

SIMULTANEOUS 5 AXIS

FTV-500

EASY APPROACH !! OUTSTANDING PERFORMANCE !!



SIMULTANEOUS 5 AXIS FTV-500

5 가 !! 5 가



2

BIG WORK VOLUME

Big work volume compared to trunnion type 5 axis machining center due to no interference of cross axis.

HIGH RIGIDITY AND STABILITY

- Box in box type base structure.
- Roller LM Guide for 3 axis.

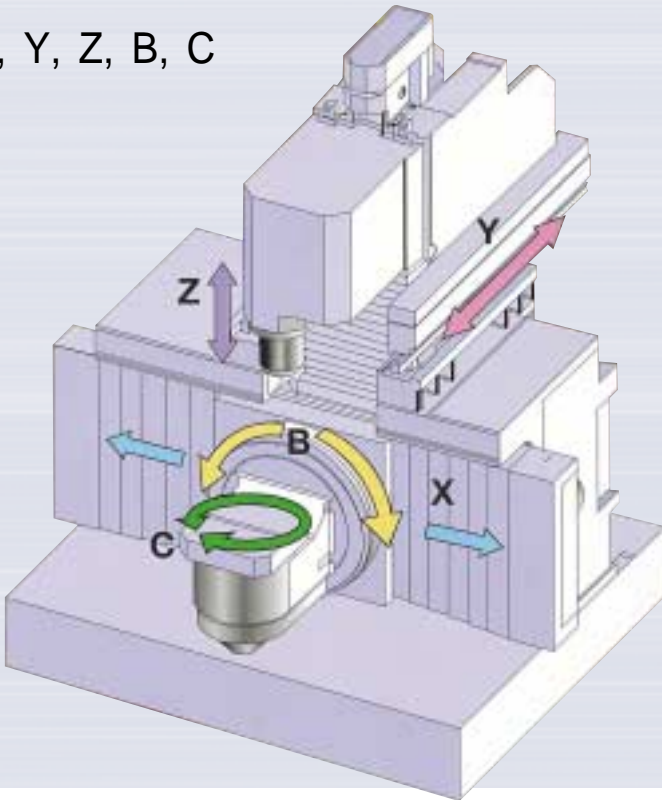
HIGH ACCURACY

- Linear scale for three(X, Y, Z) axis.
- Rotary encoder fitted on the main shaft for two(B, C) axis.

가 Y 가
3 LM 가
• X, Y, Z
• B, C

5 axis / 5

X, Y, Z, B, C



High Rigidity B axis

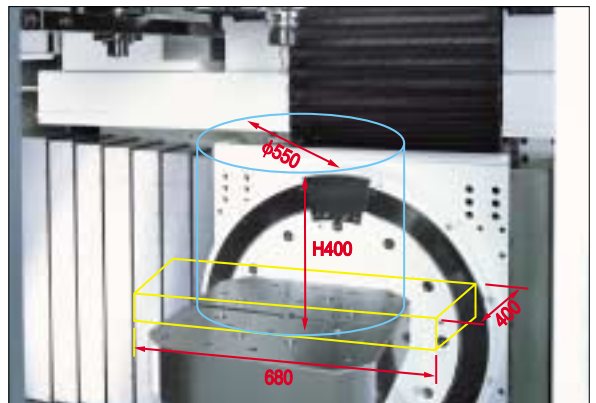
B



Work volume

- X axis 820mm and B axis ± 100 , allows big work volume.
- Max. work size with 5 axis : $\text{Ø}550 \times \text{H}400\text{mm}$
- Max. work size with 3 axis : $L \times W = 680\text{mm} \times 400\text{mm}$

- X 820mm, B ± 100 , 가
- 가
- 5 (X, Y, Z, B, C) : $\text{Ø}550 \times \text{H}400$
- 3 (X, Y, Z) : $L \times W = 680 \times 400\text{mm}$



Spindle

- High speed spindle 15,000rpm (Option 20,000rpm).
- 15,000rpm , 20,000rpm.



Easy Approach !! Outstanding Performance !!

- Swivelling operator panel /
- Portable MPG handwheel /

MPG



- Easy approach to the work piece due to short distance between operator and table.

400 mm

- Easy to set work piece with crane due to opening of the roof.



Table Horizontal /

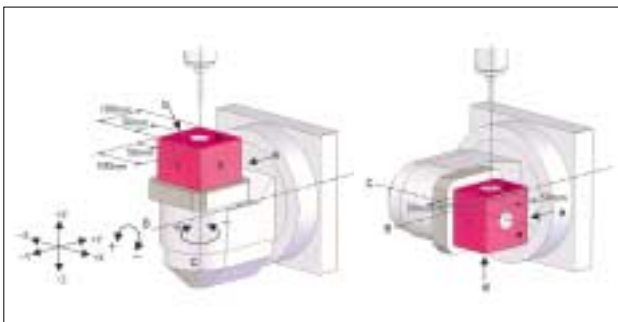


Table vertical /



Program for coordinate change system with Fanuc 18i MB5
“ ”: Fanuc 18i MB5

4



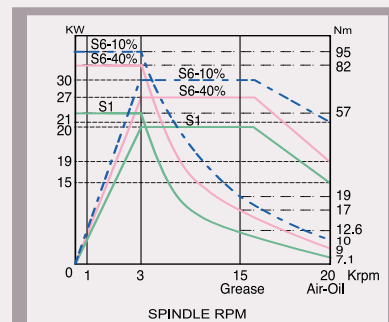
Fanuc 18i MB5 Example of program /

- 1) Drilling each face at the position of 50mm (a e).
50mm a e 7
- 2) Work piece coordinate system setting
: a:G54, b:G55, c:G56, d:G57, e:G58
Work piece zero point setting (G54 work piece coordinate system).
Program input from work piece zero point.
Work a :G54, b :G55, c :G56, d :G57, e :G58
a (G54 Work)

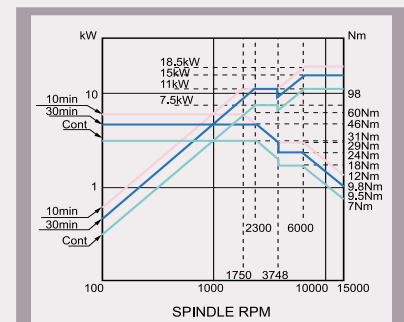
- Spindle Motor (Built in Spindle)



Heidenhain iTNC530



Fanuc 18i MB5



• Machining Capacity with Fanuc 18i MB5 /

	Unit	Work Piece S45C				Work Piece A5052			
		φ50-4T	φ20-4T	φ30	M24	φ50-4T	φ20-3T	φ30	M30
		Face Cutter	Endmill	Drill	Tap	Face Cutter	Endmill	Drill	Tap
Spindle/	rpm	923	1600	265	100	4169	9500	424	130
Cutting Feed/	m/min	145	100	25	7.5	654	597	40	12
Cutting Depth/	mm	4	20	-	-	5	20	-	-
Cutting Width/	mm	40	20	-	-	40	20	-	-
Feed rate/	mm/min	770	540	40	300	4000	2850	168	455
Feed per Teeth/	mm/teeth	0.21	0.08	0.08	-	0.24	0.1	0.2	-
Cutting Volume/	ml./min	123	216	28	-	800	1140	119	-
Power/	%	130	128	115	130	120	110	89	110

Optional /

- Tool touch probe with air-operated automatic cover. ()

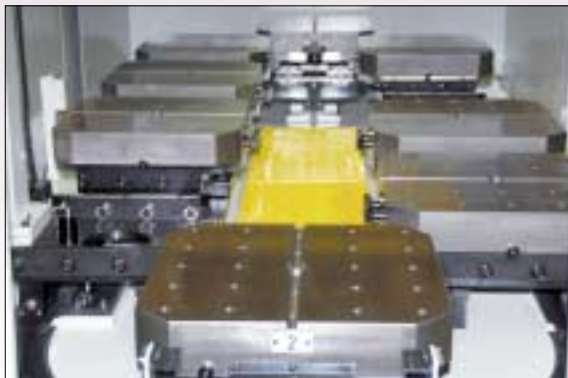


- Shaft machining with 4th axis by choosing tail stock as optional. 4 가



- Automatic pallet changer (2, 4, 6, 8, 10 pallet). "Work in Front of the Machine with APC" enhance the efficiency.

(2, 4, 6, 8, 10)



SIMULTANEOUS 5 AXIS FTV-500

MACHINE SPECIFICATION

Description		FTV-500		
X travel	X ()	820mm		
Y travel	Y ()	500mm		
Z travel	Z ()	550mm		
B axis tilting angle	(B)	+100 _o ~ -100 _o		
C axis rotating angle	(C)	360 _o		
The distance between spindle center and table center with longitudinal movement	(X)	450 ~ -370mm		
The distance between spindle center and table center with cross movement (Both table horizontal and vertical)	(Y)	-250 ~ 250mm		
The distance between spindle nose and table surface with vertical movement	(Z ,)	0 ~ 550mm		
Table surface	(X×Y)	400 × 400mm (φ500mm)		
Max. permissible load	()	150kg		
The shape of table surface		24-M12		
The height from floor to the table surface		1,000mm		
Spindle speed		100 ~ 15,000rpm 100 ~ 20,000rpm(Optional)		
taper	()	7/24 taper No.40		
Rapid feed		X, Y, Z : 48m/min B : 15rpm C : 25rpm		
Feed		X, Y, Z : 48m/min		
Tool shank	Shank	DIN 69871, MAS403		
Pull stud		DIN 69872, JIS B6339		
ATC No. of tools		32ea		
Max. tool diameter with adjacent tool present	(有)	75mm		
Max. tool diameter with adjacent tool empty	(無)	130mm		
Max. tool length		250mm		
Max. tool weight		7.5kg		
Spindle motor (Built in spindle)	()	Heidenhain	Fanuc	
		30 / 20kw	18.5 / 11kw	
Axis motor	X	X	AC 8.6 kw	AC 4 kw
	Y	Y	AC 8.6 kw	AC 4 kw
	Z	Z	AC 8.9 kw	AC 7 kw
	B	B	AC 8.9 kw	AC 7 kw
	C	C	AC 3.7 kw	AC 3 kw
Electric Power		Heidenhain	Fanuc	
		70 KVA	53 KVA	
Voltage		AC400V ± 10%	AC200V ± 10%	
Frequency		50/60Hz ± 10%		
Pneumatic Pressure		0.45 ~ 0.7Mpa		
Flow	(ANR)	150L/min(ANR)		
Hydraulic unit tank		20L		
Coolant water tank		300L		
Spindle cooling oil tank		38L		
Machine height		2,810mm		
Machine floor space		3,025mm × 2,850mm		
Machine weight		11,000kg		

STANDARD /

- X, Y, Z axis linear scale X, Y, Z
- B, C axis rotary encoder (center shaft mounted) B, C
- Portable electronic handwheel MPG
- Rigid tapping
- Oil cooler
- Flood coolant system with tank
- Automatic power off
- Air blow
- Spindle air blast

OPTIONAL /

- Tool length and radius measurement ,
- Automatic workpiece measurer
- Coolant through spindle
- Lift up chip conveyor
- Automatic tool changer (60, 90ea) (60, 90)
- Automatic pallet changer (2, 4, 8, 10ea) (2, 4, 6, 8, 10)
- Automatic work piece changer
- Tail stock for shaft machining with 4th axis 4 가
- Air conditioner for electric cabinet, Roof mounted

CNC

Heidenhain iTNC 530

CNC

Fanuc series 18i Model B5, 10.4 color LCD

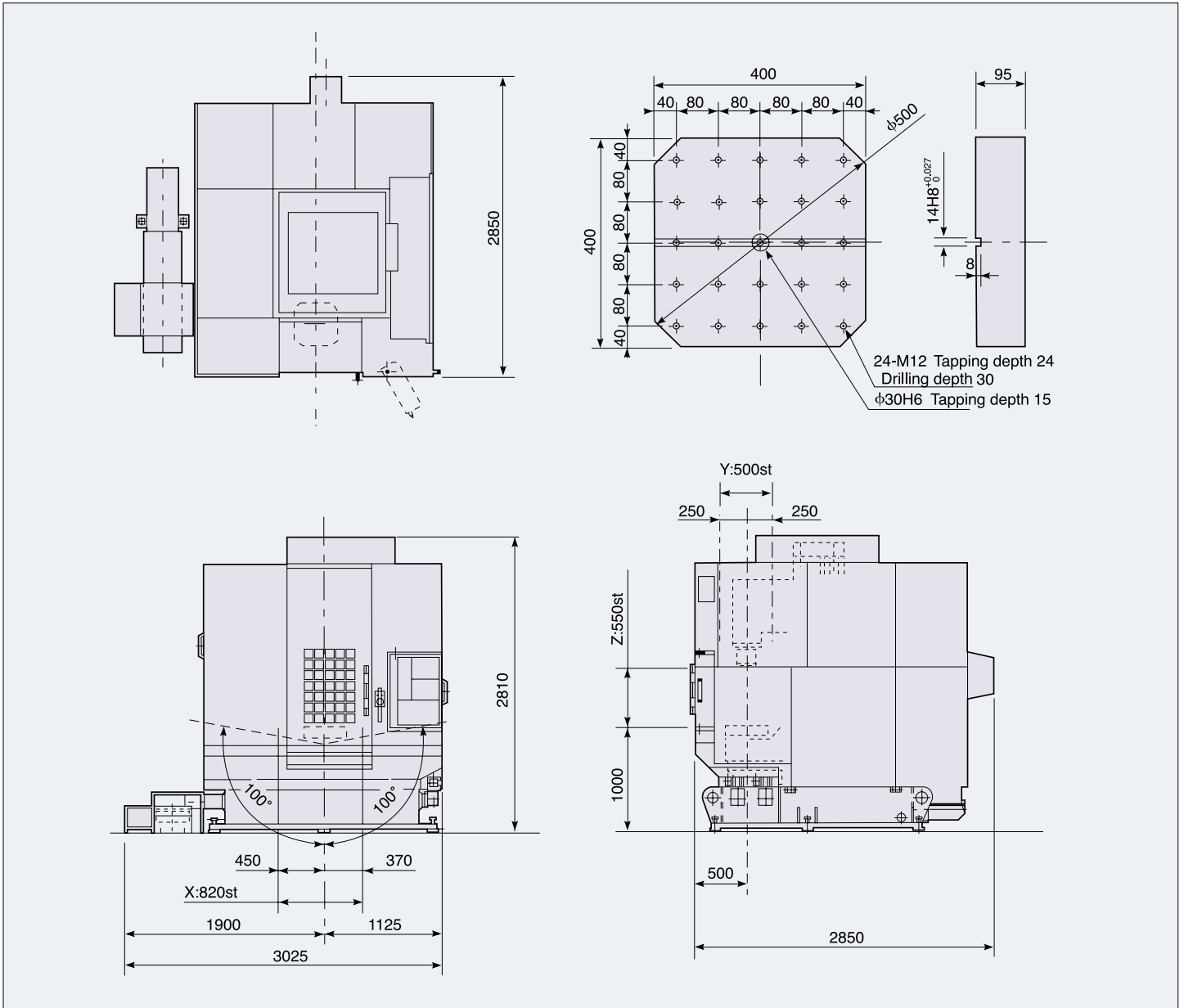
Standard /

Rapid override 0, 5, 25, 50, 100%	0, 5, 25, 100%
Feed override 0~200%, 10% step	0~200%, 10%
Spindle override 50~120%, 10% step	50~120%, 10%
Reader punch interface RS232C	RS232C
Manual handle interrupt	
Stroke limit check before travel	
Unidirectional positioning (G60)	
Program restart	
Cylindrical interpolation (G7.1)	
Helical interpolation : (Circular interpolation) + (linear interpolation for up to 2 axis)	
AI High precision contour control, look ahead 600 block with RISC board	AI (RISC)
Tool center point control for 5 axis	5
Polar coordinate command (G15, G16)	(G15, G16)
Workpiece coordinate system preset (G92.1)	(G92.1)
Workpiece coordinate system preset (G52-G59)	(G52-G59)
Optional-angle chamfering / corner rounding	-
Custom macro B	B
Automatic corner override (G62)	(G62)
Automatic corner deceleration	
Feedrate clamp by arc radius	
Scaling (G50, G51)	(G50, G51)
Coordinate system rotation (G68, G69)	(G68, G69)
Fixed cycle	
Programmable mirror image (G50.1, G51.1)	(G50.1, G51.1)
Cutter compensation C	C
Tool offset memory C	C
Tool compensation data 99 items	99
Tool offset G45-G48	(G45-G48)
Part program storage length 320M (128KB)	320M (128KB)
Registered programs 200ea	200
Background editing	
Expanded part program editing	
Graphic function	
Run time and part number display	가
Dataserver	
128MB memory card for dataserver	128MB
Language (English)	(,)

Optional /

Polar coordinate Interpolation (G12.1, G13.1)	(G12.1, G13.1)
Positioning by optimum acceleration	가
Feed by F1	F1
Inverse time feed	
NURBS Interpolation	NURBS
Optional block skip, 9 block	, 9 block
Program number with 8 digit	8
Addition of workpiece coordinate systems 48sets or 300sets	가 48 300
Addition to custom macro common variable (#100-#199, #500-#999)	common 가 (#100-#199, #500-#999)
Manual guide i	가 i
Tool compensation data 200, 400, 499, 999 items	200, 400, 499, 999
Tool life management	
Part program storage length 640M(256KB), 1280M(512KB), 2560M(1024KB)	640M(256KB), 1280M(512KB), 2560M(1024KB)
Registered programs 400, 1000ea	400, 1000
Dynamic graphic display	
1GB Memory card for dataserver	1GB
Other language (German, France, Italy, Netherland, Sweden, Spain, Portugal, Poland, Hungary, China)	

DIMENSION



(株) 起興機械

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