

Art of **P**recision & **P**erformance

Vcenter - P76/P106

Vertical machining center

- **Rapid feeds 48/48/32 m/min**
- **12000rpm spindle output 18.5 KW(s3)**
- **BBT-40 / 30 tools**
- **Roller guideways**
- **Bottom guarding flush (Vc-P106)**
- **Screw chip removers**



Victor Taichung - an established ISO-9001 & 14001 company



Vcenter-P series High Performance VMC

- X-travel 760/1060 mm for Vc-P76/P106
- High rapid feed 48 m/min
- High speed 12000rpm spindle
- Electrical counterbalance

ATC

1.6 (4.2) sec. (P76)
2.1 (6.6) sec. (P106)

T-T (chip-chip)

30

Tools

Feeds & Travels

48/48/32

X/Y/Z (m/min)

760/500/510 (P76)
1060/600/560 (P106)

X/Y/Z (mm)

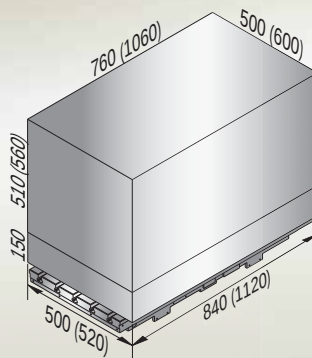
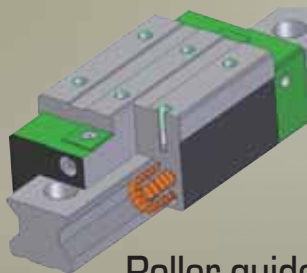


Table & Guideways

500 kg (P76)
600 kg (P106)

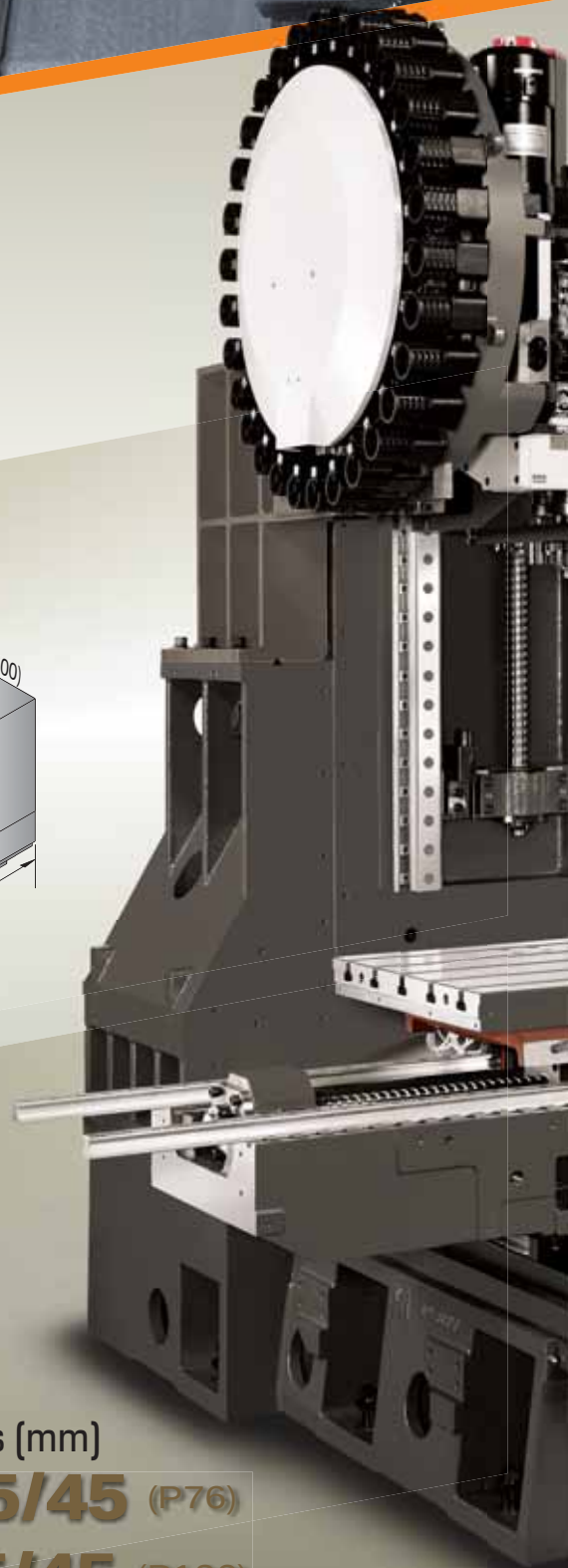


840x500 mm (P76)
1120x520 mm (P106)



Roller guides (mm)

30/35/45 (P76)
35/45/45 (P106)



Spindle BBT-40

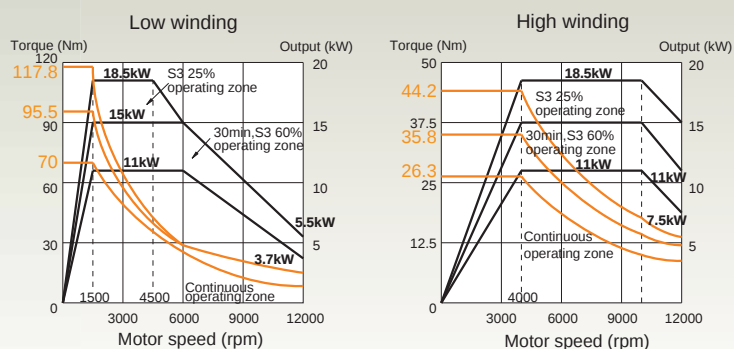
18.5 kW* (S3-25%)

12000rpm

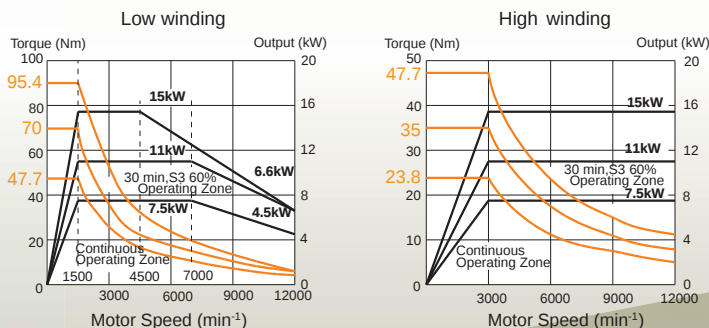
(* opt. 15 kW with CTS)



Fanuc α i12/12000 (std. without CTS)



Fanuc α iT8/12000 (opt. with CTS)



Structure



Certificated Casting

GM400
GA350



Wide column

1166 mm (P76)
1270 mm (P106)

Vcenter-P series

Standard Accessories

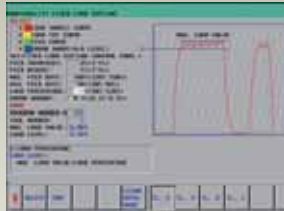
Fanuc 0i-MF (10.4") with Manual Guide I (MGI)

+ AICC-2 (200 blocks) for user friendly operation

Victor Taichung's GUI "VSS macros"



Smart workpiece measurement



Adaptive cutting at constant loading



Air Bag (abnormal load monitoring)



Renishaw® GUI

Spindle oil cooler



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



Heat exchanger + Enclosed rear guarding

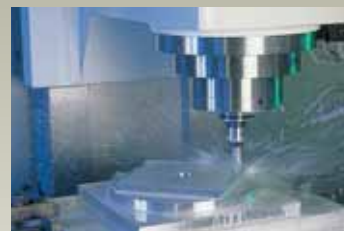


Bottom guarding flush (Vc-P106) + screw
chip remover



Optional Accessories

CTS (Coolants Thru. Spindle)



Auto tool length measurement



Auto part measuring



4th axis interface for rotary table



Chip conveyor



Linear scales



Machine Specification

Item		Unit	Vcenter-P76	Vcenter-P106
Travel	X axis travel	mm	760	1060
	Y axis travel	mm	500	600
	Z axis travel	mm	510	560 (opt. 760)
Distance	Spindle center to column	mm	565	627
	Spindle nose to table surface	mm	120 ~ 630	150 ~ 710
Table	Table work area	mm	840 x 500	1120 x 520
	Dimension of T-slot	mm	4 x 18 x 100	5 x 18 x 100
	Max. table load	kg	500	600
Spindle	Spindle taper		BBT-40	BBT-40
	Spindle motor - cont/60%/25%	kW	11 / 15 / 18.5 (w/t CTS) 7.5 / 11 / 15 (for CTS)	11 / 15 / 18.5 (w/t CTS) 7.5 / 11 / 15 (for CTS)
	(Heidenhain) Spindle motor - cont/40%/25%/10%	kW	11 / 16.5 / 20 / 28	11 / 16.5 / 20 / 28
	Spindle speed	rpm	12000 (opt. 15000)	12000 (opt. 15000)
	Rapid feed rate - X/Y/Z	m/min	48 / 48 / 32	48 / 48 / 32
Feed rate	Axis acceleration - X/Y/Z	m/sec²	0.7G / 0.7G / 0.5G	0.7G / 0.7G / 0.5G
	Axis feed motor - X/Y/Z	kW	3 / 3 / 3	3 / 3 / 3
	(Heidenhain) Axis feed motor - X/Y/Z	kW	4.5 / 4.5 / 5.4	4.5 / 4.5 / 5.4
	Cutting feedrate by table	m/min	20	20
	X/Y/Z ballscrew (dia. x pitch)	mm	40 x P16 (X) 40 x P16 (Y/Z)	45 x P16 (X) 40 x P16 (Y/Z)
Tools	Linear guide width (X/Y/Z)	mm	30 / 35 / 45	35 / 45 / 45
	Max. tool length	mm	300	300
	Max. tool weight	kg	7	7
	Magazine capacity		30 (opt. 40)	30 (opt. 40)
	Max. tool diameter (without adjacent tools)	mm	75 (150)	75 (150)
	Tool exchange time	sec.	1.6 (T-T), 4.2 (C-C)	2.1 (T-T), 6.6 (C-C)
	Pull stud angle	deg.	15 (JIS 40P)	15 (JIS 40P)
	Tool selection method		Random	Random
Machine	Power requirement	KVA	23 (excl. CTS)	23 (excl. CTS)
	Min/Max. air pressure	kg/cm²	5.5 ~ 6.5	5.5 ~ 6.5
	Coolant tank capacity	L.	220	300
	Std. NC controller (Fanuc)		0i-MF (10.4")	0i-MF (10.4")
	Opt. NC controller (Heidenhain)		TNC-620 (15")	TNC-620 (15")
	Floor space requirement	mm	2818 x 2719	3363 x 2812
	Max. machine height	mm	2731	2841
	Machine weight	kg	5500	6450

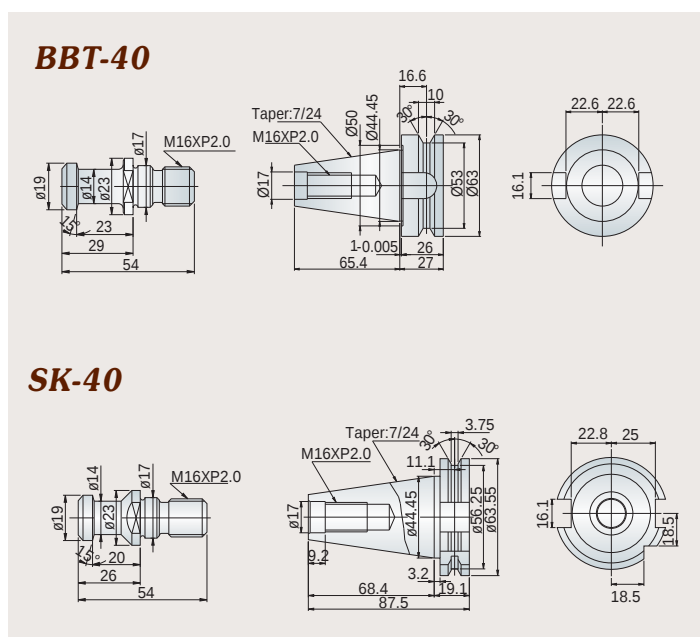
Standard Accessories:

- Fully enclosed splash guard
- Fanuc Oi-MF (10.4") control
- Spindle oil cooler
- Screw-type chip remover (left disposal)
- Bottom guarding flushing coolants (Vc-P106)
- 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
- 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
- Oil skimmer
- Air gun
- Coolant gun
- 15000 rpm spindle (DCS)
- Linear scales
- Rotary tables
- Higher column with extended Z-axis travel 760mm (for Vc-P106)

Tool Shank



Machine Color Option



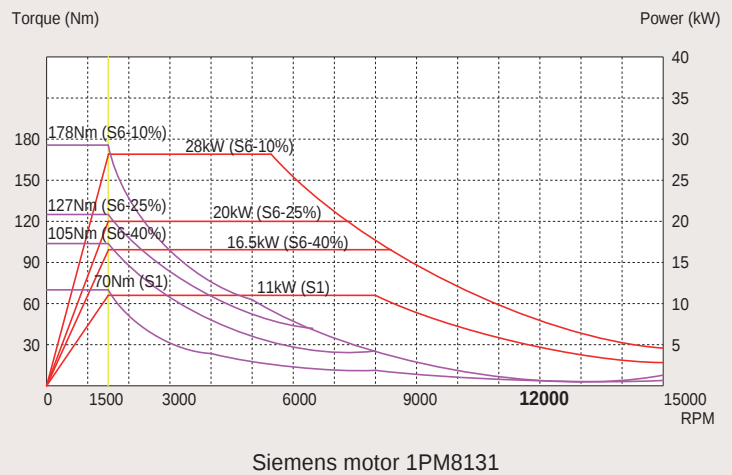
VICTOR Taichung's NC PACKAGE

Heidenhain TNC-620/640 controls

- Powerful dialog programming
- Fully alphanumeric keyboards
- Preview contouring 5000 blocks
- 15" screen
- HR-510 hand wheel



Spindle Output (Heidenhain)



Control features for fast contour milling

Feature \ Controller	Fanuc			Heidenhain	
	0i-MF	32i-B	31i-B	TNC-620	TNC-640
Block addressing time	2 ms* (with AICC-2)	2 ms	0.4 ms	1.5 ms	0.5 ms
Preview contouring (look ahead blocks)	200* (with AICC-2) (Opt. 400)	200 (Opt. 400)	600 (Opt. 1000 by HSP)	5000	5000
Graphic display	10.4"	10.4"	10.4"	15"	15" (opt. 19")
Data storage	1280m (512kB) Opt. 5120m (2MB)	1280m (512kB) Opt. 5120m (2MB)	2560m (1MB) Opt. 10240m (8MB)	Min. 2 GB	Min. 2 GB
Data server (Memory extension)	Opt. (by CF Card)	Opt. (by CF card)	Std. (with CF card)	N.A. (8 GB with CFR)	Std. 21 GB (by SSRD) Opt. 144 GB (by HRD)
Ethernet link	Std.	Std.	Std.	Std.	Std.
Conversational function	Manual guide i + VSS macros	Manual guide i	Manual guide i	Std.	Std.
Data transfer interface	PCMCIA + USB	PCMCIA + USB	PCMCIA + USB	USB	USB

*Victor Taichung's standard

VICTOR's FANUC 0i-MF(Type 1)/32i-B/31i-B 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	0.001 mm / 0.0001 inch / 0.001 deg.
4.	Least Input Increment 1/10	0.0001 mm / 0.00001 inch / 0.0001 deg.
5.	Max. command value	± 99999.999 mm (± 9999.9999 in)
6.	Inch / Metric Conversion	Std. (G20/G21)
7.	Interlock	All Axes / Each Axis / Cutting Block Start
Operation		
1.	Automatic Operation	Std.
2.	MDI Operation	MDI B
3.	DNC Operation	Reader / Puncher Interface is Required
4.	DNC Operation with Memory Card	PCMCIA Card Attachment is Required
5.	Manual Handle Feed	1 Unit / Each Path
6.	Manual Handle Feed Rate	X1, X10, X100
Interpolation		
1.	Positioning	G00
2.	Exact Stop Mode	G61
3.	Exact Stop	G09
4.	Linear Interpolation	G01
5.	Circular Interpolation	G02, G03 (multi-quadrant is possible).
6.	Dwell	G04
7.	Helical interpolation	Std.
8.	Skip Function	G31
Feed		
1.	Rapid Traverse Rate	Std.
2.	Rapid Traverse Override	F0, 25%, 50%, 100%
3.	Feed Per Minute	G94 (mm/min)
4.	Tangential Speed Constant Control	Std.
5.	Cutting Feed rate Clamp	Std.
6.	Automatic Corner Deceleration	Std. (G64)
7.	Feed rate Override	0~200%
8.	Jog Override	0~100%
9.	Automatic Corner Override	G62.
10.	Feed Stop	Std.
11.	AI contour control (AICC, G05.1) (in total)	200 blocks (0i/32i with AICC-2)
12.	AICC-2 + High speed processing (G05.1) (in total)	600 blocks (31i)
Program Input		
1.	EIA / ISO Automatic Recognition	Std.
2.	Label Skip	Std.
3.	Parity Check	Std.
4.	Control In / Out	Std.
5.	Optional Block Skip	1
6.	Max. Programmable Dimension	± 8-Digit
7.	Program Number	O4-Digit
8.	Sequence Number	N5-Digit
9.	Absolute / Incremental Programming	G90/G91
10.	(Pocket Calculator Type) Decimal Point Programming	Std.
11.	Input Unit 10 Time Multiply	Std.
12.	Plane Selection	G17, G18, G19
13.	Rotary Axis Designation	Std.
14.	Rotary Axis Roll-Over Function	Std.
15.	Polar coordinate Command	G16.
16.	Coordinate System Setting	Std.
17.	Automatic Coordinate System Setting	Std.
18.	Workpiece Coordinate System	G52, G53, G54~G59
19.	Addition of Workpiece Coordinate System Pair	48 Pairs
20.	Manual Absolute On And Off	Std.
21.	Optional Chamfering/Corner R	Std.
22.	Programmable Data Input	G10
23.	Sub Program Call	4 (0i/32i) or 10 (31i) folds nested
24.	Custom macro B	Std.
25.	Addition of Custom Macro Common Variables	#100~#199, #500~#999
26.	Canned Cycles For Milling	G73/G74/G76, G80-G89, G98/G99
27.	Small hole peck drilling cycle	G83
28.	Circular Interpolation by R Programming	Std.
29.	Program Format	FANUC std. format
30.	Program Stop / Program End	M00/M01/M02/M30
31.	Reset	Std.
32.	Scaling	G51
33.	Coordinate System Rotation	G68
34.	Programmable mirror image	G50.1
35.	Manual Guide I (MGI) conversational programming	Std.
Auxiliary Spindle Speed Function		
1.	Auxiliary Function Lock	Std.
2.	High Speed M / S / T Interface	Std.
3.	Spindle Speed Function	Std.

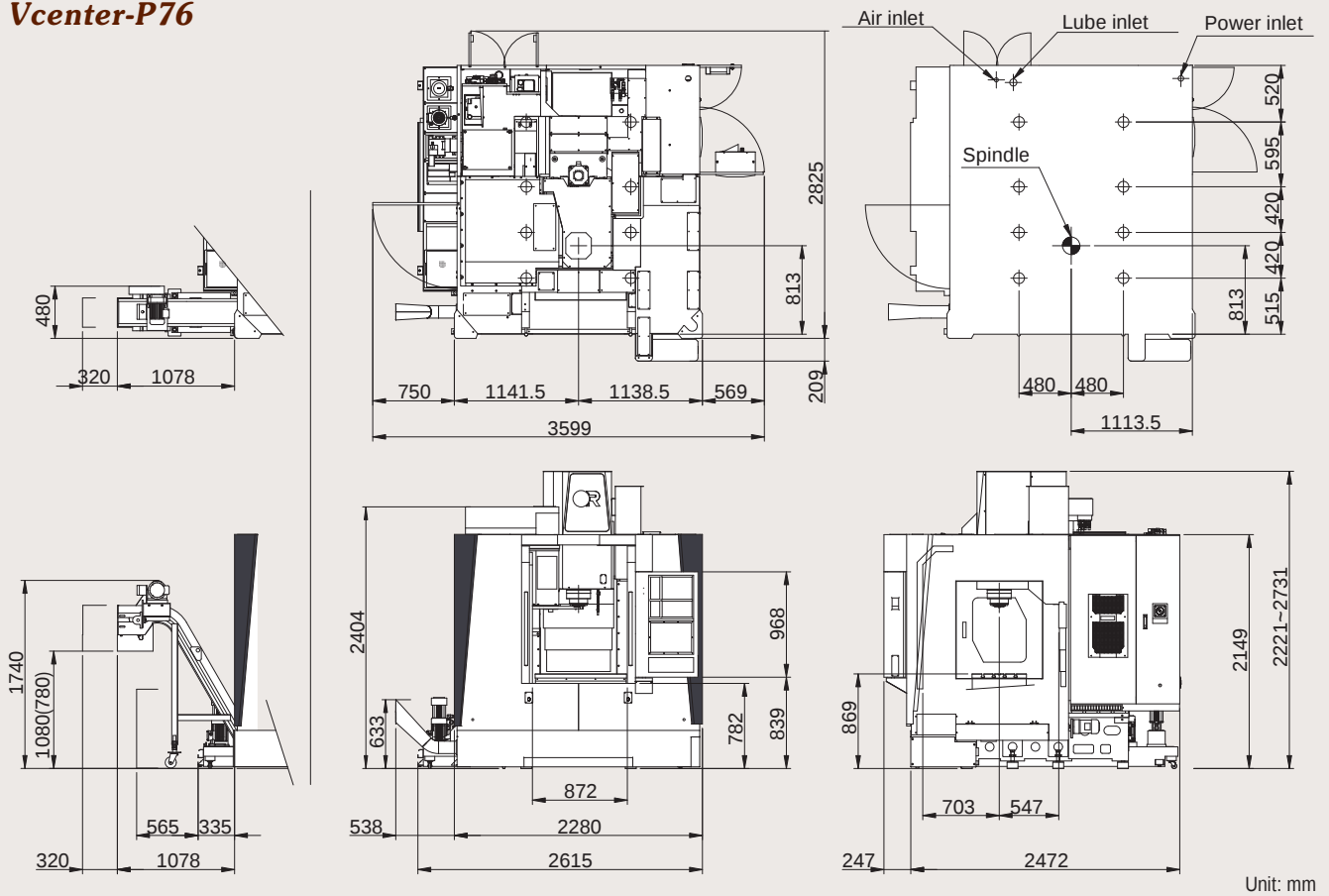
4.	Spindle Override	50~200%
5.	1st Spindle Orientation	Std.
6.	M Code / S Code / T code Function	M3 / S5 / T2 digit
7.	Rigid tapping	Std.
Tool Function & Tool Compensation		
1.	Tool Function	T8 digit
2.	Tool Offset Pairs	± 6-digit, 400 (0i/32i), 999 (31i)
3.	Tool Offset Memory C	STD (D/H codes are separated)
4.	Tool Length Compensation	G43-G44, G45-G48, G49
5.	Cutting Compensation C	Std.
Accuracy Compensation		
1.	Backlash Compensation	Rapid Traverse / Cutting Feed
2.	Stored Pitch Error Compensation	Std.
Edit Operation		
1.	Part Program Storage Length (in total)	1280m (512KB) (0i/32i), 2560m (31i), 5120m (31i-B5)
2.	Number of Registered programs (in total)	400 (0i/32i), 1000 (31i)
3.	Part Program Editing / Protect	Std.
4.	Background Editing	Std.
5.	Memory Card Editing	Std. (0i)
Setting and Display		
1.	Clock Function	Std.
2.	Current Position Display	Std.
3.	Program Display	Program name 31 characters
4.	Parameter Setting and Display	Std.
5.	Self Diagnosis Function	Std.
6.	Alarm Display / Operation History Display	Std.
7.	Alarm History Display	50
8.	Help Function	Std.
9.	Run Hour and Parts Count Display	Std.
10.	Actual Cutting Feedrate Display	Std.
11.	Display of Spindle Speed and T Code At All Screens	Std.
12.	Graphic Function	Std.
13.	Dynamic graphic display	Std. (in MGI)
14.	Data Protection Key	Std.
15.	Erase CRT Screen Display	Std.
16.	Machining Condition Selecting Screen	Std.
17.	Color LCD / MDI	10.4 "
Data Input / Output		
1.	Reader / Puncher Interface	RS-232 interface
2.	Memory Card Interface	Std.
3.	Embedded Ethernet (10Mbps)	Std.
4.	USB Device	Std.

OPTIONS

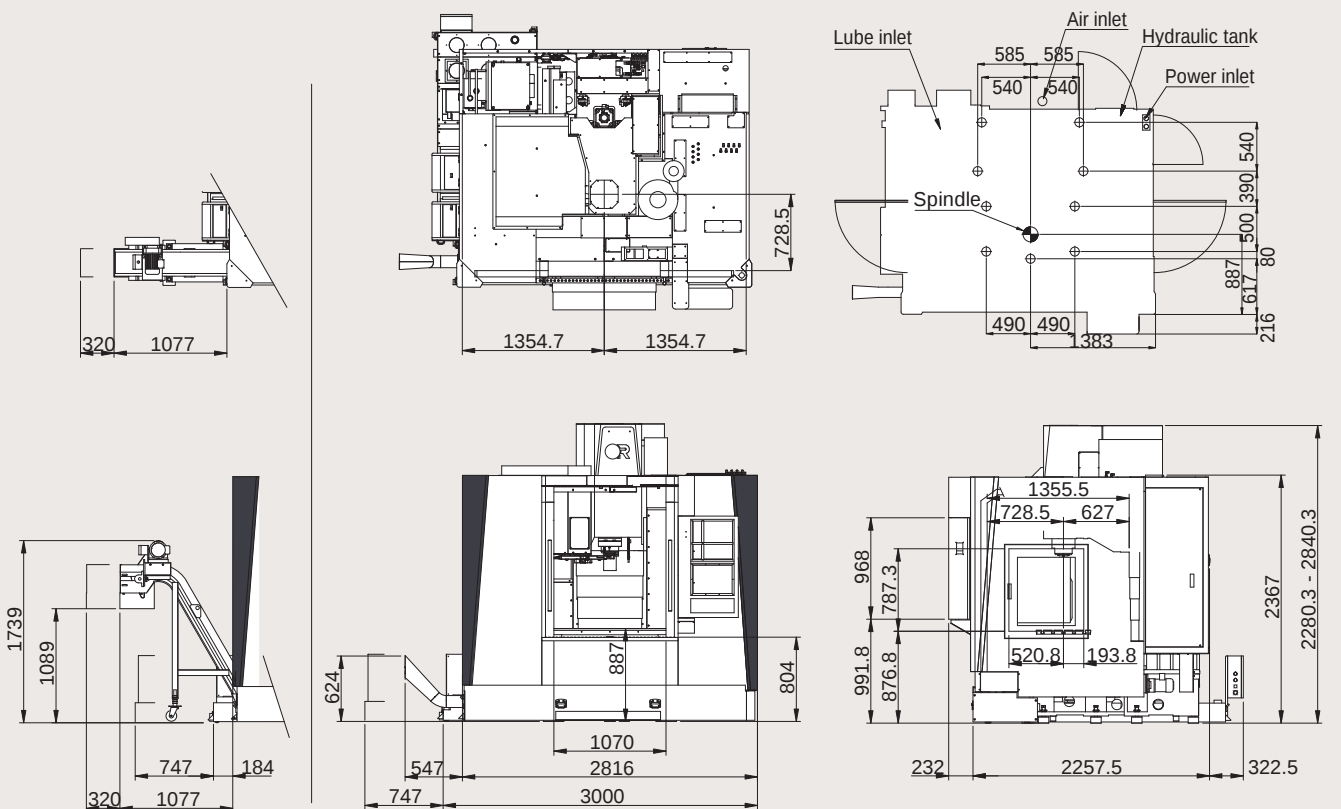
ITEM	SPECIFICATION	DESCRIPTION		
With hardware included		0i-M	32i-B	31i-B
1.	Conversational programming (Manual Guide I) *1	Std.	Std.	Std.
2.	Data server (with PCB and CF card 1GB)	☐	☐	Std.
3.	Fast Ethernet (100Mbps, available in Data server)	☐	☐	Std.
4.	15" Screen	☐	☐	☐
5.	Part Program Storage Length 5120m (2MB in total)	☐	☐	☐
6.	Part Program Storage Length 8MB in total	N.A.	N.A.	☐
7.	Look ahead block expansion (400 blocks in total)	☐	☐	N.A.
8.	Optional program restart	☐	☐	☐
9.	Optional block skip 2-9	☐	☐	☐
10.	Profibus	☐	☐	☐
11.	5-axis simultaneous control	N.A.	N.A.	☐ (31i-B5)
Without hardware included				
12.	Look ahead block expansion (1000 blocks in total)	N.A.	N.A.	☐
13.	Tool load monitoring (with Victor own PLC)	☐	☐	☐
14.	Bi-directional Pitch Error Compensation	☐	☐	☐
15.	Cylindrical interpolation (G7.1) (used on 4th axis)	Std.	☐	☐
16.	Interruption type custom macro	N.A.	☐	☐
17.	Addition of work-piece coordinate systems 300 sets	N.A.	N.A.	☐
18.	Exponential interpolation (G2.3)	N.A.	N.A.	☐
19.	Smooth interpolation	N.A.	N.A.	☐
20.	Spiral/conical interpolation	N.A.	N.A.	☐
21.	Polar coordinate interpolation	N.A.	☐	☐
22.	Floating reference position return	N.A.	N.A.	☐
23.	Hypothetical axis interpolation (G07)	N.A.	N.A.	☐
24.	NURBS interpolation	N.A.	N.A.	☐
25.	Jerk Control	N.A.	N.A.	☐

Machine Layout

Vcenter-P76



Vcenter-P106



VictorTaichung Taichung, the home of Machine Tool Manufacturing

Quality Meehanite Castings-The backbone of VICTOR TAICHUNG machines.

Being both ISO 9001 approved and a Meehanite cast member, our foundry produces over 1000 tons of castings a month for both our own use and export to Japan.



Modern machining facilities-65% of components manufactured in house.

To ensure greater control over the quality of our machined parts, VICTOR TAICHUNG has introduced 3 giant 5-side machining centers, 1 CIM line for sheet metal manufacturing and 2 complete FMS lines developed in house.



Overseas subsidiaries solely dedicated to service of our own products.

To ensure a market for our products, VICTOR TAICHUNG has invested considerably in setting up a global distribution network. As well as numerous agents around the world, VICTOR TAICHUNG has 9 overseas subsidiaries in USA, England, France, Germany, South Africa, Malaysia, Thailand, Indonesia and China to provide our customers efficient after-sales service and technical supports.



Vcenter-205



Vcenter-H630HS



Vcenter-AX800

VictorTaichung profile:

Sales turnover: USD 138 mil's (in 2015)*

No. of employees: 831

*Exchange rate: 1 USD=30 TWD.



THE VICTOR-TAICHUNG COMPANIES

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HTL



VTL



VMC



HMC



XMT



PIM