VICTOR TAICHUNG

Management System
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018

TÜVRheinland CERTIFIED

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ID 0091003197

Art of Mold & Die Machining

Vcenter-M106/M126

Vertical machining center

- Travels (X/Y/Z):
  1060 / 700 / 700 mm (M106)
  1260 / 780 / 700 mm (M126)
- Rapid feeds: 32 m/min
- BBT-40 / 15000 rpm spindle
- Fanuc 0iMF Plus / Siemens 828D / Heidenhain TNC7 control
- Roller type linear motion guideways
- Grease lubrication
- Screw chip removers included

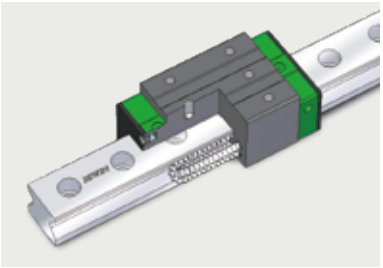
Victor Taichung – an established ISO 9001, 14001 & 45001 company

Vcenter-M series VMC for Mold & Die Machining

- **15000 rpm BBT-40 spindle with high power output**
- **Fanuc 0iMF Plus (step 2) control performs excellent contouring on part surface at high speed**
- **A-shaped column with long Y-axis travel 700 mm (M106) / 780 mm (M126)**
- **Wide base with 4 screws in Y-axis to avoid chips built-up**
- **Machine weight 7310 kg (M106) / 9600 kg (M126) for high robustness**

X/Y/Z AXES

- Travels:
  1060/700/700 (M106)
  1260/780/700 (M126)
- Rapid feeds: 32 m/min
- Ballscrew diameter:
  45/40/45 mm (M106)
  45/45/45 mm (M126)
- Roller type LM guideways with grease lubrication



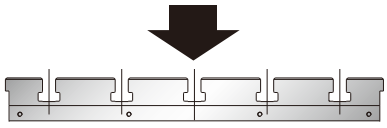
ATC

- 24 tools (opt. 40)
- Column designed with a shoulder for carrying magazine
- Tool exchange time:
  2.2 sec. (tool-tool)
  7.0 sec. (chip-chip)

Additional pads for column supporting

TABLE

1000 kg (M106)
1250 kg (M126)

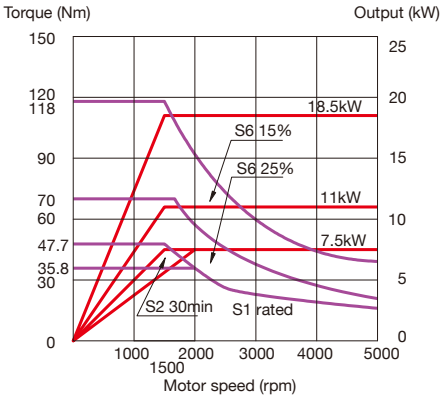


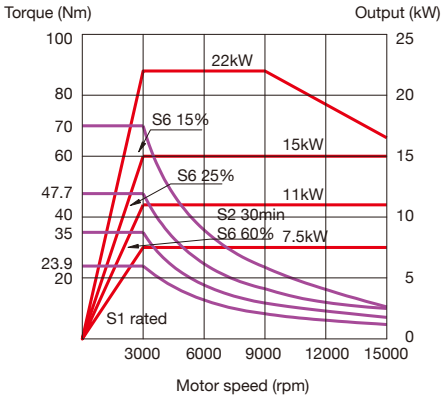
1120 x 520 mm (M106)
1400 x 700 mm (M126)

Λ-cover (Rear Y)

15000 rpm SPINDLE

- BigPlus® BT-40 oil/air lubricated spindle
- Spindle power 22 KW (S6-15%) for Fanuc control (23.25 KW for Siemens / Heidenhain control)
- Lean headstock with reduced weight for quick response at high cutting feed



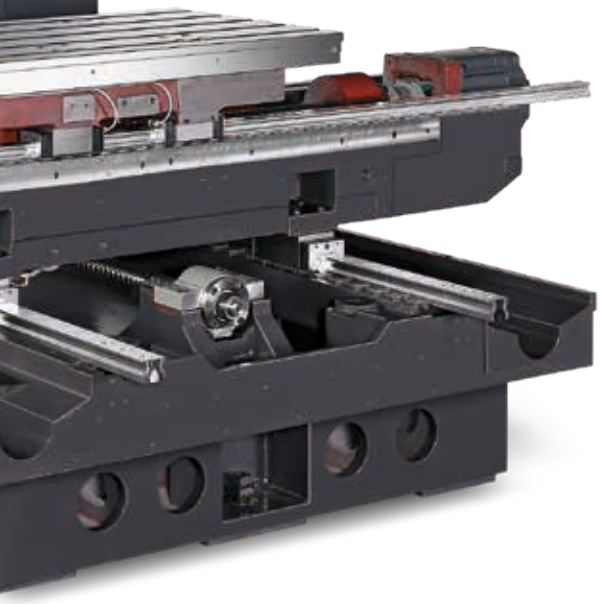


MEEHANITE

Certificated Casting

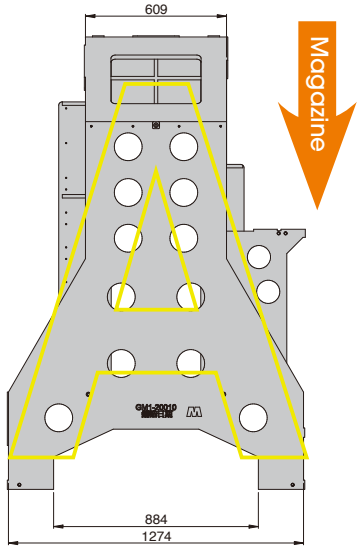
STRUCTURE

- Wide span column
- Large base
- Magazine mounted on shoulder
- 4 slideways in Y-axis (M126)



GB300

Vcenter-M126



Wide column

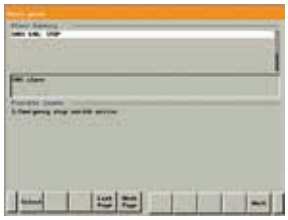
Vcenter-M series for Mold & Die Machining

New Fanuc 0i-MF Plus (Step-1A) control includes:

- 10.4" screen
- QWERTY keyboard
- Manual Guide i (MGI)
- αi-D servo drive
- AICC (400 blocks)
- 8MB memory + 2GB CF card
- VSS Macros (Victor's GUI)
- Digital Twin modeling

Victor Taichung's GUI "VSS macros"

Tool breakage detection



Alarm display with diagnosis

Tool management

Renishaw® GUI

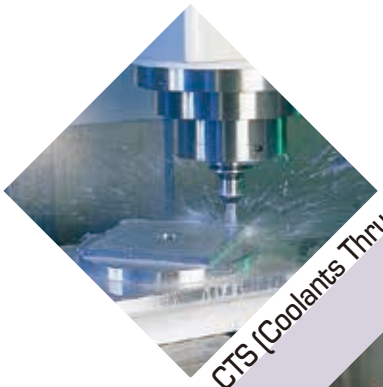
Heat exchanger +
Enclosed rear guarding

Lube Hybrid Lubrication

Spindle oil cooler

Arm type ATC + Auto door for magazine + Coolant ring + LED lights

Optional Accessories



CTS (Coolants Thru. Spindle)

Auto tool length measurement

Auto part measuring

Linear scales

4th/5th axis interface for rotary/tilting table

Bottom guarding flush + Screw chip removers

Vcenter-M126

Victor Taichung's FANUC 0i-MF Plus (10.4", type-1A) Control Specification

Standard

ITEM	SPECIFICATION	DESCRIPTION
Operation & Program Input:		
1.	Input / Output interface	RS-232, PCMCIA Card, USB
2.	Tool Offset Pairs	±6-digit, 400
3.	Program Number	O4-Digit
4.	Sequence Number	N5-Digit
5.	M Code Function	M3 digit
6.	S Code Function	S5 digit
7.	T Code Function	T2 digit
8.	Program Display	Program name 31 characters
9.	Positioning	G00
10.	Linear Interpolation	G01
11.	Circular Interpolation	G02, G03
12.	Helical interpolation	Std.
13.	Skip Function	G31
14.	Reference Position Return	G28, G30
15.	Absolute / Incremental Programming	G90 / G91
16.	Plane Selection	G17, G18, G19
17.	Polar coordinate Command	G16.
18.	Workpiece Coordinate System	G52, G53, G54~G59
19.	Addition of Workpiece Coordinate System Pair	48 Pairs
20.	Optional Chamfering/Corner R	Std.
21.	Sub Program Call	4 folds nested
22.	Custom macro B	Std.
23.	Addition of Custom Macro Common Variables	#100~#199,#500~#999
24.	Canned cycle For Drilling	G73 / G74 / G76, G80-G89
25.	Small hole peck drilling cycle	G83
26.	Program Stop / Program End	M00 / M01 / M02 / M30
27.	Scaling	G51
28.	Rigid tapping	M29
29.	Coordinate System Rotation	G68
30.	Programmable mirror image	G50.1
31.	Manual Guide I (MGI) conversational programming	Std.
32.	Fine Surface Machining	Std.
33.	Smooth tolerance control+	Std.
34.	Cylindrical interpolation (G7.1) (used on 4th axis)	Std.

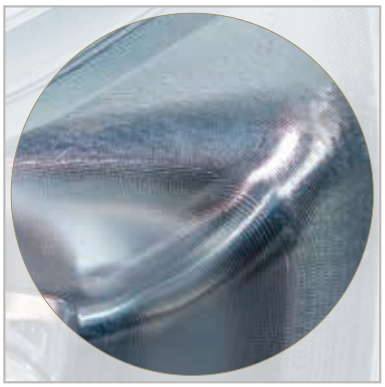
Controlled Axes:		
1.	Controlled Axes	3 Axes (X, Y, Z)
2.	Simultaneous Controlled Axes	4 Axes
3.	Least Input Increment	0.001 mm
4.	Least command increment	0.0001 mm
5.	HRV Control	HRV3+
6.	Unexpected disturbance torque detection (AIR-BAG)	Std.
7.	Backlash compensation	Std.
8.	Stored pitch error compensation	Std.
Feed:		
1.	Rapid Traverse Override	F0, 25%, 50%, 100%
2.	Feed Per Minute	G94 (mm / min)
3.	Feed rate Override	0~200%
4.	Spindle Override	50~200%
5.	Manual Handle Feed Rate	X1, X10, X100
6.	AI contour control (AICC, G05.1) (in total)	400 blocks
Edit Operation:		
1.	Part Program Storage Length (in total)	20480 m (8 MB)
2.	Part Program Editing / Protect	Std.
3.	Memory Card Editing (Max. 1000 programs.)	Std.
4.	Number of registerable programs (Max. 1000)	Std.

Options

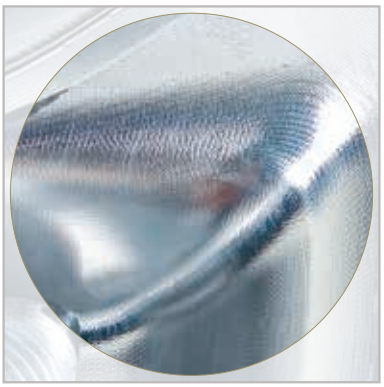
ITEM	SPECIFICATION	
With hardware included:		
1.	Data server (with PCB and CF card 1GB)	☐
2.	Ethernet/IP (to be linked to robot)	☐
3.	PROFIBUS-DP (to be linked to robot)	☐
4.	CC-Link (to be linked to robot)	☐
5.	Fast Ethernet (required for SCADA Web with additional RJ45 port)	☐
6.	15" LCD with Panel iH (iHMI) and touch screen	☐
Without hardware included:		
7	AI contour control 1500 blocks	☐
8.	Tool load monitoring (with Victor own PLC)	☐
9.	Addition of work-piece coordinate systems 300 sets	☐
10.	Tilted working plane indexing command	☐
11.	Number of registerable programs (Max. 4000)	☐

Performance on Surface Profiling at High Cutting Feed

Material: Aluminum
Part dimension: R.250*H.50 mm
Spindle speed: 13500 rpm
Cutting feed: 10000 mm/min



Cycle time: 13' 59"
(by Vcenter-M106)

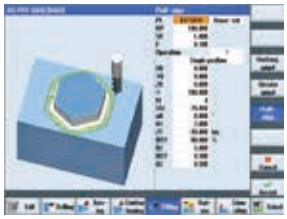


Cycle time: 16' 02"
(by Fanuc step-1 control)

Opt. Sinumerik 828D / ONE control

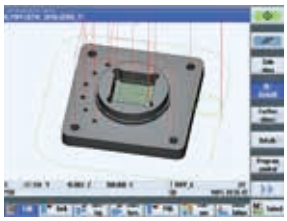
- **10.4" screen (opt. 15" touch screen)**
- **10 MB on board (CF USB max. 32 GB)**
- **Conversational operation (Opt. ShopMill)**
- **Preview contouring 450 blocks (opt.600 / 3000 blocks)**
- **ProgramGUIDE with Animation Guidance**
- **2D / 3D simulation**

Sinumerik Operate (Conversational)

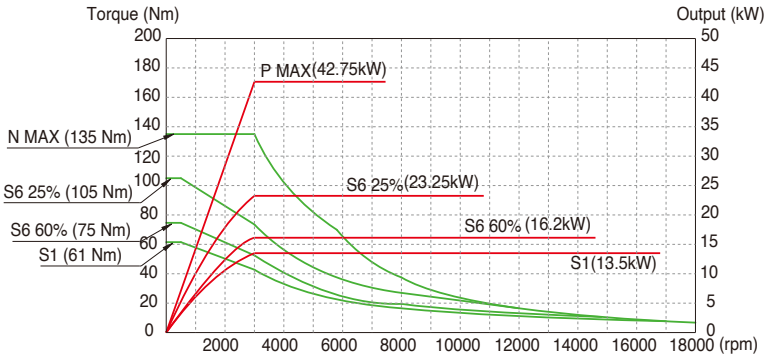


Animation Guidance

Online Help



3D simulation



15000 rpm spindle (Siemens / Heidenhain)

Victor Taichung's SIEMENS 828D Control Specification

Standard

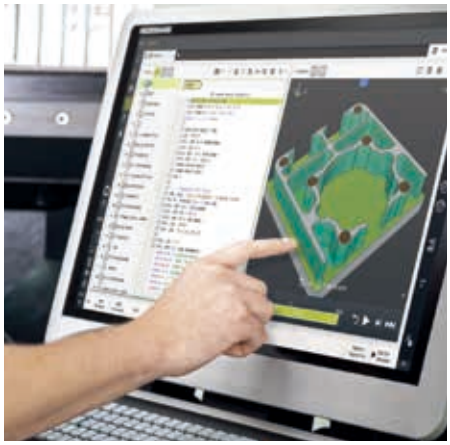
ITEM	SPECIFICATION	DESCRIPTION
Controlled Axes:		
1.	Controlled Axes	3 Axes (X, Y, Z)
2.	Simultaneous Controlled Axes	4 Axes
3.	Least input Increment	0.000001 mm
4.	Least command Increment	0.000001 mm
5.	Measuring system Error	Std.
6.	Backlash Compensation	Std.
7.	Pitch Error Compensation	Std.
Operation & Program Input:		
1.	Data Input/Output	Ethernet, USB,CF Card
2.	Number of tool/Edge max (T/D)	768/1536
3.	Animated cycle support	Std.
4.	Geometry processor for contour	Std.
5.	M Code	M3 digit
6.	S Code	S5 digit
7.	T Code	Readable text
8.	Programming language (High level)	Std.
9.	Orientation	Std.
10.	NURBS Interpolation	Std.
11.	3D Circular Interpolation	Std.
12.	Helical Interpolation	Std.
13.	Skip Function	Std.
14.	Zero Return	Std.
15.	Absolute/Incremental Programming	Std.
16.	Plane Section	Std.
17.	Polar Coordinate	Std.
18.	Workpiece Coordinate Command System	100 sets
19.	Number Of Basic Frames Max (G500)	1 set
20.	Separate Feed For Corners And Chamfers	Std.
21.	Subroutine Levels/Interrupt Routines	16/2
22.	User R Parameters	300
23.	Global R Parameters	Std.
24.	Basic Drilling/Milling Technology Cycles	Std.
25.	Program Stop / Program End	Std.
26.	Rigid Tapping	Std.
27.	HSC (CYCLE832)	Std.
28.	Animated machining step support (ShopMill/ ShopTurn)	Opt.
29.	Incline Surface Cycle (CYCLE 800)	Std.
30.	Real Time Of Machining	Std.
31.	Programs on CF Card	Std. (Support 32GB, Industrial Level)
32.	Programs on CF USB Device	Std. (Support 32GB, Industrial Level)
33.	Macro Technique	Std.
34.	2D Simulation (Finished Part)	Std.
35.	3D Simulation (Finished Part)	Incl.
36.	OPC Server (4.5 SP3)	Incl.
Feed:		
1.	Rapid Traverse Rate	0~120%
2.	Spindle Override	50~120%
3.	Manual Handle Feed Rate	X1, X10, X100
4.	Look Ahead Blocks	450
Edit Operation:		
1.	Part Program Storage Length	10M
2.	Part Programs on PPU, Max	750
3.	Program GUIDE	Std.
4.	Synchronized Actions Numbers	24

Options

ITEM	SPECIFICATION	DESCRIPTION
1.	DXF Contour Converter	Opt.
2.	Top Surface (with Look Ahead 600 blocks)	Opt.
3.	Execution from external storage (EES)	Opt.
4.	Conversational programming ShopMill	Opt.
5.	Machining On Peripheral Face	Opt.
6.	Collision Avoidanced ECO	Opt.
7.	Part Program Storage Length (100M)	Opt.
8.	Residual material detection including pockets	Opt.

Opt. Heidenhain TNC7 control

- **Powerful dialog programming**
- **Fully alphanumeric keyboards**
- **Preview contouring 5000 blocks**
- **19" touch screen (16" screen for TNC7 basic)**
- **HR-510 hand wheel**



Machine Color Option

Standard

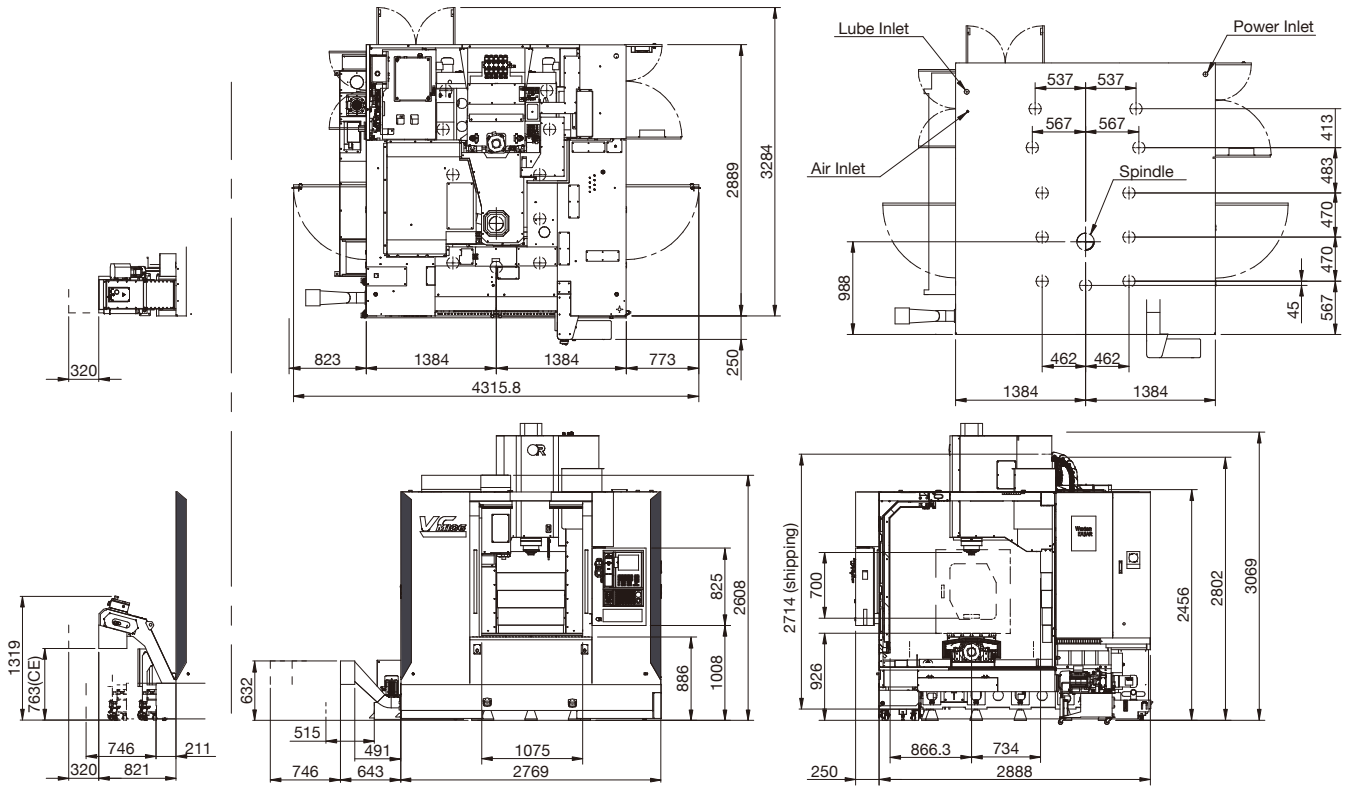
RAL-7024

Control Features for Fast Contour Milling

Feature \ Controller	FANUC			SIEMENS Sinumerik		HEIDENHAIN
	0i-MF Plus (type-1A) STEP 2	0i-MF Plus (type-0A) STEP 2	31i-B Plus	828D	ONE	TNC7 (TNC7 basic)
Block addressing time	1 ms	0.4 ms	0.4 ms	1 ms	0.7 ms	0.5 ms [1.5 ms]
Preview contouring (look ahead blocks)	400 (opt. 1500)	400 (opt. 1500)	1000	450 (opt. 600)	3000	5000
Graphic display	10.4"	15" Touch	15" Touch	10.4" (opt. 15" Touch)	15" Touch	19" [16"] Touch
Data storage	8 MB	8 MB	4 MB (opt. 8MB)	10MB	10 MB (opt. 28MB)	240GB (by SSDR) [30GB by CF card]
Memory extension	Std. (CF card 2GB)	Std. (CF card 2GB)	Opt. (excl. CF card)	Std. (CF card, Max. 32 GB)	Std. (USB disk, Max. 32 GB)	N.A.
Data server	Opt. (by CF card)	Opt. (by CF card)	Std. (with CF card 2GB)	N.A.	Std.3.5 GB (by CF card)	Std.
Ethernet link	Std.	Std.	Std.	Std.	Std.	Std.
Conversational function	Manual Guide I (MGI) + VSS macros	iHMI + MGI + VSS macros	iHMI + MGI + VSS macros	Std. + (opt. ShopMill)	Std. + ShopMill	Std. + Smart programming.
Data transfer interface	PCMCIA + USB	PCMCIA + USB	PCMCIA + USB	USB	USB	USB

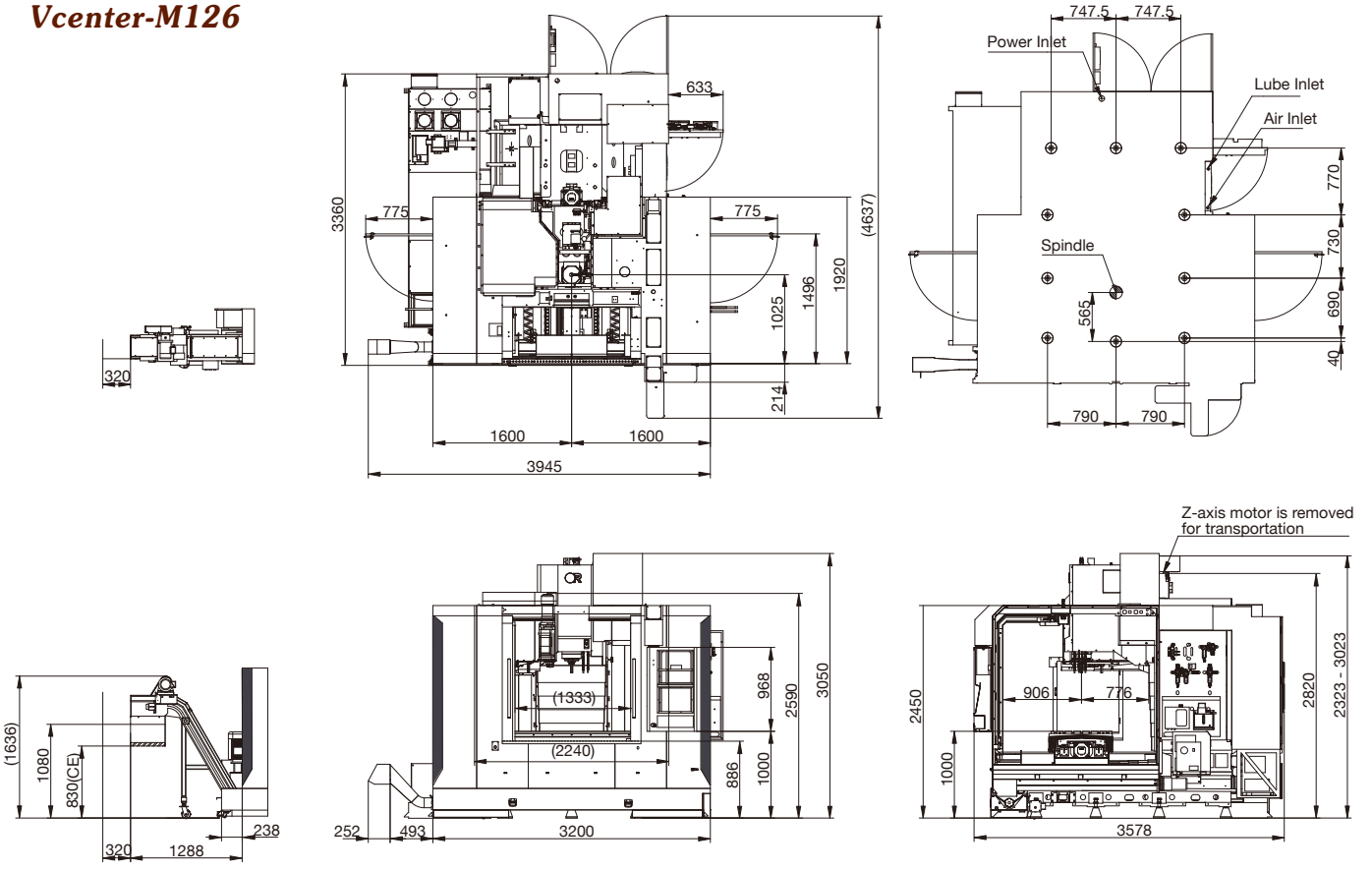
Machine Layout

Vcenter-M106



Unit: mm

Vcenter-M126



Unit: mm

Machine Specification

Item		Unit	Vcenter-M106	Vcenter-M126
Travel	X axis travel	mm	1060	1260
	Y axis travel	mm	700	780
	Z axis travel	mm	700	700
Distance	Spindle center to column	mm	792	770
	Spindle nose to table surface	mm	160 ~ 860	100 ~ 800
Table	Table work area	mm	1120 x 520	1400 x 700
	Dimension of T-slot	mm	5 x 18 x 100	7 x 18 x 100
	Max. table load	kg	1000	1250
Spindle	Spindle taper		BBT-40	BBT-40
	Spindle motor - cont/60%/15% (Fanuc)	kW	7.5 / 11 / 22	7.5 / 11 / 22
	Spindle motor - cont/60%/25% (Heidenhain /Siemens)	kW	13.5 / 16.2 / 23.25 (oil cooling)	13.5 / 16.2 / 23.25 (oil cooling)
	Spindle speed	rpm	15000	15000
Feed rate	Rapid feed rate - X/Y/Z	m/min	32 / 32 / 32	32 / 32 / 32
	Axis acceleration - X/Y/Z	m/sec²	0.5G / 0.5G / 0.65G	0.5G / 0.5G / 0.65G
	Axis feed motor - X/Y/Z (Fanuc)	kW	4.7 / 6.0 / 7.6	4.7 / 7.6 / 7.6
	Axis feed motor - X/Y/Z (Heidenhain)	kW	5.1 / 5.4 / 5.4	5.1 / 5.4 / 8.6
	Axis feed motor - X/Y/Z (Siemens)	kW	5.5 / 7.1 / 5.5	5.5 / 7.1 / 7.1
	Cutting feedrate by table	m/min	20	20
	X/Y/Z ballscrew (dia. x pitch)	mm	45 x P16 (X/Z), 40 x P16 (Y)	45 x P12 (X/Y/Z)
	Linear guide width (X/Y/Z)	mm	35 / 45 / 45	45 / 35 / 55
Tools	Max. tool length	mm	300	300
	Max. tool weight	kg	7	7
	Magazine capacity		24 (opt. 40)	24 (opt. 40)
	Max. tool diameter (without adjacent tools)	mm	75 (150)	76 (125)
	Tool exchange time	sec.	2.2 (T-T), 6.9 (C-C)	2.2 (T-T), 7.0 (C-C)
	Pull stud angle	deg.	15 (JIS 40P)	15 (JIS 40P)
	Tool selection method		Random	Random
Accuracy (ISO 230-2)	Positioning accuracy (bi-directional)	mm	0.010	0.010
	Repeatability	mm	0.007 (±0.0035)	0.007 (±0.0035)
Machine	Power requirement	KVA	26 (32 CTS) Fanuc, 33 (CTS) Heidenhain / Siemens	31 (39 CTS) Fanuc, 40 (CTS) Heidenhain / Siemens
	Min/Max. air pressure	kg/cm²	5.5 ~ 6.5	5.5 ~ 6.5
	Coolant tank capacity	L.	270	650
	Std. NC controller (Fanuc)		Fanuc 0i-MF Plus (10.4")	Fanuc 0i-MF Plus (10.4")
	Floor space requirement	mm	3412 x 3150	4005 x 3671
	Max. machine height	mm	3069	3050
	Machine weight	kg	7310	9600

*Machine and controller specifications are subjected to change without notice.

Standard Accessories:

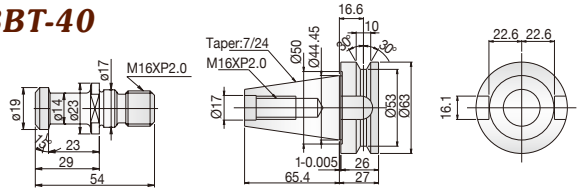
- Fully enclosed splash guard
- Fanuc 0iMF Plus (10.4", step 2) control
- Spindle oil cooler
- Screw-type chip remover (left disposal)
- Bottom guarding flushing coolants
- Rigid tapping
- Remote MPG
- Hand tools and toolbox
- T nuts for table slot
- 3-step warning light
- Auto power off
- Leveling pads

Optional Accessories:

- Air conditioner for electric cabinet
- Chip conveyor with cart
- Coolant through spindle (CTS)
- 40 tool magazine
- Auto tool length measurement
- Auto part measuring
- Stop block for special tools
- 4th/5th axis interface
- Auto door
- Linear scales
- Air gun
- Coolant gun
- Rotary tables
- 18000 / 20000 rpm spindle
- Siemens / Heidenhain control

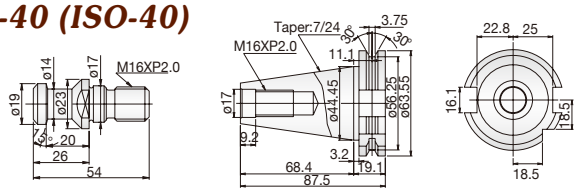
Tool Shank

BBT-40



JIS B6339 40P

SK-40 (ISO-40)



DIN69872A DIN69871A-SK40

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