

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

Vcenter-P76 (APC) P106 / P136

Vertical machining center

- Rapid feeds 48/48/32 m/min (Vc-P76/P106)
- 12000rpm spindle output 18.5 KW(s3)
- BBT-40 / 30 tools
- Roller guideways
- Bottom guarding flush (Vc-P106/P136)
- Screw chip removers



Victor Taichung - an established ISO-9001 & 14001 company



Vcenter-P series High Performance VMC

- X-travel 760/1060/1360 mm for Vc-P76/P106/P136
- High rapid feed 48 m/min (32 m/min for P136)
- High speed 12000rpm spindle
- Electrical counterbalance

ATC

- 2.2 (6.0) sec. (P76)
- 2.3 (6.3) sec. (P106)
- 2.3 (7.7) sec. (P136)
- T-T (chip-chip)

30

Tools

Feeds & Travels

48/48/32 (P76/P106)

32/32/32 (P136)

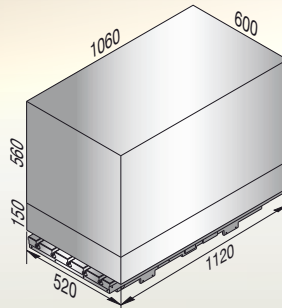
X/Y/Z (m/min)

760 / 500 / 510 (P76)

1060 / 600 / 560 (P106)

1360 / 700 / 700 (P136)

X/Y/Z (mm)



e.g. Vc-P106

Table & Guideways

500 kg (P76)

600 kg (P106)

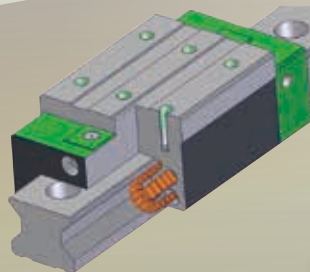
1000 kg (P136)



840 x 500 mm (P76)

1120 x 520 mm (P106)

1400 x 700 mm (P136)

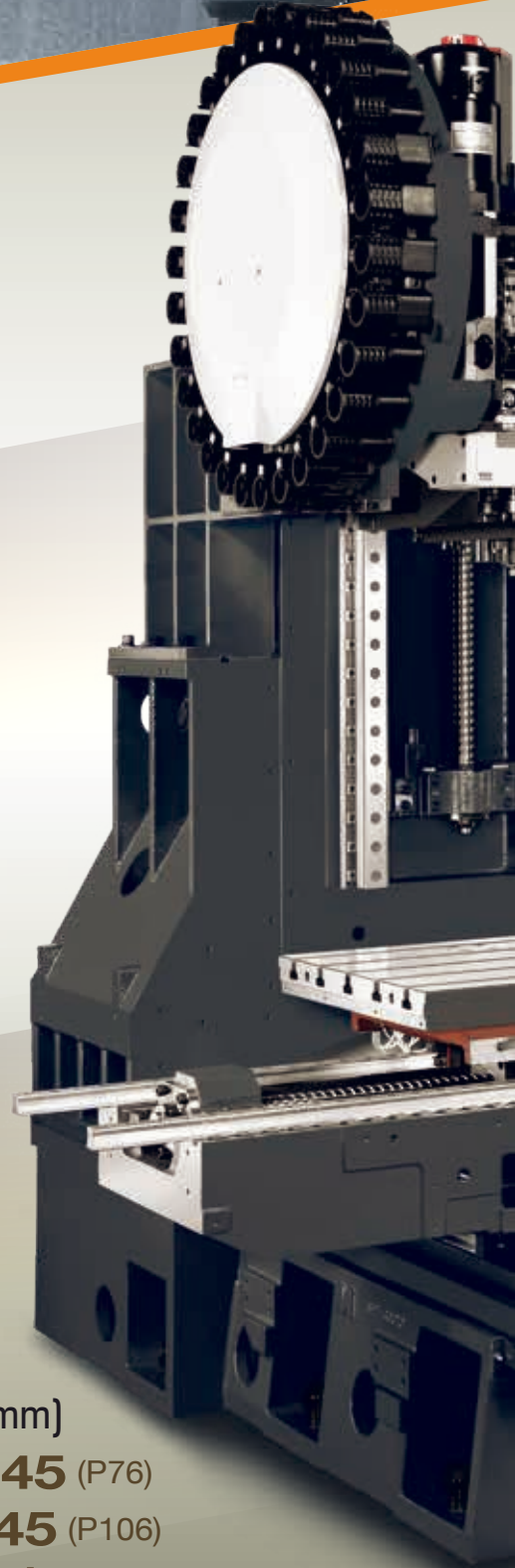


Roller guides X/Y/Z (mm)

30 / 35 / 45 (P76)

35 / 45 / 45 (P106)

45 / 35 (4 off) / 45 (P136)



Spindle BBT-40

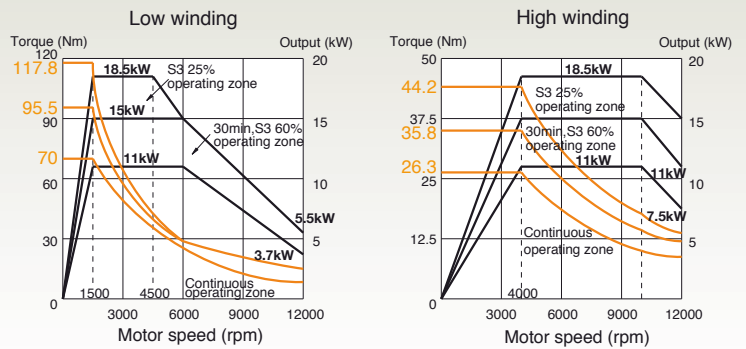
18.5 kW* (S3-25%)

12000rpm

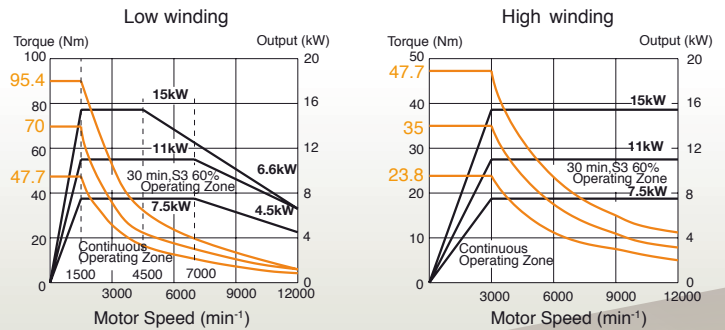
(* opt. 15 kW with CTS)



Fanuc α i12/12000 (std. without CTS)



Fanuc α T8/12000 (opt. with CTS)

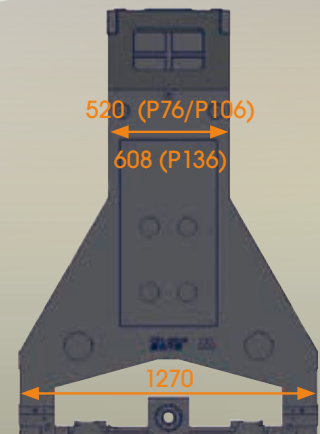


Structure



Certificated Casting

GM400
GA350



Wide column

1166 mm (P76)
1270 mm (P106/P136)

Vcenter-P series

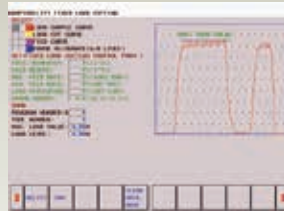
Standard Accessories

Fanuc Oi-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



Precision level selector



Renishaw® GUI

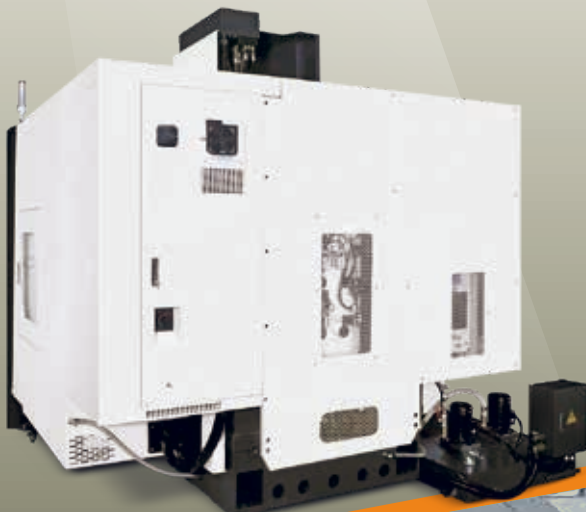
Spindle oil cooler



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



Heat exchanger + Enclosed rear guarding



Bottom guarding flush (Vc-P106/P136) +
screw chip remover (4 screws for P136)



Optional Accessories

CTS (Coolants Thru. Spindle)



Auto tool length measurement



Auto part measuring



4th axis interface for rotary table



Chip conveyor



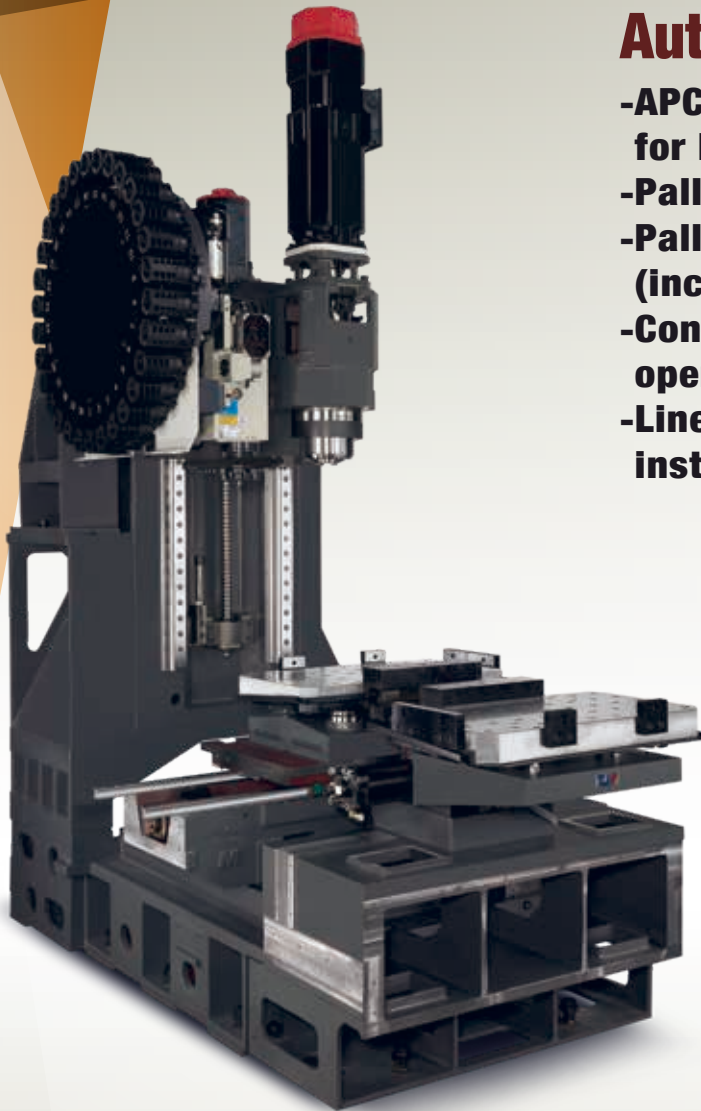
Linear scales



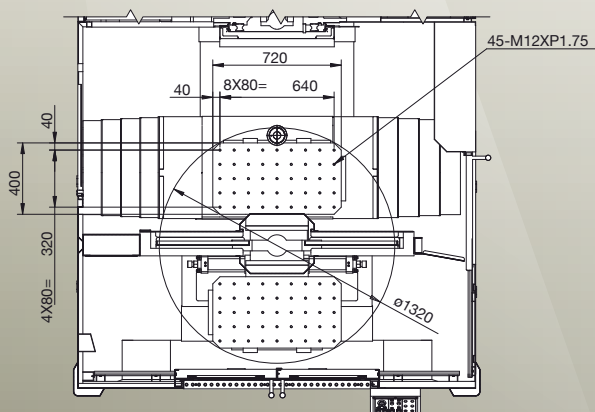
Vcenter-P76APC

Auto Pallet Changer

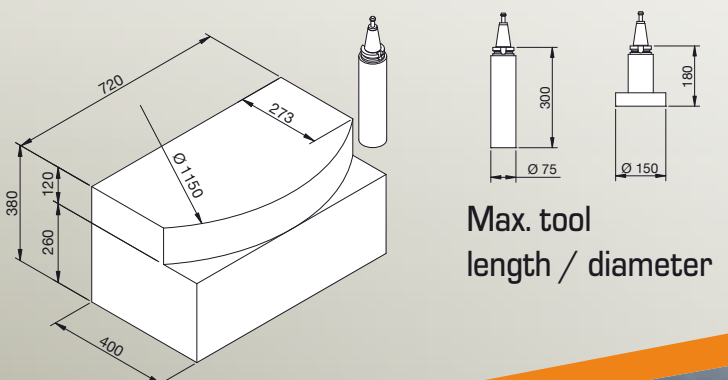
- APC mechanism seated on ground for high rigidity
- Pallet dimension 720mm x 400mm
- Pallet exchange time: 15 seconds (incl. air sealing detection time)
- Control panel at right side for easy operation
- Linear scales and 4th axis can be installed



Pallet dimension



Machining range



Max. tool length / diameter

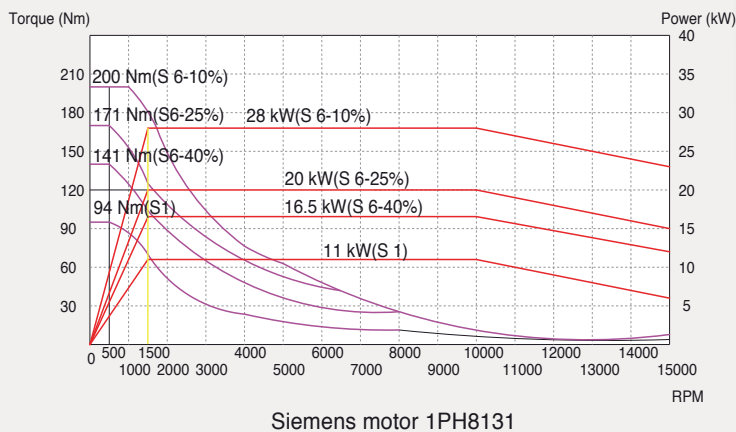
VICTOR Taichung's NC PACKAGE



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 | 1 ms (Opt. 0.4 ms by HSP) | 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" (Opt. 15") | 10.4" (Opt. 15") | 10.4" (Opt. 15") | 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

Machine Specification

| Item | Unit | Vcenter-P76 Vcenter-P76APC | Vcenter-P106 | Vcenter-P136 | |
|------------------|---|-------------------------------|----------------------------------|--------------------------------|--------------------------------|
| Travel | X axis travel | mm | 760 | 1060 | 1360 |
| | Y axis travel | mm | 500 | 600 | 700 |
| | Z axis travel | mm | 460 | 560 (opt. 760) | 700 |
| Distance | Spindle center to column | mm | 510 (opt. 690) | 627 | 792 |
| | Spindle nose to table surface | mm | 540 | 150 ~ 710 (opt. 910) | 100 ~ 800 |
| Table | Table work area | mm | 840 x 500 | 1120 x 520 | 1400 x 700 |
| | Dimension of T-slot | mm | 720 x 400 | 5 x 18 x 100 | 7 x 18 x 100 |
| | Max. table load | kg | 4 x 18 x 100 45-M12 (80 x 80) | 600 | 1000 |
| Spindle | Spindle taper | | BBT-40 | BBT-40 | BBT-40 |
| | Spindle motor - cont/ 60%/25% (Fanuc) | kW | 11 / 15 / 18.5 (w/t CTS) | 11 / 15 / 18.5 (w/t CTS) | 11 / 15 / 18.5 (w/t CTS) |
| | Spindle motor - cont/ 40%/25%/10% (Heidenhain) | kW | 7.5 / 11 / 15 (for CTS) | 11 / 16.5 / 20 / 28 | 11 / 16.5 / 20 / 28 |
| | Spindle speed | rpm | 12000 (opt. 15000) | 12000 (opt. 15000) | 12000 (opt. 15000) |
| Feed rate | Rapid feed rate - X/Y/Z (Fanuc) | m/min | 48 / 48 / 32 | 48 / 48 / 32 | 32 / 32 / 32 |
| | Rapid feed rate - X/Y/Z (Heidenhain) | m/min | 48 / 48 / 32 | 48 / 48 / 32 | 36 / 36 / 36 |
| | Axis acceleration - X/Y/Z | m/sec ² | 0.7G / 0.7G / 0.5G | 0.7G / 0.7G / 0.5G | 0.4G / 0.4G / 0.5G |
| | Axis feed motor - X/Y/Z (Fanuc) | kW | 3 / 3 / 3 | 3 / 3 / 3 | 3 / 3 / 3 |
| | Axis feed motor - X/Y/Z (Heidenhain) | kW | 4.5 / 4.5 / 5.4 | 4.5 / 4.5 / 5.4 | 5.1 / 5.4 / 8.6 |
| | Cutting feedrate by table | m/min | 20 | 20 | 20 |
| Tools | 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) | 45 x P16 (X) 45 x P16 (Y/Z) |
| | Linear guide width (X/Y/Z) | mm | 30 / 35 / 45 | 35 / 45 / 45 | 45 / 35 (4 off) / 45 |
| | Max. tool length | mm | 300 | 300 | 300 |
| | Max. tool weight | kg | 7 | 7 | 7 |
| | Magazine capacity | | 30 (opt. 40) | 30 (opt. 40) | 30 (opt. 40) |
| | Max. tool diameter (without adjacent tools) | mm | 75 (150) | 75 (150) | 75 (150) |
| | Tool exchange time | sec. | 2.2 (T-T), 6.0 (C-C) | 2.3 (T-T), 6.3 (C-C) | 2.3 (T-T), 7.7 (C-C) |
| | Pull stud angle | deg. | 15 (JIS 40P) | 15 (JIS 40P) | 15 (JIS 40P) |
| | Tool selection method | | Random | Random | Random |
| | Power requirement | KVA | 23 (excl. CTS) | 23 (excl. CTS) | 23 (excl. CTS) |
| Machine | Min/Max. air pressure | kg/cm ² | 5.5 ~ 6.5 | 5.5 ~ 6.5 | 5.5 ~ 6.5 |
| | Coolant tank capacity | L. | 220 | 300 | 450 |
| | Std. NC controller (Fanuc) | | 0i-MF (10.4") | 0i-MF (10.4") | 0i-MF (10.4") |
| | Opt. NC controller (Heidenhain) | | TNC-620 (15") | TNC-620 (15") | TNC-620 (15") |
| | Floor space requirement | mm | 2750 x 2719 2750 x 3227 | 3363 x 2812 | 4293 x 2963 |
| | Max. machine height | mm | 2731 2920 | 2841 | 3074 |
| | Machine weight | kg | 5500 6500 | 6450 | 8880 |

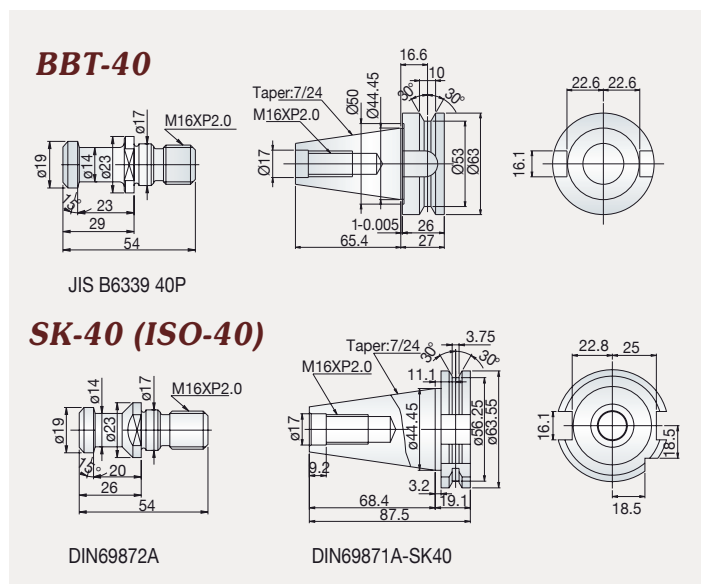
Standard Accessories:

- Fully enclosed splash guard
- Fanuc 0i-MF (10.4") control
- Spindle oil cooler
- Screw-type chip remover (left disposal)
- Bottom guarding flushing coolants (Vc-P106/P136)
- 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's FANUC Oi-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 | ± 9999.999 mm (± 9999.999 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/32) 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 (MG) 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. |

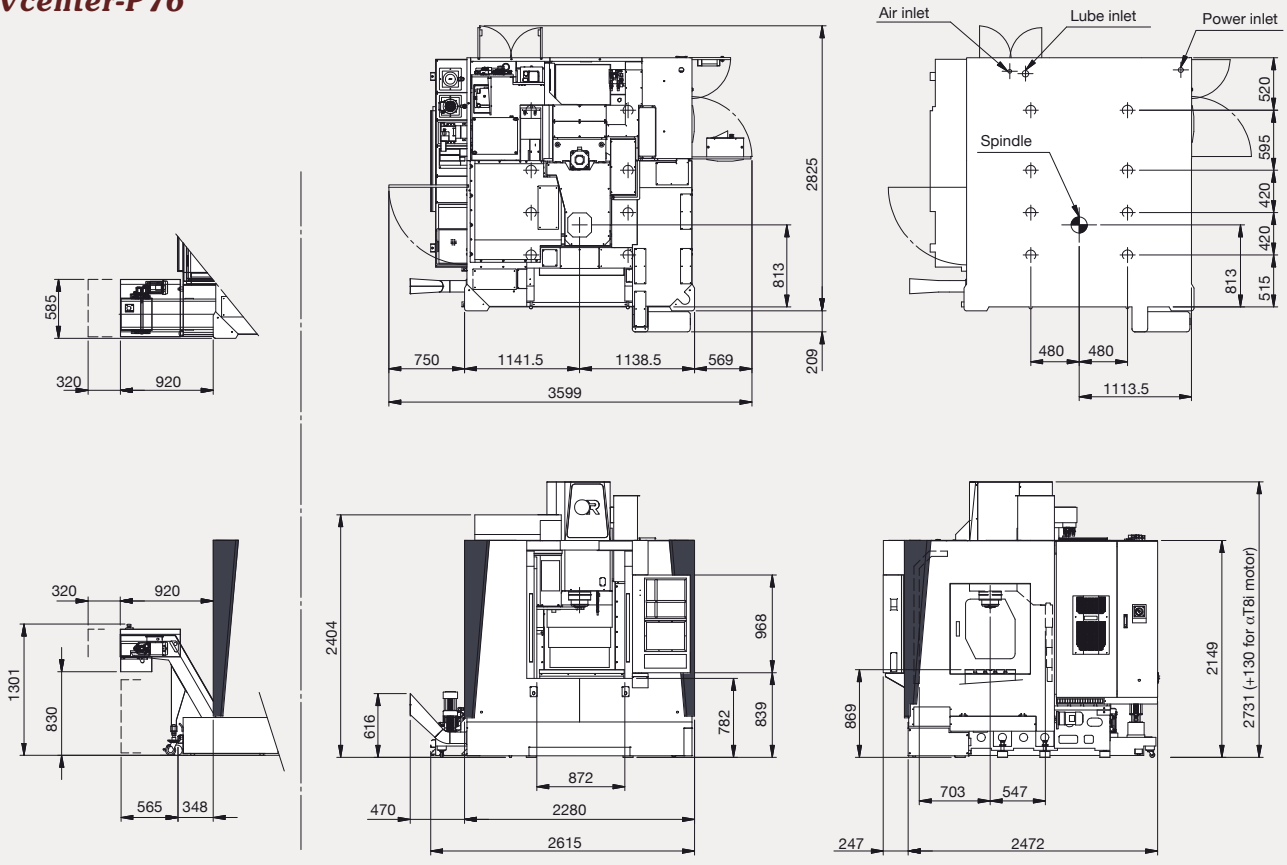
| | | |
|--|--|---|
| 4. | Spindle Override | 50-200% |
| 5. | 1st Spindle Orientation | Std. |
| 6. | M Code / S Code / T code Function | M3 / S5 / T2 digit |
| 7. | Rigid tapping | Std. |
| Tool Function & Tool Compensation | | |
| 1. | Tool Function | T8 digit |
| 2. | Tool Offset Pairs | ± 6-digit, 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) | <input type="checkbox"/> | <input type="checkbox"/> | Std. |
| 3. | Fast Ethernet (100Mbps, available in Data server) | <input type="checkbox"/> | <input type="checkbox"/> | Std. |
| 4. | 15" Screen | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Part Program Storage Length 5120m (2MB in total) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Part Program Storage Length 8MB in total | N.A. | N.A. | <input type="checkbox"/> |
| 7. | Look ahead block expansion (400 blocks in total) | <input type="checkbox"/> | <input type="checkbox"/> | N.A. |
| 8. | Quick program restart | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | Optional block skip 2-9 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | Profibus | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | 5-axis simultaneous control | N.A. | N.A. | <input type="checkbox"/> (31i-B5) |
| Without hardware included | | | | |
| 12. | Look ahead block expansion (1000 blocks in total) | N.A. | N.A. | <input type="checkbox"/> |
| 13. | Tool load monitoring (with Victor own PLC) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | Bi-directional Pitch Error Compensation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | Cylindrical interpolation (G7.1) (used on 4th axis) | Std. | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | Interrupt type custom macro | N.A. | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | Addition of work-piece coordinate systems 300 sets | N.A. | N.A. | <input type="checkbox"/> |
| 18. | Exponential interpolation (G2.3) | N.A. | N.A. | <input type="checkbox"/> |
| 19. | Smooth interpolation | N.A. | N.A. | <input type="checkbox"/> |
| 20. | Spiral/conical interpolation | N.A. | N.A. | <input type="checkbox"/> |
| 21. | Polar coordinate interpolation | N.A. | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. | Floating reference position return | N.A. | N.A. | <input type="checkbox"/> |
| 23. | Hypothetical axis interpolation (G07) | N.A. | N.A. | <input type="checkbox"/> |
| 24. | NURBS interpolation | N.A. | N.A. | <input type="checkbox"/> |
| 25. | Jerk Control | N.A. | N.A. | <input type="checkbox"/> |

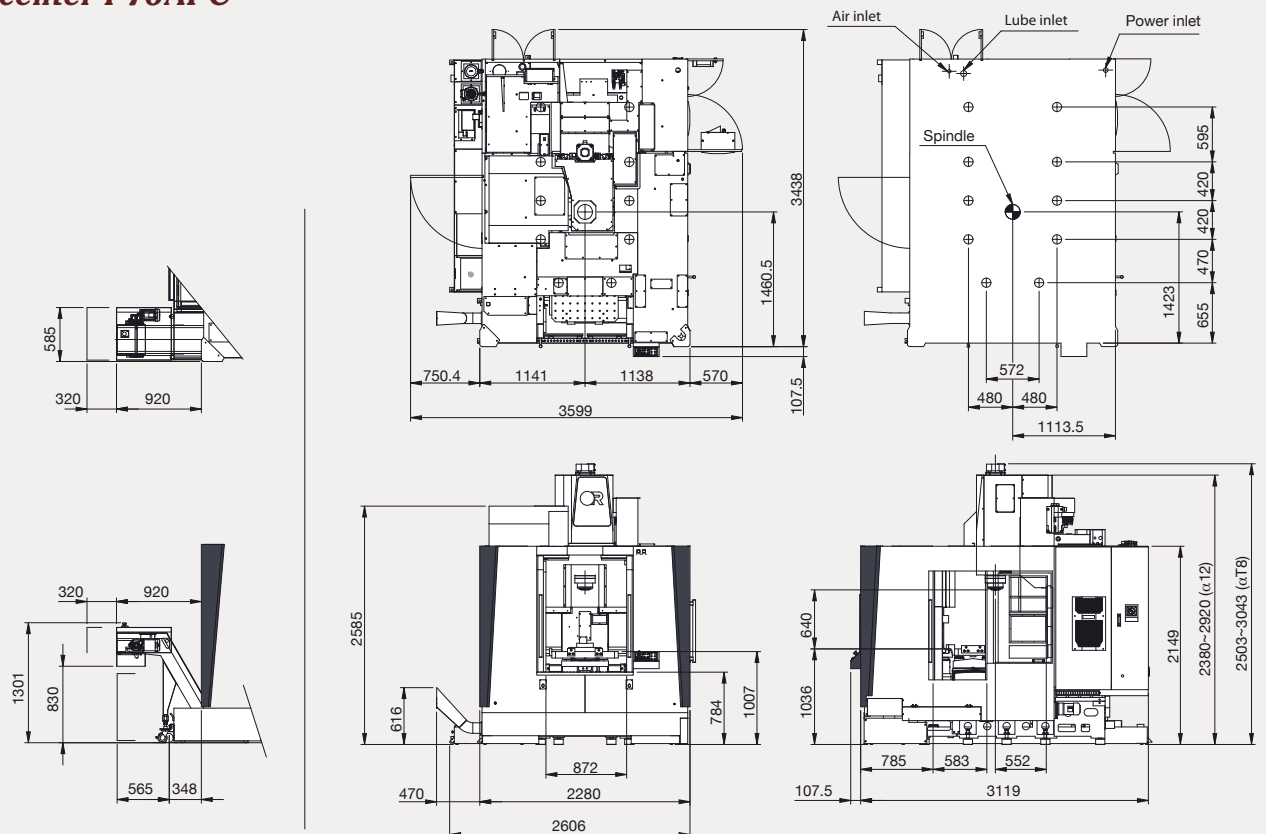
Machine Layout

Vcenter-P76



Unit: mm

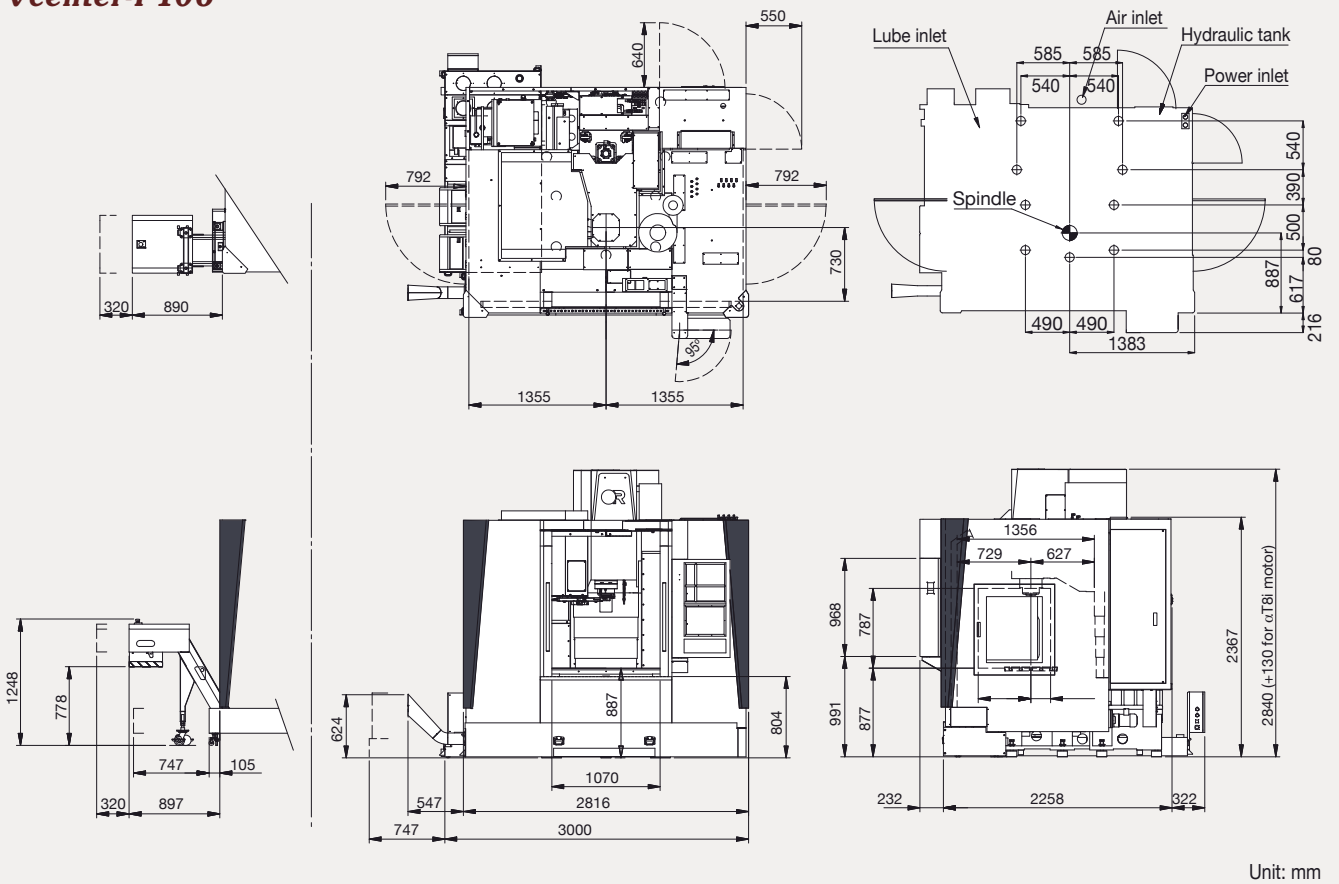
Vcenter-P76APC



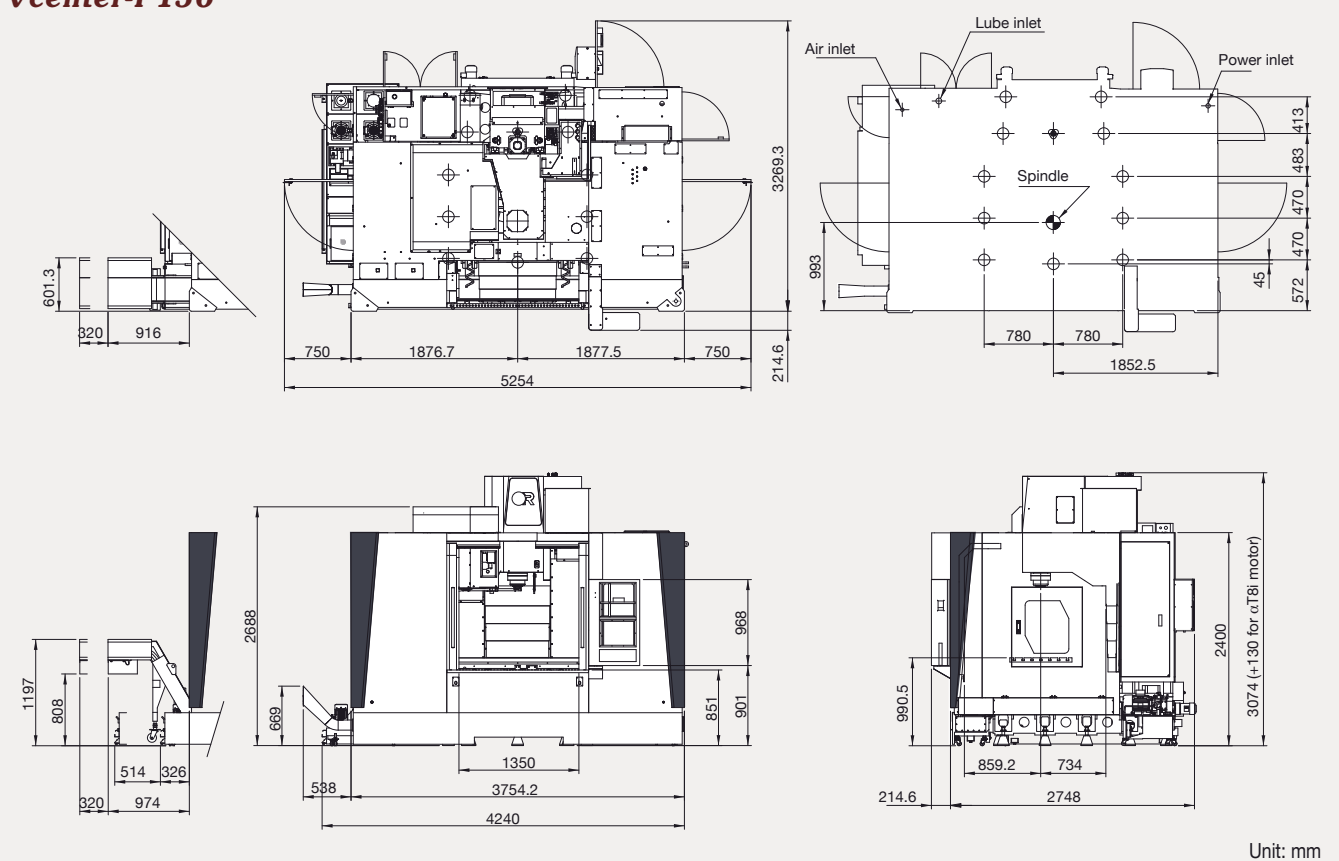
Unit: mm

Machine Layout

Vcenter-P106



Vcenter-P136





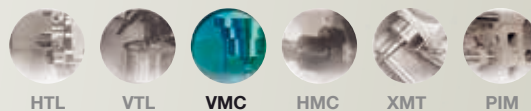
Vcenter-P136



R VictorTaichung profile:
 Sales turnover: USD 145 mil's (in 2018)*
 No. of employees: 836
 *Exchange rate: 1 USD=30 TWD.



THE VICTOR-TAICHUNG COMPANIES



HTL

VTL

VMC

HMC

XMT

PIM

TAIWAN

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