  
**Matsuura Machinery Plc.**

Operating Notes

For Matsuura Machines

With i80 Control

And

J300a Control (UK M/C's only)

HANDY-MAN  
**Operation Manual**

Matsuura System 180

INSTRUCTIONS  
**YASNAC i80M**

CNC SYSTEM FOR MACHINING CENTERS  
APPENDIX



Before using operation read these instructions thoroughly, and retain for future reference.

VERTICAL MACHINING CENTER  
**MODEL MC-600VF**  
**MANUAL**

SAFETY	SECTION 0
SPECIFICATION	SECTION 1
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PROGRAMMING	SECTION 5
MAINTENANCE	SECTION 6,7
INSTALLATION	SECTION 8

MATSUURA SYSTEM 180

  
**Matsuura**

Matsuura Machinery Corporation  
Japan

YASKAWA  
**YASNAC i80M**  
**INSTRUCTIONS**

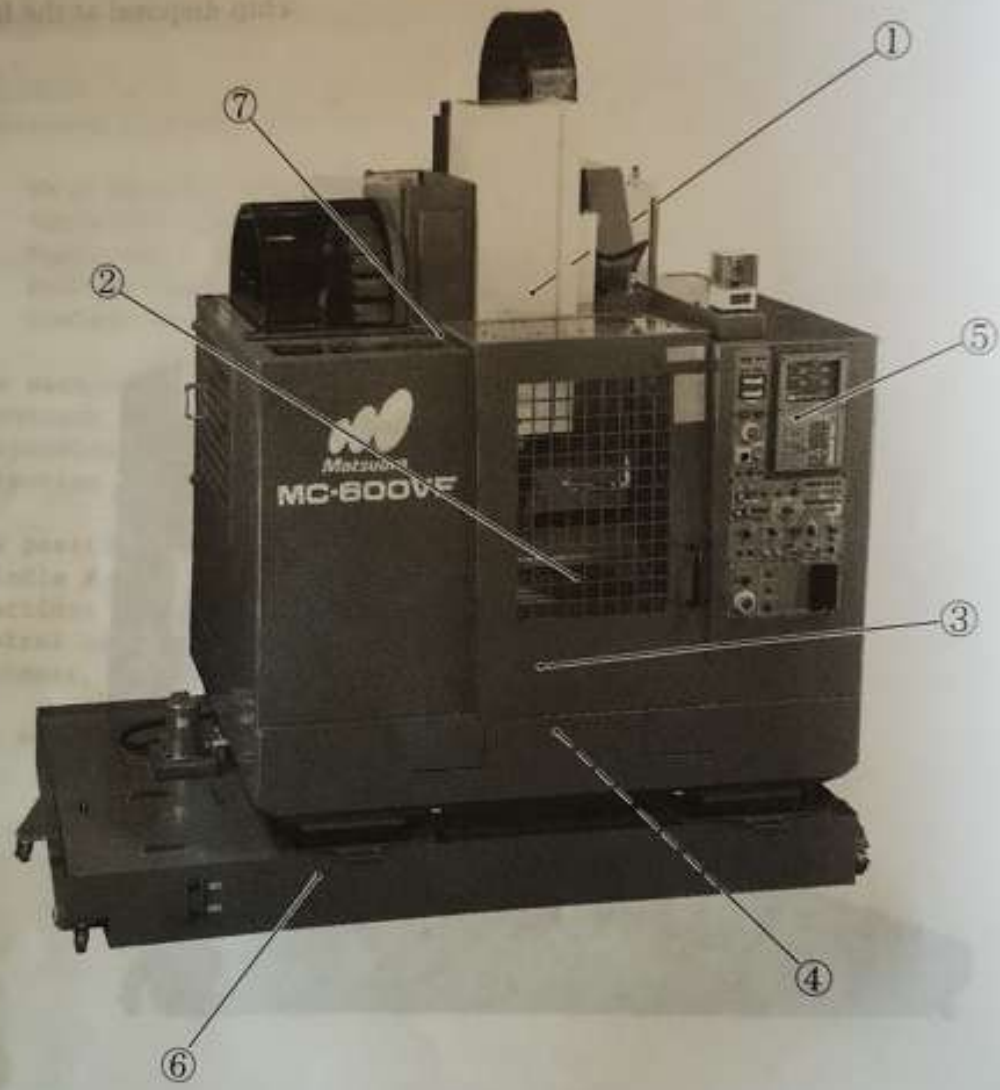
CNC SYSTEM FOR MACHINING CENTERS

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.



YASKAWA

FIG. 1-1-2 UNIT AND ASSEMBLIES



- 1. SPINDLE HEAD
- 2. TABLE
- 3. SADDLE
- 4. BED
- 5. MAIN OPERATION CONTROL PANEL
- 6. COOLANT TANK UNIT
- 7. ATC ARM

- 主軸頭 (ヘッド)
- テーブル
- サドル
- ベッド
- 主操作盤
- 切削油給油装置
- 工具交換アーム

(切粉前方排出)  
chip disposal at the front



〈注1〉 この写真は切粉前方排出仕様です。

The picture shows chip disposal system at the front.

〈注2〉 写真は改良により多少変更する場合があります。

The picture may have a case of slightly difference due to product modification/  
improvement.

1-2-9	<u>Machine size</u>	mm	2717 (107.0") (from floor)
	Machine height	mm	3682W × 3315D
	Floor space	kg	4000
	Mass of machine		
	Distance from floor to table surface	mm	890 (35.0") (from floor)
	Machine colour		Matsuura standard colour

1-2-10	<u>Machine capabilities</u>		
	Max. spindle torque	N·m	146 (14.9kgf·m)/360min <sup>-1</sup>
	Z-axis thrust/contn. rating	kN	9.8 (1000kgf)
	Max. workload on table	kg	400 (880 LBS)
	Ball screw (Dia. × Pitch, X/Y/Z)	mm	40 × 12/40 × 12/40 × 12
	Guideway width (X/Y/Z)	mm	60/110/90 (2.4"/4.3"/3.5")
	Narrow guideway distance (X/Y/Z)	mm	215/540/220 (8.5"/21.3"/8.7")

- 1-2-11 Standard accessories
- Total enclosure guard
  - Synchronised tapping function
  - Spindle oil cooler
  - Coolant unit
  - Lubrication unit
  - Spindle speed "RPM" and "LOAD" meter
  - Spindle overload protection
  - Standard mechanical tools and tool box
  - Machine colour paint
  - Levelling pads and bolts

1-2-12 Options

1. Input increment
  1. Input command : Inch
2. Tooling system
  1. Mas #40 + Mas pullstud
3. Spindle speed per min.
  1. Spindle speed 15000min<sup>-1</sup>/Direct drive  
\* Hi-tech motor model H-06, Torque 62NM/850min<sup>-1</sup>, S50-15000.  
Incl. Air drier, Oil cooler, Synchr. tap., Oil air lubrication.
4. Number of tool
  1. 30 tool magazine
  2. 40 tool magazine
5. Frequency
  1. Frequency 50HZ
  2. Frequency 60HZ
6. Special machine colour
  1. Machine colour (Dealer standard)
  2. Special machine colour

1-2-5

Automatic tool changer

Type of tool shank	JIS B 6339 Tool shank 40T	
Type of retention knob	JIS B 6339 Pullstud 40P	
	20-tool magazine	30-tool magazine
Tool storage capacity	20	30
Max. tool diameter	80 (3.15")	96 (3.77")
-When the pockets on both sides are empty:		
Max. tool length	mm 150 (5.9")	175 (6.88")
Max. tool mass	mm 300 (11.8")	300 (11.8")
Tool pocket pitch	kg 8 (17.6 lbs)	10 (22 lbs)
ATC time tool-to-tool	mm 82.1 (3.23")	101.6 (4.0")
Ditto chip-to-chip	sec 1.8	2
(25% of Z axis stroke, at 1000rpm spindle speed)	sec 5.0	
Method of tool selection;	Memory random selection, bi-directional magazine rotation	
Tool change arm	Double grip type	

1-2-6

Motors

Feed motors		
X/axis Model USAFED-13FS2	kW	AC1.3 (at 1500min <sup>-1</sup> )
Y/axis Model USAFED-20FS2	kW	AC1.8 (at 1500min <sup>-1</sup> )
Z/axis Model USAFED-30FS20E(+Brake)	kW	AC2.9 (at 1500min <sup>-1</sup> )
Coolant pump motor	kW	0.25
Hydraulic pump motor	kW	1.5
Lubrication pump motor	kW	0.02
Spindle oil cooler motor	kW	0.45

1-2-7

Power supply

Electrical power supply		AC380/400/440/480V±10%
		50/60Hz±1Hz
		(Transformer must be prepared by user.)
Electrical power supply	kVA	36
Compressed air supply	MPa	0.54-0.93 (5.5 - 9.5kgf/cm <sup>2</sup> )
Volume of compressed air to be supplied	L/min	200
Ditto/15000min <sup>-1</sup> Optional	L/min	550

1-2-8

Tank capacity

Lubrication oil tank capacity	L	4.2
Coolant tank capacity	L	330 (for chip disposal at the front)
Hydraulic unit tank capacity	L	15
Oil cooler tank capacity	L	14 (Max. capacity 16)

## 1-2 Machine specifications

1-2-1	<u>Movement and ranges</u>		
	X-axis travel	mm	600 (23.62")
	Y-axis travel	mm	410 (16.14")
	Z-axis travel	mm	470 (18.5")
	Distance from table to spindle end	mm	150 - 620 (5.9"-24.4")
	From table centre to column guideway	mm	235 - 645 (9.25"-25.39")
	From spindle centre to column guideway	mm	440 (17.32")
1-2-2	<u>Table</u>		
	Table working surface	mm	400×880 (15.7"×34.6")
	Table loading capacity	kg	400 (880 LBS)
	Table surface configuration		
	T slots; width×number×pitch	mm	18×3×100 (11/16"×3×4")
	Ditto	mm	18×2×55 (11/16"×2×2.25")
1-2-3	<u>Spindle</u>		
	Spindle speed range	min <sup>-1</sup>	30-8000
	Spindle speed change command		S4 digits direct command
	Type of spindle taper hole		7/24 Taper No.40
	/Spindle bearing inner diameter	mm	80 (3.15")
	Max. spindle torque	N·m	146/360 min <sup>-1</sup> (AC 5.5/3.7 kW (408ED/Contn rating)
	Ditto	kgf·m	14.9/360 min <sup>-1</sup> Standard accessory Standard accessory (electrical)
	Spindle air blow		
	Spindle orientation		
1-2-4	<u>Feedrate</u>		
	Rapid traverse rate (X/Y/Z)	mm/min	24000/24000/18000 (944.9"/944.9"/708.7")
	Feedrate (X/Y/Z)	mm/min	1-10000 (0.04"-393.7")
	Jog feedrate	mm/min	0-4000 (0-157.5")