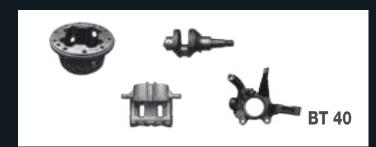


# **K#MATECH**MACHINE TOOLS LINE-UP

Examples of target workpieces

I.T & 자동차부품 / 일반가공품









KT 420



KT 420A



KT 420DH



KT 420L



KT 420AL



KT 360D



KT 500



KT 700



HIGH SPEED MACHINING CENTER

KM 430



KM 450D



KM 450DH



KM 450



KM 500



#### HORIZONTAL MACHINING CENTER

**KM 500H** 



### LONG TRAVEL MACHINING CENTER

KT 2000(2100)



## ■ HIGH SPEED TAPPING CENTER

## KT 420 series

High productive, high-speed tapping center with compact design, high acceleration and rapids



SPECIFICATIONS	KT 420(L)	KT 420A(AL)	
X/Y/Z travels(mm)	560(700)/420/350	560(700)/420/480	
Spindle taper	ISO No.30	ISO No.30	
Max. spindle speed(rpm)	10,000 / High torque 10,000 (Opt.)	10,000 / High torque 10,000 (Opt.)	
	15,000 (Opt.) / 24,000 (Opt.)	15,000 (Opt.) / 24,000 (Opt.)	
Tool storage capacity(pcs)	14 / 21 (Opt,) / 28 (Opt,)	20 / 26 (Opt,)	
Machine size(mm)	1,752 (2,064) x 2,600	1,752 (2,064) x 2,600	

#### TURRET TYPE TOOL CHANGER KT420 / KT 420L



Tool to Tool

**0.96** sec

Chip to Chip

**1.37** sec

\*1 MITSUBISHI HIGH ACC.SPECIFICATION

The self-developed tool changer has secured high durability by the sealed structure of the drive unit, and the design optimized for high-speed rotation provides the best-in-class tool change speed.

\* Tool storage capa.: 14 pcs [Opt: **21 / 28** pcs]

#### TWIN ARM TYPE TOOL CHANGER KT420A / KT 420AL



Tool to Tool

**1.2** sec

Chip to Chip

**1.8** sec

Store the tool in a side magazine box to block chip inflow, protect the taper surface, and prepare the following tool ports during processing for quick tool change without unnecessary latency.

\* Tool storage capa.: 20 pcs [Opt: **26** pcs]

#### **VARIOUS SPINDLE SPEED**



STD. **10,000** rpm

OTP. **10,000** rpm (High Torque)

15,000 rpm 24,000 rpm

The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. In addition, a various spindle speed specifications can cope with a wide range of machining.

\*CTS is available(OPT.)

HIGH TORQUE SPECIFICATION (OPT.)

Max. torque 84.3 Nm

HIGH ACC. SPECIFICATION (OPT.)  $0 \text{ rpm} \leftrightarrow 10,000 \text{ rpm}$  0.19 sec

MITSUBISHI NC SPEC.

#### 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.

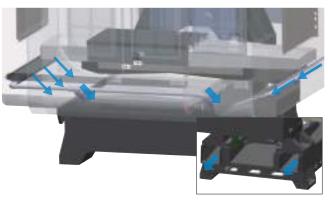


#### HIGH RIGIDITY STRUCTURE



Through structural analysis implemented a mechanical structure that enables stable and high-quality cutting processing by increasing rigidity and minimizing vibration

#### CHIP DISCHARGE CAPABILITY



The bad structure tilted from front to rear, the optimization of chip discharge paths and bed shower nozzles, and the application of improved pumps for high-discharge bed showers enable smooth chip discharge from inside equipment to tank.

### **■ HIGH SPEED TAPPING CENTER**

## KT 420DH / KM 450DH

High-speed tapping / machining center with overwhelming high-productivity dual spindle



KT 420DH	KM 450DH	
560 / 420 / 430	560 / 450 / 430	
ISO No.30	ISO No.40	
10,000 / High torque 10,000 (Opt.)	8,000 / 12,000 (Opt.)	
15,000 (Opt.) / 24,000 (Opt.)		
20 x 2 / 26 x 2 (Opt.)	20 x 2	
2,120 x 2,775	2,500 x 2,835	
	560 / 420 / 430 ISO No.30 10,000 / High torque 10,000 (Opt.) 15,000 (Opt.) / 24,000 (Opt.) 20 x 2 / 26 x 2 (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 through separated motion when it is necessary.

#### TWIN ARM TYPE TOOL CHANGER



#### **KT 420DH**

Tool to Tool 1.2 sec Chip to Chip 1.8 sec

#### **KM 450DH**

Tool to Tool 1.4 sec Chip to Chip 2.3 sec

#### **VARIOUS SPINDLE SPEED**



#### KT 420DH (BT30)

STD. **10,000** rpm

OTP. **10,000** rpm (High Torque)

15,000 rpm

**24,000** rpm

KM 450DH (BT40)

Max. speed

STD. **8,000** rpm OTP. 12,000 rpm

Max. torque

118.0 Nm

#### 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.



The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. In addition, a various spindle speed specifications can cope with a wide range of machining.

\*CTS is available(OPT.)

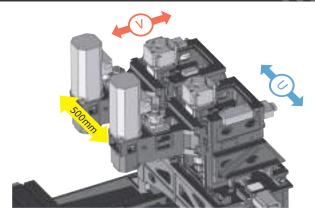
#### Y-AXIS EXPANSION(OPT.)





The 200mm extension is possible to the front of the Y-axis makes it easy to build automation of the gantry loader.

### MICRO ADJUSTMENT OF SPINDLE DISTANCE (OPT.)



U-axis & V-axis are available for ±2mm micro-adjustment and these can flexibly cope with the jig application when applying the rotary table.

## **■ HIGH SPEED TAPPING CENTER**

## KT 360D

High productivity dual table tapping center with pallet changer



#### **SPECIFICATIONS**

Table size(mm)	650 x 360 (One face)	
X/Y/Z travels(mm)	520 / 360 / 300	
Spindle taper	ISO No.30	
Max. spindle speed(rpm)	10,000 / High torque 10,000 (Opt.)	
	15,000 (Opt.) / 24,000 (Opt.)	
Tool storage capacity(pcs)	14 / 21 (Opt,)	
Machine size(mm)	1,760(2,060)* x 3,200	

#### HIGH RELIABLE DUAL TABLE

## 360mm 520mm PALLET CHANGE TIME **4.5** sec

Hydraulic HIRTH coupling gear-type precision dual table quickly and accurately performs positioning after rotating the table without UP&DOWN motion.

#### **VARIOUS SPINDLE SPEED**



STD. **10,000** rpm

OTP. **10,000** rpm (High Torque)

**15,000** rpm

**24,000** rpm

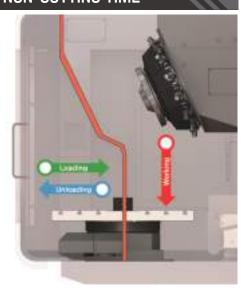
MITSUBISHI NC SPEC.

The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during machining. In addition, a various spindle speed specifications can cope with a wide range of machining.

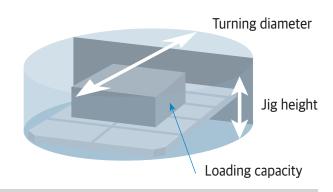
\*CTS is available(OPT.)

#### MINIMIZE NON-CUTTING TIME

The workpiece on the opposite table can be exchanged during processing, shortening noncutting time.



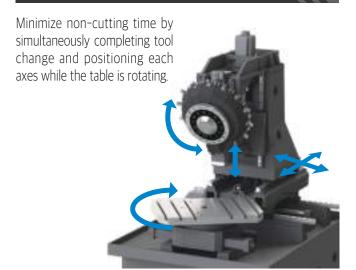
#### APPLICATION RANGE OF JIG



Loading capacity Ø1,000 Jig height Loading capacity

320 mm 200 kg x 2

#### SIMULTANEOUS MOTION CONTROL



#### 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 available optimized investment.



## ■ HIGH SPEED TAPPING CENTER

## **KT** 500

High-speed tapping center with 50 m/min rapids and wide work area.

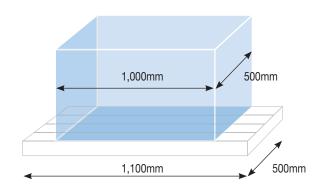


#### **SPECIFICATIONS**

X/Y/Z travel(mm)	1,000 / 500 / 300	
Spindle taper	ISO No.30	
Max. spindle speed(rpm)	10,000 / High torque 10,000 (Opt.)	
	15,000 (Opt.) / 24,000 (Opt.)	
Tool storage capacity(pcs)	14 / 21 (Opt,) / 28 (Opt.)	
Machine size(mm)	2,548 x 2,753	

#### **WIDE WORKING AREA**

A wide area of  $X1,100 \times Y500$  mm can apply for a various jig, including from large light cutting workpiece used in existing machining center to a number of small workpiece.





#### **VARIOUS SPINDLE SPEED**



STD. **10,000** rpm

OTP. **10,000** rpm (High Torque)

**15,000** rpm

13,000 ipii

**24,000** rpm

HIGH TORQUE SPECIFICATION (OPT.)

Max. torque **84.3** Nm

HIGH ACC. SPECIFICATION (OPT.)  $0 \text{ rpm} \leftrightarrow 10,000 \text{ rpm}$  0.19 sec

MITSUBISHI NC SPEC.

The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and high precision during machining. In addition, a various spindle speed specifications can cope with a wide range of machining

\*CTS is available (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.



#### HIGH RIGIDITY STRUCTURE



Through structural analysis implemented a mechanical structure that enables stable and high-quality cutting processing by increasing rigidity and minimizing vibration.

#### TURRET TYPE TOOL CHANGER



Tool to Tool

**1.03** sec

Chip to Chip

**1.37** sec

\*1 MITSUBISHI HIGH ACC. SPECIFICATION

The self-developed tool changer has secured high durability by the sealed structure of the drive unit, and the design optimized for high-speed rotation provides the best-in-class tool change speed.

\* Tool storage capacity: 14 pcs [Opt: 21 / 28 pcs]

<sup>\*1</sup> Standard NC specification tool change time (T-T): 1.2 sec

## **■ HIGH SPEED TAPPING CENTER**

## **KT** 700

High-speed tapping center with precise and powerful machining performance

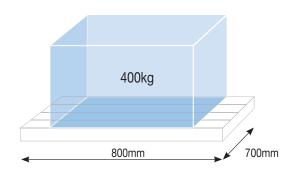


#### **SPECIFICATIONS**

X/Y/Z travel(mm)	800 / 700 / 300	
Spindle taper	ISO No.30	
Max. spindle speed(rpm)	10,000 / High torque 10,000 (Opt.)	
	15,000 (Opt.) / 24,000 (Opt.)	
Tool storage capacity(pcs)	14 / 21 (Opt,) / 28 (Opt.)	
Machine size(mm)	2,164 x 2,923	

#### HIGH RIGIDITY STRUCTURE

X-axis and Y-axis have separate moving structures, enabling stable highprecision work, 800x700mm wide-area travel distance and up to 400kg weight can be loaded, enabling a wide range of Jig application from a large workpiece to a number of small workpiece.





#### **VARIOUS SPINDLE SPEED**



STD. 10,000 rpm

OTP. 10,000 rpm (High Torque)

**15,000** rpm

**24,000** rpm

HIGH TORQUE SPECIFICATION (OPT.) Max. torque 84.3 Nm

HIGH ACC. SPECIFICATION (OPT.) 0 rpm ↔ 10,000 rpm 0.19 sec

MITSUBISHI NC SPEC.

The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. In addition, a various spindle speed specifications can cope with a wide range of machining.

\*CTS is available (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.



#### TURRET TYPE TOOL CHANGER



Tool to Tool **1.03** sec

Chip to Chip

**1.37** sec

\*1 MITSUBISHI HIGH ACC. **SPECIFICATION** 

The self-developed tool changer has secured high durability by the sealed structure of the drive unit, and the design optimized for highspeed rotation provides the best-in-class tool change speed.

\* Tool storage capa.: 14 pcs [Opt: 21 / 28 pcs]

#### 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.

<sup>\*1</sup> Standard NC specification tool change time (T-T): 1.2 sec

## **■ HIGH SPEED MACHINING CENTER**

## KM 430

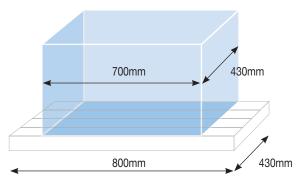
High productive, high-speed machining center with compact design and 48 m/min of rapids.

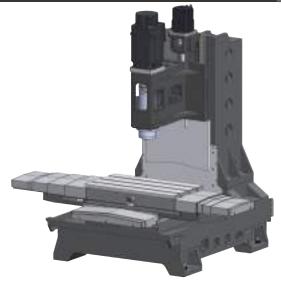


#### **SPECIFICATIONS**

Table size(mm)	800 x 430
X/Y/Z travel(mm)	700 / 430 / 430
Spindle taper	ISO No.40
Max. spindle speed(rpm)	8,000 / 12,000 (Opt.)
Tool storage capacity(pcs)	20 / 24 (Opt.)
Machine size(mm)	2,064 x 2,603

Work area of X800 x Y430mm, rapids of 48 m/min and BT40-class spindle can cope with a various machining with high productivity and heavy-duty machining close to tapping center.





#### HIGH PERFORMANCE SPINDLE



MAX. SPEED
STD. **8,000** rpm
OTP. **12,000** rpm
MAX. TORQUE

**118.0** Nm

MITSUBISHI NC SPEC.

The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. In addition, a various spindle speed specifications can cope with a wide area of machining.

\*CTS is available (OPT.)

#### TWIN ARM TYPE TOOL CHANGER



Tool to Tool

1.4 sec

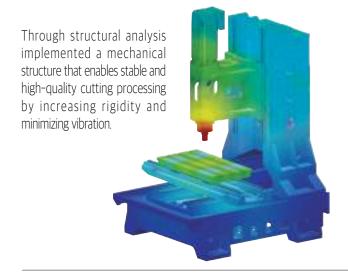
Chip to Chip

2.5 sec

\* Tool storage capacity: 20 pcs [Opt: 24 pcs]

High-speed cam motor driven twin arm type tool changer. the optimized tool change sections ensure faster and more stable movement and higher durability.

### HIGH RIGIDITY STRUCTURE



#### **SLIDEWAY**



RAPIDS (X/Y/Z)

48/48/48 m/min

High-power servo motors with excellent responsiveness, high-precision L/M guides, and ultra-precise ball screws were applied to secure high reliability and fast travel capability.

## **■ HIGH SPEED MACHINING CENTER**

## **KM 450D**

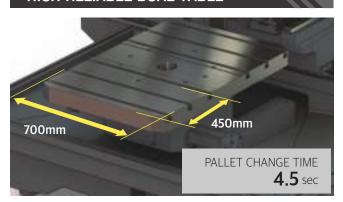
High productivity dual table machining center with pallet changer



#### **SPECIFICATIONS**

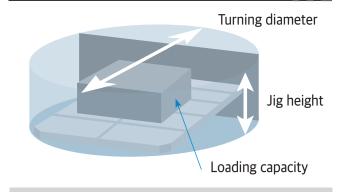
Table size(mm)	700 x 450 (One face)
X/Y/Z travels(mm)	700/450/480(420)*
Spindle taper	ISO No.40
Max. spindle speed(rpm)	8,000 / 12,000 (Opt.)
Tool storage capacity(pcs)	24 / 30 (Opt.)
Machine size(mm)	2,345 x 3,505

#### HIGH RELIABLE DUAL TABLE



The hydraulic HIRTH coupling gear type precision dual table performs positioning quickly and accurately after rotating the table without a separate UP&DOWN operation.

#### APPLICATION RANGE OF JIG



Loading capacity

Jig height

Loading capacity

Ø1,280 400 mm

200 kg x 2

#### HIGH PERFORMANCE SPINDLE



MAX. SPEED STD. **8,000** rpm OTP. **12,000** rpm

MAX. TORQUE

Mitsubishi NC specification.

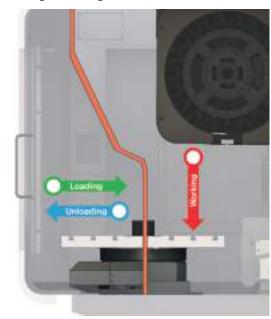
118.0 Nm

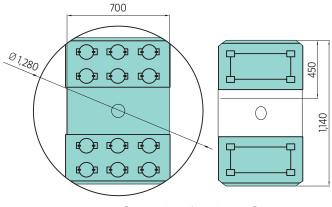
The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. In addition, a various spindle speed specifications can cope with a wide area of machining.

\*CTS is available (OPT.)

#### REDUCTION OF NON-CUTTING TIME

The workpiece on the opposite table can be exchanged during processing, shortening non-cutting time.

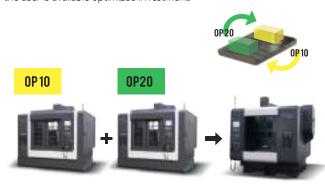




#### [Examples of application]

### PROCESS DUALIZATION

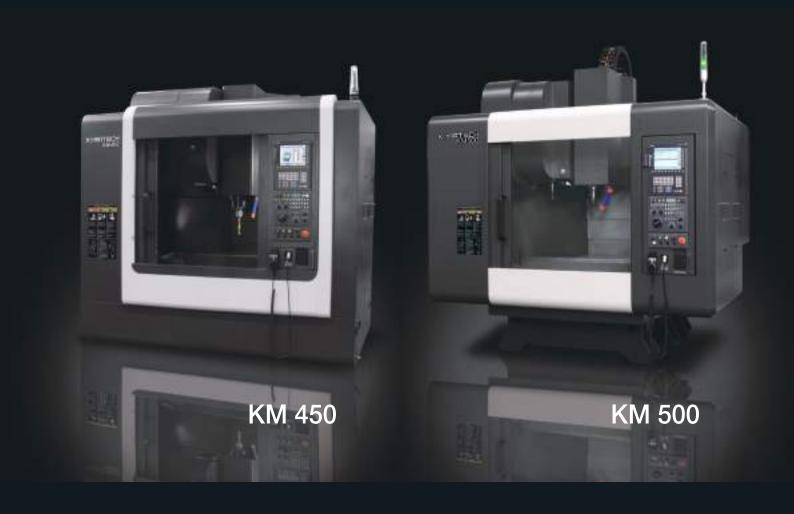
The application of the dual table and the 30 tool magazine can perform 2 processes in one machine and the line balance can be improved. And the user is available optimized investment.



## **■ HIGH SPEED MACHINING CENTER**

## KM 450 / KM 500

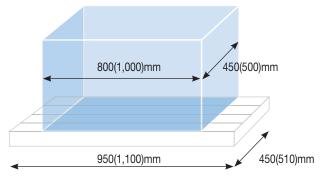
High-performance machining center with powerful and precise machining capability.



SPECIFICATIONS	KM 450	KM 500	
Table size(mm)	950 x 450	1,100 x 510	
X/Y/Z travel(mm)	800 / 450 / 510	1,000 / 500 / 520	
Spindle taper	ISO No.40	ISO No.40	
Max. spindle speed(rpm)	8,000 / 12,000 (Opt.)	8,000 / 12,000 (Opt.)	
Tool storage capacity(pcs)	24 / 30 (Opt.)	24 / 30 (Opt.)	
Machine size(mm)	2,500 x 2,833	2,692 x 2,886	

#### HIGH RIGIDITY STRUCTURE

Through structural analysis implemented a mechanical structure that enables stable and high-quality cutting processing by increasing rigidity and minimizing vibration.







#### HIGH PERFORMANCE SPINDLE



MAX. SPEED STD. **8,000** rpm OTP. **12,000** rpm

MAX. TORQUE

159.0 Nm

MITSUBISHI NC SPEC.

Cutting oil inflow prevention design, ultra-precise bearing and high-tensile spring application provide high durability and precision during processing, and optimization of torque and acc./deceleration according to low-speed/high-speed sections can cope with various machining including heavy-duty cutting and high-speed milling. \*CTS is available (OPT.)

#### TWIN ARM TYPE TOOL CHANGER



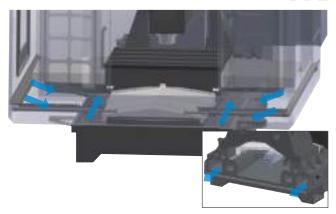
Tool to Tool **1.7** sec

Chip to Chip

**2.9** sec

High-speed cam motor driven twin arm type tool changer. the optimized tool change sections ensure faster and more stable movement and higher durability.

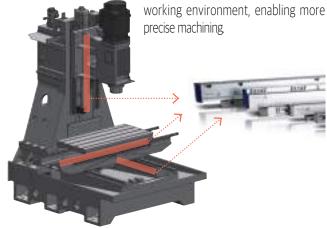
#### CHIP DISCHARGE CAPABILITY



The bad structure tilted from front to rear, the optimization of chip discharge paths and bed shower nozzles, and the application of improved pumps for high-discharge bed showers enable smooth chip discharge from inside equipment to tank.

#### HIGH PRECISION MACHINING (OPT.)

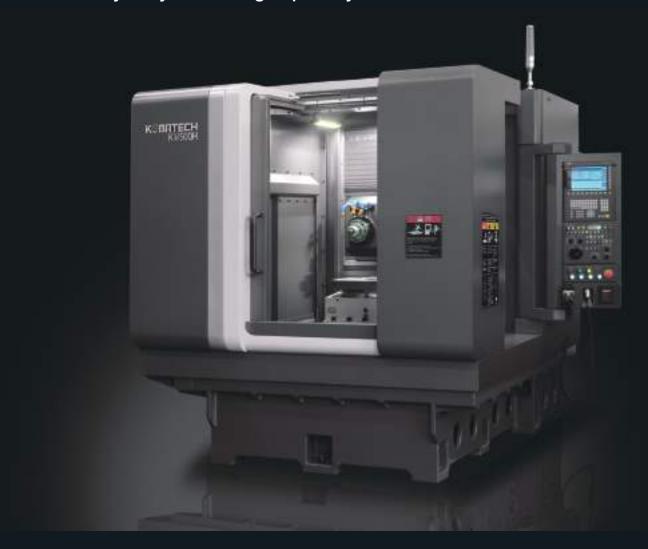
Applying linear scale to the X/Y/Z axis minimizes thermal displacement errors that may occur depending on the precise machining.



## ■ HORIZONTAL MACHINING CENTER

## **KM 500H**

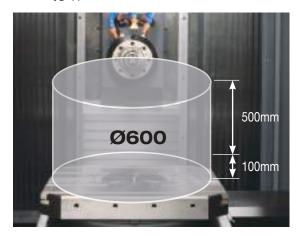
High-productivity, high-performance horizontal machining center with heavy-duty machining capability

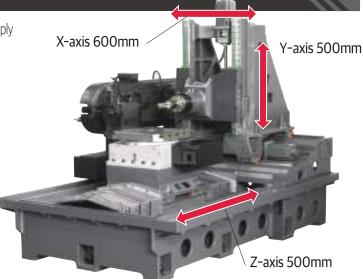


#### **SPECIFICATIONS**

Table size(mm)	500 x 500
X/Y/Z travels(mm)	600/500/500
Spindle taper	ISO No.40
Max. spindle speed(rpm)	8,000 / 12,000(Opt.)
Tool storage capacity(pcs)	60
Machine size(mm)	3,259 x 3,870

A work area of  $600 \times 600$ mm and 600kg of loading capability can apply a various jig application.





#### TWIN ARM TYPE TOOL CHANGER



By optimizing the tool change section, fast and stable tool change is performed, and the machining area and magazine room are separated through the shutter to minimize chip entering.

### **60TOOL MAGAZINE**



The servo motor driven type magazine can move tools quickly and store up to 60 tools and apply a various machining.

#### HIGH PERFORMANCE SPINDLE



MAX. SPEED

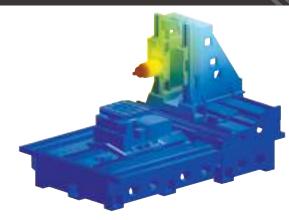
STD. **8,000** rpm OTP. **12,000** rpm

MAX. TORQUE

159.0 Nm

Cutting oil inflow prevention design, ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. \*CTS is available (OPT.)

#### HIGH RIGIDITY STRUCTURE



Through structural analysis implemented a mechanical structure that enables stable and high-quality cutting processing by increasing rigidity and minimizing vibration.

### **■ LONG TRAVEL MACHINING CENTER**

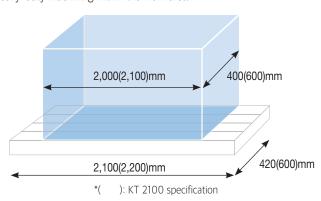
## KT 2000 / KT 2100

Ultra-high speed long-distance travel machining center with X-axis 2000 mm and 70m/min of rapid.

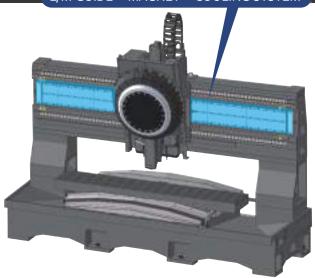


KT 2000 (KT 2100)		
2,000/400/300 (2,100/600/350)		
ISO No.30		
10,000 / High torque 10,000 (Opt.)		
15,000 (Opt.) / 24,000 (Opt.)		
14 / 21 (Opt,)		
4,152 x 2,905 (4,358 x 2,940)		

X-axis has secured rapid of 70 m/min as well as high reliability through linear motor, scale, and optimal cooling system, and can respond to various machining from high-speed/high-precision machining to heavy-duty machining within the work area.



#### L/M GUIDE + MAGNET + COOLING SYSTEM



#### VARIOUS SPINDLE SPEED



STD. **10,000** rpm

OTP. **10,000** rpm

(High Torque)

**15,000** rpm

**24,000** rpm

HIGH TORQUE SPECIFICATION (OPT.)

Max. torque **84.3** Nm

HIGH ACC. SPECIFICATION (OPT.)  $0 \text{ rpm} \leftrightarrow 10,000 \text{ rpm}$ 0.19 sec

\*1 MITSUBISHI NC SPEC.

The cutting oil inflow prevention design and ultra-precise bearing and high-tensile spring application provide high durability and precision during processing. In addition, a various spindle speed specifications can cope with a wide area of machining.

\*CTS is available (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.



#### TURRET TYPE TOOL CHANGER



Tool to Tool

**0.96** sec

Chip to Chip

**1.37** sec

\*1 MITSUBISHI HIGH ACC. SPECIFICATION

The self-developed tool changer has secured high durability by the sealed structure of the drive unit, and the design optimized for high-speed rotation provides the best-in-class tool change speed.

\*Tool storage capacity: 14 pcs [Opt: 21 pcs]

#### **MULTI COVER**



The X-axis travel area is covered by multi-cover to protect against chips generated during machining and it improves the durability and reliability of the X-axis travel area.

<sup>\*1</sup> Standard NC specification tool change time (T-T): 1.2 sec

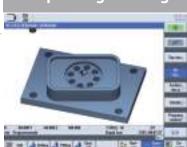
## **CONTROLLER**

#### 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





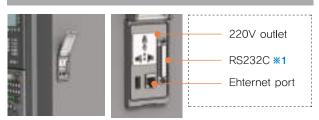
Rotary switch and On/Off buttons are added on each function for operator's convenience and common buttons are user friendly located for easy to operate and access.

#### **Switch Panel**



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

#### **External communication interface**



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

#### **Easy Operation**



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



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



Quick and filtered view on mold & die



Powerful online help system including user-friendly graphics

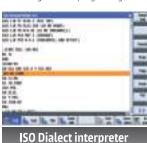
#### **Easy Programming**



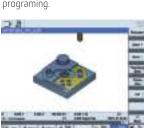
Interactive program input mode. Achieving shortest programing time.



Interactive Cycle provides convenient programing.



Maximum compatibility for operators familiar with ISO codes



Simultaneous recording
Program simulation test and Real time
machining simulation are available.

# MITSUBISHI M800/80 ELECTRIC

#### **Easy Programming**



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

0.000	FUNCTION .	6 (000	F.ACTION
973	condition as	1/1	Frig. No. 100
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100.0	Circular Program as an Or	κ.	from the Brown of the Con-
911	1 14 11: 6 4 1 1:4	1.5	Five introduce 1976)
774	with	79	Flac colleges
100	en prescriber population control 10	- 6	- het is all a read and t
80	** * * * * * * * * * * * * * * * * * *	M	Different manual management
201	to take a per	97	Too the salespeeps on corner or
115	Dange LA	- 24	the first term wall to be a
21	the feet of the control of the	5.1	process to approximately
71.	City Dr		To be unconnected and
115	Circle out CO		and the comment of the
517	oral and the contact		gar te a progression, c
	ne et come a	-2	To read promote the con-
117	are re-option CV	200	to the observation of
211	1.0 1.1 1.1 1.0 000 11.0 11.0 11.0 10.0 10		11 21 11 112
		- 2	
×.	DEC. CONTING	ő	
	District Control	55	Street Arra
-5	Strong chief mipre trust cure a	1	7 PM 1.
87	Contract and the Contract		
63	2		
	Clark result or result		
	DE A D. TERRORIA . M. TO .		
	PRI A 12 TT TOWN W TO 1		
W5			110
4.94			

Display all G/M code



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



Alarm guidance function

#### **Interactive Programming**



Easy machining program creation



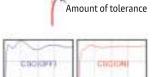
#### **Support Machining**



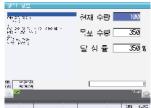
SELECTABLE MACHINING CONDITION



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



Corner smooth control by applying tolerance control



Production information display (Calculated based on M code)

### **CONTROLLER**



#### **M80**

Control axes: 3 axes(X,Y,Z) (+2 axes) Display: 10.4" Touch screen Minimum setting unit: 0.0001mm Program forma: G/M Code 0.00001 inch

Simultaneously control axes: 4 axes Memory capacity:500 kbte [Extesible]\*1

[Interactive program]

\* Absolute / Incremental

\* Inch / Metric

\* Scailing / rotating

\* Background editing

\* Syncro tapping

\* Block search

\* Block skip

\* Subprogram call

\* Coordinate system setting

\* Tool life management

\* No. of tool correction(400 pairs)

\* Tool diame. calibration

\* Real time trace

\* 2D program check

\* Dry run

\* Feed hold

\* Program stop

\* Emergency stop

\* Tap return

\* Linear/circle interpolation

\* Helical interpolation

\* High speed/high precise control

\* SSS 4G control

\* Tolerance control

\* Thermal displacement compensation

\* Additional axis control[OPT]

\* Navi Mill[OPT]

\* Interactive cycle insert [OPT]

\* 3D program check [OPT]

## SIEMENS SINUMERIK 828D

0.00001 inch

Control axes: 3 axes(X,Y,Z) (+2 axes) Display: 10.4" COLOR LCD Simultaneously control axes: 4 axes Memory capacity: 5MB [Extesible]\*2

Minimum setting unit: 0.0001mm Program forma: G/M Code

[Interactive program]

\* Absolute / Incremental

\* Inch / Metric

\* Scailing / rotating

\* Background editing

\* Syncro tapping

\* Block search

\* Block skip

\* Subprogram call

\* Coordinate system setting

\* Tool life management

\* Max.no of tools / cuttings(256/512) \* Top surface [OPT]

\* Max. work offset(100)

\* Tool diame, calibration

\* Program test

\* 2D simulation

\* Dry run

\* Feed hold

\* Program stop

\* Emergency stop

\* Tap return

\* Linear/circle interpolation

\* Helical interpolation

\* High speed/high precise control

\* Thermal displacement compensation

\* Additional axis control[OPT]

\* Shop Mill[OPT]

\* Network management[OPT]

\* 3D simulation[OPT]

#### FANUC OI-ME PLUS

Control axes: 3 axes(X,Y,Z) (+2 axes) Display: 10.4" COLOR LCD Simultaneously control axes: 4 axes Memory capacity: 5MB[Extesible]\*2 Minimum setting unit: 0.0001mm Program forma: G/M Code 0.00001 inch

\* Absolute / Incremental

\* Inch / Metric

\* Scailing / rotating

\* Background editing

\* Syncro tapping

\* Block search

\* Block skip

\* Subprogram call

\* Coordinate system setting

\* Tool life management

\* No. of tool correction (400 pairs)

\* Tool dia. calibration

[Interactive program]

\* Dry run

\* Feed hold

\* Program stop

\* Emergency stop

\* Tap return

\* Linear/circle interpolation

\* Helical interpolation

\* AICCII (200 BLK)

\* Look a head 400 BLK[OPT]

\* Manual Guide I [OPT]

\* Additional axis control[OPT]

\* Data server [OPT]

#### EASY MAINTENANCE FUNCTIONS (Fanuc/Mitsubishi)







#### 1. Optimal acceleration / deceleration setting

In case of table travel tapping center, it is available the optimized X/Y axis acceleration setting value by weight.

#### 2. Large tool function (Twin arm tool changer only)

It keeps both pockets empty to prevent interference when a large tool is applied.

#### 3. ATC arm speed control (Twin arm tool changer only)

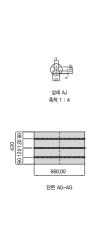
The twin-arm type ATC ARM can be used by slowly adjusting the rotational speed in maintenance mode.

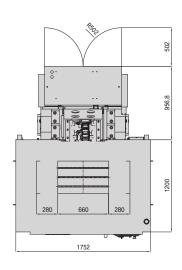
#### 4. Energy-saving function

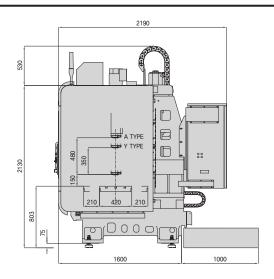
If mcahine does not operate for the time set by the user, all functions turned off to save electricity use.

## **MACHINE DIMENSIONS**

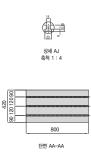
### KT 420(A)

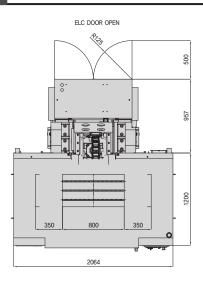


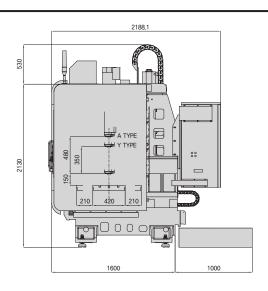




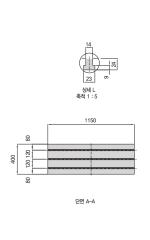
#### KT 420L(AL)

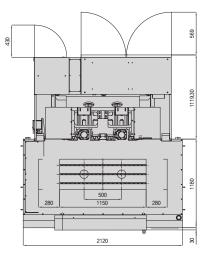


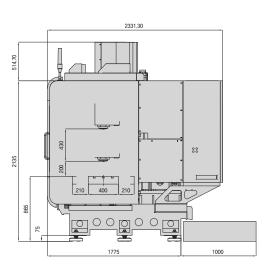




#### **KT 420DH**

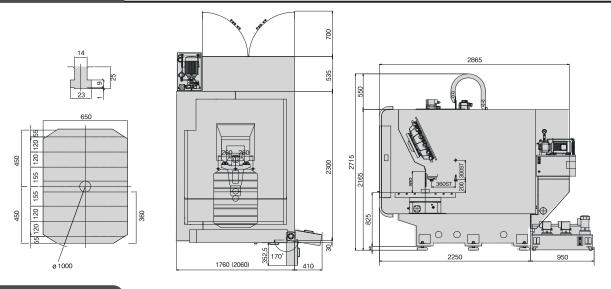




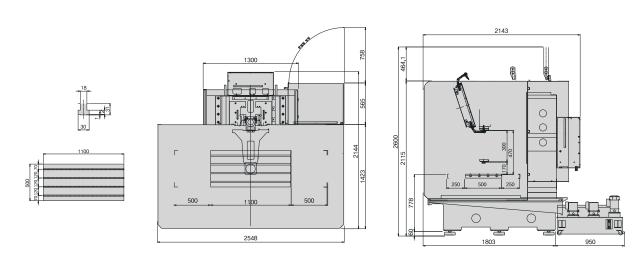


## **MACHINE DIMENSIONS**

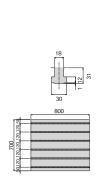
KT 360D

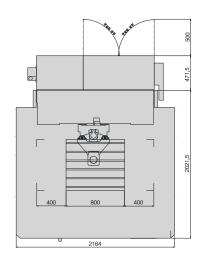


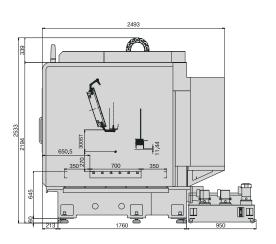
KT 500



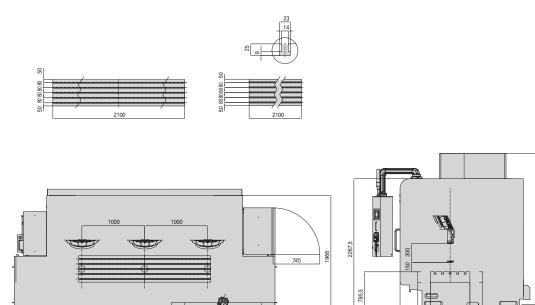
KT 700



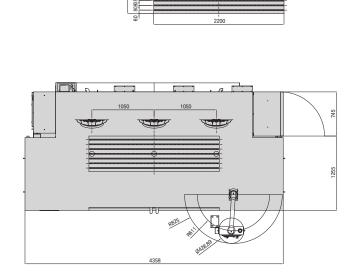


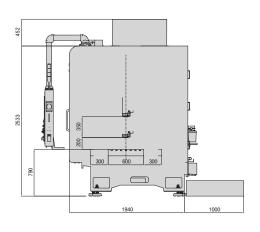


## KT 2000



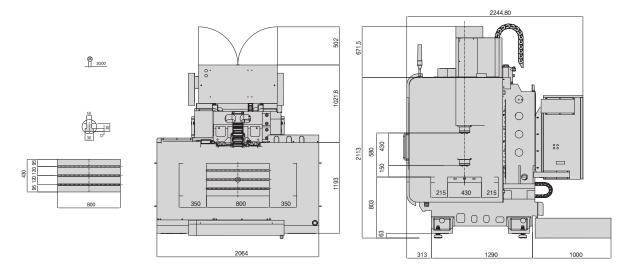
## KT 2100



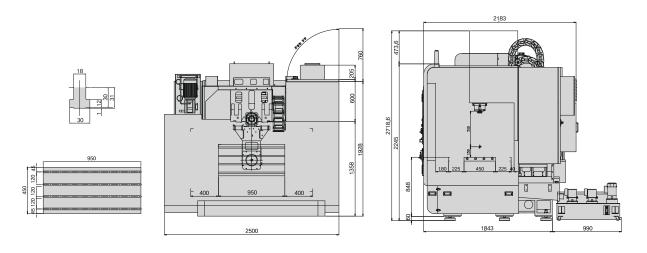


## **MACHINE DIMENSIONS**

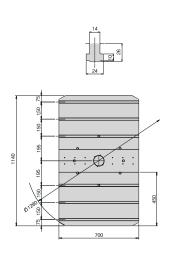
KM 430

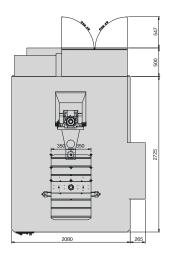


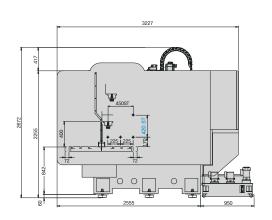
KM 450



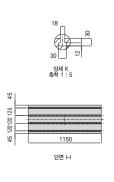
#### KM 450D

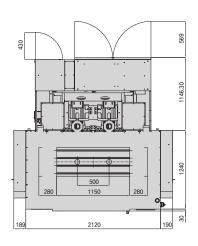


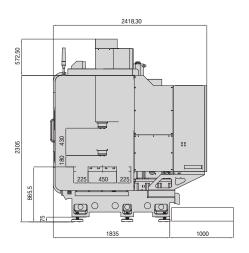




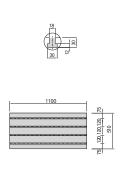
## KM 450DH

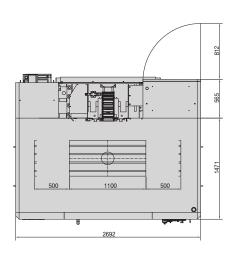


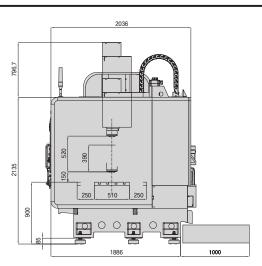




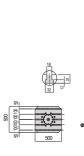
### KM 500

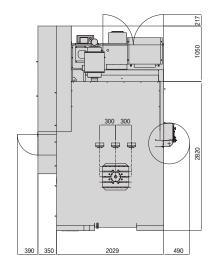


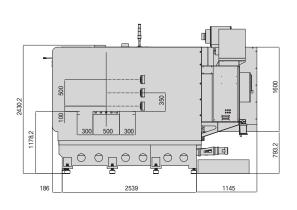




### KM 500H







## **MACHINE STECIFICATIONS**

■ BT30 ■ BT40

ITEM		UNIT	KT 420 (420L)	KT 420A (420AL)	
Table	Table Size Max.loading capacity		mm	660(800) x 400	
Table			kg	250 [300]*6	
X/Y/Z		X / Y / Z		560(700)/420/350	560(700)/420/480
Travel	Distance between table top an	nd spindle nose end	mm	150~500	150~630
	Taper			ISO No.3	0 (7/24)
C:	BIG-PLUS(BBT)			Opti	onal
Spindle	Max. speed		rpm	10,000 [high torque 10,000], [15,000], [24,000]	
	Spindle motor *1	Max/Cont	kW	10,000rpm: 11.0/3.7 [high torque 10,000rpm:15.0,	/5.5] [15,000rpm: 11.0/3.7], [24,000rpm: 15.0/2.2]
Feed rate	X/Y/Z		m/min	60/60/60 (	(50/50/60)
	Took shank			MAS403-BT30	
	Pull stud			MAS403-P30T-1	
	Tool storage capacity		pcs	14 [21] [28]	20 [26]
	Max. diameter		mm	100	80 [64]
ATC	Max. length		mm	200	
	Max. weight		kg	3.0	
	Tool selection method			Turret (Fixed address)	Twin arm(Random memory)
	T I I	T-T		0.96	1.2
	Tool change time *2	C-C	sec	1.37	1.8
Power	Power supply			AC220V[380V]±10	0%, 50/60Hz±1Hz
source*8	Power capacity(Continuous)		kVA	15.4	17.5
	Size *3	WxL	mm	1,752 (2,064) x 2,600	
Machine dimension	Height		mm	2,660	
GIIIICIISIOII	Weight		kg	2,300 ( 2,666) 2,500 (2,800)	
	Model			Mitsubishi M80 [Siemens 828D], [Fanuc 0iMF plus]	
CNC	Program format			G/M code [Interactive program]	
	Display		inch	10.4" COLOR LCD	

ITEM			UNIT	KT 420DH	KM 450DH				
Table	Size		mm	1,150 x 400	1,150 x 450				
Table	Max.loading capaci	ty	kg	400	400				
Travel	X/Y/Z(U/V)*4		mm	560 / 420 / 430 / (±2/±2)	560 / 450 / 430 / (±2/±2)				
Havei	Distance between table top a	nd spindle nose end	mm	200~630	180~610				
	Taper			ISO No.30 (7/24)	ISO No.40 (7/24)				
	BIG-PLUS(BBT)			Opt	ional				
Spindle	Distance between:	spindles	mm	50	00				
Spiridic	Max. speed		rpm	10,000 [[high torque 10,000], [15,000], [24,000]	8,000 [12,000]				
	Spindle motor *1	Max/Cont	kW	10,000rpm: 11.0/3.7 [high torque10,000rpm:15.0/5.5] [15,000rpm: 11.0/3.7], [24,000rpm: 15.0/2.2]	8,000rpm: 18.0/7.5 [12,000rpm: 18.0/7.5]				
Feed rate	X/Y/Z		m/min	48/48/48	42/42/42				
	Took shank			MAS403-BT30	MAS403-BT40				
	Pull stud			MAS403-P30T-1	PS-805				
	Tool storage capacity		pcs	20x2 [26x2]	20 x 2				
	Max. diameter		mm	80 [64]	80				
ATC	Max. length		mm	200	300				
	Max. weight		kg	3.0	7.0				
	Tool selection method			Twin arm (Rar	ndom memory)				
	Tool change time	T-T		1.2	1.7				
	C-C		sec	1.8	2.3				
Power source	Power supply			AC220V[380V]±10%, 50/60Hz±1Hz					
rower source	Power capacity(Continuous)		kVA	41.5(47.6)* <b>7</b>	44.2(50.3)*7				
	Size *3 W x L		mm	2,120 x 2,775	2,500 x 2,835				
Machine dimension	Height		mm	2,650	2,877				
	Weight		kg	5,500	7,000				
	Model			Mitsubishi M80 [Siemens 828D], [Fanuc OiMF plus]					
CNC	Program format			G/M code [Interactive program]					
	Display		inch	10.4" COLOR LCD					

<sup>\*1</sup> Mitsubishi CNC specification. Siemens and Fanuc specifications can be found at each sales office if necessary.

<sup>\*2</sup> Mitsubishi high acc. specification. Tool change time for std. specification(T-T) 1.2 sec. / KT 420(L): Siemens 1.08s, Mitsubishi: 1.07s

## **MACHINE STECIFICATIONS**

■ BT30 ■ BT40

ITEM			UNIT	KT 500	KT 700				
Table	Size		mm	1,100 x 500	800 x 700				
Table	Max.loading capac	ity	kg	400	400				
Travel	X / Y / Z		mm	1,000/500/300	800/700/300				
Havei	Distance between table top an	d spindle nose end	mm	170~470	270~570				
	Taper			ISO No.3	30 (7/24)				
Spindle	BIG-PLUS(BBT)			Opti	onal				
Spiriale	Max. speed		rpm	10,000 [high torque 10,0	000], [15,000], [24,000]				
	Spindle motor *1	Max/Cont	kW	10,000rpm: 11.0/3.7 [high torque 10,000rpm:15.0/	5.5], [15,000rpm: 11.0/3.7], [24,000rpm: 15.0/2.2]				
Feed rate	X / Y / Z		m/min	50/50/50	48/48/60				
	Took shank			MAS403-BT30					
	Pull stud			MAS403-P30T-1					
	Tool storage capacity		pcs	14 [21] [28]					
	Max. diameter		mm	100					
ATC	Max. length		mm	200					
	Max. weight		kg	3.0					
	Tool selection met	:hod		Turret (Fixed address)					
	Tool change time *2	T-T	505	1.03					
	1001 Change unie 2	C-C	sec	1.37					
Power source	Power supply			AC220V[380V]±1	0%, 50/60Hz±1Hz				
rower source	Power capacity(Continuous)		kVA	18.5	20.8				
	Size *3	WxL	mm	2,548 x 2,753	2,164 x 2,923				
Machine dimension	Height		mm	2,600	2,533				
Gillerision	Weight		kg	4,300 6,000					
	Model			Mitsubishi M80 [Siemens 828D], [Fanuc 0iMF plus]					
CNC	Program format			G/M code [Interactive program]					
	Display		inch	10.4" COLOR LCD					

	ITEM		UNIT	KT 360D	KM 450D				
	Size (One face)		mm	650 x 360	700 x 450				
Table	Max.loading capac	ity	kg	200 (One face)					
	Pallet change time	)	sec	4.!	5				
Travel	X / Y / Z		mm	520 / 360 / 300	700 / 450 / 480[420]*5				
ITavei	테이블 상면에서 주축 끝	단까리 거리	mm	200~500	170~650 [170~590] <b>*5</b>				
	Taper			ISO No.30 (7/24)	ISO No.40 (7/24)				
	BIG-PLUS(BBT)			Optio	onal				
Spindle	Max. speed		rpm	10,000 [high torque 10,000], [15,000], [24,000]	8,000 [12,000]				
	Spindle motor *1	Max/Cont	kW	10,000rpm: 11.0/3.7 [high torque 10,000rpm:15.0/5.5] [15,000rpm: 11.0/3.7], [24,000rpm: 15.0/2.2]	8,000rpm: 18.0/7.5 [12,000rpm: 18.0/7.5]				
Feed rate	X / Y / Z		m/min	48/48/60	42/42/42				
	Took shank			MAS403-BT30	MAS403-BT40				
	Pull stud			MAS403-P30T-1	PS-805				
	Tool storage capac	ity	pcs	14 [21]	24 [30]				
	Max. diameter		mm	100	80				
ATC	Max. length		mm	200	300				
	Max. weight		kg	3.0	7.0				
	Tool selection met	hod		Turret (Fixed address)	Twin arm (Random memory)				
	Tool change time *2	T-T	505	0.96	1.7				
	C-C		sec	1.37	2.3				
Power source	Power supply			AC220V[380V]±10	0%, 50/60Hz±1Hz				
rower source	Power capacity(Continuous)		kVA	23.3	31.3				
	Size *3	WxL	mm	1,760[2,060] x 3,200	2,345 x 3,505				
Machine dimension	Height		mm	2,715	2,672				
difficision	Weight		kg	4,500	7,500				
	Model			Mitsubishi M80 [Siemens 828D], [Fanuc OiMF plus]					
CNC	Program format			G/M code [Interactive program]					
	Display		inch	10.4" COLOR LCD					

<sup>\*3.</sup> Dimensions include tank.

<sup>\*4.</sup> U-axis and V-axis are available additionally. (Optional)

<sup>\*5. 30</sup>T magazine specification

<sup>\*6.</sup> Parameter adjustment is required by weight

<sup>\*7.</sup> Power capacity when U-axis and V-axis are applied.

## **MACHINE STECIFICATIONS**

BT30	BT40
------	------

ITEM			UNIT	KM430	KM 450	KM 500				
Table Size			mm	800 x 430	950 x 450	1,100 x 510				
таріе	Max.loading capac	ity	kg	300	400	800				
Teerrel	X / Y / Z		mm	700/430/430	800/450/510	1,000/500/520				
Travel	Distance between table top and	d spindle nose end	mm	150~580	150~580 150~660					
	Taper				ISO No.40 (7/24)					
C:	BIG-PLUS(BBT)				Optional					
Spindle	Max. speed		rpm		8,000 [12,000]					
	Spindle motor *1	Max/Cont	kW	8,000rpm: 18.5/9.0 [12,000rpm: 18.5/9.0] 8,000rpm: 25.0/11.0 [12,000rpm: 25.0						
Feed rate	X / Y / Z		m/min	48/48/48	36/36/36	36/36/30				
	Took shank				MAS403-BT40					
	Pull stud			PS-805						
	Tool storage capacity		pcs	20 [24] 24 [30]						
	Max. diameter		mm	80						
ATC	Max. length		mm	300						
	Max. weight		kg	7.0						
	Tool selection met	hod			Twin arm (Random memory)					
	T 11 .: 10	T-T		1.4	1.5	1.7				
	Tool change time *2	C-C	sec	2.5	2.9	3.4				
D	Power supply			AC2	Hz					
Power source	Power capacity(Continuous)		kVA	2,784	35.1	35.1				
	Size *3	Size *3 W x L		2,064 x 2603	2,500 x 2,833	2,692 x 2,886				
Machine dimension	Height		mm	2,784	2,718	2,931				
GITTICTISTOTT	Weight		kg	3,600	3,600 5,000 6,					
	Model			Mitsubishi M80 [Siemens 828D], [Fanuc OiMF plus]						
CNC	Program format			G/M code [Interactive program]						
	Display		inch		10.4" COLOR LCD					

ITEM			UNIT	KT 2000	KT 2100	KM 500H					
Table	Size		mm	2,100 x 420	2,200 x 600	500 x 500					
Table	Max.loading capacit	.y	kg	1,0	600						
	X/Y/Z		mm	2,000/400/300	600/500/500						
Tearral	Distance between table top an	ıd spindle nose end	mm	150~450	-						
Travel	Distance between table top an	ıd spindle center	mm	-	=	100~600					
	Distance between table center ar	nd spindle nose end	mm	-							
	Taper			ISO No.3	0 (7/24)	ISO No.40 (7/24)					
	BIG-PLUS(BBT)			Opti	onal	Optional					
Spindle	Max. speed		rpm	10,000 [high torque 10,0	000], [15,000], [24,000]	8,000 [12,000]					
	Spindle motor *1 Max/Cont		kW	10,000rpm: 11.0/3.7 [high t [15,000rpm: 11.0/3.7],	8,000rpm: 25.0/11.0 [12,000rpm: 25.0/11.0]						
Feed rate	X / Y / Z		m/min	70/4	70/48/48						
	Took shank			MAS403	MAS403-BT40						
	Pull stud			MAS403	PS-805						
	Tool storage capacity		pcs	14 [	60						
ATC	Max. dia. / length		mm	100 /	80 / 300						
AIC	Max. weight		kg	3.	7.0						
	Tool selection met	thod		Turret (Fixe	Twin arm (Random memory)						
	Tool change time *2	T-T	505	1.0	-						
	1001 Change time 2	C-C	sec	1.3	-						
Power source	Power supply			AC:	1Hz						
- Tower source	Power capacity(Co	ontinuous)	kVA	40	38.3						
NA Intra	Size *3	WxL	mm	4,152x2,905	4,358x2,940	3,259x3,870					
Machine dimension	Height		mm	2,669 2,985		2,430					
	Weight		kg	8,500 10,000		9,000					
	Model			Mitsubishi M80 [Siemens 828D], [Fanuc OiMF plus]							
CNC	Program format			G/M code [Interactive program]							
	Display		inch	10.4" COLOR LCD							

<sup>\*1</sup> Mitsubishi CNC specification. Siemens and Fanuc specifications can be found at each sales office if necessary.

<sup>\*2</sup> Mitsubishi high acc. specification. Tool change time for std. specification(T-T): 1.2 sec

\*3. Dimensions include tank.

## **STD & OPT SPECIFICATIONS**

BT30 BT40

		420(L)	420A(AL)	420DH	360D	500	700	2000	2100	430	450	450D	450DH	500	500H
Basic machi	ne component														
Splash guard		•	•	•	•	•	•	•	•	•	•			•	
Coolant tank		•	•	•	•	•	•	•	•	•	•			•	•
Woi	k light	•	•	•	•	•	•	•	•	•	•	•	•	•	
Indica	ntor light	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Leveling l	oolt and Nut	•	•	•	•	•	•	•	•	•	•	•		•	
Instruct	ion munual	•	•	•	•		•	•	•		•				
	IPG handle	•	•	•	X	•	•	•	•	•		X		•	
	MPG handle	0	0	•	•	•	•	•	•	0	0	•		•	
Jig interpera	nce prevention														
High column	150mm	0	0	0	X	0	0	X	X	0	0	X	0	0	X
	250mm	0	0	0	X	0	0	X	X	0	0	X	0	0	X
Deep hole and rou	ighness improvement														
Coolant through	20bar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
spindle	30bar 70bar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Claanie		0		0	0	0	0	0	0	0	0	0	U	0	
	ng device Shower	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Shing system	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	gun / Air gun	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	disposal														
Cilip	Scrapper Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chip conveyor	Hinge Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chip conveyor	Drum Filter Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fixed Type	Ō	0	0	0	0	0	0	0	0	0	0	0	<u> </u>	0
Chip bucket	Swing Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto	mation														
Aut	o door	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gantry loa	der interface	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Robot	interface	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto p	oower off	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	environment														
	st cleaner	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	kimmer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ntity Lubircation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ner in main box	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	cover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	iterface														
	ry table	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	l axis control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Jig interface	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Jig interface confirm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	blow	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	urement														
	asurement device	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ool detector	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	asurement device	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ering system	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	t device							Ü	<u> </u>	Ū			Ū		Ū
	le cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	sformer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydraulic unit		0	•	•	•	0	0	0	0	•	•	•	•	•	•
Software															
Heat expansion compensation		•	•	•	Χ	•	Х	Х	Χ	•	•	Χ	•	•	X
Tool counter		•	•	•	•	•	•	•	•	•	•	•	•	•	
Work counter		•	•	•	•	•	•	•	•		•	•		•	
	nanagement	•	•	•	•	•	•	•	•	•	•	•		•	
	expansion	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ve program	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	y device														
	erlock	•	•	0	•	•	•	•	•		•	•	•	•	
Door lock		0	0	0	0	0	0	0	0	0	0	0	0	0	0

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The specification of the catalog are subject to change without prior notice. 2024.04 / 01000