

QVM-610A+APC 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
Workpiece coordinate system	G54-G59

Item	Specification
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
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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Standard accessories

- Air blow unit
- Hydraulic unit
- 24 tools ATC (BT-40)
- Spindle speed 8000 rpm (7.5/5.5 kw)
- APC pallet
- Portable manual pulse generator
- Tool kits and tool box
- Workpiece counter
- Spindle load meter
- Warning light
- Chip conveyor
- Chip trolley
- Work light
- Leveling pads
- Coolant unit
- Buzzer alarm

Optional accessories

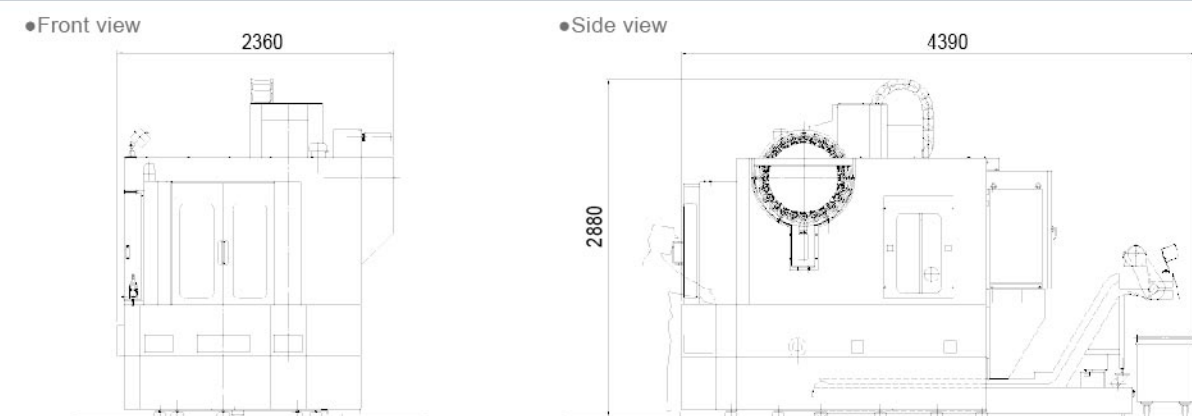
- Linear scale (HEIDENHAIN)
- Spindle speed 10000 rpm
- High torque of spindle motor (9/7.5 kw, 15/11 kw)
- Coolant through spindle (A type/B type)
- Electrical cabinet with air conditioner
- Magnetic type chip conveyor
- Automatic power off
- Automatic tool life management
- Automatic tool length detector
- Automatic tool breakage detector
- 3-Color warning light
- Scraper type chip conveyor
- CE
- EMC
- Spare M code (8 Codes)
- Sub operation box
- Oil skimmer
- Oil mist collector
- Transformer
- Voltage stabilizer

QVM-610A+APC Standard Specifications

Item	Specification	Unit	QVM-610A+APC
TABLE	Working Table Area (L×W)	mm	700×410
	Max. Load Capacity	kg	200×2
	Table Height from Floor	mm	950
	T-Slots (Size x No.)	mm	-
SPINDLE	Spindle Nose		7/24 Taper No.40
	Spindle Speed	rpm	8000 (OPT. 10000)
TRAVEL	X/Y/Z Axis Stroke	mm	610/410/460
	Spindle Nose to Table	mm	180-640
FEED	X/Y/Z Rapid Traverse	m/min	30/30/30
	Cutting Feedrate	mm/min	1-10000
ATC	Tool Shank		BT 40
	Tool Capacity	pc	24
	Max. Tool Diameter	mm	Φ89
	Max. Tool Length	mm	250
MOTOR	Max. Tool Weight	kg	7
	Spindle Motor(50%ED)	kw	7.5/5.5(OPT. 9.0/7.5)
	X/Y/Z Servo Motor	kw	3.0/3.0/4.0
MACHINE	Coolant Motor	kw	0.37/0.55
	L×W×H	mm	4390×2360×2880
	Weight	kg	7500

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Machine Dimensions



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

Vertical Machining Center QVM-610A+APC

High ■Quality ■Precision ■Efficiency ■Economy



Tongtai Machine & Tool Co., Ltd.

Trust & Technology

Vertical Machining Center QVM-610A+APC

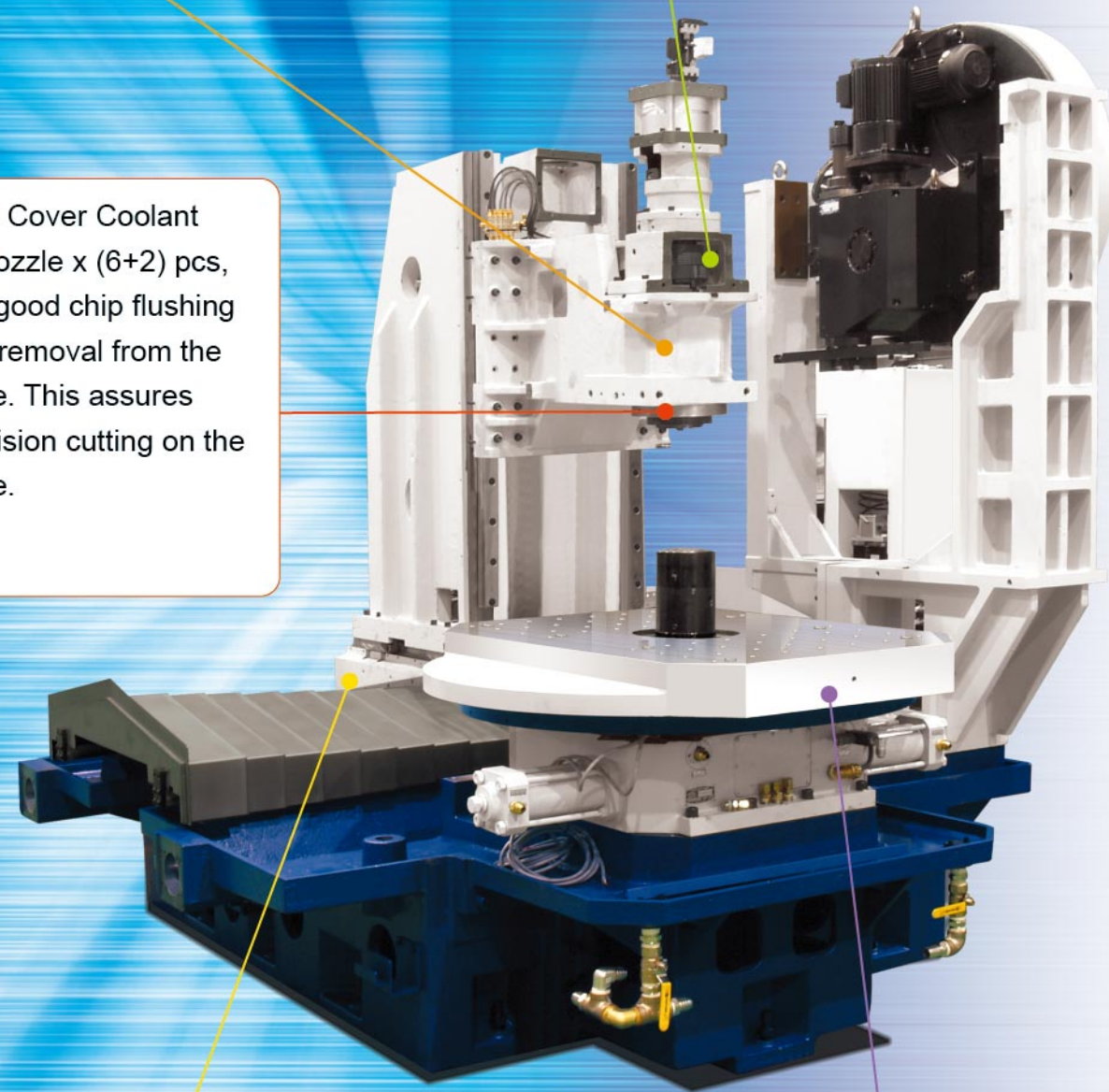
1. Spindle Bearing Protection, use maze type mechanical seal and air-blow to prohibit coolant entry.

2. High transmission power timing belt is used to transmit majority of the spindle motor power to the spindle and reduce the motor thermal conductivity to the spindle for preventing the expansion of the spindle.

3. Frontal Cover Coolant Supply Nozzle x (6+2) pcs, provides good chip flushing and heat removal from the workpiece. This assures high precision cutting on the workpiece.

4. 3-axis moving column design optimizes the cutting area and strokes to meet different parts demand.

5. Automatic pallet changer provides hydraulic supply system to the jig and fixture to reduce the loading and unloading time and shorten the machining time to suit for whole production line.



Spindle Structure Design

☉ Coolant through spindle : (optional)

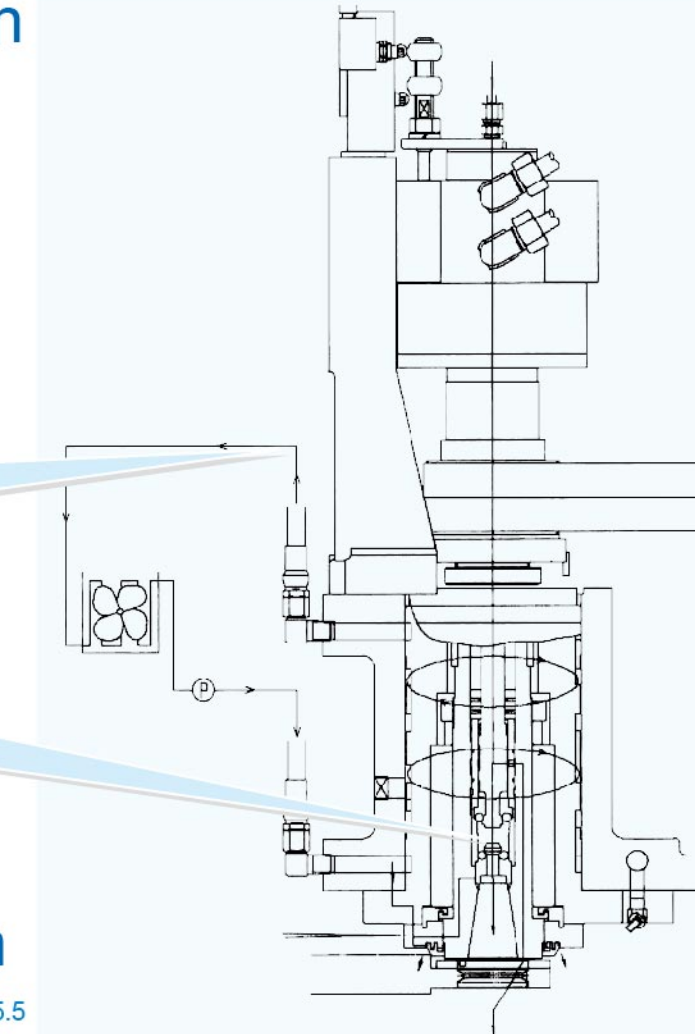
Coolant through spindle allows tool cooling, lengthens tool life and eases chip flow in deep hole drilling process.

☉ Spindle cooler : (optional)

Spindle Cooling Unit uses a synchronous Temperature Regulator Controller with room temperature to prevent the heat generated by the motor from transmitting to the machine body, thus minimizing thermal distortion.

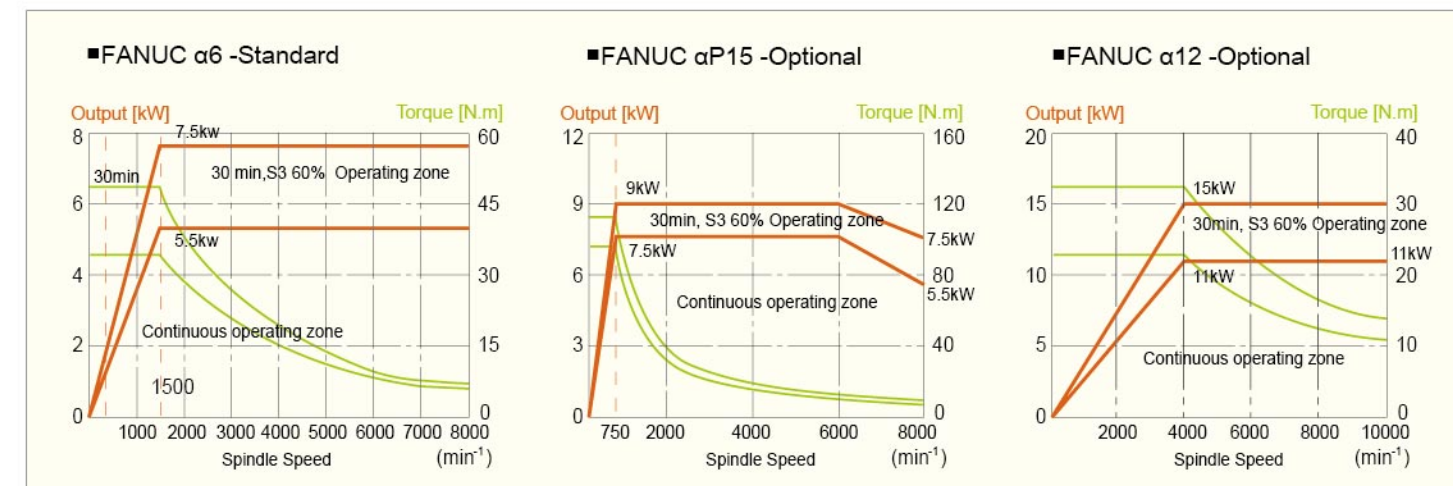
☉ Reinforced pull stud mechanism

The pull stud force is 1000 kg. The stud release force is only 250 kg. This design extends the life time of spindle bearing.



Spindle Output Diagram

High rigidity, and high precision spindle motor 8000 rpm α 6 (7.5/5.5 kw) 8000 rpm α P15 (9/7.5kw opt.) 10000 rpm α 12 (15/11kw opt.)



High speed		Cutting capabilities (Material:S45C)					
Rapid traverse (X.Y.Z)	30 m/min	Face milling \varnothing 80	End milling \varnothing 40	Drilling \varnothing 30	Tapping		
Cutting feedrate (MAX.)	10 m/min						
ATC (C-C)	8.1 sec	Cutting capacity	cc/min	219	24	-	M24x3.0
ATC (T-T)	3.4 sec	Cutting width x depth	mm	65 x 4.5	30 x 20	-	-
APC	4.9 sec	Spindle speed	min ⁻¹	750	200	265	265
		Cutting feedrate	mm/min	750	40	0.2 mm/rev	-

©High speed and Cutting capabilities chart data are the actuality obtained under static testing conditions in a temperature controlled environment per JIS-Standard.

User Friendly Operation



■ Comfortable operating space:

1. Table front to cover : 155 mm
2. Table height : 950 mm

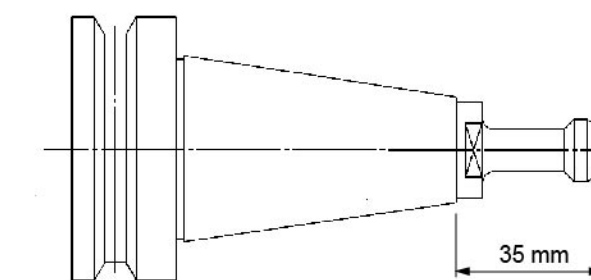
■ Swivel control panel:

1. Swivel out control panel for programming
2. After programming, panel swivels into splash guard for space saving. Easy operator's movement.

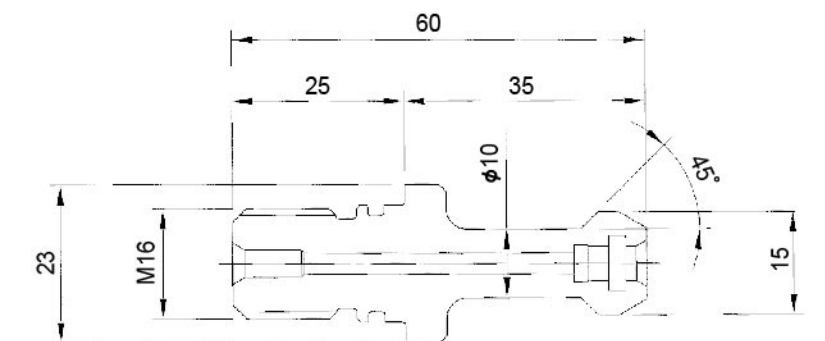
- Auger type conveyor inside of bed for easy chip flow with chip conveyor on rear side and optional additional coolant pump for washing bed.

- The operator works safely with APC and ATC door interlock.

☉ Tool shank BT-40



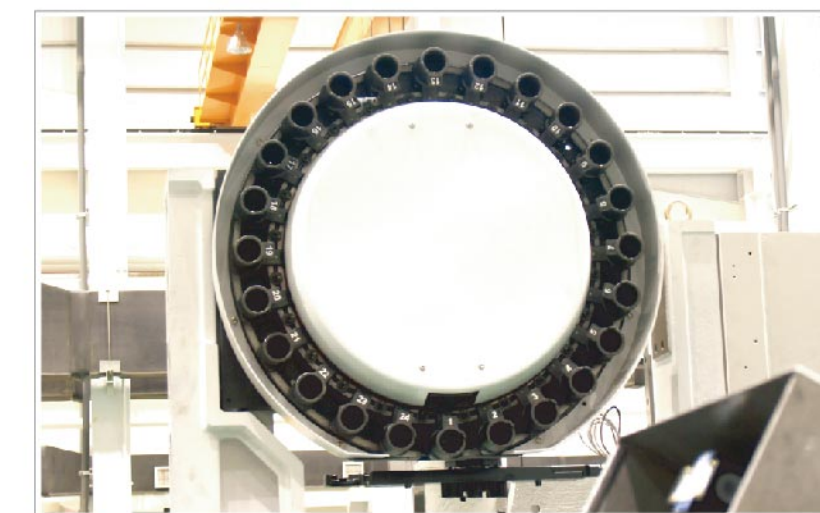
☉ Pull stud (A type)



Unit : mm

ATC Capacity

- 1 Max. weight of tool : 7 kg
- 2 Max. length of tool : 250 mm
- 3 Tool capacity : 24 pc
- 4 Side magazine design, easy for tool arrangement.
- 5 The ATC auto door prohibits coolant from spraying out.



▲ ATC