



**ISO 9001 ISO 14001 CE**  
A Worldwide Tradition of Quality Products and Customer Service

# **CNC Milling Tapping Center SUPER TAPMILL**

**High** ■Quality ■Precision ■Efficiency ■Economy



**TMV-400(400+APC)**  
**TMV-510(510+APC)**  
**TMV-510T(510T+APC)**

## **QT-II QT-II+APC**

Special Design for  
Aluminum or Magnesium  
Alloy High Speed  
Machining.



# CNC Milling & Tapping Center



## QT-II

Rapid Traverse	X/Y/Z Axis:48/48/48 m/min
Stroke	X/Y/Z Axis:510/360/300 mm
Spindle Speed & Output	MAX. 15000rpm Direct-connection type 2.2/1.5kW
High Speed ATC BT30	ARM Type 20Tools T to T 0.8sec, C to C 2.0sec

## TMV-510T

Rapid Traverse	X/Y/Z Axis:48/48m/40 m/min
Stroke	X/Y/Z Axis:510/360/300 mm
Spindle Speed & Output	8000rpm(Opt. 4000rpm, 12000rpm) 3.7/1.1(Opt. 5.5/3.7)
High Speed ATC BT30	ARM Type 20Tools T to T 0.8sec, C to C 2.0sec



## QT-II+APC (Column Moving Type)

Rapid Traverse	X/Y/Z Axis:40/40/48 m/min
Stroke	X/Y/Z Axis:510/360/435 mm
Spindle Speed & Output	MAX. 15000rpm Direct-connection type 2.2/1.5kW
High Speed ATC BT30	ARM Type 20Tools T to T 0.8sec, C to C 2.0sec

## TMV-510T+APC (Column Moving Type)

Rapid Traverse	X/Y/Z Axis:40/40/48 m/min
Stroke	X/Y/Z Axis:510/360/435 mm
Spindle Speed & Output	8000rpm(Opt. 4000rpm, 12000rpm) 3.7/1.1(Opt. 5.5/3.7)
High Speed ATC BT30	ARM Type 20Tools T to T 0.8sec, C to C 2.0sec





### TMV-510/510II (Precision Type)

Rapid Traverse	X/Y/Z Axis:36/36/30 m/min (Opt. 48/48/40 m/min)
Stroke	X/Y/ ZAxis:510/360/250 mm
Spindle Speed & Output	8000rpm (Opt.4000rpm, 12000rpm) 3.7/1.1 (Opt. 5.5/3.7)
High Speed ATC BT30	Rotary Type 10Tools (Opt. 14Tools) T to T 1.5sec, C to C 2.8sec

### TMV-400

Rapid Traverse	X/Y/Z Axis:36/36/30 m/min
Stroke	X/Y/Z Axis:400/250/250 mm
Spindle Speed & Output	8000rpm (Opt. 4000rpm, 12000rpm) 3.7/1.1
High Speed ATC BT30	Rotary Type 10Tools (Opt. 14Tools) T to T 1.5sec, C to C 2.8sec



### TMV-510+APC (Column Moving Type)

Rapid Traverse	X/Y/Z Axis:40/40/48 m/min
Stroke	X/Y/Z Axis:510/360/300 mm
Spindle Speed & Output	8000rpm (Opt. 4000rpm, 12000rpm) 3.7/1.1 (Opt. 5.5/3.7)
High Speed ATC BT30	Rotary Type 10Tools (Opt. 14Tools) T to T 1.5sec, C to C 2.8sec

### TMV-400+APC (Column Moving Type)

Rapid Traverse	X/Y/Z Axis:30/30/30 m/min
Stroke	X/Y/Z Axis:400/300/300 mm
Spindle Speed & Output	8000rpm (Opt.4000rpm, 12000rpm) 3.7/1.1
High Speed ATC BT30	Rotary Type 10Tools (Opt. 14Tools) T to T 1.5sec, C to C 2.8sec

# Super Tapmill

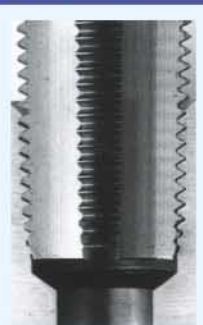
## High Speed Machining for Precision Parts

### High Speed ATC BT30



- Drive Mechanism, Fast and Rigid Cam.
- Shortest Tool Change  
T to T 1.5sec  
C to C 2.8sec
- Tool Capacity  
Standard=10sec  
Option=14sec

### Max. Rigid Tapping Speed



- 4000rpm(510T)
- 6000rpm(QT-II)

### Multi-Function Spindle Speed



- Standard Speed  
8000rpm/min
- Option  
Low Speed=4000rpm/min  
High Speed=12000rpm/min
- Spindle Power  
Standard 3.7kW  
Option 5.5kW

### Excellent Chip Flow Design



## High Speed ! High Efficiency !

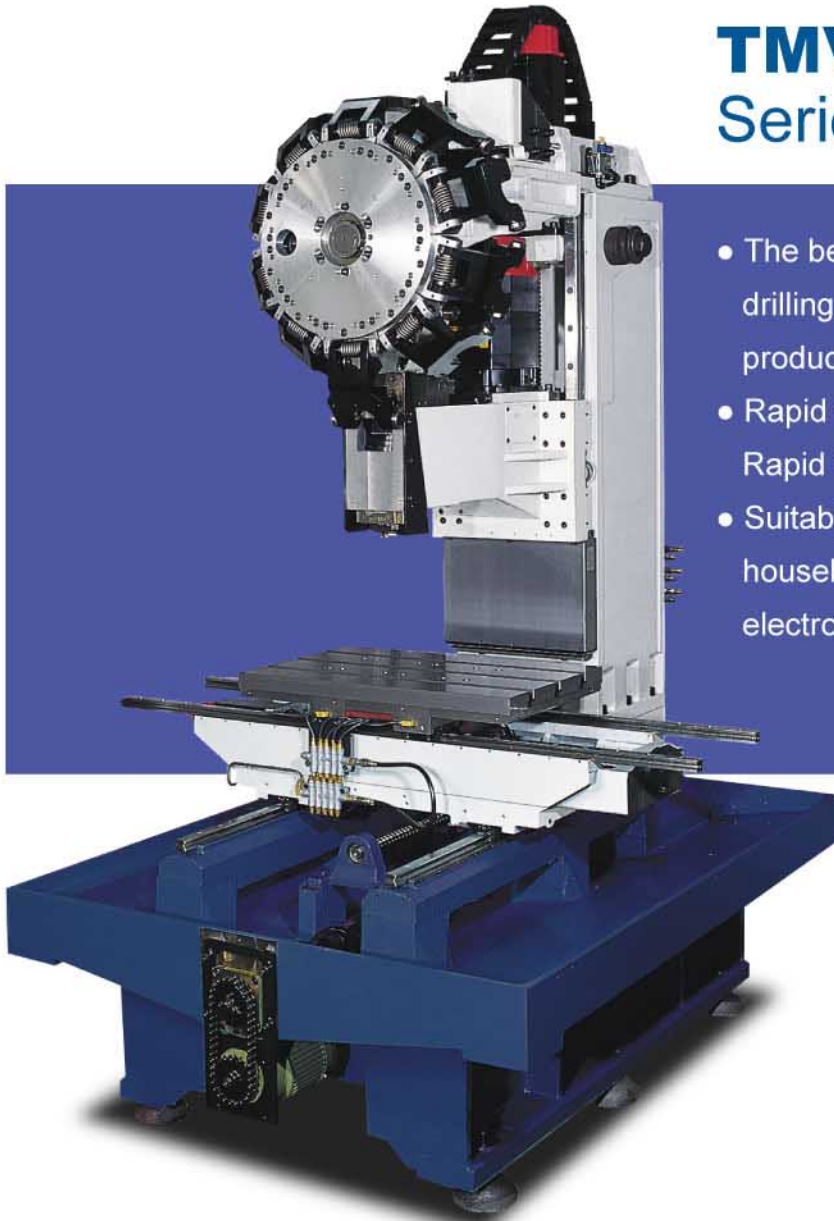
Pre-loaded ball screws prevent the machine from heat expansion during machining operations.

Standard for TMV-510II



# TMV-400/500 Series

- The bed structure is designed for high speed drilling, milling and tapping to highly upgrade production efficiency.
- Rapid traverse 36/36/30m/min  
Rapid traverse 48/48/40m/min (TMV-510II)
- Suitable for machining automobile, motorbike, household appliances, air conditioning and electronic precision parts.



Controller (Standard FANUC 0i-M)



## Suitable for Following Applications



# TMV-510T/QT-II Series

## Advanced High Speed Machining Design Consideration !

- Rapid traverse 48/48/48 m/min.
- Suitable for machining high-precision electronic parts, aluminum and magnesium material workpiece.

### QT-II Series



- Direct-Drive High Speed Spindle 15000rpm
- Spindle Power 2.2/1.5kW



### TMV-510T Series



- Spindle 12000/8000/4000rpm (Three Types for selection)
- Spindle Power 3.75kW(Opt. 5.5 kW)



ARM Type ATC 20 Tools



Rapid Changing ARM(510T/QT-II Series)



# APC Series

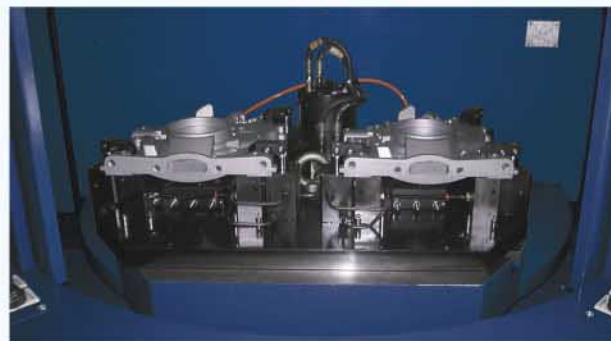
- Column moving design and APC table can highly upgrade production efficiency.
- APC with hydraulic unit available for fixture clamping & unclamping.



■ Pallet Changing Time 0-180°=5sec.



■ APC with Hydraulic Fixtures Control Unit(Opt.)



Coolant Through Spindle (Opt.)  
A Type 15kg/m<sup>2</sup>



High Pressure Pump with Filter (Opt.)



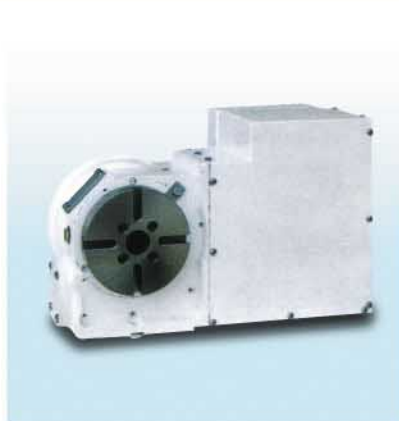
Column Moving Structure



## Option Equipment



■ Simple Tool Breakage Detector



■ Fourth Axis Function



■ Raster for Safety

## Suggested Value for Cutting Ability



### • Milling

#### TMV-400

Low 20cc/min  
Middle 14cc/min  
High 8cc/min

#### TMV-510

Low 29cc/min  
Middle 22cc/min  
High 10cc/min



### • End Milling

#### TMV-400

Low 15cc/min  
Middle 10cc/min  
High 7cc/min

#### TMV-510

Low 16cc/min  
Middle 22cc/min  
High 8cc/min



### • Drilling

#### TMV-400

Low Ø18mm  
Middle Ø16mm  
High Ø13mm

#### TMV-510

Low Ø23mm  
Middle Ø20mm  
High Ø16mm



### • Tapping

#### TMV-400

Low M14  
Middle M12  
High M10

#### TMV-510

Low M20  
Middle M16  
High M12

## Testing Data From Actual Cutting

Item	Material	Tool	R.P.M	Feeding seat (mm/min)	Width×Depth (mm/min)	Cutting rate (cc/min)
Rigid Tapping	S 45C	M12×1.75p HSS	530			
Drilling	S 45C	Dia. 16HSS	490	88	30mm. Depth	
End Milling	S 45C	Dia. 20 HSS-Co 4 Pieces Cutter	450	130	20×6	15.6
Face Milling	S 45C	Dia. 80 Face Milling Cutter	600	180	70×1.58	20
Face Milling	A1.	Dia. 80 Face Milling Cutter	4000	1500	70×2	210
End Milling	A1.	Dia. 20 HSS-Co 2 Pieces Cutter	1350	250	20×10	50
Spindle Speed : General Type 8000rpm Type						
Spindle Power : FANUC α1.5 3.7kW						

### Drilling

Material : Aluminum Alloy 6061

- Ø5mm×20mm(Depth)/10holes  
S=6000rpm  
F=1200mm/min
- Spending Time : 17.66sec

### Tapping

Material : Aluminum Alloy 6061

- M6×20mm(Depth)/10holes  
S=4000rpm  
F=4000mm/min
- Spending Time : 20sec





**Tongtai** is expert in metal cutting machine manufacturing. We provide wide range of standard machines. We also supply whole production lines as you give us the parts and we give you the rate of production you preferred.



### Optional Function for QT-II with Graphite Machining



- FANUC Controller Box 0i-M
- High Speed 、 High Precision 、 Contour Machining Function
- Special Dust-collection Equipment
- All Enclosed Guarding Cover

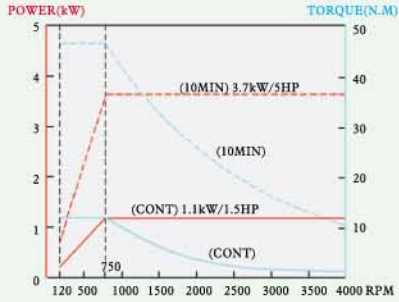
### Examples of Finished Parts



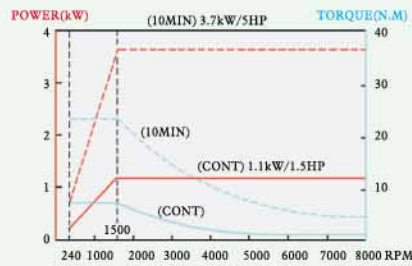
## Spindle Output & Torque Charts

### ■ TMV-400/510/510T Series (3.7kW)

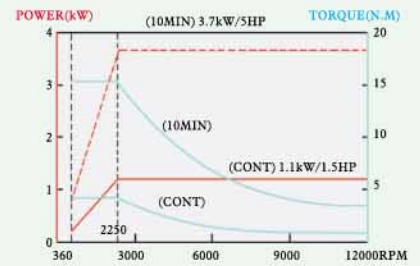
Forced Type 4000RPM(Opt.)



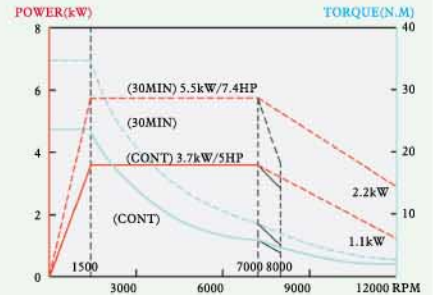
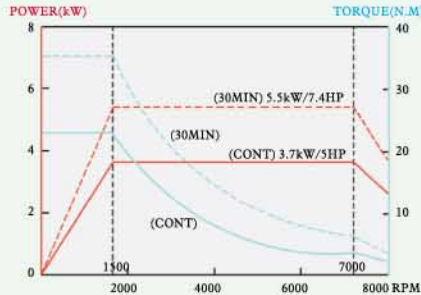
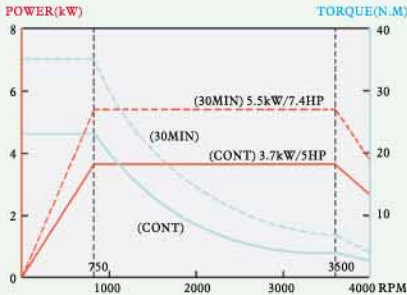
General Type 8000RPM



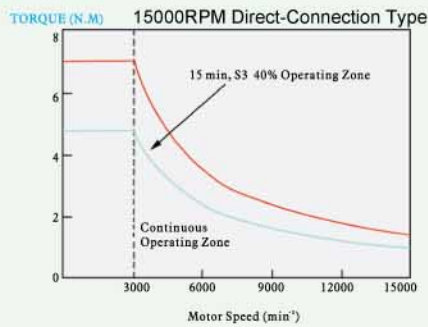
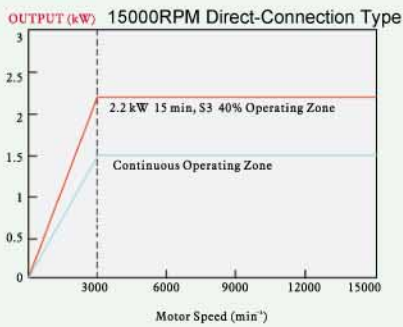
High Speed Type 12000RPM(Opt.)



### ■ TMV-510/510T Series (5.5kW Opt.)



### ■ QT-II (2.2kW)



## Numerical Control System FANUC 0i-M

Item	Specification
Control axis	4 Axes
Parts program storage length	640 M
Setting/display unit	8.4" color LCD/MDI
Graphic function	Standard
Servo waveform display	Standard
HRV control	Standard
Inch/metric conversion	Standard
Stored stroke check	Standard
Stored pitch error compensation	Standard
Manual handle feed	Standard
Positioning	G00
Single positioning	G60
Linear interpolation	G01
Circular interpolation	G02/G03
Dwell	G04
Cylindrical interpolation	Standard
Threading, synchronous cutting	Standard
Advanced preview control	Standard
Max. programmable dimensions	8 digits
Program number	04 digits
Polar coordinate command	Standard

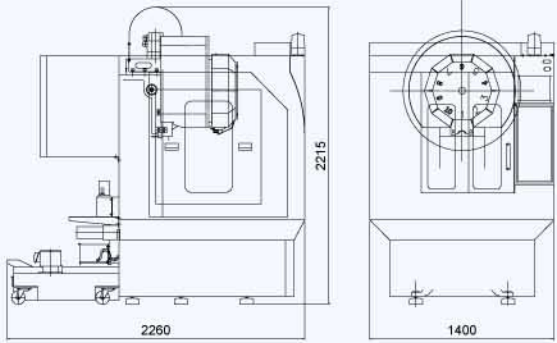
Item	Specification
Workpiece coordinate system	G54-G59
Addition of workpiece coordinate system pair	48 pairs
Programmable data input	G10
Custom macro B	Standard
Canned cycles for drilling	Standard
Automatic corner override	Standard
Automatic corner deceleration	Standard
Scaling	Standard
Coordinate system rotation	Standard
Programmable mirror image	Standard
Rigid tapping	Standard
Tool function	Standard
Tool offset pairs	6 digits - 400 sets
Tool offset memory C	Standard
Tool life management	Standard
Number of registerable programs	400
Background editing	Standard
Parts count display	Standard
Multi-language display	English / Japan / German / French / Italian / Chinese / Spanish / Korean

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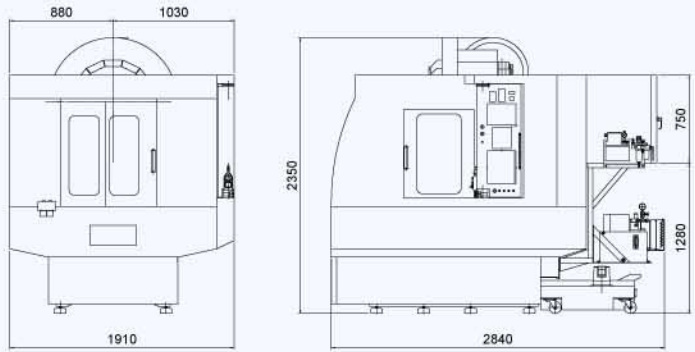


# Machine Dimensions

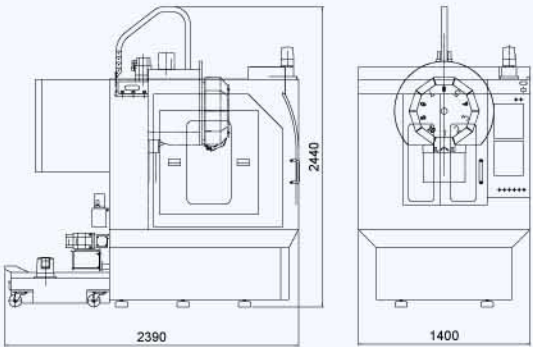
■TMV-400



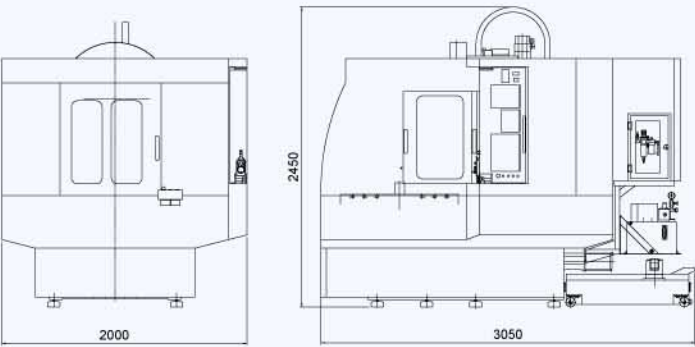
■TMV-400+APC



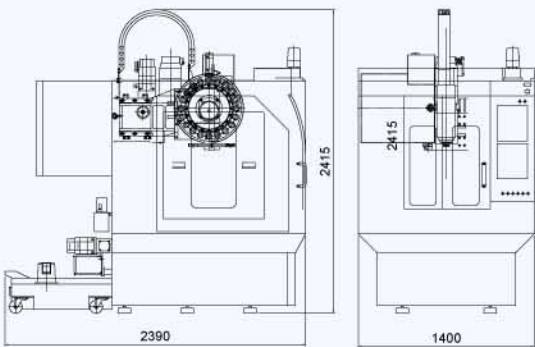
■TMV-510/510II



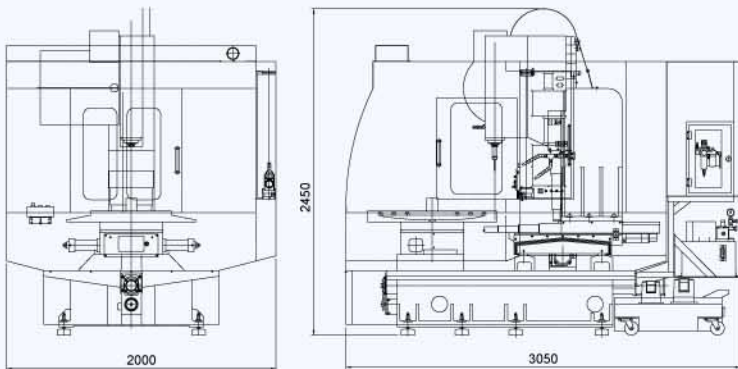
■TMV-510+APC



■TMV-510T/QT-II



■TMV-510T+APC/QT-II+APC



# Super Tapmill Standard Specifications

Item	Specification	Unit	TMV-400(400+APC)	TMV-510[510II](510+APC)	TMV-510T(510T+APC)	QT-II(QT-II+APC)
TABLE	Working Area (LxW)	mm	500x320(500x300)	600x360	600x360	600x360
	Max. Load Capacity	kg	200(100x2)	200(100x2)	200(100x2)	200(100x2)
	Table Height From Floor	mm	850(920)	850(920)	850(920)	850(920)
	T-Slots (SizexNo.)	mm	18x3	18x3	18x3	18x3
SPINDLE	Spindle Nose		7/24 Taper No.30	7/24 Taper No.30	7/24 Taper No.30	7/24 Taper No.30
	Spindle Speed	rpm	8000(Opt. 4000,12000)	8000(Opt. 4000,12000)	8000(Opt. 4000,12000)	15000
TRAVEL	X/Y/Z Axis Stroke	mm	400/250/250(400/300/300)	510/360/250(510/360/300)	510/360/300(510/360/435)	510/360/300(510/360/435)
	Spindle Nose to Table	mm	200-450(200-500)	200-450(200-500)	200-500(200-635)	200-500(200-635)
FEED	X/Y/Z Rapid Traverse	m/min	36/36/30 (30/30/30)	36/36/30[48/48/40] (40/40/48)	48/48/40 (40/40/48)	48/48/48 (40/40/48)
	Cutting Feedrate	mm/min	1-10000	1-10000	1-10000	1-10000
ATC	Tool Capacity	pcs	10(Opt. 14)	10(Opt. 14)	20	20
	Max. Tool Diameter	mm	Ø80	Ø80	Ø68	Ø68
	Max. Tool Length	mm	200	200	200	200
	Max. Tool Weight	kg	3	3	3	3
MOTOR	Spindle Motor(50% ED)	kW	3.7/1.1	3.7/1.1(Opt. 5.5/3.7)	3.7/1.1(Opt. 5.5/3.7)	2.2/1.5
	X/Y/Z Servo Motor	kW	1.4/1.4/1.6	1.4/1.4/1.6(1.6/1.6/1.6)	1.4/1.4/1.6(1.6/1.6/1.6)	1.4/1.4/1.6(1.6/1.6/1.6)
	Coolant Motor	kW	0.185	0.185	0.185	0.185
MACHINE	Length	mm	2260(2840)	2410(3050)	2410(3050)	2410(3050)
	Width	mm	1400(1910)	1400(2000)	1400(2000)	1400(2000)
	Height	mm	2280(2350)	2280(2450)	2280(2450)	2350(2450)
	Weight	kg	2000(3000)	2300(4300)	2300(4300)	2300(4300)

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## Standard Accessories

- Spindle Speed 8000RPM
- Air Blower Unit
- Rigid Tapping
- Halogen
- Coolant Unit
- Automatic Lubrication Equipment
- Full-Enclosed Splash Guard
- Door Interlock Unit
- Spindle Load Meter
- Workpiece Counter

## Option Accessories

- Spindle Speed 4000/12000RPM
- Transformer / Stabilizer
- Auto Door
- Tool Length Automatic Measuring Unit
- Tool Life Management
- Tool Breakage Detector
- Oil Skimmer
- Oil & Mist Collector
- Chip Conveyor / Chip Tank
- 4th-Axis Function
- A/C For Electric Cabinet
- Additional M CODE
- Auto Power Off
- Sub Operation Box
- Q-SENSOR



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