

**G**earhead **P**erformance

# Vcenter-G105/G135/G165

## Vertical machining center

- Travels (X/Y/Z):
  - 1050 / 600 / 600 mm (G105)
  - 1350 / 700 / 700 mm (G135)
  - 1650 / 850 / 900 mm (G165)
- Gearhead BBT-50 / 6000 spindle
- Box slideways for all axes
- Ø50mm ballscrews
- Screw chip removers
- Maximum part weight:
  - 1200 kg (G105)
  - 2200 kg (G135)
  - 2500 kg (G165)



# Vcenter-G series VMC with Gearhead for Heavy Cutting

- ◆ Gearhead spindle with high torque output 498 Nm
- ◆ BigPlus® BT-50 (BBT-50) spindle for heavy cutting
- ◆ A-shaped column with long Y-axis travel
- ◆ Wide base with 4 slideways in Y-axis (G135, G165)
- ◆ Machine weight:  
10000 kg (G105), 12100 kg (G135), 16500 kg (G165)

## X/Y/Z AXES

- Travels:  
1050 / 600 / 600 mm (G105)  
1350 / 700 / 700 mm (G135)  
1650 / 850 / 900 mm (G165)
- Rapid feeds: 20 / 20 / 18 m/min
- Ballscrew diameter: 50 / 50 / 50 mm
- Box slideway width (X/Y/Z):  
80 / 150 / 125 mm (G105)  
126 / 150 / 145 mm (G135)  
120 / 152 / 150 mm (G165)

## TABLE

1200 kg (G105)  
2200 kg (G135)  
2500 kg (G165)



1100 x 600 mm (G105)  
1400 x 700 mm (G135)  
1700 x 800 mm (G165)

## ATC

- 24 tools (opt. 32, 40)
- Column designed with a shoulder for carrying magazine
- Tool exchange time (G135):  
4.0 sec. (tool-tool)  
11.3 sec. (chip-chip)



Additional pads for column supporting



3 off  $\wedge$ -covers (Rear Y, G135)

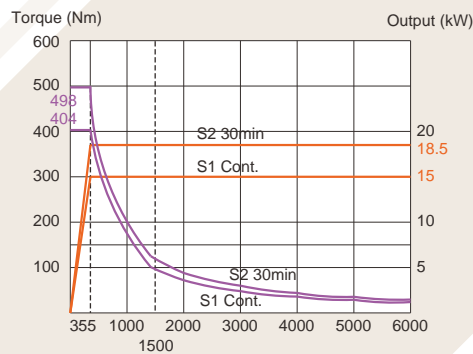
Magazine





## GEARHEAD SPINDLE

- High torque output 498 Nm
- Spindle power 18.5 kW
- BBT-50 / 6000 rpm spindle
- NN type double roller bearings
- Victor Taichung's own spindle built in house



Spindle Speed (rpm)

FANUC *ai* 15



Certificated Casting

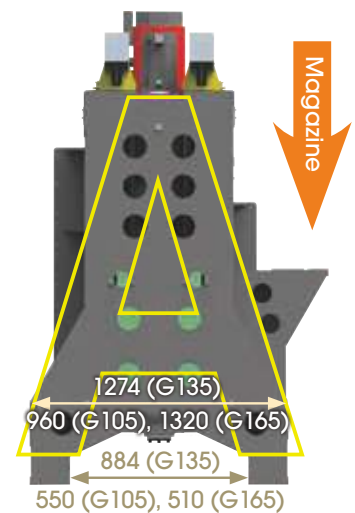
**GA350**

## STRUCTURE

- Wide span column
- Large base
- Magazine mounted on shoulder



1700 (G135)  
1240 (G105), 1640 (G165)  
4 off boxways (G135, G165)



Wide column

# Vcenter-G series with Gearhead

New Fanuc Oi-MF Plus (type-1) control includes:

- ◆ 10.4" screen
- ◆ QWERTY keyboard
- ◆ Manual Guide i (MGI)
- ◆ AICC-2 (200 blocks)
- ◆ 2GB CF card
- ◆ VSS Macros (Victor's GUI)

Victor Taichung's GUI "VSS macros"



Tool breakage detection



Alarm display with diagnosis



Tool management



Renishaw® GUI



\*Vc-G135

Heat exchanger + Enclosed rear guarding



Spindle oil cooler



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



Bottom guarding flush + Screw chip removers



# Optional Accessories



CTS (Coolants Thru. Spindle)



Auto part measuring  
Auto tool length measurement



4<sup>th</sup> axis interface for rotary table



15" screen (opt.)



Linear scales



Chip conveyor

# Machine Specification

Item	Unit	Vcenter-G105	Vcenter-G135	Vcenter-G165	
<b>Travel</b>	X axis travel	mm	1050	1350	1650
	Y axis travel	mm	600	700	850
	Z axis travel	mm	600	700	900
<b>Distance</b>	Spindle center to column	mm	680	792	872
	Spindle nose to table surface	mm	120 ~ 720	100 ~ 800	210 ~ 1110
<b>Table</b>	Table work area	mm	1100 x 600	1400 x 700	1700 x 800
	Dimension of T-slot	mm	7 x 18 x 100	7 x 18 x 100	5 x 22 x 150
	Max. table load	kg	1200	2200	2500
<b>Spindle</b>	Spindle taper		BBT-50	BBT-50	BBT-50
	Spindle motor - cont/30min	kW	15 / 18	15 / 18	15 / 18
	Spindle speed	rpm	6000	6000	6000
<b>Feed rate</b>	Rapid feed rate - X/Y/Z	m/min	20 / 20 / 18	20 / 20 / 18	20 / 20 / 18
	Axis acceleration - X/Y/Z	m/sec <sup>2</sup>	0.28G / 0.28G / 0.25G	0.28G / 0.28G / 0.25G	0.27G / 0.27G / 0.24G
	Axis feed motor - X/Y/Z	kW	3 / 3 / 3	3 / 3 / 3	3 / 3 / 3
	Cutting feedrate by table	m/min	15	15	15
	X/Y/Z ballscrew (dia. x pitch)	mm	50 x P10	50 x P10	50 x P10
<b>Tools</b>	Max. tool length	mm	300	300	400
	Max. tool weight	kg	15	15	15
	Magazine capacity		24 (opt. 32, 40)	24 (opt. 32, 40)	24 (opt. 32, 40)
	Max. tool diameter (without adjacent tools)	mm	127 (250)	127 (250)	127 (250)
	Tool exchange time	sec.	4.0 (T-T), 10.5 (C-C)	4.0 (T-T), 11.3 (C-C)	4.1 (T T), 12.3 (C C)
	Pull stud angle	deg.	45	45	45
	Tool selection method		Random	Random	Random
<b>Accuracy (ISO 230-2)</b>	Positioning accuracy (bi-directional)	mm	0.010	0.010	0.010
	Repeatability	mm	0.005 (± 0.0035)	0.005 (± 0.0035)	0.005 (± 0.0035)
<b>Machine</b>	Power requirement	KVA	30 (excl. CTS)	30 (excl. CTS)	30 (excl. CTS)
	Min/Max. air pressure	kg/cm <sup>2</sup>	5.5 ~ 6.5	5.5 ~ 6.5	5.5 ~ 6.5
	Coolant tank capacity	L.	300	350	350
	Std. NC controller (Fanuc)		Oi-MF Plus (10.4")	Oi-MF Plus (10.4")	Oi-MF Plus (10.4")
	Floor space requirement (without conveyor)	mm	3632 x 2728	4223 x 3033	4789 x 3553
	Max. machine height	mm	3200	3132	3670
	Machine weight	kg	10000	12100	16500

## Standard Accessories:

- Fully enclosed splash guard
- Fanuc Oi-MF Plus (10.4", type 1) 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 electrical cabinet
- Fanuc Oi-MF Plus (15", type-0) control
- Chip conveyor with cart
- Coolant through spindle (CTS)
- 32 or 40 tool magazine
- 4<sup>th</sup> / 5<sup>th</sup> axis interface
- Auto door
- Table shower
- Oil skimmer
- Linear scales
- Air gun
- Coolant gun
- Stop block for special tools
- Auto tool length measurement
- Auto part measuring

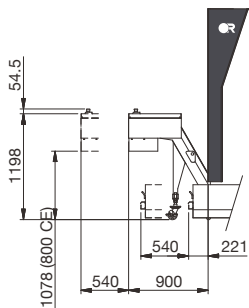
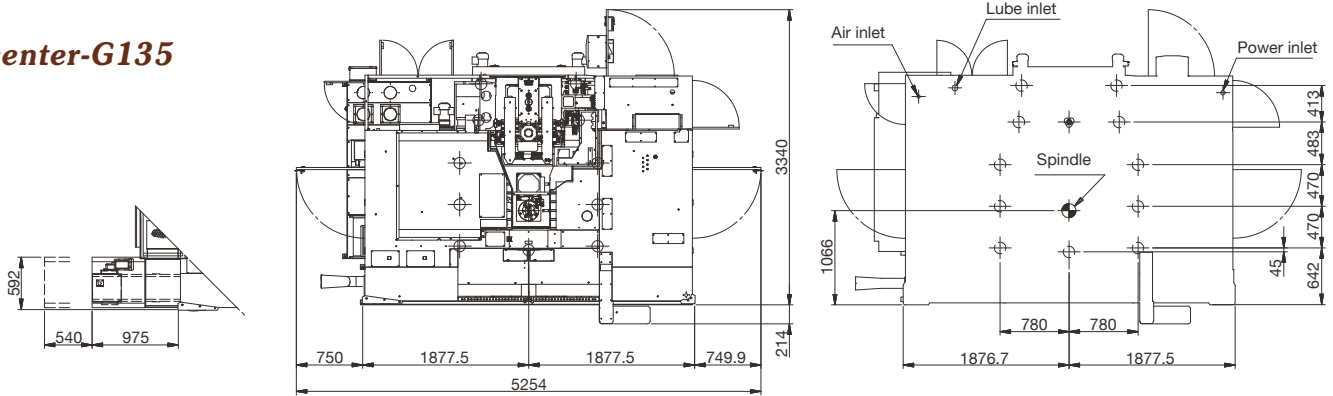




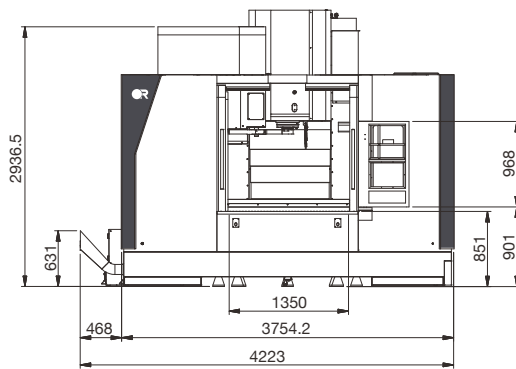


# Machine Layout

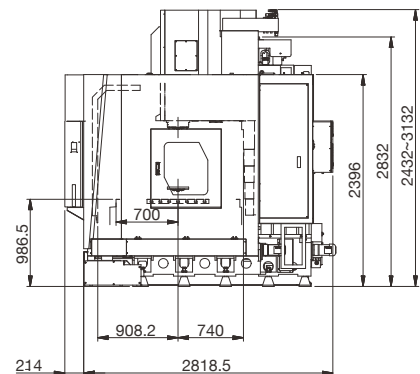
## Vcenter-G135



(Equipped with chips conveyor)

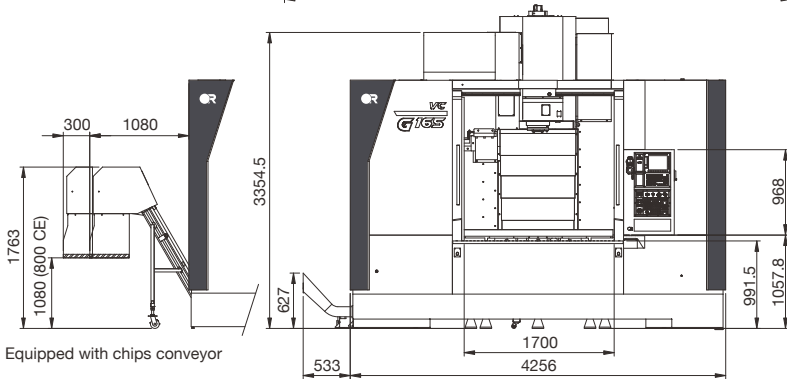
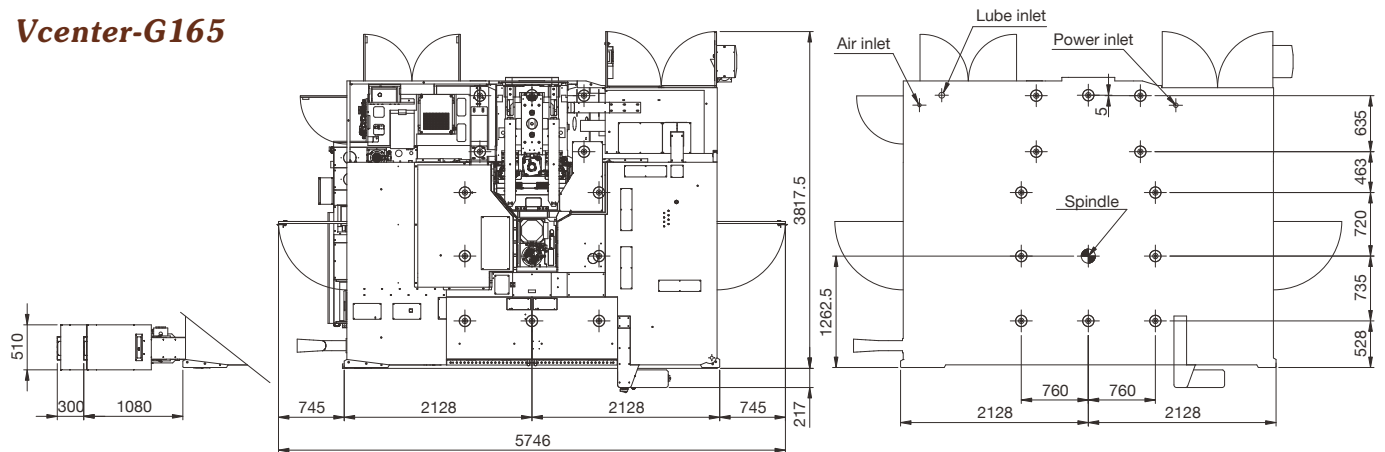


(Equipped with screw chips remover)



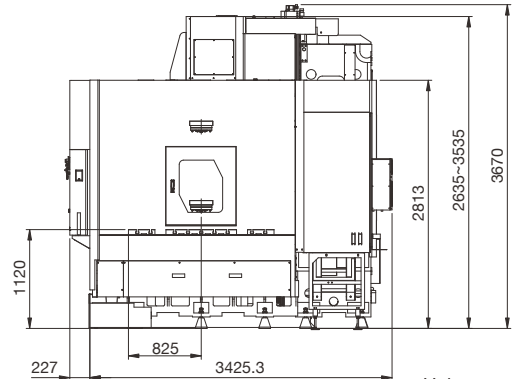
Unit: mm

## Vcenter-G165



Equipped with chips conveyor

Equipped with screw chips remover



Unit: mm





# Victor Taichung's FANUC Oi-MF Plus (10.4") Control SPECIFICATION

## Standard

ITEM	SPECIFICATION	DESCRIPTION
<b>Operation &amp; Program Input:</b>		
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.

## 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)	200 blocks

## Edit Operation:

1.	Part Program Storage Length (in total)	5120m
2.	Part Program Editing / Protect	Std.
3.	Memory Card Editing (Max. 63 programs.)	Std.

## OPTIONS

ITEM	SPECIFICATION	DESCRIPTION
<b>With hardware included:</b>		
		<b>Oi-M</b>
1.	Data server (with PCB and CF card 1GB)	<input type="checkbox"/>
2.	Ethernet/IP (to be linked to robot)	<input type="checkbox"/>
3.	PROFIBUS-DP (to be linked to robot)	<input type="checkbox"/>
4.	CC-Link (to be linked to robot)	<input type="checkbox"/>
5.	Fast Ethernet (required for SCADA Web with additional RJ45 port)	<input type="checkbox"/>
6.	15" LCD with Panel iH (iHMI) and touch screen	<input type="checkbox"/>
7.	AI contour control 400 blocks	<input type="checkbox"/>
<b>Edit Operation:</b>		
8.	Tool load monitoring (with Victor own PLC)	<input type="checkbox"/>
9.	Cylindrical interpolation (G7.1) (used on 4th axis)	<input type="checkbox"/>
10.	Addition of work-piece coordinate systems 300 sets	<input type="checkbox"/>
11.	Tilted working plane indexing command	<input type="checkbox"/>
12.	Memory card program entry count extension (Max. 1000)	<input type="checkbox"/>

## Control Features for Fast Contour Milling (Victor Taichung's standard)

Feature \ Controller	FANUC			HEIDENHAIN	
	Oi-MF Plus (type 1)	Oi-MF Plus (type 0)	31i-B Plus	TNC-620	TNC-640
Block addressing time	1 ms	0.4 ms	0.2 ms	1.5 ms	0.5 ms
Preview contouring (look ahead blocks)	200	200 (Opt. 400)	1000	5000	5000
Graphic display	10.4"	15" (Opt. 10.4")	15" (Opt. 19")	15"	15" (Opt. 19")
Data storage	5120m (2MB)	5120m (2MB)	10240m (4MB) Opt. 20480m (8MB)	Min. 2GB	Std. 21GB (by SSRD) Opt. 144GB (by HRD)
Memory extension	Std. (CF card, 2GB)	Std. (CF card, 2GB)	Std. (CF card, 2GB)	Opt. (by USB)	N.A.
DATA SERVER	Opt. (by CF Card)	Opt. (by CF Card)	Std.	Std	Std.
Ethernet link	Std.	Std.	Std.	Std.	Std.
Touch panel	N.A.	Incl.	Incl.	Opt.	Opt. (Std. for 19")
Conversational function	Manual guide I (MGI) + VSS macros	iHMI + MGI + VSS macros	iHMI + MGI + VSS macros	Std.	Std. + SmartNC
Data transfer interface	PCMCIA + USB	PCMCIA + USB	PCMCIA + USB	USB	USB



## ONWARD RISE

To ensure the return on investment, Victor Taichung has invested considerably in setting up a distribution network in terms of global vision local touch for our sales and service supports worldwide. Besides the qualified exclusive agents around the world, Victor Taichung has 7 overseas subsidiaries to provide our customers efficient after-sales service and technical supports.



### Machine Color Option



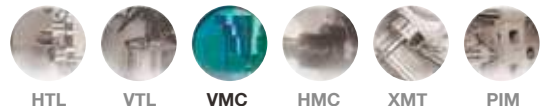
 Standard



RAL-7024

 **VICTOR TAICHUNG** profile:  
 Sales turnover: USD 207 mil's (in 2021)\*  
 No. of employees: 778  
 \*Exchange rate: 1 USD=28 TWD.
 

## THE VICTOR-TAICHUNG COMPANIES



HTL    VTL    VMC    HMC    XMT    PIM

#### TAIWAN

<http://www.victortaichung.com>  
 E-mail :info@mail.or.com.tw  
 Victor Taichung Machinery Works Co., Ltd.  
 No. 1, Jingke Central 2nd Rd.,  
 Nantun Dist., Taichung 40852,  
 TAIWAN, R.O.C.  
 TEL : 886-4-23592101  
 FAX : 886-4-23593389

#### FRANCE

Victor France  
 TEL : 33-1-64772000  
 FAX : 33-1-64772063

#### GERMANY

Victor GmbH  
 TEL : 49-2261-478434  
 FAX : 49-2261-478327

#### SOUTH AFRICA

Victor Fortune (PTY) Ltd.  
 TEL : 27-11-3923800  
 FAX : 27-11-3923899

#### MALAYSIA

Victor Machinery (M) SDN. BHD.  
 TEL : 60-3-56337180  
 FAX : 60-3-56337191

#### THAILAND

Victor CNC (Thailand) Co., Ltd.  
 TEL : 66-2-9263735  
 FAX : 66-2-9032373

#### INDONESIA

PT. Victor Machinery Indonesia  
 TEL : +62-21-88958504  
 FAX : +62-21-88958513

#### USA

Fortune International Inc.  
 TEL : 1-732-2140700  
 FAX : 1-732-2140701

#### CHINA

Victor Taichung  
 Machinery (Shanghai)  
 TEL : 86-21-59768018  
 FAX : 86-21-59768009