

*F*antastic *P*erformance

Vcenter - F76 / F106 FX400

Vertical machining center

- **Travels (X/Y/Z):**
760 / 500 / 510 mm (F76)
1060 / 600 / 560 mm (F106)
600 / 500 / 500 mm (FX400)
- **Rapid feeds 32/32/32 m/min**
- **8000 rpm spindle output 15 kW (S3) (F76/F106)**
12000 rpm spindle output 15 kW (30 min.) (FX400)
- **Roller guideways and Ø40 mm ballscrews**
- **Screw chip removers included**



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



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

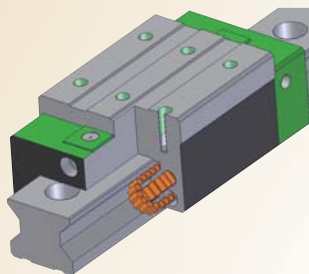
X/Y/Z AXES

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

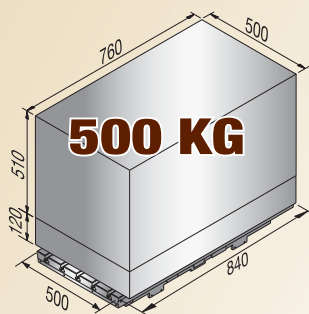
Capacity: 24 tools (opt. 30)
Tool exchange time:
2.4 sec. (tool-tool)
5.7 sec. (chip-chip)



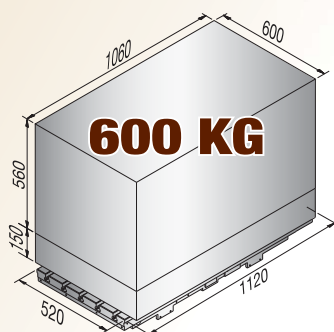
Roller guides

TABLE

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



Vcenter-F76



Vcenter-F106



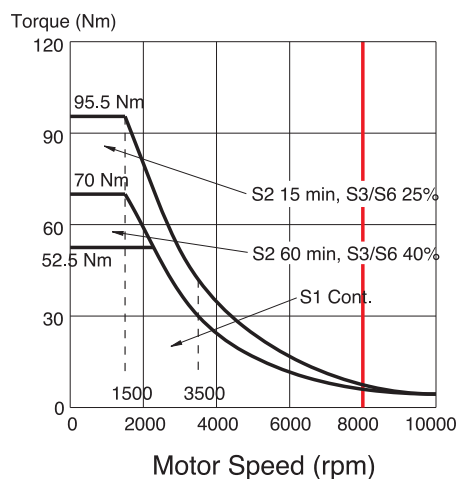
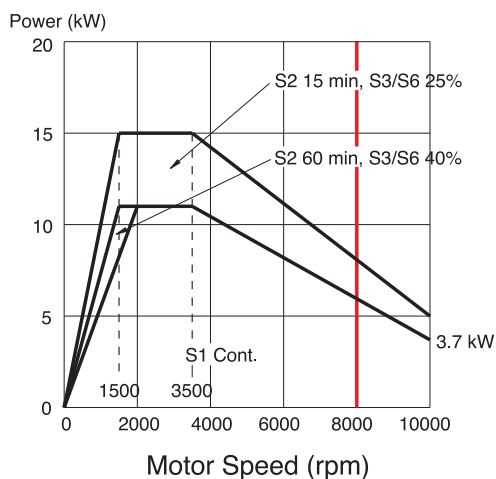


SPINDLE

- 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



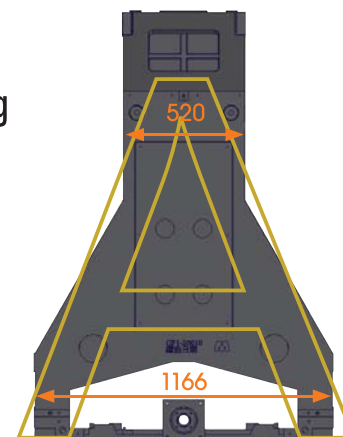
STRUCTURE

- Wide span column
- Certificated casting



Certificated Casting

GA350

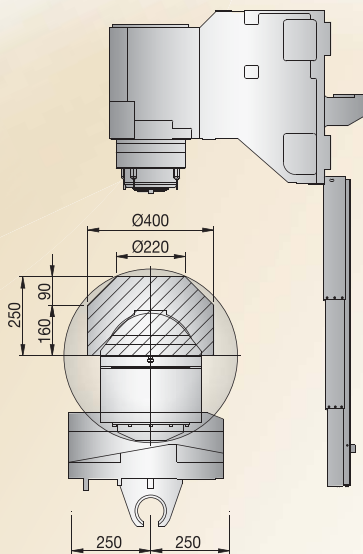
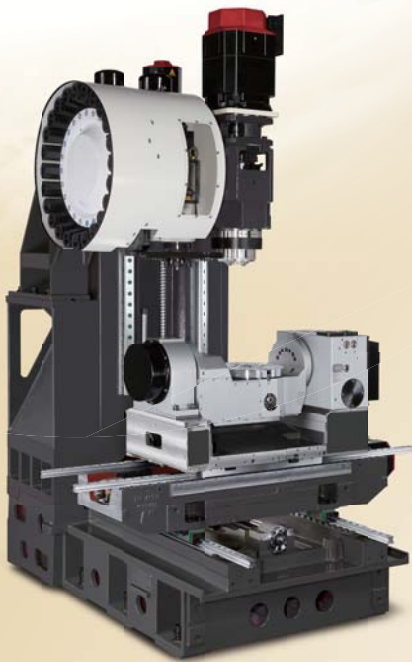


Column with wide span

1166 mm (F76)
1270 mm (F106)

Vcenter-FX400: Your First 5-axis Machine with Fantastic Performance

- Maximum part dimension: $\text{Ø}400 \times \text{H}160 + \text{Ø}220 \times \text{H}250$ mm
- Trunnion type tilting table $\text{Ø}320$ mm
- Fanuc OiMF Plus control for 4+1 axis machining
- 12000 rpm BBT-40 spindle directly coupled to spindle motor



X/Y/Z AXES

Travels: **600/500/500 mm**
Rapid feeds: **32/32/32 m/min**
Ball screw diameter: **40/40/40 mm**
Guideways: **30/35/45 mm**

ATC

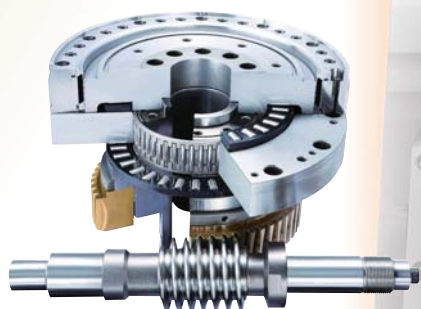
Capacity: **24 tools (opt. 30)**
Tool exchange time:
2.4 sec. (tool-tool)
5.7 sec. (chip-chip)

ROTARY TABLE

Dimension: **Ø320 mm**

Table load: **200 kgs**

- Worm gear & shaft mechanism
- High wear resistance with copper alloy worm gear (patented CU80D) & fully lubricated worm shaft
- Dual-lead worm with minimal backlash





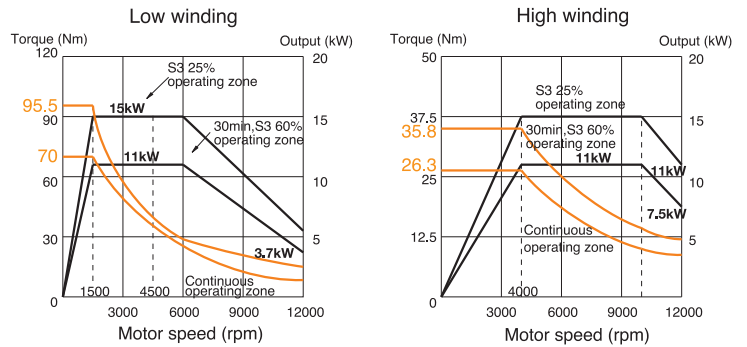
BigPlus[®] BBT-40 Spindle

15 kW (S3-25%)

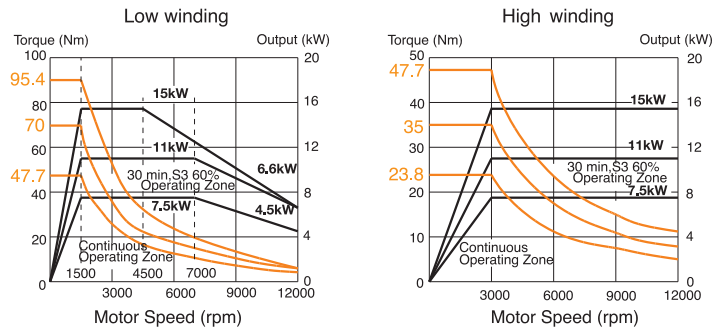
12000rpm



Fanuc α i12/12000 (std. without CTS)



Fanuc α T8/12000 (opt. with CTS)



Chip & Coolant Disposal

- 2 screw chip removers
- High sloped angle bottom guarding



Vcenter-F series

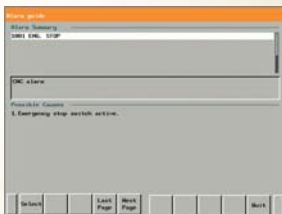
Standard Accessories

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"



Tool breakage detection



Alarm display with diagnosis



Tool management



Renishaw® GUI



Convenient maintenance



Arm type ATC + Coolant ring
 + LED lights



Bottom guarding flush
 (Vc-F106) + Screw chip
 removers

Optional Accessories



Spindle oil cooler
(std. for FX400)



CTS (Coolants Thru. Spindle)



Auto tool length
measurement



Auto part measuring



Linear scales



4th axis interface for
rotary table



Chip conveyor

Machine Specification

| Item | Unit | Vcenter-FX400 | Vcenter-F76 | Vcenter-F106 | |
|-----------------------------|---|--------------------|---------------------------------|----------------------------|--------------------------------|
| Travel | X axis travel | mm | 600 | 760 | 1060 |
| | Y axis travel | mm | 500 | 500 | 600 |
| | Z axis travel | mm | 500 | 510 (opt. 690) | 560 (opt. 760) |
| | A/C axis travels | deg. | +30°~ -120°/ 360° | - | - |
| Distance | Spindle center to column | mm | 547 | 565 | 627 |
| | Spindle nose to table surface | mm | 20 ~ 520 | 120 ~ 630 (opt. 810) | 150 ~ 710 (opt. 910) |
| Table | Table work area | mm | Ø320 | 840 x 500 | 1120 x 520 |
| | Dimension of T-slot | mm | 12H7 | 4 x 18 x 100 | 5 x 18 x 100 |
| | Max. table load | kg | 200 | 500 | 600 |
| Spindle | Spindle taper | | BBT-40 | BT-40 | BT-40 |
| | Spindle motor - cont./ 25% (15 min) | kW | 11 / 15 | 11 / 15 | 11 / 15 |
| | Spindle speed | rpm | 12000 | 8000 (opt. 10000) | 8000 (opt. 10000) |
| Feed rate | Rapid feed rate - X/Y/Z (Fanuc) | m/min | 32 / 32 / 32 | 32 / 32 / 32 | 32 / 32 / 32 |
| | Rotary rapid feed rate - A/C (Fanuc) | rpm | 16 / 25 | - | - |
| | Axis acceleration - X/Y/Z | m/sec ² | 0.4G / 0.4G / 0.5G | 0.5G / 0.5G / 0.5G | 0.5G / 0.5G / 0.5G |
| | Axis feed motor - X/Y/Z/A/C | kW | 2.5 / 2.5 / 3 / 1.4 / 1.2 | 2.5 / 2.5 / 3 | 2.5 / 2.5 / 3 |
| | Cutting feedrate by table | m/min | 20 | 20 | 20 |
| | Continuous torque output | N-m | 1260 / 700 (A/C) | - | - |
| | Braked torque (clamping) | N-m | 1500 / 750 (A/C) | - | - |
| | X/Y/Z ballscrew (dia. x pitch) | mm | 40 x P16 (X/Y/Z) | 40 x P16 (X/Y/Z) | 45 x P16 (X/Y) 40 x P16 (Z) |
| Linear guide width (X/Y/Z) | mm | 30 / 35 / 45 | 30 / 35 / 45 | 35 / 45 / 45 | |
| Tools | Max. tool length | mm | 300 | 300 | 300 |
| | Max. tool weight | kg | 7 | 7 | 7 |
| | Magazine capacity | | 24 (opt. 30) | 24 (opt. 30) | 24 (opt. 30) |
| | Max. tool diameter (without adjacent tools) | mm | 75 (150) | 75 (150) | 75 (150) |
| | Tool exchange time | sec. | 2.4 (T-T), 5.7 (C-C) | 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) | 15 (JIS 40P) |
| | Tool selection method | | Random | Random | Random |
| Accuracy (ISO 230-2) | Positioning accuracy (bi-directional) | mm | 0.010 (X/Y/Z) 0.0056° (A/C) | 0.010 | 0.010 |
| | Repeatability | mm | 0.007 (±0.0035) 0.003° (A/C) | 0.007 (±0.0035) | 0.007 (±0.0035) |
| Machine | Power requirement | KVA | 27 (excl. CTS) | 22 (excl. CTS) | 22 (excl. CTS) |
| | Min/Max. air pressure | kg/cm ² | 5.5 ~ 6.5 | 5.5 ~ 6.5 | 5.5 ~ 6.5 |
| | Coolant tank capacity | L. | 220 | 220 | 300 |
| | Std. NC controller (Fanuc) | | Oi-MF Plus (10.4", type-1) | Oi-MF Plus (10.4", type-3) | Oi-MF Plus (10.4", type-3) |
| | Floor space requirement | mm | 2720 x 2730 | 2714 x 2782 | 2796 x 3339 |
| | Max. machine height | mm | 2962 | 2578 | 2872 |
| | Machine weight | kg | 6100 | 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 (std. for FX400)
- 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 (excl. Vc-FX400)
- 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
- Fanuc OiMF Plus (10.4", type-1) control (Vc-F76/F106)
- Fanuc OiMF Plus (15", type-0) control
- Siemens control 840D SL (full 5-axis control)

Victor Taichung's FANUC Oi-MF Plus (10.4") 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 | 6+48 sets (G54~G59, G54.1) |
| 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 | 0~150% (0~200% for Vc-FX400) |



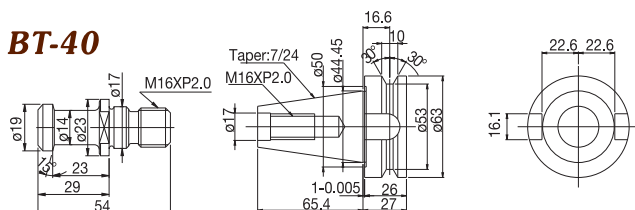
| | | |
|------------------------|---|--------------------------------|
| 4. | Spindle Override | 50~120% (50~200% for Vc-FX400) |
| 5. | Manual Handle Feed Rate | X1, X10, X100 |
| 6. | AI contour control (AICC, G05.1) (in total) | 200 blocks |
| Edit Operation: | | |
| 1. | Part Program Storage Length (in total) | 5120m |
| 2. | Part Program Editing / Protect | Std. |
| 3. | Memory Card Editing (Max. 63 programs.) | Std. |

OPTIONS

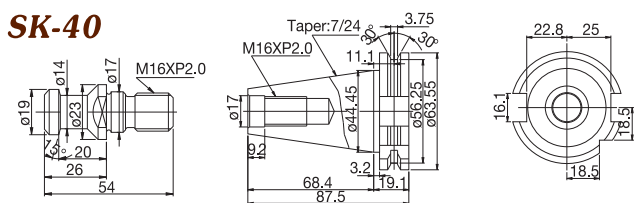
| ITEM | SPECIFICATION | DESCRIPTION |
|-----------------------------------|---|--------------------------|
| With hardware included: | | |
| 1. | Data server (with PCB and CF card 1GB) | <input type="checkbox"/> |
| 2. | Ethernet/IP (to be linked to robot) | <input type="checkbox"/> |
| 3. | Profinet (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 (type-0 control) - avail. on Vc-FX400 | <input type="checkbox"/> |
| Without hardware included: | | |
| 7. | Tool load monitoring (with Victor own PLC) | <input type="checkbox"/> |
| 8. | Cylindrical interpolation (G7.1) (used on 4th axis) (std. for Vc-FX400) | <input type="checkbox"/> |
| 9. | Addition of work-piece coordinate systems 300 sets | <input type="checkbox"/> |
| 10. | Tilted working plane indexing command (std. for Vc-FX400) | <input type="checkbox"/> |
| 11. | Memory card program entry count extension (Max. 1000) | <input type="checkbox"/> |
| 12. | AI contour control (G05.1, 400 blocks) - avail. on type-0 control | <input type="checkbox"/> |
| 13. | Smooth TCP (Tool Center Point) - avail. on Vc-FX400 with type-0 control | <input type="checkbox"/> |

Tool Shank

BT-40



SK-40



Machine Color Option



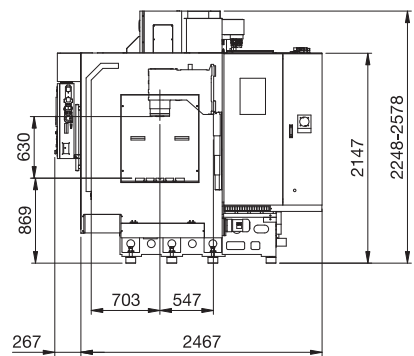
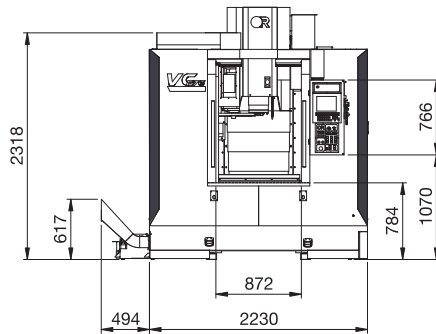
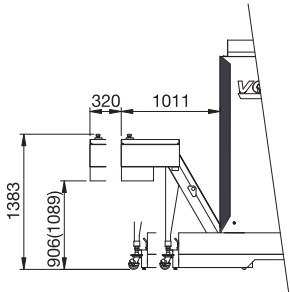
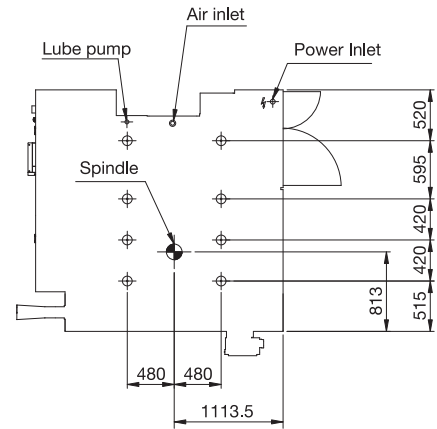
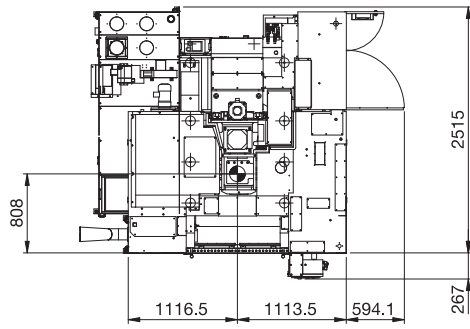
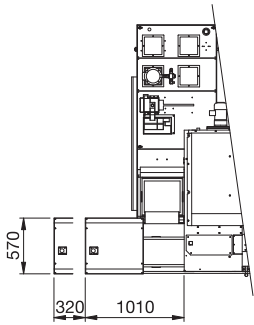
Standard



RAL-7024

Machine Layout

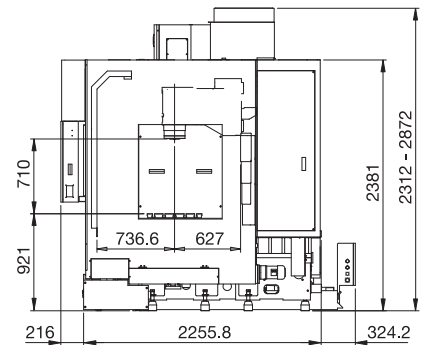
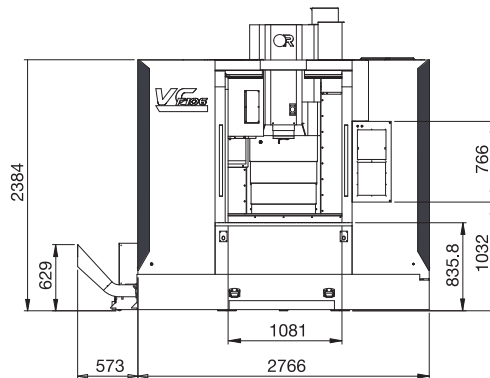
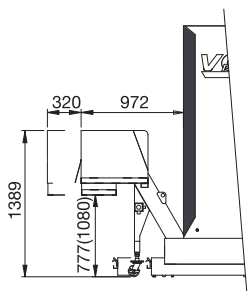
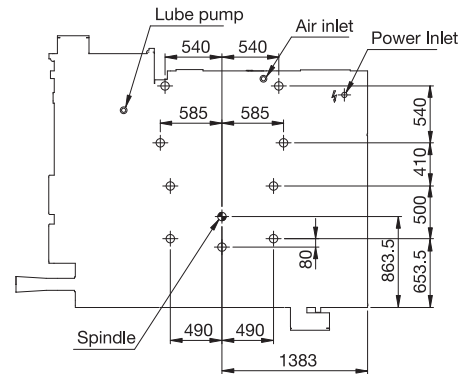
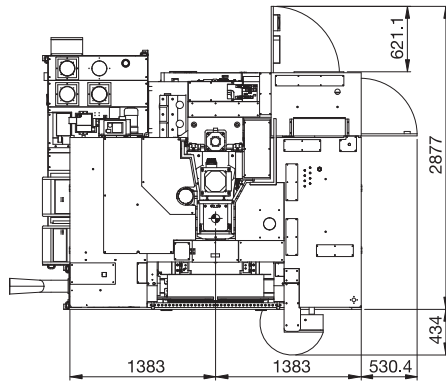
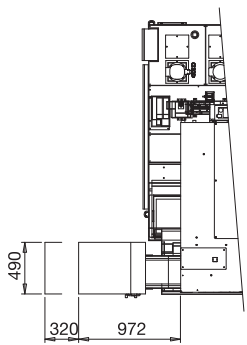
Vcenter-F76



chip conveyor

Unit: mm

Vcenter-F106



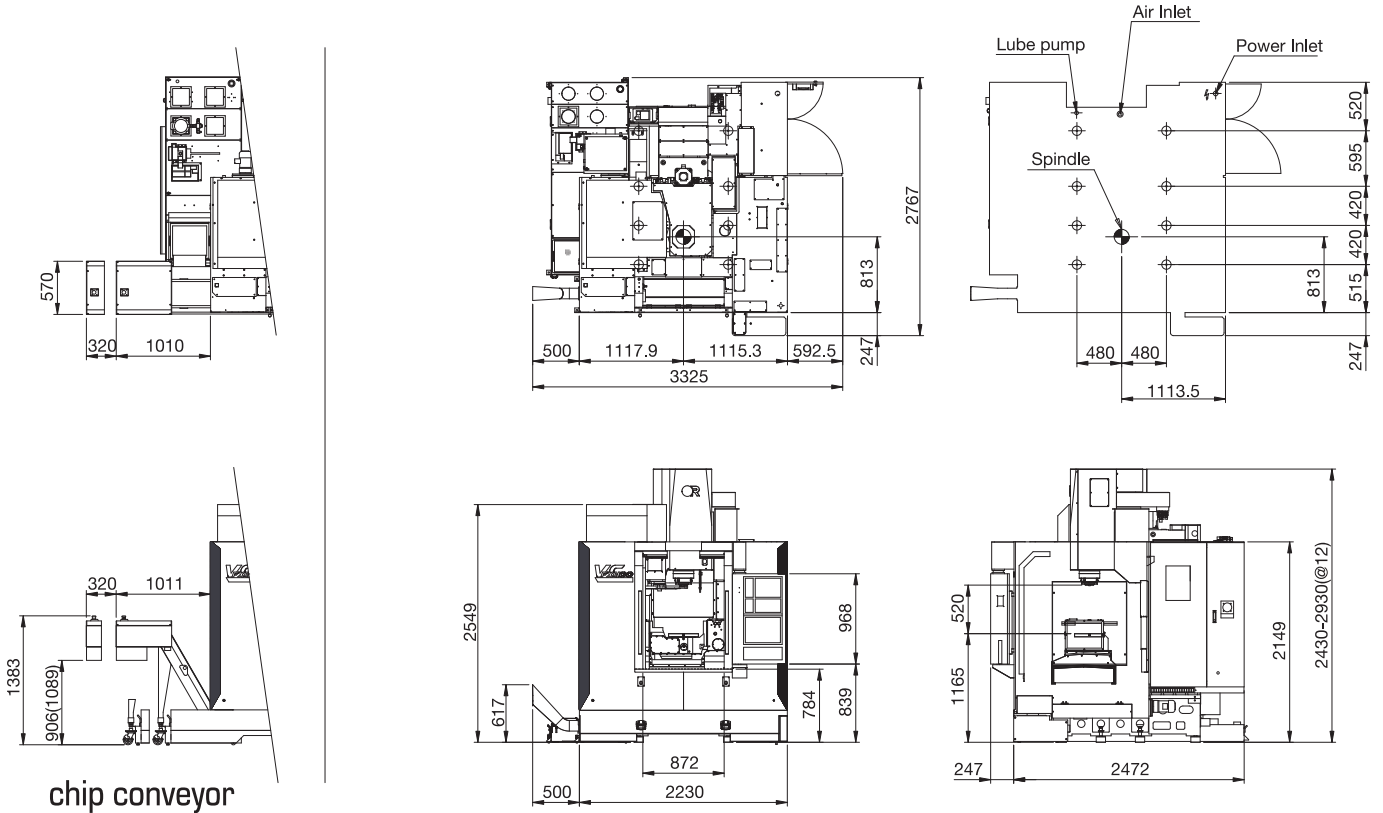
chip conveyor

Unit: mm

Machine Layout

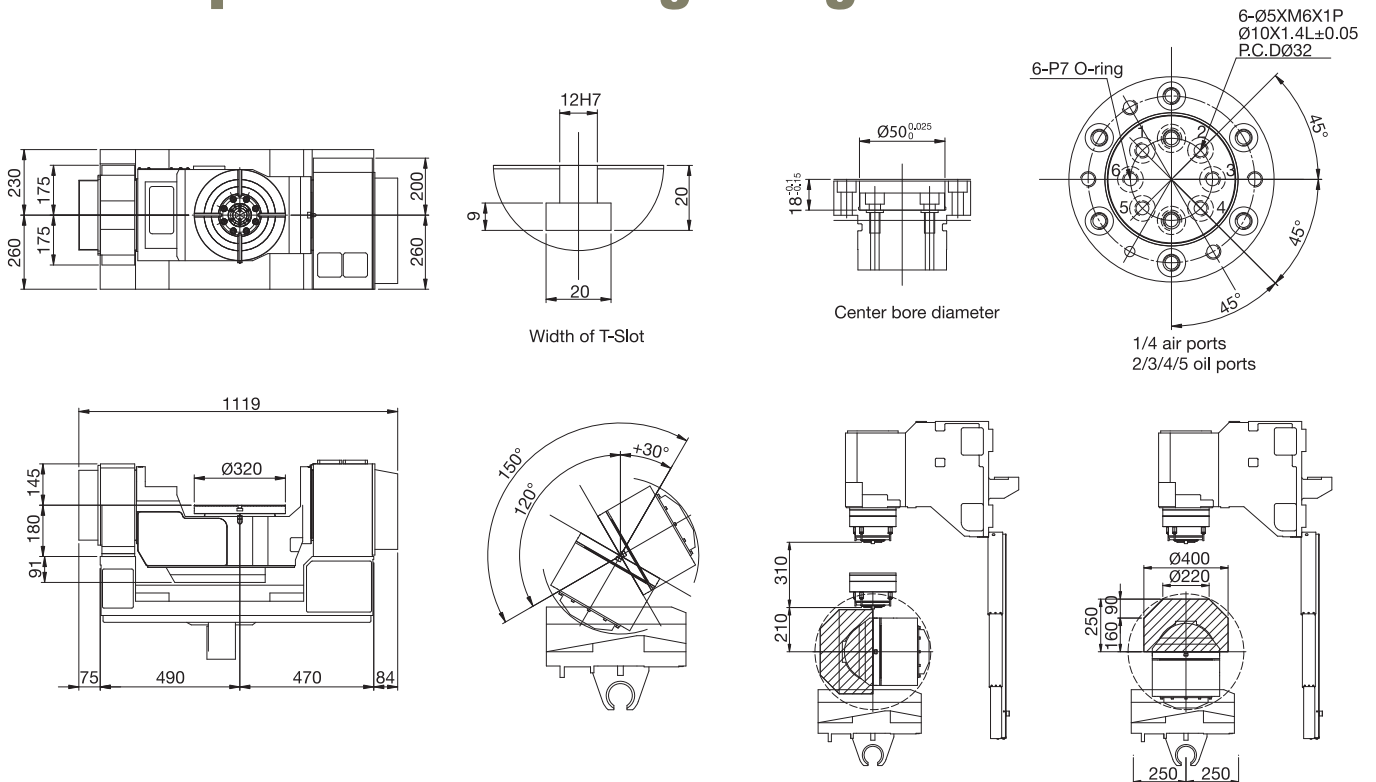


Vcenter-FX400



Unit: mm

Table Spec & Machining Range





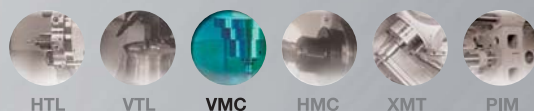
ONWARD RISE

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.

 **VICTOR TAICHUNG** profile:
 Sales turnover: USD 190 mil's (in 2022)*
 No. of employees: 764
 *Exchange rate: 1 USD=30 TWD.



THE VICTOR-TAICHUNG COMPANIES



HTL

VTL

VMC

HMC

XMT

PIM

TAIWAN

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