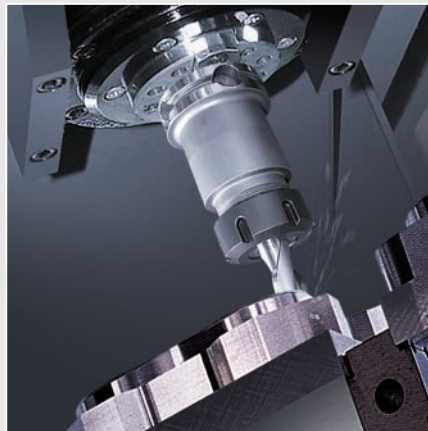


TAPPING CENTER

VX380T Series



HYUNDAI-KIA MACHINE

VX380T
VX380TD

VX380T/TD

Vertical Tapping Center

New Leader of Vertical Tapping Center

- Spindle Structure of 12,000rpm is Designed for Tapping
- Less than '1 second', need to reach max. spindle speed, 12,000rpm : 0.6sec
- Realizing "1G (9.8m/s²)" acceleration[VX380T only] with a rapid traverse of 56m/min (2,205ipm)
- Rigid Tapping at 6,000rpm

HYUNDAI-KIA

HYUNDAI-KIA MACHINE

Vertical Tapping Center





Speed & Power

Great Productivity,
Vertical Tapping Center

VX380TITD



■ The fastest rapid traverse in its class (X/Y/Z)

VX380T(α) 56/56/56m/min(2,205/2,205/2,205 ipm)

[Equipped with FANUC α motor]

VX380T(β) 50/50/50m/min(1,969/1,969/1,969 ipm)

[Equipped with FANUC β motor]

VX380TD 50/50/56m/min(1,969/1,969/2,205 ipm)

■ Tool change Time (for VX380T)

Turret Type T to T:1.1sec C to C:1.9sec (Standard)

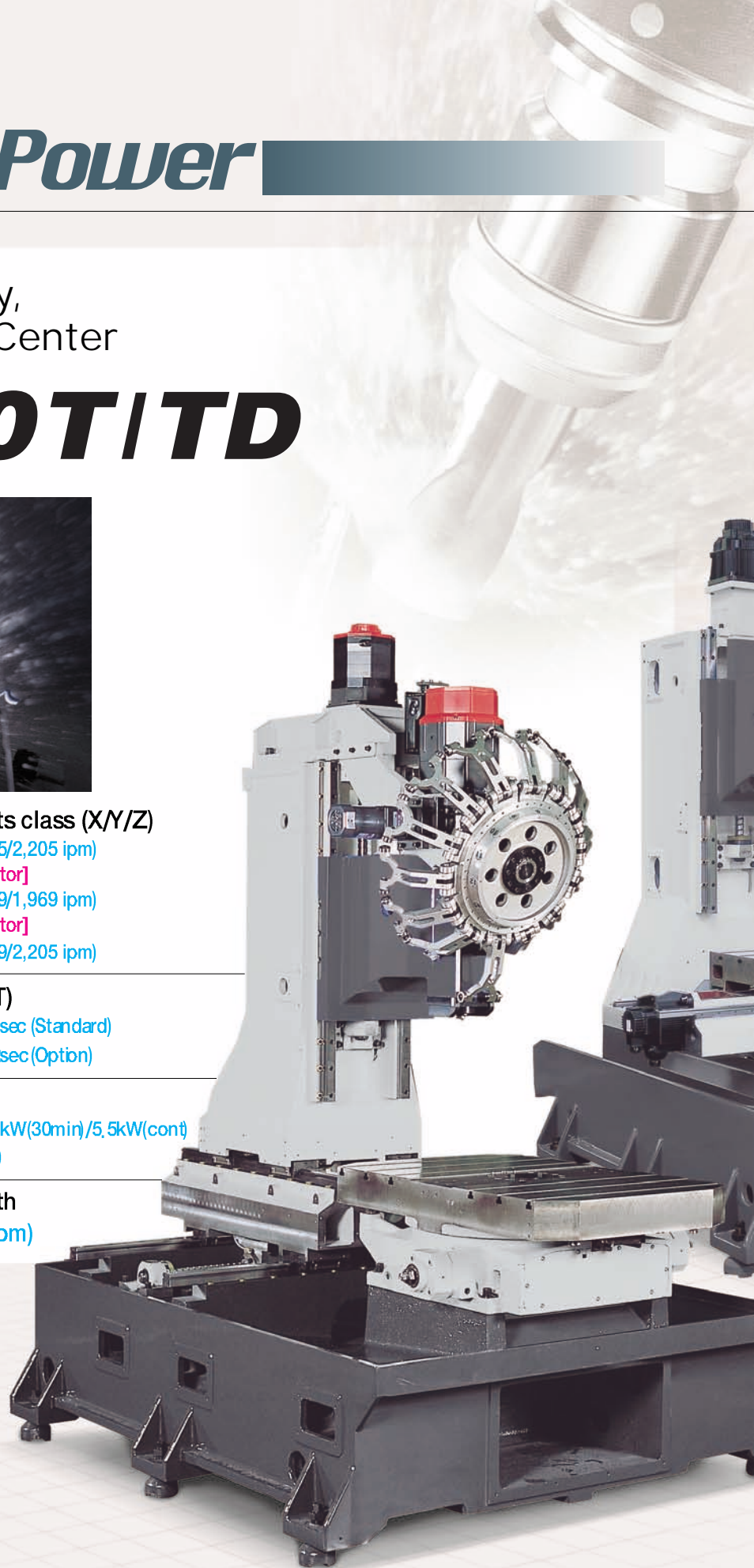
TwinArm Type T to T:0.85sec C to C:2.2sec (Option)

■ Spindle Motor Output

FANUC (Standard) 11kW(1min)/7.5kW(30min)/5.5kW(cont)
(14.7/10/7.3 Hp)

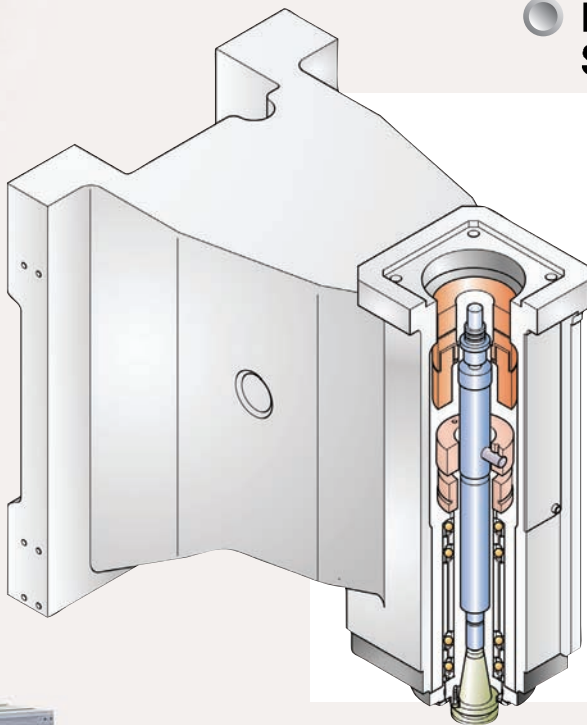
■ "1G" (9.8m/s²) acceleration with
on each axis 56m/min (2,205ipm)

VX380T Vertical machining center offers high-speed, high-accuracy and productivity. The fixed column and bed design make a wonderful disposal of coolant and chip, moreover, minimize a footprint.



Innovative Design & Increasing Productivity

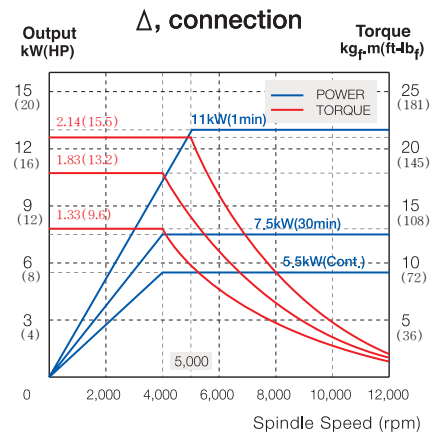
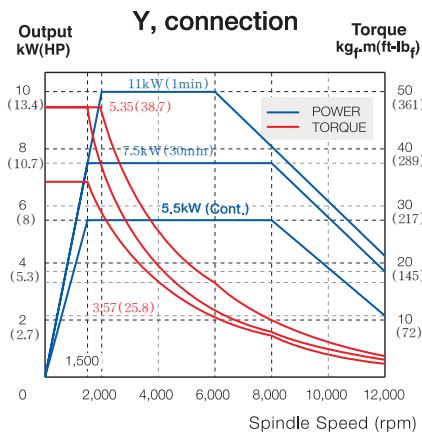
Precision Accuracy of Spindle Structure with High Speed



- The special spindle with direct connection of motor for tapping cycle maintains a stable accuracy under the high-speed machining
- The angular contact bearings in the front and the rear, are applied with the proper amount of a pretension, which provide a rigidity, prevent a heat growth, extend a life time of bearing itself, and are able to produce various work-done with **12,000rpm**
- Adopting the high performance spindle motor with Max. speed **12,000rpm** and the large capacity spindle drive unit for **6,000rpm** rigid tap with high efficiency.
- Spindle acceleration : **0→12,000rpm within 0.6sec**
- The twice faster retraction speed during rigid tap cycling (**Double speed return**)

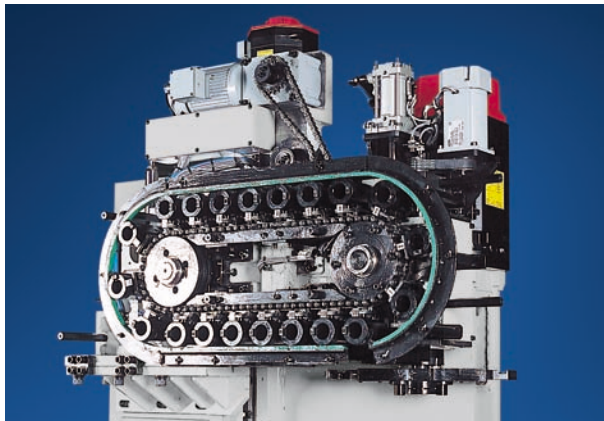
Spindle Output/Torque Diagram

FANUC (12,000rpm) : Y-Δ Wiring Changing Type



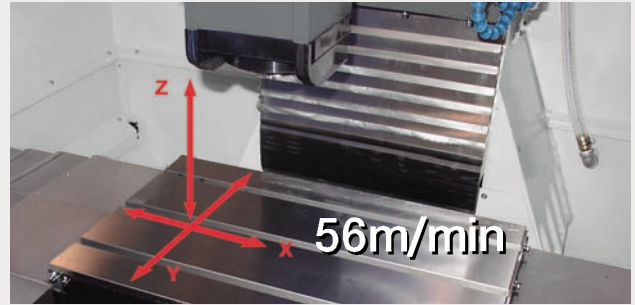
High-Productivity by High-Speed & Precision Work Process

Automatic Tool Changer-ATC



The top class Chip to Chip of ATC (1.9sec) has been achieved by Lever Tool System

High-Speed Rapid Traverse



Rapid traverse of each axes are 56m/min. (2,205ipm). Also, 1G(9.8m/s²) acceleration has been achieved. (for VX380T FANUC α)

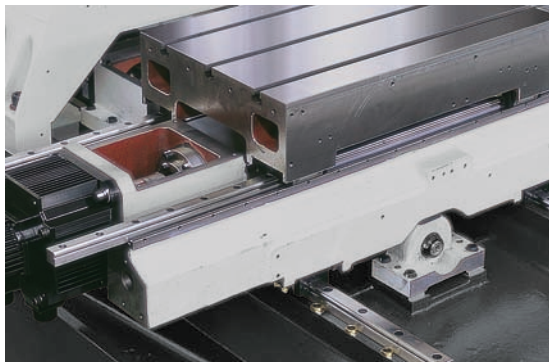
Ample Room on the Table for Various Products



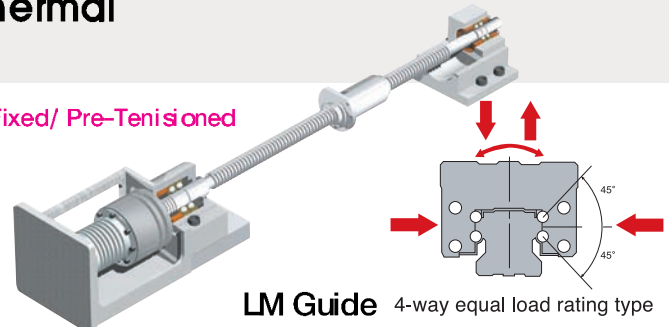
The largest table size in its class and the perfect slide way construction, which blocks all chips and coolant that might stream down into the inner side of slide way.

(for VX380T FANUC α & β)

Excellent Rigidity & the Lowest Thermal Deformation of Ballscrew



Fixed-Fixed/ Pre-Tensioned

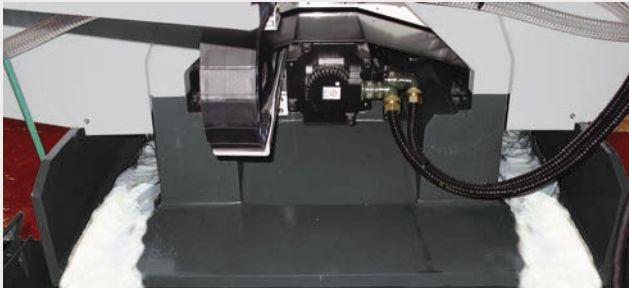


LM Guide 4-way equal load rating type

New Style of Ball screw(O.D: ϕ 32mm[1.26"]) has proven its excellent features, lower noise, higher speed, and more compact style than others. L/M Guide(LH35) helps to achieve a reliability.

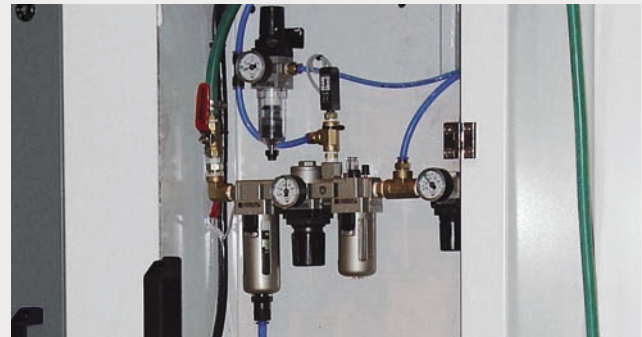
The Most Advanced Mechanism of High-speed Technology

○ Excellent Chip Disposal by Steeply Slanted Bed



The common problem with chips, which usually accumulate inside of machine, has been solved by the steeply slanted bed structure and the side shower coolant system.

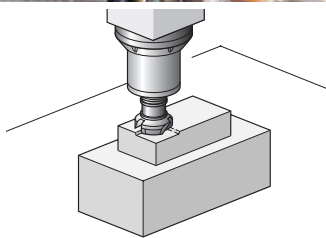
○ Integrated Utility Room



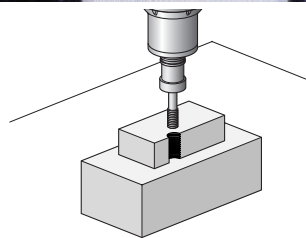
Integrating the most of utilities, pneumatic and lubrication, into the one zone for an easy maintenance and service.

Cutting Ability

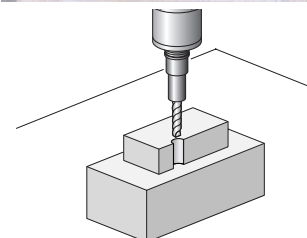
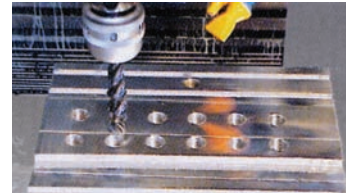
○ Facing



○ Tapping



○ Drilling



| ITEMS | | | FANUC(FANUC 0i MC) | SIEMENS 802D | REMARK |
|--|---------------|---------|-----------------------------|-----------------------------|----------|
| Max./Min Cutting Ability (AL) | Rigid tapping | Minimum | M1X0,25, TAP Depth 3mm | M1X0,25, TAP Depth 3mm | Roll Tap |
| | | Minimum | M1,4X0,3, TAP Depth 3mm | M1,4X0,3, TAP Depth 3mm | Std. Tap |
| | | Maximum | M27X3, TAP Depth 25mm | M24X3, TAP Depth 25mm | |
| | Drilling | Minimum | ø0,9mm, Depth 4mm | ø0,9mm, Depth 4mm | |
| | | Maximum | ø30mm, Depth 60mm | ø30mm, Depth 60mm | |
| | Facing | Maximum | ø55mm×4,000rpm, Depth 3,5mm | ø55mm×4,000rpm, Depth 3,5mm | |
| Max./Min Cutting Ability (SM 45C) | Rigid tapping | Maximum | M20X3, TAP Depth 45mm | M20X3, TAP Depth 45mm | |
| | Drilling | Maximum | ø27mm, Depth 60mm | ø21mm, Depth 60mm | |
| | Facing | Maximum | ø65mm×1,500rpm, Depth 3mm | ø65mm×1,500rpm, Depth 1,5mm | |

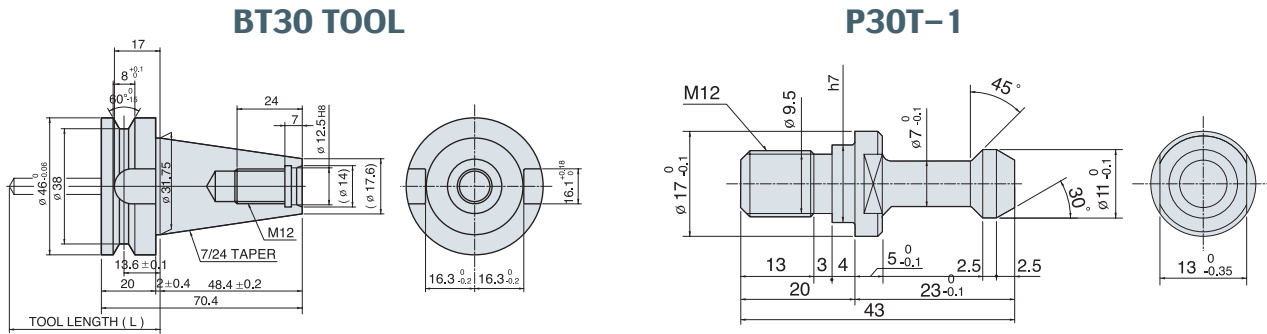
The above result might be different by types of controllers.

Specification

VX380T Lay-Out

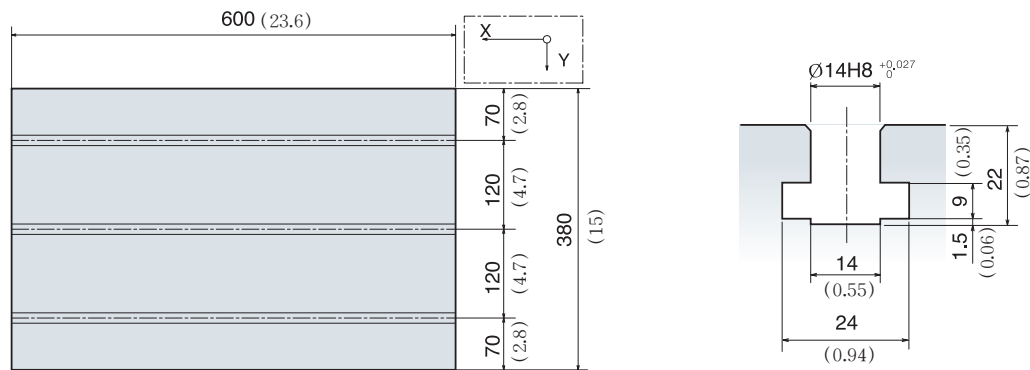
TOOL SHANK

Unit : mm (in)



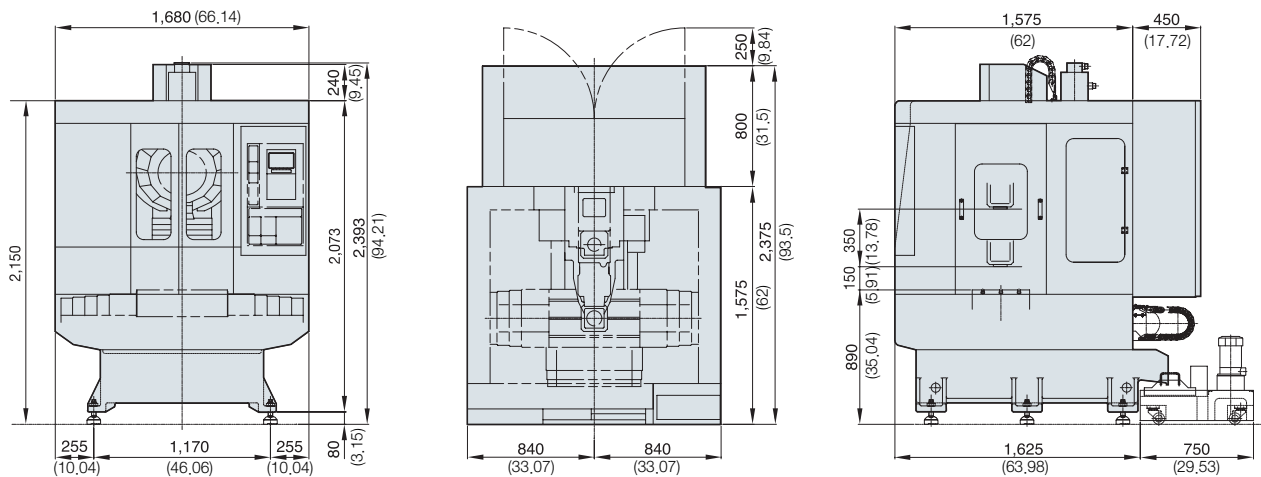
TABLE

Unit : mm (in)



MACHINE LAYOUT

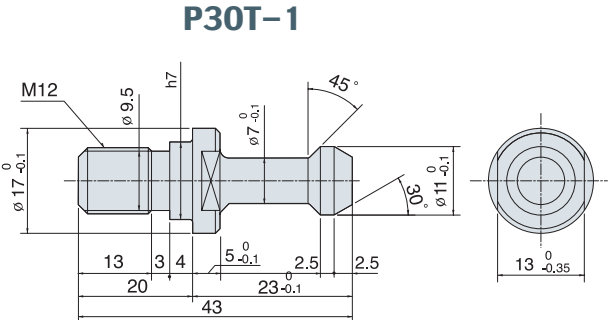
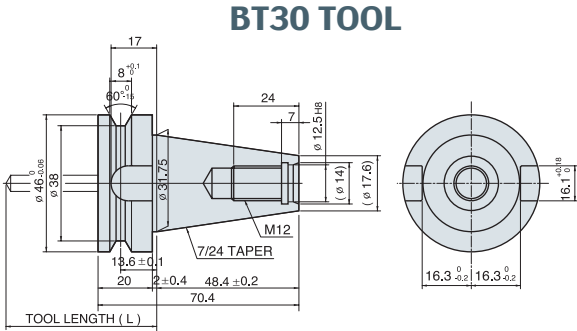
Unit : mm (in)



VX380TD Lay-Out

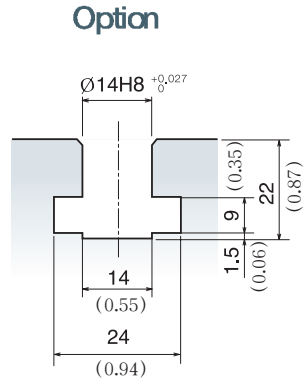
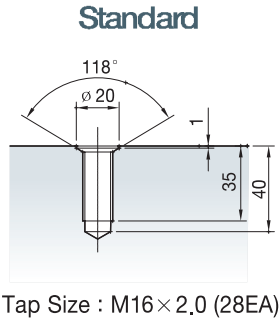
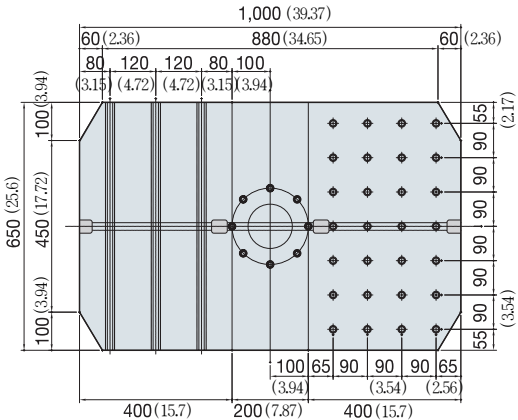
TOOL SHANK

Unit : mm (in)



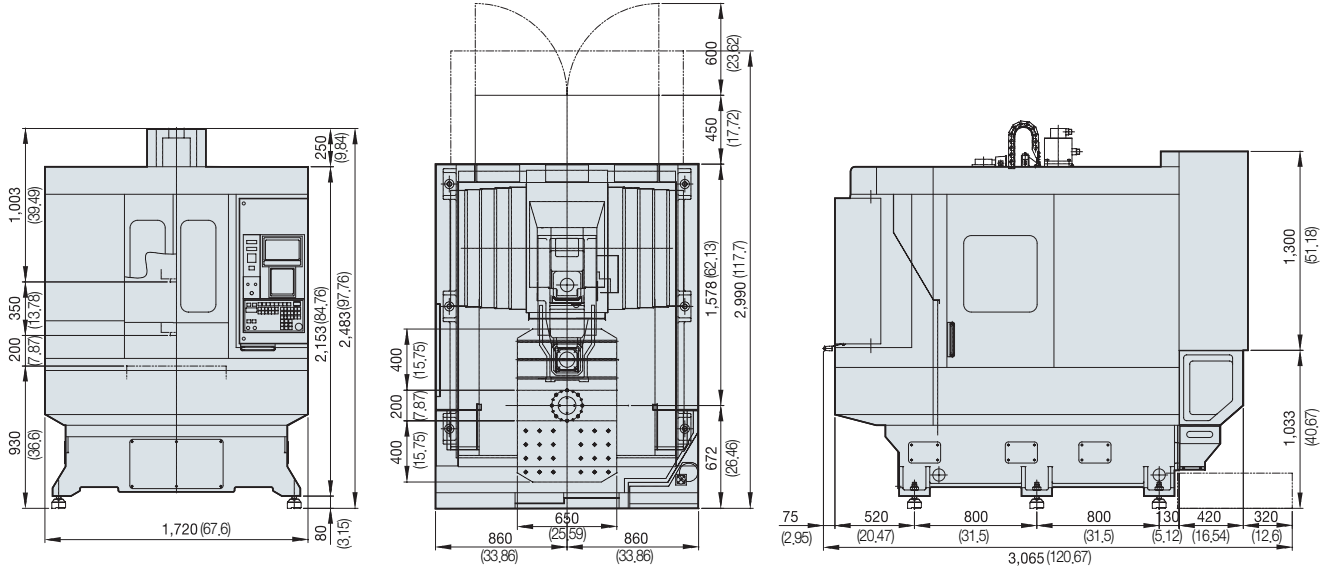
TABLE

Unit : mm (in)



MACHINE LAYOUT

Unit : mm (in)



Specification

Specification

| ITEMS | | | VX380T | |
|------------|------------------------------|---|-----------------------------|-----------------------------|
| | | | FANUC (α) | FANUC (β) |
| TABLE | TABLE SIZE | mm(in) | 600×380(23.6×15) | |
| | MAX. LOAD ON TABLE | kg(lb) | 200(44.1) | |
| SPINDLE | SPEED | rpm | 12,000 | |
| | OUTPUT (1MIN/30M/CONT.) | kW(HP) | 11/7.5/5.5(14.7/10/7.3) | |
| | MAX. TORQUE (1MIN) | kg·m(ft·lb·f) | 5.4(39.06) | |
| | TAPER | ISO | 7/24 Taper No.30 | |
| MOTOR | FEED MOTOR (X/Y/Z) | kW(HP) | 3/3/3(4.4/4.4) | 1.2/1.2/1.8(1.6/1.6/2.4) |
| FEED | TRAVEL (X/Y/Z) | mm(in) | 520/380/350(20.5/15/13.8) | |
| | RAPID TRAVERSE (X/Y/Z) | m/min(ipm) | 56/56/56(2,205/2,205/2,205) | 50/50/50(1,969/1,969/1,969) |
| | CUTTING FEEDRATE (X/Y/Z) | m/min(ipm) | 20/20/20(788/788/788) | |
| | DISTANCE(TABLE-SPINDLE) | mm(in) | 150~500(5.9~19.7) | |
| | SLIDE WAY (X/Y/Z) | - | L/M GUIDE | |
| A T C | TOOL TYPE | - | MAS BT30 | |
| | TOOL CAPACITY | ea | 14 [20] | |
| | MAX. TOOL LENGTH | mm(in) | 200(7.9) | |
| | MAX. TOOL DIAMETER | mm(in) | ∅80(3.15) | |
| | MAX. TOOL WEIGHT | kg(lb) | 2.8(6.2) | |
| | TOOL CHANGING TIME (T-T/C-C) | sec | 1.1/1.9 [0.85/2.2] | |
| | TOOL SELECTION TYPE | - | Turret [Fixed] | |
| COOLANT | TANK CAPACITY | ℓ (Gal) | 160(42.3) | |
| | FLOOD COOLANT | ℓ /min(GPM) | 90(23.8) | |
| | BED FLUSHING COOLANT | ℓ /min(GPM) | 200(52.8) | |
| POWER | ELECTRIC CAPACITY | V/kVA | 220/15 | |
| | PRESSURE/CAPACITY | kgf/cm ² (psi) ℓ /min(Gal/min) | 5(7.1) / 200(52.84) | |
| MACHINE | FLOOR SPACE(L×W) | mm(in) | 1,680×2,375(66.14×93.5) | |
| | HEIGHT | mm(in) | 2,393(94.21) | |
| | WEIGHT | kg(lb) | 2,900(6,393) | |
| CONTROLLER | MODEL | - | FANUC 0i-M | |
| | DISPLAY | - | 8.4" COLOR TFT | |
| | MEMORY | M | 640 | |

❖ Machine specifications and other features are subject to change without notice

STANDARD

| | |
|---------------------------|----------------------|
| Front Door Inter-Lock | Portable MPG |
| Total Splash Guard | Air Unit |
| Coolant Tank & Chip Tray | Spindle Air Blast |
| Bed Flushing | Leveling Bolt & Pads |
| Flood Coolant | STD Accessory 1SET |
| Lubrication Unit | Manual 1SET |
| Tower Callight (3 colors) | |
| Work Lamp | |

OPTION

| | |
|---------------------------------|---------------------------------|
| 4th axis Rotary Table* | Chip Conveyor (Rear:Left/Right) |
| Top Cover* | Transformer |
| Jet (Niagara) Coolant | Auto door |
| Gun Coolant | Hydraulic System |
| Spindle thru Coolant (20Bar)* | High Column (150mm)* |
| Dry Cutting* | |
| Tool Length Measuring device* | |
| Automatic Work Measuring device | |

* The option that has ** mark has to be examined prior to a contract

Specification

| ITEMS | | | VX380TD |
|------------|------------------------------|---------------------------|--------------------------------|
| TABLE | TABLE SIZE | mm(in) | 2 × 650 × 400(2 × 25.6 × 15.7) |
| | MAX. LOAD ON TABLE | kg(lb) | 2 × 250(2 × 551) |
| | TABLE CHANGE TIME | sec | 6 |
| | TABLE TYPE | | Hyd. [RACK & PINION] |
| SPINDLE | SPEED | rpm | 12,000 |
| | OUTPUT (1MIN/30M/CONT.) | kW(HP) | 11/7.5/5.5(14.7/10/7.3) |
| | MAX. TORQUE (1MIN) | kg·m(ft·lb·p) | 5.4(39.06) |
| | TAPER | ISO | 7/24 Taper No.30 |
| MOTOR | FEED MOTOR (X/Y/Z) | kW(HP) | 3/3/3(4/4/4) |
| FEED | TRAVEL (X/Y/Z) | mm(in) | 520/360/350(20.5/14.2/13.8) |
| | RAPID TRAVERSE (X/Y/Z) | m/min(ipm) | 50/50/56(1,969/1,969/2,205) |
| | CUTTING FEEDRATE (X/Y/Z) | m/min(ipm) | 20/20/20(788/788/788) |
| | DISTANCE(TABLE-SPINDLE) | mm(in) | 200~550(7.9~21.7) |
| | SLIDE WAY (X/Y/Z) | - | L/M GUIDE |
| A T C | TOOL TYPE | - | MAS BT30 |
| | TOOL CAPACITY | ea | 14 [20] |
| | MAX. TOOL LENGTH | mm(in) | 200(7.9) |
| | MAX. TOOL DIAMETER | mm(in) | ∅80(3.15) |
| | MAX. TOOL WEIGHT | kg(lb) | 2.8(6.2) |
| | TOOL CHANGING TIME (T-T/C-C) | sec | 1.1/1.9 |
| | TOOL SELECTION TYPE | - | Turret [Fixed] |
| COOLANT | TANK CAPACITY | ℓ (Gal) | 160(42.3) |
| | FLOOD COOLANT | ℓ /min(GPM) | 90(23.8) |
| | BED FLUSHING COOLANT | ℓ /min(GPM) | 200(52.8) |
| POWER | ELECTRIC CAPACITY | V/kVA | 220/10 |
| | AIR PRESSURE | kgf/cm ² (psi) | 5(71) |
| MACHINE | FLOOR SPACE(L × W) | mm(in) | 1,720 × 2,990(67.7 × 117.7) |
| | HEIGHT | mm(in) | 2,483(97.76) |
| | WEIGHT | kg(lb) | 4,500(9,920) |
| CONTROLLER | MODEL | - | FANUC 0i-MC |
| | DISPLAY | - | 8.4" COLOR TFT |
| | MEMORY | M | 640 |

❖ Machine specifications and other features are subject to change without notice

STANDARD

Front Door Inter-Lock
Total Splash Guard
Coolant Tank & Chip Tray
Bed Flushing
Flood Coolant (4 Nozzle port)
Lubrication Unit
Tower Callight (3 colors)
Work Lamp

Portable MPG
Air Unit
Spindle Air Blast
Leveling Bolt & Pads
STD Accessory 1SET
Manual 1SET

OPTION

4th axis Rotary Table*
Top Cover*
Jet (Niagara) Coolant
Gun Coolant
Spindle thru Coolant(20Bar)*
Air Gun*
Tool Length Measuring device*
Automatic Work Measuring device

Chip Conveyor (Rear:Left/Right)
Transformer
Auto door
Hydraulic System
Hydraulic Connection for Fixture
[2 × 2port × 2port(air)/2 × 4port × 2port(air)]*
[2 × 1port(air)]*

* The option that has "*" mark has to be examined prior to a contract

Controller

FANUC 0i-MC

| | | |
|------------------------------|--|--|
| Controls | Controlled axes Simultaneous controllable axes Least command increment Least input increment | 3(X,Y,Z) axes Positioning(G00)/linear interpolation(G01)3axes Circular interpolation (G02, G03) 2axes 0.001mm (0.0001") 0.001mm (0.0001") |
| Spindle functions | Spindle speed command Spindle speed override(10% increment) Spindle orientation | S5 digits, binary output 10-150% Spindle orientation |
| Feed functions | Feedrate override(10% increment) Dwell Reference point return Manual pulse generator Dry run Rapid traverse override | 0-200% G04 G27, G28, G29, G30 0.001/0.01/0.1mm(0.0001/0.001/0.01inch) Dry run F0 (fine feed), 25/50/100% |
| Tool functions | Tool number command Tool length compensation Cutter compensation-type C Number of tool offsets | T2 digits G43, G44 G41, G42 400EA |
| Programming functions | Absolute/incremental programming Canned cycle Decimal point input Circular interpolation by radius programming Sub program Work coordinate system Local/Machine coordinate system Maximum commandable value M function | G90/G91 G70~G72, G74~G76, G80, G83~G88 Input values with decimal point Radius programming by R value instead of I,J,K Nesting to 4 levels G54-G59 G52/G53 ±99999.999mm(±9999.9999inch) M3 digits |
| Tape functions | Input code I/O interface Part program storage Stored programs | ISO/EIA Auto recognition RS232C 640M(2,100FT) 200 EA |
| Other functions | CRT unit / MDI Synchronized tapping Background editing Backlash compensation Stored pitch error compensation Safety function Program test functions Operation functions Mirror image Run hour and part count display Self-diagnosis function Custom Macro B Program restart Display of PMC alarm message Stored stroke check 1 | 8.4" Color TFT LCD / soft key input for MDI Rigid tapping function Part program storage and editing during automatic operation Pitch error offset compensation for each axis Backlash compensation Emergency stop / overtravel Machine lock(all / Z axis) / single block Tape / Memory / MDI/Manual Reverse axis movement (Setting screen and M-function) Run time and part count display Self-diagnosis test #100 ~ #199, #500 ~ #999 program restart Message display when PMC alarm occurred Overtravel controlled by software |
| Options | Graphic Display PC connection through HSSB 4-axes function Optional Blockskip(9EA) Fanuc 21iM CNC | with Manual Guide <i>i</i> |

- Figures in inch are converted from metric values.
- Design and specifications subject to change without notice.

HYUNDAI-KIA MACHINE



Head Office



Namsan Plant



Jungdong Plant



Banwol Plant



Gwangju Plant



Machine Tools 2nd Plant



Posung Plant



Seosan Plant



Melting & Molding Plant in China

Head Office & Factory

391-8 Kaumjung-Dong, Changwon, Gyeongnam, Korea
 TEL : +82 55 280 9293, FAX : +82 55 282 9680
<http://www.wia.co.kr> E-mail : trade@wia.co.kr

Seoul Office

8F, Hansol B/D, #736-1, Yeoksam-1Dong,
 Kangnam-Ku, Seoul, Korea
 TEL : +82 2 2033 8000 FAX : +82 2 2033 8181

HYUNDAI - KIA MACHINE AMERICA CORP. (New Jersey Office)

30 Murray Hill Parkway, Suite 300, East Rutherford, NJ 07073 U.S.A. TEL : +1 201 489 2887, FAX : +1 201 489 2723
<http://www.hyundai-kiamachine.com> E-mail : sales@hyundai-kiamachine.com

HYUNDAI - KIA MACHINE AMERICA CORP. (Chicago Office)

411 Kingston Court Mt. Prospect IL 60056 TEL : +1 847 824 7770, FAX : +1 847 824 8995
<http://www.hyundai-kiamachine.com> E-mail : sales@hyundai-kiamachine.com

HYUNDAI - KIA MACHINE AMERICA CORP. (Argentina Office)

AV, Alicia Moreau de Justo 1848 Of 4-6 Puerto Madero(C1107AFL), Buenos Aires, Argentina TEL : +54 11 4313 1917, FAX: +54 11 4313 1929
<http://www.hyundai-kiamachine.com> E-mail : sales@hyundai-kiamachine.com

HYUNDAI - KIA MACHINE EUROPE GmbH (Oberursel Office)

Karl-Hermann-Flach-Str. 36, 61440 Oberursel, Germany TEL : +49 6171 9790 0, FAX : +49 6171 9790 30
 E-mail : bkchang@hyundai-kia.de

HYUNDAI - KIA MACHINE EUROPE GmbH (Raunheim Service Center)

Kelsterbacher Str. 38-46 D-65479 Raunheim TEL : +49 6142 834 0, FAX : +49 6142 834 100
 E-mail : yspark@hyundai-kia.de

HYUNDAI - KIA MACHINE SHANGHAI

Room 501 Ocular B/D, No. 1336 Wu zhong Road, Shanghai, China 201103 TEL : +86 21 3431 0370~3, FAX : +86 21 3431 0376
 E-mail : hjkim@wia.co.kr

HYUNDAI - KIA MACHINE BEIJING

Room 908 No. 38 Xiaoyun Road, Chaoyang District, Beijing, China 100027 TEL : +86 10 8453 9850, FAX : +86 10 8453 9853
 E-mail : hikim@wia.co.kr

HYUNDAI - KIA MACHINE GUANGZHOU

Room 1305 Citic Plaza No. 233 Tianhebei Road, Guangzhou, China 510613 TEL : +86 20 8752 1595/1596, FAX : +86 20 8752 1597
 E-mail : iclee@wia.co.kr

HYUNDAI - KIA MACHINE INDIA OFFICE

6B, EGA Trade Center, 809 Poonamallee High Road, Kilpauk, Chennai - 600 010, Tamilnadu, India TEL : +91 44 4305 7112, FAX : +91 44 4305 7116
 E-mail : ytkim@wia.co.kr

HYUNDAI-KIA MACHINE