

*F*antastic *P*erformance

# Vcenter-F76 / F106

## Vertical machining center

- **Travels (X/Y/Z):**  
760 / 500 / 510 mm (F76)  
1060 / 600 / 560 mm (F106)
- **Rapid feeds 32/32/32 m/min**
- **8000 rpm spindle output 15 kW (S3)**
- **Roller guideways and Ø40 mm ballscrews**
- **Screw chip removers included**



# Vcenter-F series: Your First VMC with Fantastic Performance

- Victor's own spindle (8000/10000 rpm)
- A-shaped column with long Y-axis travel
- Roller type guideways
- High rapid feeds 32 m/min

## X/Y/Z AXES

Travels: 760 / 500 / 510 mm (F76)  
1060 / 600 / 560 mm (F106)

Rapid feeds: 32/32/32 m/min

Ballscrew diameter: 40/40/40 mm

Guideways: 30/35/45 mm (F76)  
35/40/45 mm (F106)

## ATC

Capacity: 24 tools (opt. 30)

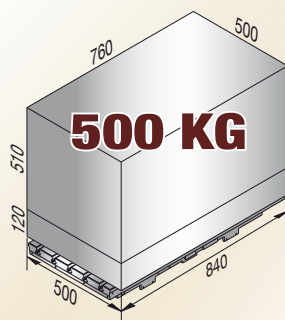
Tool exchange time:

2.4 sec. (tool-tool)

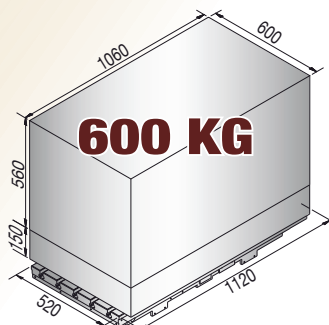
5.7 sec. (chip-chip)

## TABLE

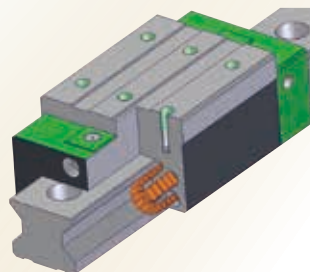
Max. load: 500 kgs (F76)  
600 kgs (F106)



Vcenter-F76



Vcenter-F106



Roller guides



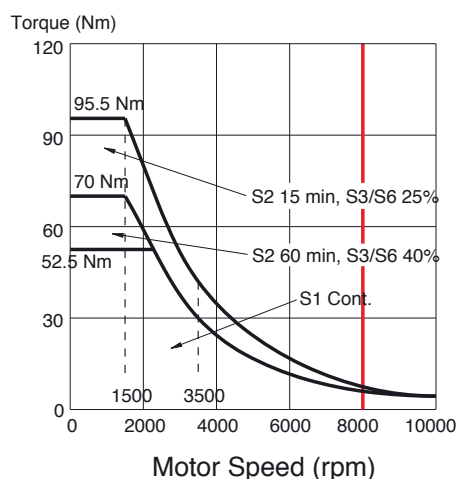
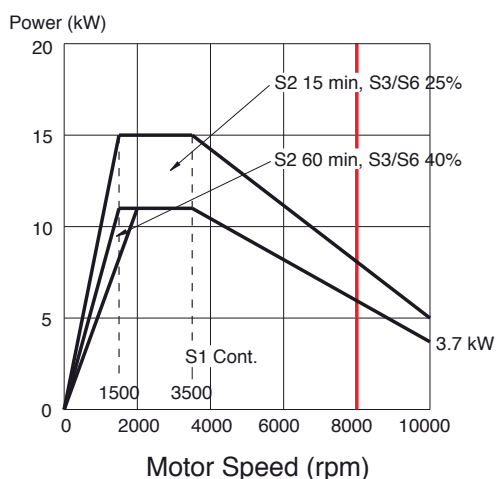


## SPINDLE

- Spindle output 15 kW
- BT-40 belt-driven 8000 rpm spindle
- NN type double roller bearings
- Victor Taichung's own spindle built in house
- Opt. with 10000 rpm spindle



## Spindle Output Diagram

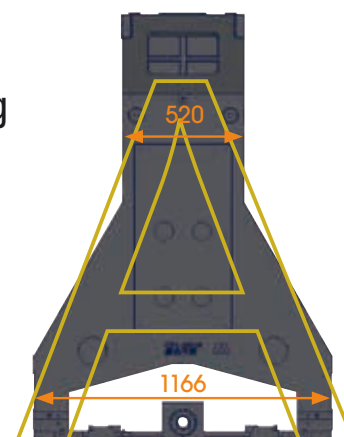


## STRUCTURE

- Wide span column
- Certificated casting



Certificated Casting  
**GA350**



Column with wide span

**1166 mm (F76)**  
**1270 mm (F106)**

# Vcenter-F series

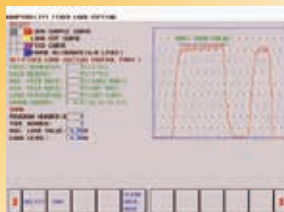
## Standard Accessories

**Fanuc Oi-MF Plus (10.4") control with Manual Guide I (MGI)**  
**+ AICC-2 (200 blocks) for user friendly operation**

Victor Taichung's GUI "VSS macros"



Smart workpiece measurement



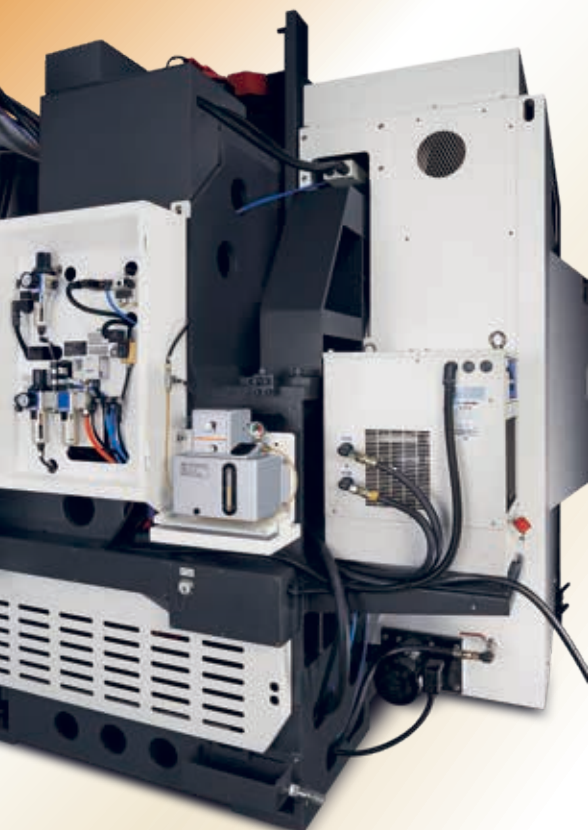
Adaptive cutting at constant loading



Tool management



Renishaw® GUI



Convenient maintenance



Arm type ATC + Coolant ring  
+ LED lights



Bottom guarding flush +  
Screw chip removers



## Optional Accessories



Spindle oil cooler



CTS (Coolants Thru. Spindle)



Auto tool length  
measurement



Auto part measuring



Linear scales



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



Chip conveyor

# Machine Specification

| Item                    |                                                | Unit               | Vcenter-F76          | Vcenter-F106                   |
|-------------------------|------------------------------------------------|--------------------|----------------------|--------------------------------|
| Travel                  | X axis travel                                  | mm                 | 760                  | 1060                           |
|                         | Y axis travel                                  | mm                 | 500                  | 600                            |
|                         | Z axis travel                                  | mm                 | 510 (opt. 690)       | 560 (opt. 760)                 |
| Distance                | Spindle center to column                       | mm                 | 565                  | 627                            |
|                         | Spindle nose to table surface                  | mm                 | 120 ~ 630 (opt. 810) | 150 ~ 710 (opt. 910)           |
| 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                                  |                    | BT-40                | BT-40                          |
|                         | Spindle motor -<br>cont. / 25% (15 min)        | kW                 | 11 / 15              | 11 / 15                        |
|                         | Spindle speed                                  | rpm                | 8000 (opt. 10000)    | 8000 (opt. 10000)              |
| Feed rate               | Rapid feed rate - X/Y/Z (Fanuc)                | m/min              | 32 / 32 / 32         | 32 / 32 / 32                   |
|                         | Axis acceleration - X/Y/Z                      | m/sec <sup>2</sup> | 0.5G / 0.5G / 0.5G   | 0.5G / 0.5G / 0.5G             |
|                         | Axis feed motor - X/Y/Z                        | kW                 | 2.5 / 2.5 / 3        | 2.5 / 2.5 / 3                  |
|                         | Cutting feedrate by table                      | m/min              | 20                   | 20                             |
|                         | X/Y/Z ballscrew (dia. x pitch)                 | mm                 | 40 x P16 (X/Y/Z)     | 45 x P16 (X/Y)<br>40 x P16 (Z) |
|                         | Linear guide width (X/Y/Z)                     | mm                 | 30 / 35 / 45         | 35 / 45 / 45                   |
| Tools                   | Max. tool length                               | mm                 | 300                  | 300                            |
|                         | Max. tool weight                               | kg                 | 7                    | 7                              |
|                         | Magazine capacity                              |                    | 24 (opt. 30)         | 24 (opt. 30)                   |
|                         | Max. tool diameter<br>(without adjacent tools) | mm                 | 75 (150)             | 75 (150)                       |
|                         | Tool exchange time                             | sec.               | 2.4 (T-T), 5.7 (C-C) | 2.4 (T-T), 5.7 (C-C)           |
|                         | Pull stud angle                                | deg.               | 15 (JIS 40P)         | 15 (JIS 40P)                   |
|                         | Tool selection method                          |                    | Random               | Random                         |
| Accuracy<br>(ISO 230-2) | Positioning accuracy<br>(bi-directional)       | mm                 | 0.010                | 0.010                          |
|                         | Repeatability                                  | mm                 | 0.007 (±0.0035)      | 0.007 (±0.0035)                |
| Machine                 | Power requirement                              | KVA                | 22 (excl. CTS)       | 22 (excl. CTS)                 |
|                         | Min/Max. air pressure                          | kg/cm <sup>2</sup> | 5.5 ~ 6.5            | 5.5 ~ 6.5                      |
|                         | Coolant tank capacity                          | L.                 | 220                  | 300                            |
|                         | Std. NC controller (Fanuc)                     |                    | 0i-MF Plus (10.4")   | 0i-MF Plus (10.4")             |
|                         | Floor space requirement                        | mm                 | 2714 x 2782          | 2796 x 3339                    |
|                         | Max. machine height                            | mm                 | 2578                 | 2872                           |
|                         | Machine weight                                 | kg                 | 5260                 | 6250                           |

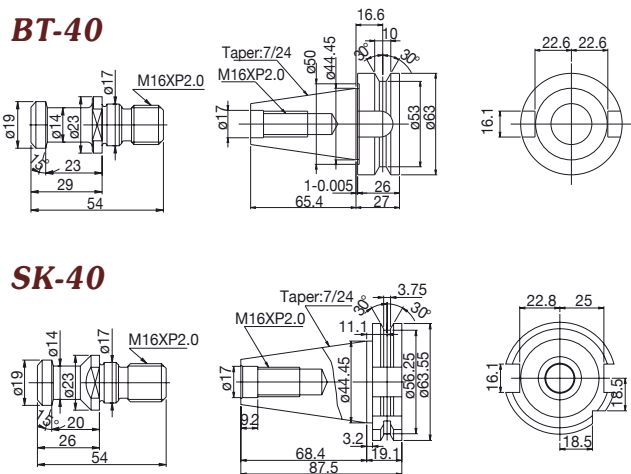
### Standard Accessories:

- Fully enclosed splash guard
- Fanuc Oi-MF Plus (10.4") control
- Screw-type chip remover (left disposal)
- Air blow (manual control)
- Rigid tapping
- Remote MPG
- Hand tools and toolbox
- T nuts for table slot
- 3-step warning light
- Leveling pads

### Optional Accessories:

- Spindle oil cooler
- Air conditioner for electric cabinet
- Air blow (controlled by M-code)
- Auto power off
- Chip conveyor with cart
- Coolant through spindle (CTS)
- 10000 rpm spindle
- 30 tool magazine
- Auto tool length measurement
- Auto part measuring
- Stop block for special tools
- 4th/5th axis interface
- Auto door
- Oil skimmer
- Linear scales
- Air gun
- Coolant gun
- Rotary tables

## Tool Shank

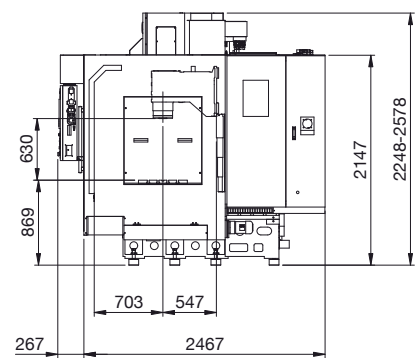
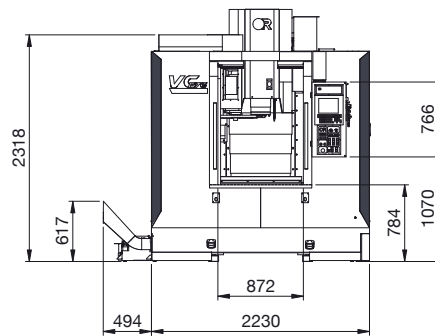
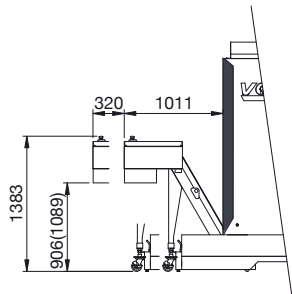
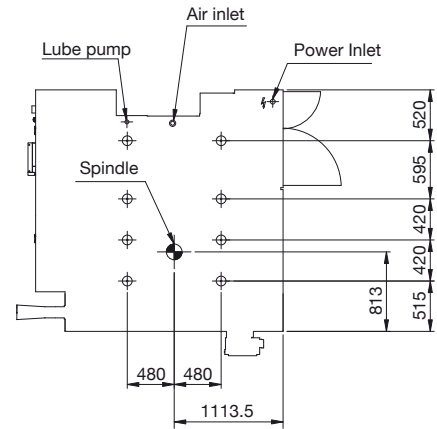
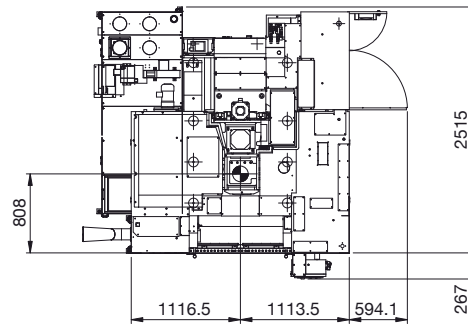
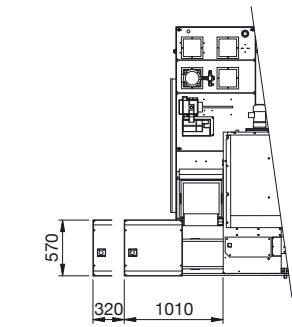


# Fanuc MGI + AICC-2



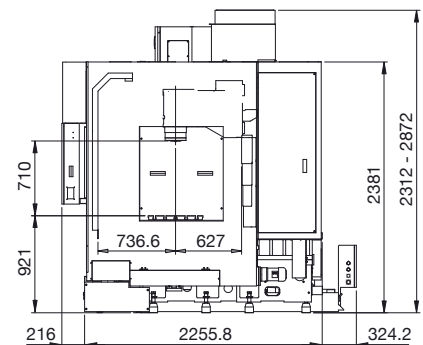
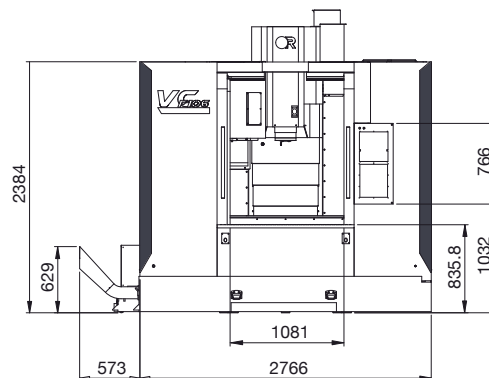
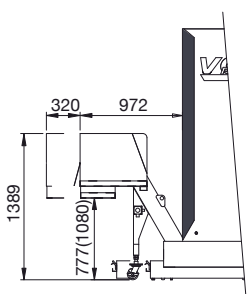
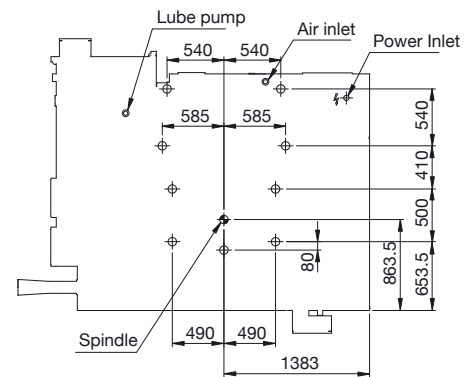
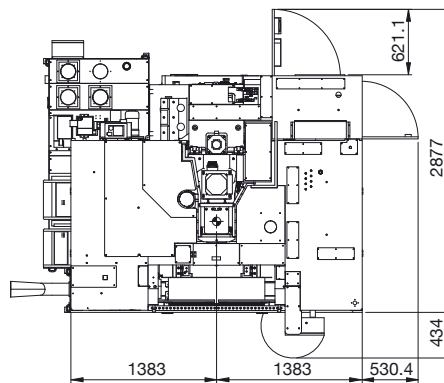
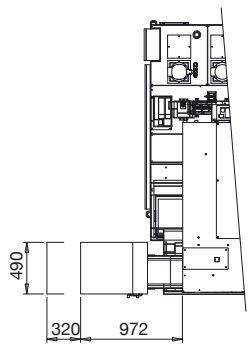
# Machine Layout

## Vcenter-F76



chip conveyor

## Vcenter-F106



chip conveyor

# 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.                       |
| <b>Controlled Axes:</b>               |                                                   |                            |
| 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.                       |
| <b>Feed:</b>                          |                                                   |                            |
| 1.                                    | Rapid Traverse Override                           | F0, 25%, 50%, 100%         |
| 2.                                    | Feed Per Minute                                   | G94 (mm/min)               |
| 3.                                    | Feed rate Override                                | 0~150%                     |
| 4.                                    | Spindle Override                                  | 50~120%                    |

|                       |                                             |               |
|-----------------------|---------------------------------------------|---------------|
| 5.                    | Manual Handle Feed Rate                     | X1, X10, X100 |
| 6.                    | AI contour control (AICC, G05.1) (in total) | 200 blocks    |
| <b>Edit Operation</b> |                                             |               |
| 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>    |                                                                  |                          |
| 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"/> |
| <b>Without hardware included</b> |                                                                  |                          |
| 6.                               | Tool load monitoring (with Victor own PLC)                       | <input type="checkbox"/> |
| 7.                               | Cylindrical interpolation (G7.1) (used on 4th axis)              | <input type="checkbox"/> |
| 8.                               | Addition of work-piece coordinate systems 300 sets               | <input type="checkbox"/> |
| 9.                               | Tilted working plane indexing command                            | <input type="checkbox"/> |
| 10.                              | Memory card program entry count extension (Max. 1000)            | <input type="checkbox"/> |

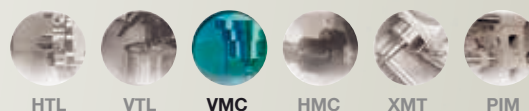
## Machine Color Option



Standard

RAL-7024

**VictorTaichung** profile:  
Sales turnover: USD 101.5 mil's (in 2019)\*  
No. of employees: 806  
\*Exchange rate: 1 USD=30 TWD.



HTL

VTL

VMC

HMC

XMT

PIM



THE VICTOR-TAICHUNG COMPANIES

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