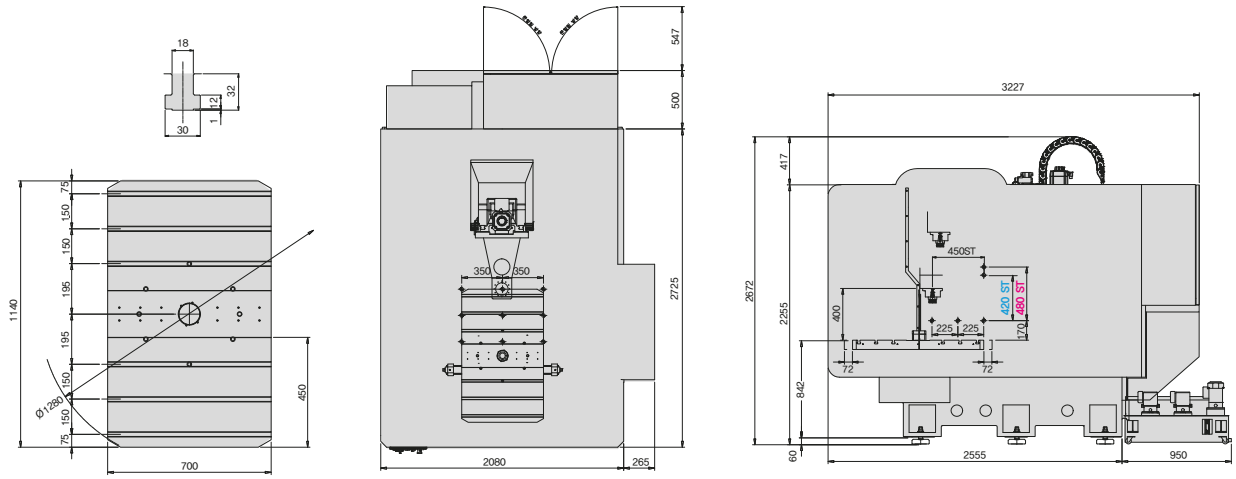


KM 450

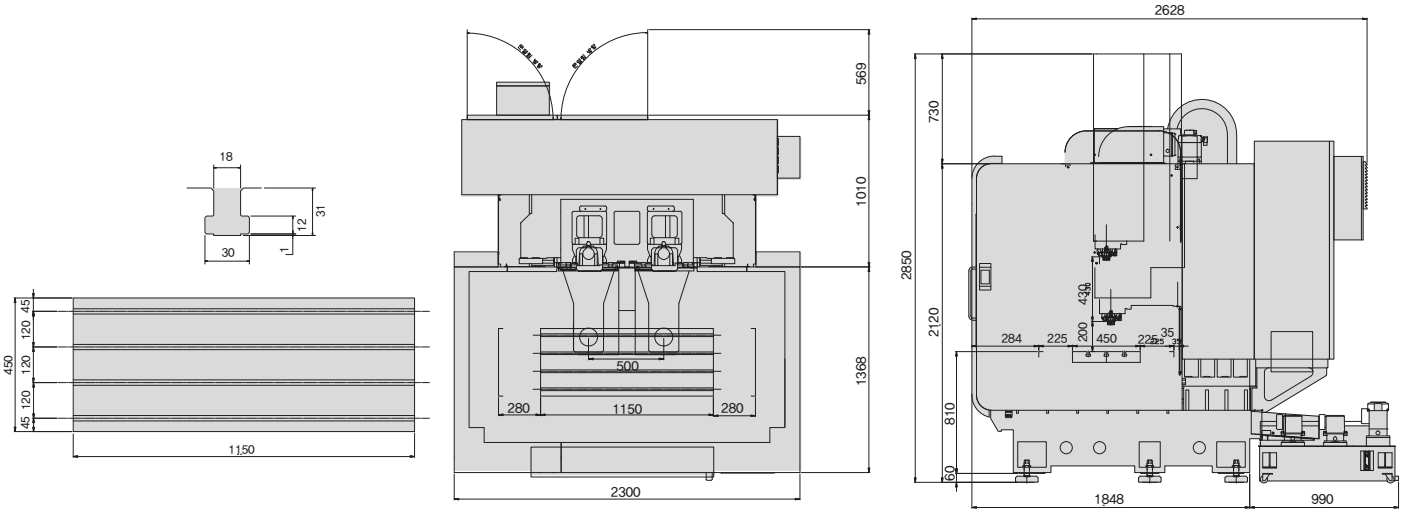


KM 450D

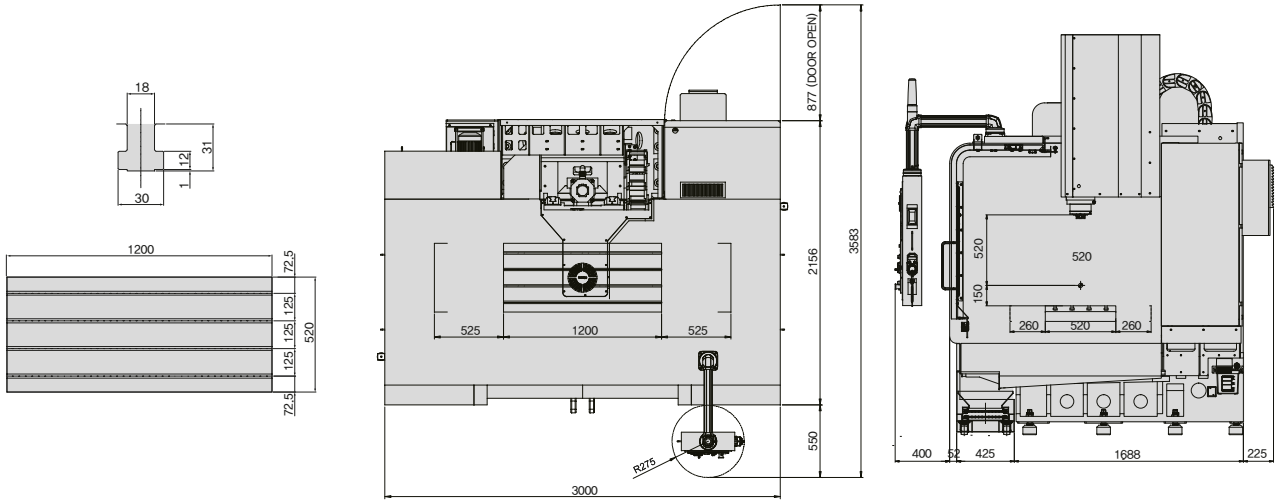
- 24 Tool
- 30 Tool



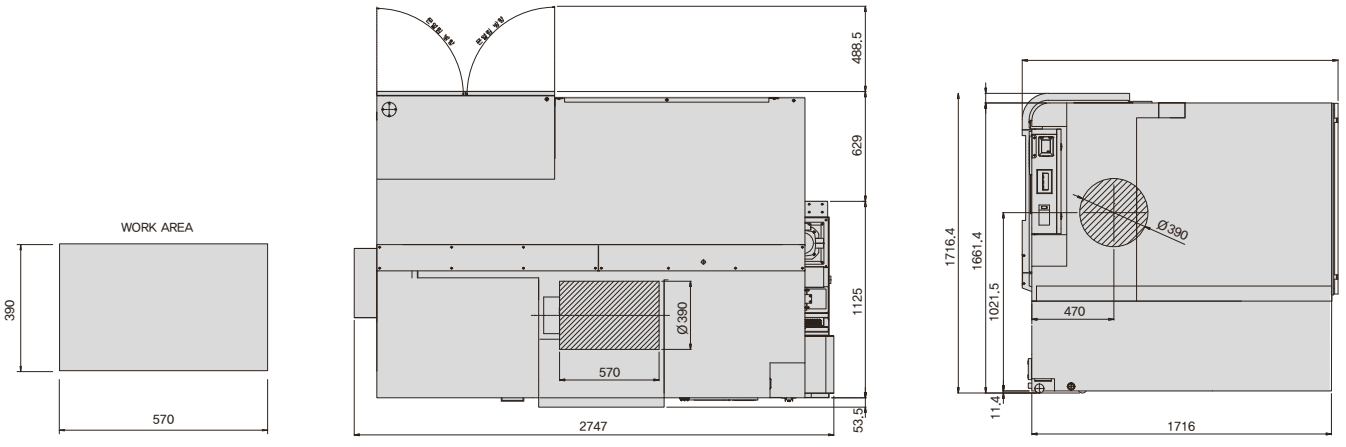
KM 450DH



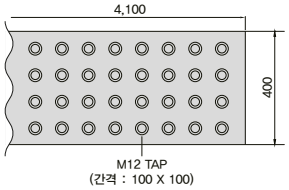
KM 520

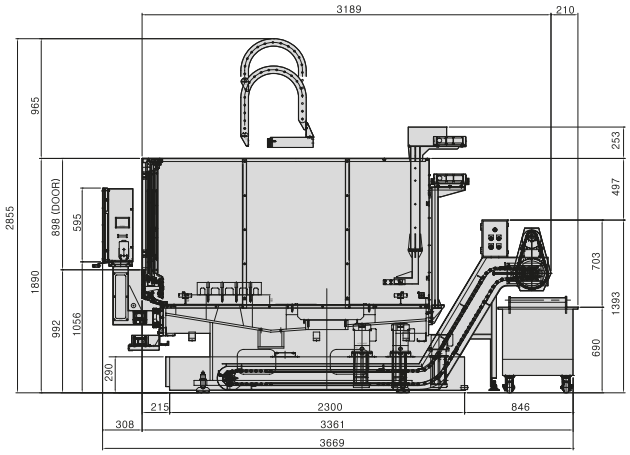


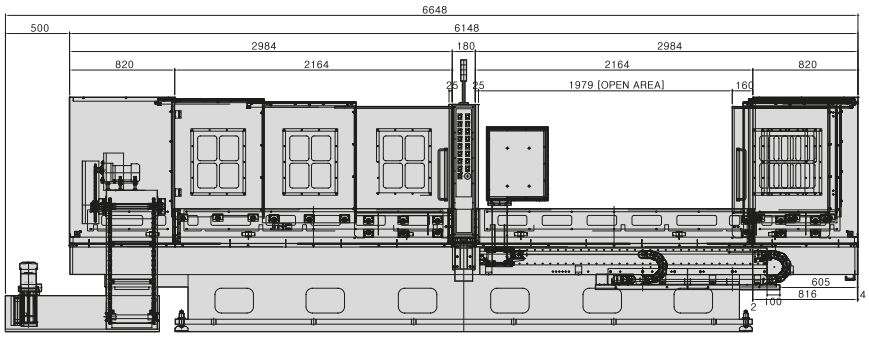
KL 2100A(B)



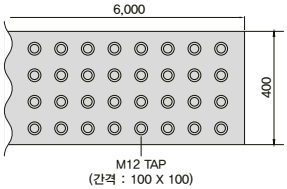
GMT 4000

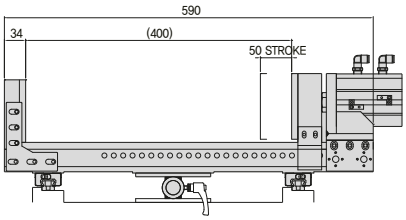


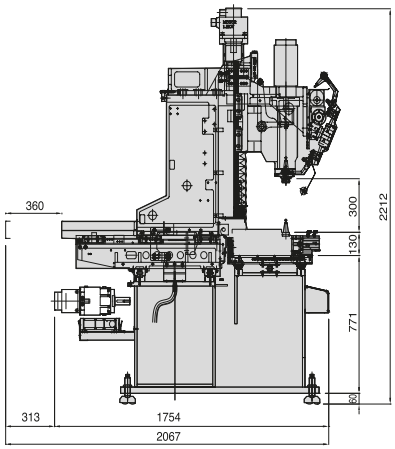


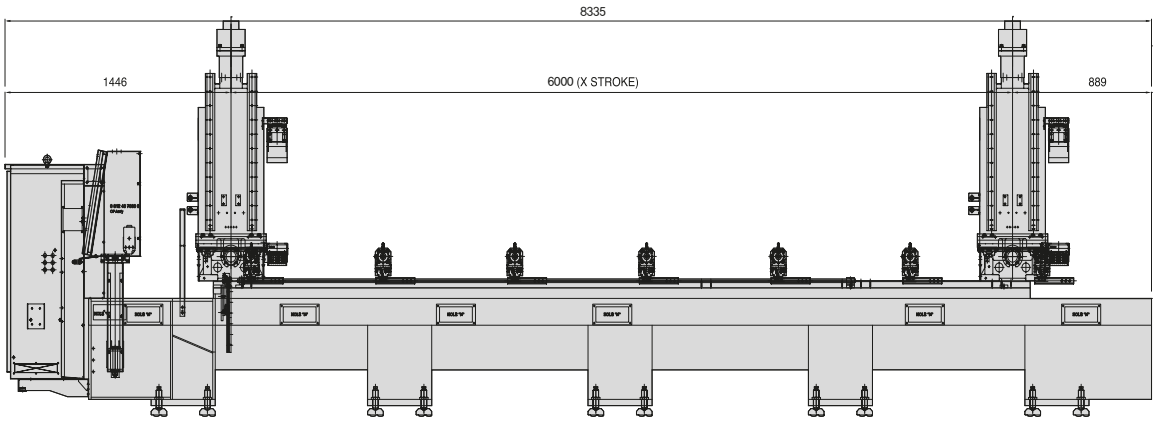


GMT 6000









MACHINE SPECIFICATIONS

ITEM			UNIT	KT 420 (420L)	KT 420 (BUILT-IN GANTRY LOADER)
TABLE	SIZE		mm	660(800) x 400	660 x 400
	Max. loading capacity		kg	250 [300] ※1	250
	Pallet change time		sec.	–	–
TRAVELS	X / Y / Z		mm	560(700) / 420 / 300	560 / 420 / 300
	Distance from table surface to spindle nose			200~500 (170~470)	200~500
SPINDLE	Spindle taper			ISO No.30 (7/24)	ISO No.30 (7/24)
	Big-plus (BBT)			OPTIONAL	OPTIONAL
	Distance between spindles			–	–
	Max. speed		rpm	10,000 [High-torque 10,000 ※3], [15,000], [24,000]	10,000 [High-torque 10,000 ※3], [15,000], [24,000]
	Spindle motor	Max. / Cont.	kW	10,000rpm:21.2/4.8 [High-torque 10,000rpm:20.9 / 8.5]	10,000rpm:21.2/4.8 [High-torque 10,000rpm:20.9/8.5]
				[15,000rpm : 21.2 / 4.8], [24,000rpm: 26.2/3.5]	[15,000rpm : 21.2 / 4.8], [24,000rpm: 26.2/3.5]
FEED RATE	X / Y / Z		m/min	60 / 60 / 60 (50 / 50 / 60)	60 / 60 / 60
ATC	Tool shank type			MAS403-BT30	MAS403-BT30
	Pull stud type			MAS403-P30T-1	MAS403-P30T-1
	Tool storage capacity		EA	14 [21]	14 [21]
	Max. tool diameter		mm	100	100
	Max. tool length			200	200
	Max. tool weight		kg	3.0 (Total tool weight 14T:25kg / 21T:35kg)	3.0 (Total tool weight 14T:25kg / 21T:35kg)
	Tool selection method			Turret (Fixed address)	Turret (Fixed address)
	Tool chang time	T – T	sec	Ⓢ 1.08 Ⓜ 1.07	Ⓢ 1.08 Ⓜ 1.07
		C – C		Ⓢ 1.40 Ⓜ 1.36	Ⓢ 1.40 Ⓜ 1.36
POWER SOURCE	Power supply			AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz
	Power capacity		kVA	25	25
MACHINE DIMENSION	Size (Tank included)	W x L	mm	1,760(2,064)(W) x 2,520(L)	3,380(W) x 2,840(L)
	Height	H	mm	2,655	2,655
	Weight		kg	2300 (2,600)	2,800
NC UNIT	Model			S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]
	Program format			G-code, M-code [Conversation]	G-code, M-code [Conversation]
	Display		inch	10.4" TFT Color	10.4" TFT Color

ITEM			UNIT	KT 420DH	KT 420DH – U Axis
TABLE	SIZE		mm	1,150 x 400	1,150 x 400
	Max. loading capacity		kg	400	400
	Pallet change time		sec.	–	–
TRAVELS	X / Y / Z		mm	560 / 420 / 430	560 / 420 / 430 / ±2 (U)
	Distance from table surface to spindle nose			200~630	200~630
SPINDLE	Spindle taper			ISO No.30 (7/24)	ISO No.30 (7/24)
	Big-plus (BBT)			OPTIONAL	OPTIONAL
	Distance between spindles		mm	500	500
	Max. speed		rpm	10,000 [High-torque 10,000], [15,000], [24,000]	10,000 [High-torque 10,000], [15,000], [24,000]
	Spindle motor	Max. / Cont.	kW	10,000rpm:21.2/4.8 [High-torque 10,000rpm:20.9/8.5]	10,000rpm:21.2/4.8 [High-torque 10,000rpm:20.9/8.5]
				[15,000rpm:21.2/4.8], [24,000rpm:26.2/3.5]	[15,000rpm:21.2/4.8], [24,000rpm:26.2/3.5]
FEED RATE	X / Y / Z		m/min	48 / 48 / 56	48 / 48 / 56
ATC	Tool shank type			MAS403-BT30	MAS403-BT30
	Pull stud type			MAS403-P30T-1	MAS403-P30T-1
	Tool storage capacity		EA	20 x 2 [26 x 2]	20 x 2 [26 x 2]
	Max. tool diameter		mm	80 [64]	80 [64]
	Max. tool length			200	200
	Max. tool weight		kg	3.0 (Total tool weight 40kg : each side)	3.0 (Total tool weight 40kg : each side)
	Tool selection method			Twin Arm (Random memory)	Twin Arm (Random memory)
	Tool chang time	T – T	sec	1.2	1.2
		C – C		1.8	1.8
POWER SOURCE	Power supply			AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz
	Power capacity		kVA	25	30
MACHINE DIMENSION	Size (Tank included)	W x L	mm	2,280(W) x 2,600 [2,800 ※2] (L)	2,280(W) x 2,600 [2,800 ※2] (L)
	Height	H	mm	2,678	2,678
	Weight		kg	5,500	5,500
NC UNIT	Model			S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]
	Program format			G-code, M-code [Conversation]	G-code, M-code [Conversation]
	Display		inch	10.4" TFT Color	10.4" TFT Color

※1 : Accelaration for X and Y axes must be adjusted. ※2 : Only the length of the Y axis front part is extended, no stroke change.

Ⓢ SIEMENS 828D Ⓜ MITSUBISHI M80

KT 420A (420AL)	KT 360D	KT 500	KT 700
660(800) x 400	650 x 900	1,100 x 500	800 x 700
250 [300] ※1	200 x 2	400	400
–	4.5	–	–
560(700) / 420 / 430	520 / 360 / 300	1,000 / 500 / 300	800 / 700 / 300
200~630 (170~600)	200~500	170 ~ 470	270~570
ISO No.30 (7/24)	ISO No.30 (7/24)	ISO No.30 (7/24)	ISO No.30 (7/24)
OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
–	–	–	–
10,000 [High-torque 10,000], [15,000], [24,000]	10,000 [High-torque 10,000], [15,000], [24,000]	10,000 [High-torque 10,000※3], [15,000], [24,000]	10,000 [High-torque 10,000 ※3], [15,000], [24,000]
10,000rpm:21.2/4.8 [High-torque 10,000rpm:20.9/8.5]	10,000rpm:21.2/4.8 [High-torque 10,000rpm:20.4/4.8]	10,000rpm:21.2/4.8 [High-torque10,000rpm:20.9/8.5]	10,000rpm:21.2/4.8 [High-torque 10,000rpm:28.2/11.0]
[15,000rpm:21.2/4.8], [24,000rpm:26.2/3.5]	[15,000rpm : 21.2 /4.8], [24,000rpm : 26.2 /3.5]	[15,000rpm : 21.2 /4.8], [24,000rpm : 26.2 /3.5]	[15,000rpm : 21.2 /4.8], [24,000rpm : 26.2 /3.5]
60 / 60 / 60 (50 / 50 / 60)	50 / 50 / 60	50 / 50 / 50	48 / 48 / 60
MAS403-BT30	MAS403-BT30	MAS403-BT30	MAS403-BT30
MAS403-P30T-1	MAS403-P30T-1	MAS403-P30T-1	MAS403-P30T-1
20 [26]	14[21]	14[21]	14[21]
80 [64]	100	100	100
200	200	200	200
3.0 (Total tool weight 40kg)	3.0 (Total tool weight 25kg)	3.0 (Total tool weight 14T:25kg / 21T:35kg)	3.0 (Total tool weight 14T:25kg / 21T:35kg)
Twin Arm (Random memory)	Turret (Fixed address)	Turret (Fixed address)	Turret (Fixed address)
1.2	Ⓢ1.08 Ⓜ1.07	1.2	1.2
1.8	Ⓢ1.40 Ⓜ1.36	1.5	1.5
AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz
25	25	19	25
1,760(2,064)(W) x 2,520(L)	1,760(W) x 3,200(L)	2,600(W) x 2,200(L)	2,231(W) x 3,036(L)
2,655	2,715	2,600	2,533
2,500 (2,800)	4,300	4,300	6,000
S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]
G-code, M-code [Conversation]	G-code, M-code [Conversation]	G-code, M-code [Conversation]	G-code, M-code [Conversation]
10.4" TFT Color	10.4" TFT Color	10.4" TFT Color	10.4" TFT Color

KM 430	KM 450	KM 450D (KM 450S)	KM 520
900 x 430	950 x 450	700 x 1,140 (1,200 x 540)	1,200 x 520
350	400	200 x 2	800
–	–	4.5 ※4	–
800 / 430 / 430	800 / 450 / 510	700 / 450 / 480 [30T: 700 / 450 / 420]	1,050 / 520 / 520
200~630	150~660	170~650 [30T: 170~590]	150~670
ISO No.40 (7/24)	ISO No.40 (7/24)	ISO No.40 (7/24)	ISO No.40 (7/24)
OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
–	–	–	–
8,000[12,000]	8,000[12,000]	8,000 [12,000]	8,000 [12,000]
8,000rpm : 20.9 / 8.5	8,000rpm : 24.0 / 11.0	8,000rpm : 20.9 / 8.5	8,000rpm : 24.0 / 11.0
[12,000rpm : 20.9 / 8.5]	[12,000rpm : 24.0 / 11.0]	[12,000rpm : 20.9 / 8.5]	[12,000rpm : 24.0 / 11.0]
50 / 50 / 50	36 / 36 / 36	36 / 36 / 42	36 / 36 / 30
MAS-BT40	MAS-BT40	MAS-BT40	MAS-BT40
PS-805	PS-805	PS-805	PS-805
20	24 [30]	24 [30]	24 [30]
80	80	80	80
300	300	300	300
7.0 (Total tool weight 100kg)	7.0 (Total tool weight 24T:120kg / 30T:150kg)	7.0 (Total tool weight 24T:120kg / 30T:150kg)	7.0 (Total tool weight 24T:120kg / 30T:150kg)
Twin Arm (Random memory)	Twin Arm (Random memory)	Twin Arm (Random memory)	Twin Arm (Random memory)
1.4	1.5	1.4	1.7
2.5	2.9	3.4	3.4
AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz
26.2	35	36	35
2,290(W) x 2,560(L)	2,500(W) x 2,833(L)	2,408(W) x 3,435(L) / 2,400(W) x 3,070(L)	3,000(W) x 2,790(L)
2,630	2,718	2,943	2,955
4,000	5,000	6,500 (5,300)	6,000
S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF], [SENTROL]
G-code, M-code [Conversation]	G-code, M-code [Conversation]	G-code, M-code [Conversation]	G-code, M-code [Conversation]
10.4" TFT Color	10.4" TFT Color	10.4" TFT Color	10.4" TFT Color

[ ]: OPT

※3 High torque 10,000 rpm is only available in 21 tool magazine ※4 KM450S does not use pallet changer

ITEM			KM 450DH	GMT 4000	GMT 6000
TABLE	SIZE		1,150 x 450	4,100 x 400	6,000 x 400 (6EA x 400)
	Max. loading capacity		400	–	–
	Pallet change time		–	–	–
TRAVELS	X / Y / Z		560 / 450 / 430	4,000 / 360 / 300	6,000 / 360 / 300
	Distance from table surface to spindle nose		200~630	200~500	130~430
SPINDLE	Spindle taper		ISO No.40 (7/24)	ISO No.30 (7/24)	ISO No.30 (7/24)
	Big-plus (BBT)		OPTIONAL	OPTIONAL	OPTIONAL
	Distance between spindles		500	–	–
	Max. speed		8,000, [12,000]	10,000 [15,000]	10,000 [15,000]
	Spindle motor	Max. / Cont.	8,000rpm : 21.2 / 8.5	10,000rpm : 21.2 /4.8	10,000rpm : 21.2 /4.8
			[12,000rpm : 21.2 / 8.5]	[15,000rpm : 21.2 /4.8]	[15,000rpm : 21.2 /4.8]
FEED RATE	X / Y / Z		48 / 48 / 56	30 / 36 / 60	30 / 36 / 60
ATC	Tool shank type		MAS403-BT40	MAS403-BT30	MAS403-BT30
	Pull stud type		PS-805	MAS403-P30T-1	MAS403-P30T-1
	Tool storage capacity		20 x 2 [30 x 2]	14	14
	Max. tool diameter		80	80	80
	Max. tool length		300	200	200
	Max. tool weight		7.0 (Total tool weight 100kg : each side)	3.0 (Total tool weight 25kg)	3.0 (Total tool weight 25kg)
	Tool selection method		Twin Arm (Random memory)	Turret (Fixed address)	Turret (Fixed address)
	Tool chang time	T – T	1.7	1.1	1.1
		C – C	2.3	1.9	1.9
POWER SOURCE	Power supply		AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz	AC380V±10%, 55Hz ±5Hz
	Power capacity		26.2	25	25
MACHINE DIMENSION	Size (Tank included)	W x L	2,490(W) x 2,850(L)	6,648(W) x 3,669(L)	7,820(W) x 1,754(L)
	Height	H	2,650	2,855	2,700
	Weight		7,000	10,000	12,000
NC UNIT	Model		S-828D [M80], [F-OiMF], [SENTROL]	S-828D [M80], [F-OiMF]	S-828D [M80], [F-OiMF]
	Program format		G-code, M-code [Conversation]	G-code, M-code [Conversation]	G-code, M-code [Conversation]
	Display		10.4" TFT Color	10.4" TFT Color	10.4" TFT Color

[ ]: OPT

ITEM		KL 2100A(B)
CAPACITY	Swing Over the Bed (mm)	570(552)
	Swing Over The Carriage (mm)	390
	Max. Turnning Dia. (mm)	390
TRAVEL (X / Z)	X (mm)	220
	Z (mm)	570
SPINDLE	Spindle nose	A2 #6(A2 #8)
	Spindle bore (mm)	76(90)
	Chuck size (inch)	8(10)
	Spindle speed (rpm)	4500(3500)
	Motor (Max / Cont) (Kw)	4500 rpm : 15.0 / 11.0 (3500 rpm : 15.0 / 11.0)
FEED	X / Z (m/min)	24 / 30
ATC	Tool storage capacity (EA)	12
	OD tool size (mm)	25 x 25 mm
	Max. boring bar size (Φ)	40mm
	ATC type	Turret
	Indexing time (sec)	0.15
	Travel (mm)	570
	Quill dia. (mm)	65
	Taper	MT 4 (Live center)
	Quill travel (mm)	80
POWER SUPPLY	Power supply	AC380V±10%, 55Hz ±5Hz
	Power capacity (kVA)	25(30)
MACHINE DIMENSION	Size (mm)	2,750(W) x 1,865 (L)
	Height (mm)	1750
	Weight (Kg)	3,500 (4,000)
NC UNIT	Model	S-828D [M80], [F-OiMF], [SENTROL]
	Program format	G-code, M-code [Conversation]
	Display	10.4" TFT Color

KOMATECH

STD & OPT SPECIFICATIONS

		KT 420(L)	KT 420A(L)	KT 360D	KT 500	KT 700	KT 420DH	KM 430	KM 450	KM 450D	KM 450DH	KM 520	GMT 4000	GMT 6000
Basic machine component														
Splash guard		●	●	●	●	●	●	●	●	●	●	●	●	●
Coolant tank		●	●	●	●	●	●	●	●	●	●	●	●	●
Work light		●	●	●	●	●	●	●	●	●	●	●	●	●
Indicator light		●	●	●	●	●	●	●	●	●	●	●	●	●
Leveling bolt and Nut		●	●	●	●	●	●	●	●	●	●	●	●	●
Instruction manual		●	●	●	●	●	●	●	●	●	●	●	●	●
Fixed MPG handle		●	●	×	●	×	●	●	●	×	●	●	×	×
Portable MPG handle ※1		○	○	●	○	●	○	○	○	●	○	○	●	●
Jig interperance prevention														
High column	150mm	○	○	×	○	○	○	○	○	×	○	○	×	×
	250mm	○	○	×	○	○	○	○	○	×	○	○	×	×
Deep hole and roughness improvement														
Coolant through spindle	20bar	○	○	○	○	○	○	○	○	○	○	○	○	×
	30bar	○	○	○	○	○	○	○	○	○	○	○	○	×
	70bar	○	○	○	○	○	○	○	○	○	○	○	○	×
Cleaning device														
Bed Shower		○	○	○	○	○	○	○	○	○	○	○	○	○
Spindle taper washing system		○	○	○	○	○	○	○	○	○	○	○	○	○
Coolant gun / Air gun		○	○	○	○	○	○	○	○	○	○	○	○	○
Chip disposal														
Chip conveyor	Scrapper Type	○	○	○	○	○	○	○	○	○	○	○	○	○
	Hinge Type	○	○	○	○	○	○	○	○	○	○	○	○	○
	Drum Filter Type	○	○	○	○	○	○	○	○	○	○	○	○	○
Chip bucket	Fixed Type	○	○	○	○	○	○	○	○	○	○	○	○	○
	Swing Type	○	○	○	○	○	○	○	○	○	○	○	○	○
Automation														
Auto door		○	○	○	○	○	○	○	○	○	○	○	○	○
Interface for Gantry Loader		○	○	○	○	○	○	○	○	○	○	○	○	○
Interface for multi-Joint robot		○	○	○	○	○	○	○	○	○	○	○	○	○
Auto power off		○	○	○	○	○	○	○	○	○	○	○	○	○
Working environment														
Oil mist cleaner		○	○	○	○	○	○	○	○	○	○	○	○	○
Oil Skimmer		○	○	○	○	○	○	○	○	○	○	○	○	○
MQL(Minimum Quantity Lubircation)		○	○	○	○	○	○	○	○	○	○	○	○	○
Air conditioner in main box ※2		○	○	○	○	○	●	○	●	○	●	●	○	○
TOP COVER		○	○	○	○	○	○	○	○	○	○	○	○	×
Jig interface														
Rotary table		○	○	○	○	○	○	○	○	○	○	○	○	○
Additional axis		○	○	○	○	○	○	○	○	○	○	○	○	○
Hydraulic Jig interface		○	○	○	○	○	○	○	○	○	○	○	○	○
Pnumatic Jig interface		○	○	○	○	○	○	○	○	○	○	○	○	○
Air confirm		○	○	○	○	○	○	○	○	○	○	○	○	○
Air blow		○	○	○	○	○	○	○	○	○	○	○	○	○
Measurement														
Tool Presetter		○	○	○	○	○	○	○	○	○	○	○	○	○
Broken tool detector		○	○	○	○	○	○	○	○	○	○	○	○	○
Workpeice probe		○	○	○	○	○	○	○	○	○	○	○	○	○
Tool monitering system		○	○	○	○	○	○	○	○	○	○	○	○	○
Assist device														
Spindle cooler unit ※3		○	○	○	○	○	○	○	○	○	○	○	○	○
Hydro Unit		○	●	●	○	○	●	●	●	●	●	●	○	○
Soft Ware														
Heat expansion compensation		●	●	×	●	●	●	●	●	×	●	●	×	×
Tool counter / Work counter		●	●	●	●	●	●	●	●	●	●	●	●	●
Tool life management		●	●	●	●	●	●	●	●	●	●	●	●	●
Memory expansion / Conversation program		○	○	○	○	○	○	○	○	○	○	○	○	○
Safety device														
Interlock		●	●	●	●	●	●	●	●	●	●	●	●	●
Door lock		○	○	○	○	○	○	○	○	○	○	○	○	○

※1 When equipped with a movable MPG handle, the seat of the fixed MPG handle can be blocked at the request of the customer.

※2 Air-conditioner specification is subject to change according to NC specifications.

※3 If the maximum spindle speed is over 12,000 (BT40) / 15,000 (BT30) rpm, a spindle cooling device is required.

● : STD ○ : OPT × : Not available