VictorTaichung

Management System
ISO 9001:2008
ISO 14001:2004

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ID 0091003197

HORIZONTAL MACHINING CENTER RANGE

The Vcenter-H Range Profile

Increased productivity with high speed or heavy duty machining

Victor Taichung – an established ISO 9001 & 14001 company

High Speed (HS) Series

- High Speed machining at high rpm with high feeds
- T structure with LM guideways
- Pallet moving along Z-axis
- Rotary type APC
- Built-in Spindle (DDS)
- Quick changeover on ATC & APC

Vcenter-H400

- 48/48/48 m/min (1890/1890/1890 IPM)
- BBT-40 (BCV-40) tooling
- 60 tools
-15000 rpm / 22 kW (29.5 HP)

Vcenter-H500HS

- 30/30/24 m/min (1181/1181/1181 IPM)
- BT-40 (CT-40) tooling
- 40 tools
- 15000 rpm / 22 kW (29.5 HP)

Vcenter-H500

- 24/24/24 m/min (945/945/945 IPM)
- BT-50 (CT-50) tooling
- 40 tools
- 6000 rpm / 15 kW (20 HP)

Vcenter-H630HS

- 48/48/48 m/min (1890/1890/1890 IPM)
- BT-50 (CT-50) tooling
- 60 tools
- 10000 rpm / 30 kW (40 HP)

Heavy Duty (HD) Series

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- Heavy cutting at low rpm with high torque
- Reverse T structure with Box Slideways
- Column moving along Z-axis
- Parallel type APC
- Spindle with Gearbox
- Heavy face & end milling capability

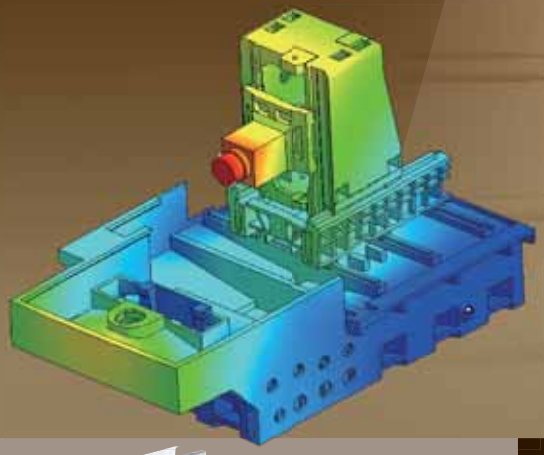
Vcenter-H630HD

- 24/24/24 m/min (945/945/945 IPM)
- BT-50 (CT-50) tooling
- 60 tools
- 902 Nm / 665.2 ft-lbf

Vcenter-H1000

- 20/20/15 m/min (787/787/590 IPM)
- BT-50 (CT-50) tooling
- 90 tools
- 1072 Nm / 790.6 ft-lbf

Vcenter-H400



Rapid feed rate 48/48/48 m/min (1890/1890/1890 IPM)

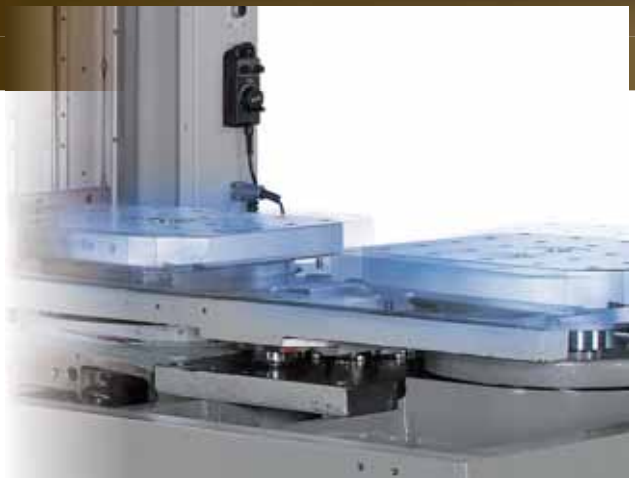
- 3-axis moving column design features high rapid feed rate 48 m/min (1890 IPM) for 3 axes to reduce tool changeover time.
- Axis acceleration 0.7G/0.7G/0.7G with high power output 4.5/5.5/4.5 kW (6/7.4/6 HP) reaches highest machining efficiency.
- Steel type telescopic cover design assures long service life.

Servo driven ATC and tool magazine

- Front mounted ATC to reduce machine width.
- 40-tool magazine with twin arm type ATC offers quick changeover time 4.5 seconds (chip-to-chip) for BBT-40 (BCV-40) tooling.
- Both ATC and magazine are servo driven to assure higher reliablity and longer service life.

High speed pallet changer APC

- Rotary type APC for quick pallet exchange.
- 4 ground cone shaped taper pins and bushings ensures high accuracy and repeatability throughout entire service life.
- Air jets are blown through cones assure pallet clamping and chip removing.
- Extenal pallet can be rotated manually.
- Pallet loading 400 kgs (880 lbs).



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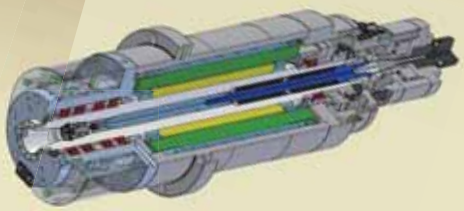


15000 rpm built-in spindle

- Built-in spindle avoids belt vibration to affect machining quality.
- Dual winding (low/high winding) with power output 18.5/22 kW (25/29.5 HP) further reduces cutting time.
- 4 pcs front bearings enhance cutting rigidity.
- Oil-air lubrication for long service life.
- BIG PLUS® BBT-40 (BCV-40) tooling (compatible with BT-40 (CT-40) tooling) for sufficient tool clamping at high rpm.

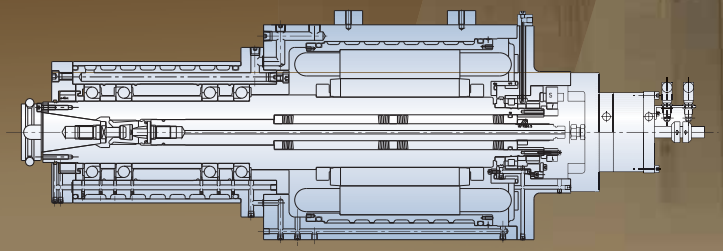
User friendly design

- Rotary control panel with large keypads for easy operation.
- Spindle oil cooler, pneumatic and lubrication systems are located in the rear location for easy maintenance.

Efficient disposal on coolants and chips

- Fixed pallet design with bottom flushing coolants assures minimal coolant leakage and chip build-up.
- Rear disposal chip conveyor utilizes easy layout for line production.

Vcenter-H500/H500HS



Built-in spindle

- Built-in spindle avoids belt vibration to affect machining quality.
- Dual winding (low/high winding) with high power output further reduces cutting time.
- Air curtain for extra spindle protection.
- 6000 rpm, 11/15 kW (15/20 HP) for Vcenter-H500.
- 15000 rpm, 18.5/22 kW (25/29.5 HP) for Vcenter-H500HS.

Durable tool changer

- Side mounted 40-tool magazine with twin arm type ATC offers quick changeover time 8.5 second (chip-to-chip) for BT-40 (CT-40) tooling and 10.6 seconds for BT-50 (CT-50) tooling.
- ATC unit has been designed with minimal maintanance with the use of hydraulic motor to ensure stability and longer service life.

Strong machine structure

- Meehanite® casting from Victor Taichung's licensed foundry for maximum damping and strength.
- One piece bed castings with triangular structure and heavily ribbed column minimizes distortion during heavy cutting.
- Low table height reduces the bending moment for high positioning accuracy.
- Curvic coupling is used for table indexing and offer high repeatablity.

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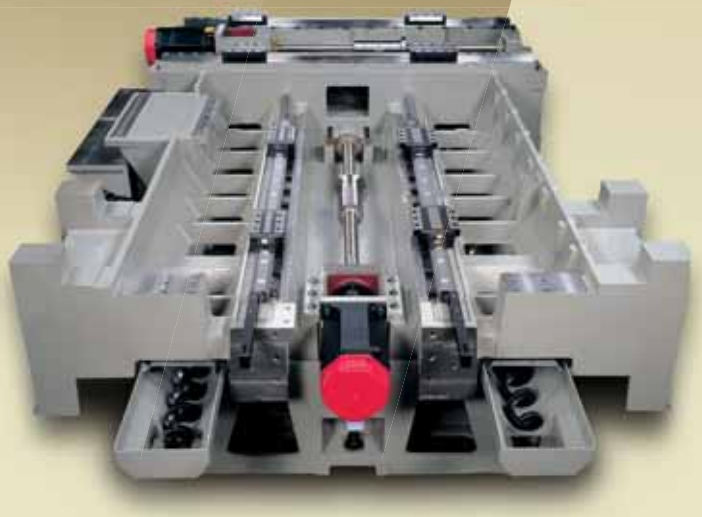
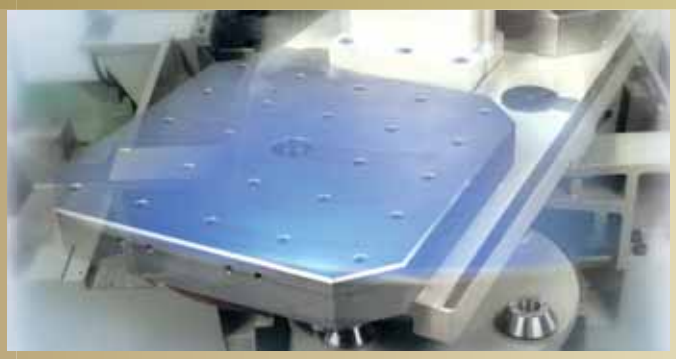


Symmetrical design for minimal heat growth and chips build-up

- Symmetrical machine design with steep angular splashguards inside minimizes the thermal growth on machine accuracy.
- Twin screw-type chip removers have been fitted to help remove chips out of the machining area to the machine front through the assistance of high pressure coolants.
- Front positioned chip conveyor for easy chip clean-up.



High speed pallet changer APC

- Rotary type APC for quick changeoover.
- 4 ground cone shaped taper pins and bushings ensures high accuracy and repeatability throughout entire service life.
- Air jets are blown through cones assure pallet clamping and chip removing.
- High loading capacity 800 kgs (1760 lbs).

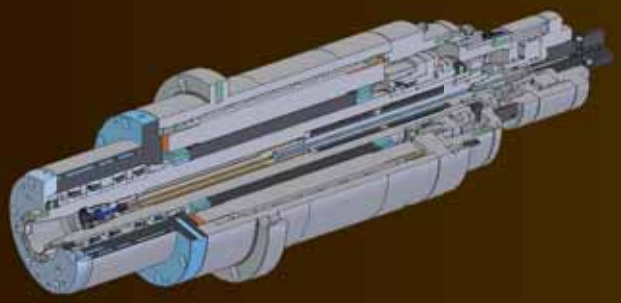
High rigidity and high damping guideways

- Oversized NRS style linear guideways ensure each axis can absorb the most extreme of cutting forces.
- Ballscrew holders are cast into the machine base to ensure a constant support over the entire machine life.

Vcenter-H630HS

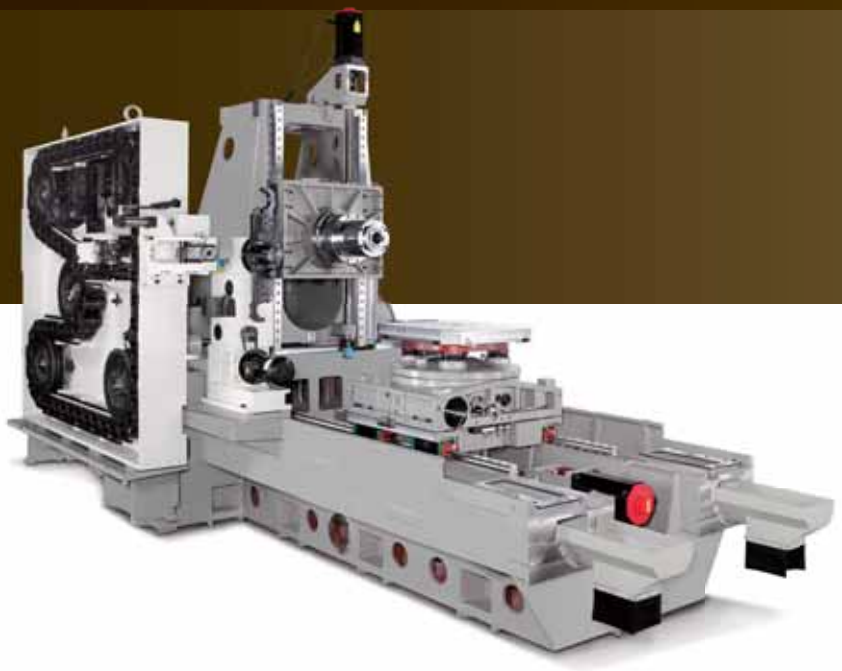
High rapid feeds 48/48/48 m/min (1890/1890/1890 IPM)

- "T"-shape structure with Meehanite® casting from Victor Taichung's licensed foundry ensures maximum damping and strength.
- Roller type linear guideways enhance the structural stiffness by absorbing the extreme cutting forces generated by high speed machining.
- Heat in the ballscrews generated by high feed rates is removed by 'Through Ballscrew Coolant' feeds.
- Ballscrew holders are cast into the machine base enhances a constant supports.



10000rpm built-in spindle 30 kW (40 HP)

- Built-in spindle avoids belt vibration to affect machining quality.
- Dual winding (low/high winding) with high power output 25/30 kW (30/40 HP) further reduces cutting time.
- Oil-air lubrication assures long service life.



Servo driven tool magazine

- 60 tool magazine with twin arm type ATC offers quick changeover time 7.5 seconds (chip-to-chip) for heavy BT-50 (CT-50) tooling.
- Less heat generated in comparison as hydraulic system assure higher reliability.

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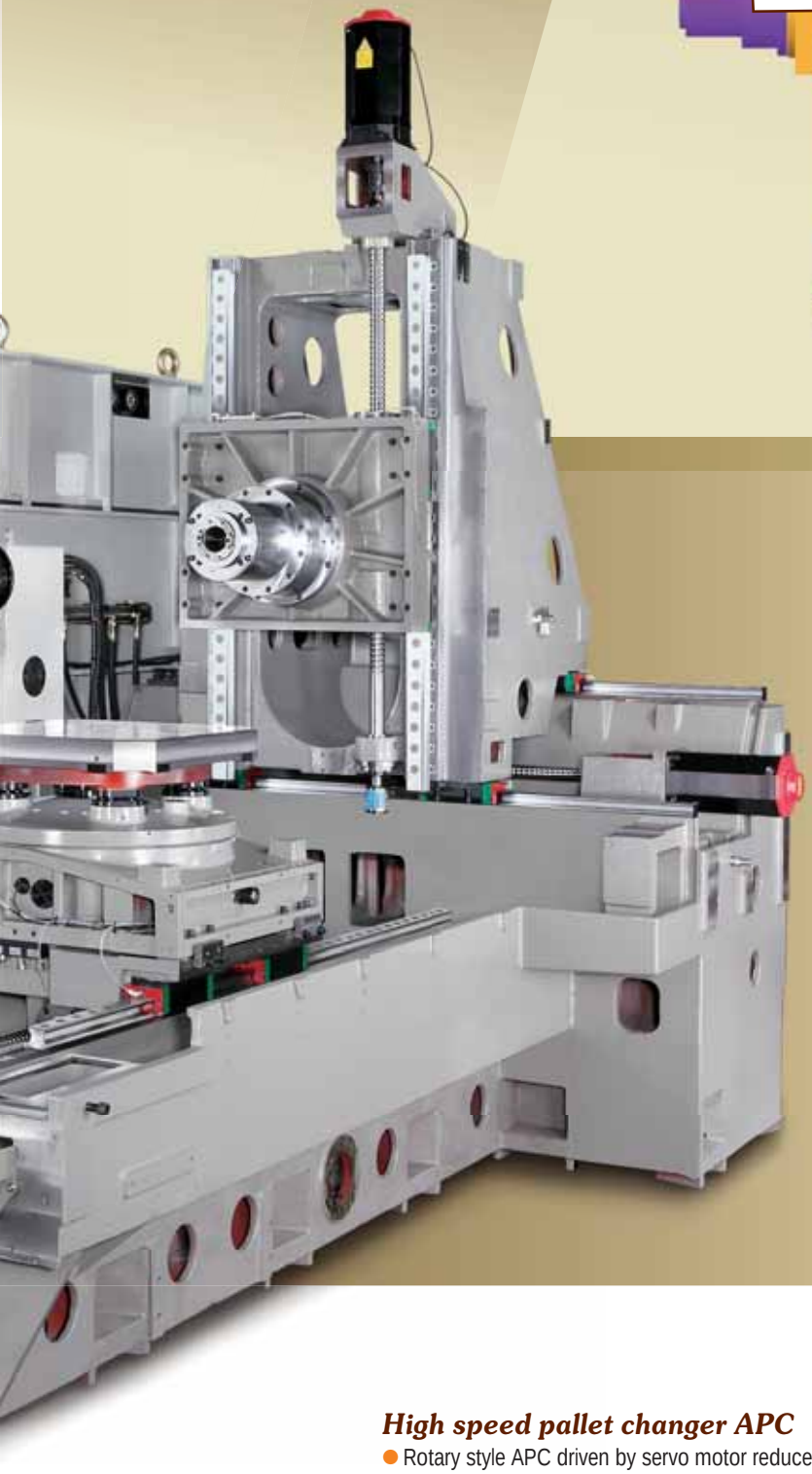
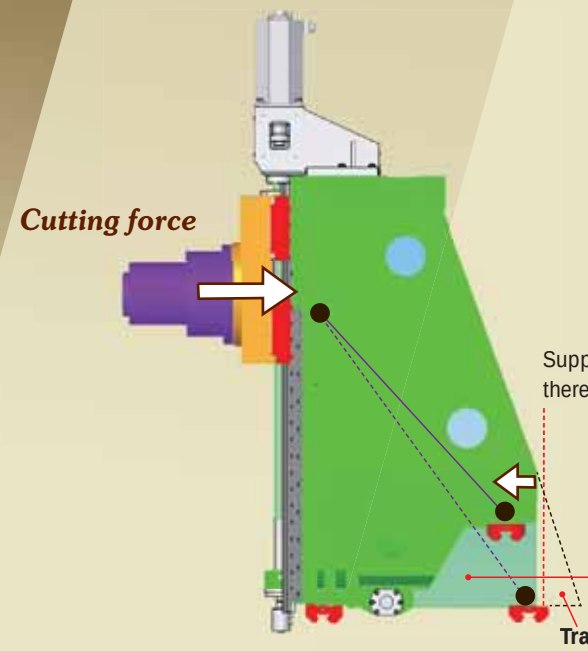




Slant style column design

- An innovative design has a shorter distance from the spindle to the rear supporting guideways enhancing the cutting stability.
- Column responds more dynamically due to the reduced weight and inertia.

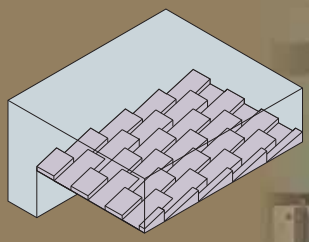
High speed pallet changer APC

- Rotary style APC driven by servo motor reduce overall cycle time.
- 4 ground cone shaped taper pins and bushings ensures high accuracy and repeatability throughout entire service life.
- Air jets are blown through cones assure pallet clamping (air sealing detection).
- Hydraulic interface for APC (optional) powered through the B-axis mechanism facilitates auto part clamping.
- High loading capacity 1200 kgs (2640 lbs).

Vcenter-H630HD

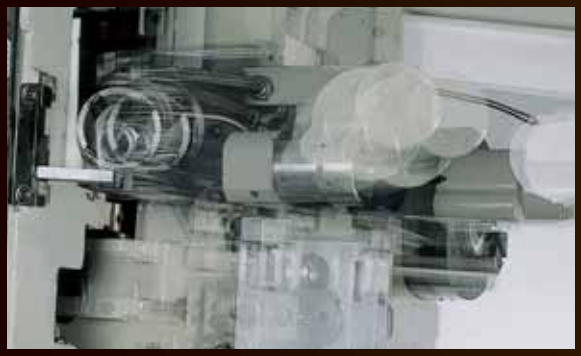
Hydro-dynamic box slideways:

- 50mm (2") large diameter ballscrews with 10mm (0.4") pitch provide high torque at high rapid feed rates of 24m/min (945 IPM) on all 3 axes.
- Large contact surfaces fully support both axial and lateral loading to prolong machine accuracy in heavy duty machining of hard materials.
- Higher damping with the use of bonded Turcite® eliminates local stick-slip for improved finish and longer tool life.



Hand scraping

The traditional method of handscraping remains the most effective way of ensuring squareness and flatness in machine tools using plain bearing linear ways. With 60 years experience in building machine tools using this traditional manufacturing manner, our understanding of the critical factors that ensure accuracy and durability are second to none. Highly skill personnel, trained in-house, are employed to make sure this handscraping is done to perfection.



Tool arbor cleaning system (Rotating tool pocket with brushes)

Intermediate tool pot for cleaning tools during tool changes ensures tool arbor is free from swarf and prevents damage to spindle taper and tools, which would otherwise degrades machining precision. Also ensures better mating between tool arbor and spindle taper for improved tool tip runout.

Servo driven tool magazine

- Servo driven tool magazine with less heat generation than hydraulic type assures high reliability.
- 60 tool magazine covers wide range of applications.

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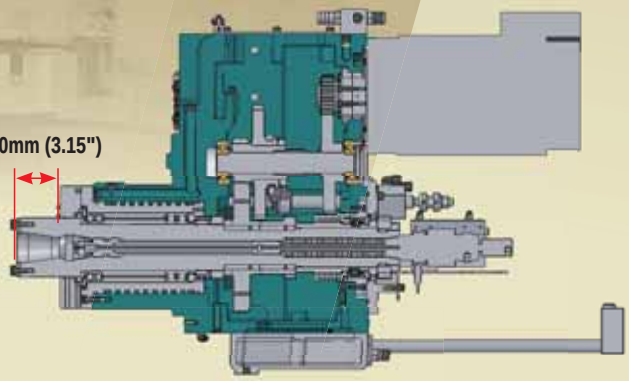


Two-step geared spindle head

- The 2-step gearbox coupled with 22 kW (30 HP)spindle motor offers maximum torque output 902 Nm (665.2 ft-lbf) giving unrivalled metal removal rates at low spindle speed 196 rpm.
- Rotary joint is included as standard and ready for CTS retrofitting.
- Long overhang design spindle reduces the tool length for higher rigidity. The roller type bearings are used for rear bearings even enhance cutting capability.
- Oil cooling to the spindle and gearbox maintain low bearing temperature for extended spindle life.

High pallet loading 1200 kg (2640 lbs)

- High B-axis mechanism with deep slope helps reduce chips built-up on X-axis covers.
- Available with optional **hydraulic interface** which allows the power to go through the B-axis mechanism from bottom.
- **CNC pallet** (option) with continuous 0.001° indexing is available by unique feature of **Roller-CAM-Drive®** mechanism guarantees higher rigidity without existence of worm-gear backlash for full 4 axis.

*Roller cam drive®

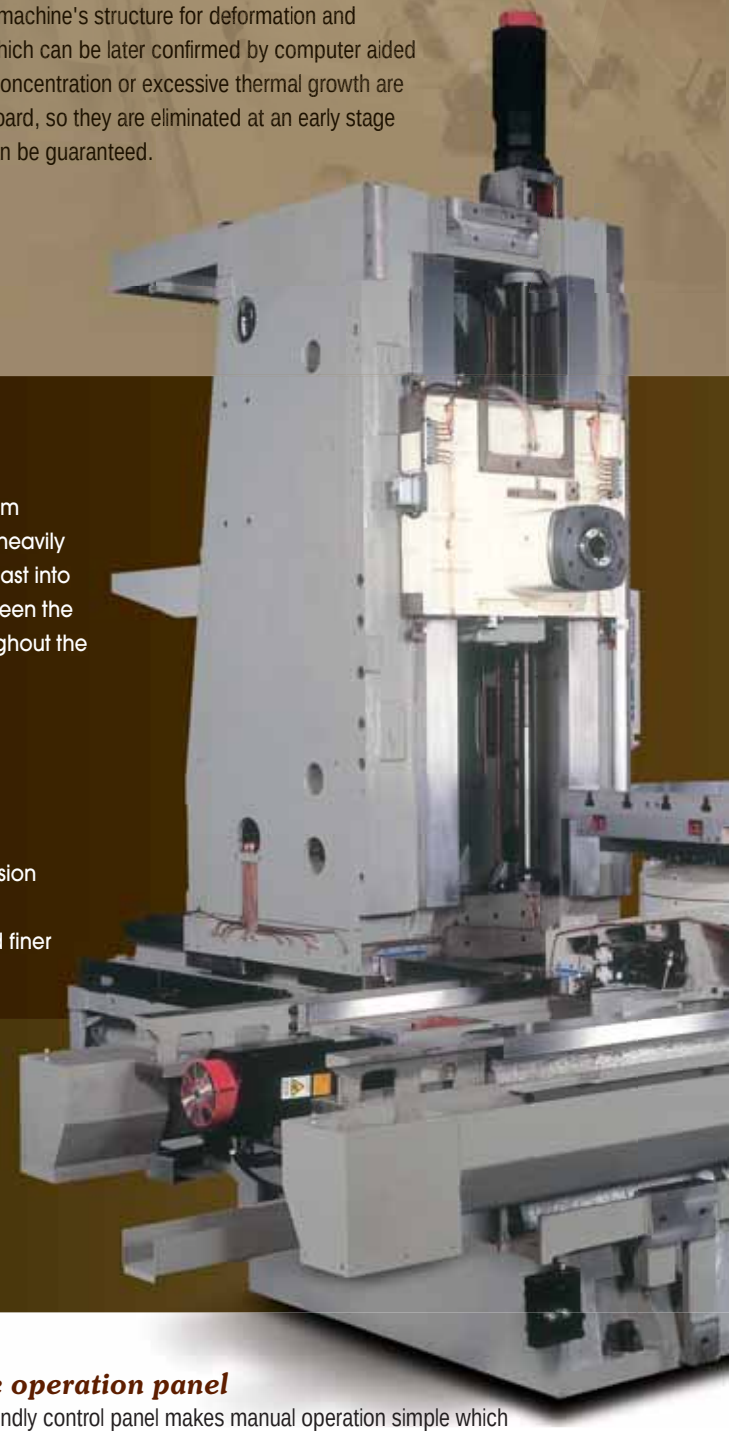
ECO design

- Control panel is mounted on the front lateral guarding, so the operator can easily see inside and operate the machine after opening the door to the right.

Vcenter-H1000

Advanced design

Through the use of advanced CAD and CAE, our R&D laboratory makes computer simulations of the machine's structure for deformation and vibration during operation, which can be later confirmed by computer aided testing.Areas of high stress concentration or excessive thermal growth are pinpointed on the drawing board, so they are eliminated at an early stage and optimum machine life can be guaranteed.



Strong machine structure

Heavy duty Meehanite castings are used in the bed and column for maximum damping and strength. One-piece bed casting with triangular structure and heavily ribbed column minimise machine distortion during operation. Boxways are cast into the bed and column so no distortion occurs due to thermal differences between the slide-ways and machine casting! This maintains alignment of the ways throughout the machine life.

Improved positioning accuracy

Table height is kept low to reduce the bending moment so that improved positioning accuracy is possible under heavy cutting.
A curvic coupling in table indexing offers excellent repeatability.
All axes motors are direct coupled with flexible couplings so that no transmission vibrations are present. For Y-axis counter balancing is replaced with high powered 7 kW (9.4 HP) servo-motor with built-in brake, for smoother travel and finer positioning accuracy.

Machine operation panel

Operator friendly control panel makes manual operation simple which includes remote MPG to ease machine set-up and ergonomic layout to maximize operator efficiency. Control panel is CE compatible and is built to withstand the most arduous shop floors! Air cond for control cabinet maintains temperature control to ensure durable operation. High level of PLC integration with numerous safety features ensures smooth and safe operation.

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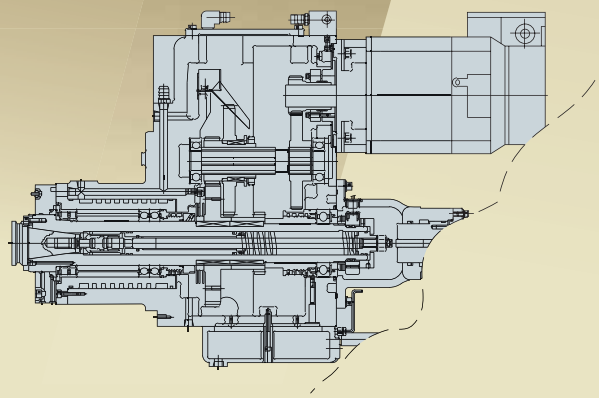


Minimizing the effects of thermal growth

Symmetrical design and construction means heat generation is limited to minimise the effects of thermal growth on machine accuracies. Double-anchored ballscrews are pretensioned during assembly to absorb thermal growth without effecting accuracy. Effective chip evacuation from the machining area improves heat dissipation from the working area while spindle oil cooling prevents excessive spindle growth.

Heavy duty spindle with integral 2-speed gearbox

Vcenter-H1000 have been designed to handle large workpieces in a single set-up. The 2-speed gearbox coupled with 18.5/22 kW (25/29.5 HP) spindle motor offers maximum torque output of 1072 Nm (790.6 ft-lbf) giving unrivalled metal removal rates.

Spindle is supported with heavy duty roller bearings with large contact areas that easily handles large axial and radial loads.

Oil cooling to the spindle and gearbox maintain low bearing temperature for extended spindle life.

Durable tool changer

Twin arm type ATC performs better over continuous tool changes compared with disc type tool changers, while at the same time offering fast tool change.

The ATC mechanism and tool magazine are both driven by durable hydraulic motors which ensures increased stability and longer service life. The entire unit is designed for minimum maintenance.

Enclosed guarding on APC(optional.)*

*Standard for CE machine

Maximum flexibility with parallel type APC

Parallel pallet changer offers increased machining area for oversized parts without interference with machine guarding. Pallets can be easily removed from the APC to make workpieces set-ups trouble free. Additional pallets can be set-up and kept in storage until needed. This system also enables swift and simple integration into FMS lines.

Machine Options

CNC table with 0.001° continuous indexing

0.001° continuous indexing is available on the B-axis for simultaneous 4-axes machining. The servo-motor is upgraded so that plenty of power is pro vided in machining complex forms and contours. Table indexing time is also reduced to only 0.2 sec per deg. **Rotary encoder** is included as standard for improved positioning accuracy.

Coolants through spindle (CTS)

For improved drilling or boring capability, coolants with high pressure can be forced through the center of the spindle and flow through the tool directly to the cutting area. To ensure the long and reliable running of this system, fine particles produced during machining must be filtered out to prevent the damages to the spindle. Victor Taichung offers several types of filtration systems to meet different requirements in machining.

Table shower (Niagara coolants)

To enhance chip removal around the workpiece and reduce thermal growth supplies a table shower system is available which flood coolant from above. The strong coolant flow ensures the workpiece and guards are swept clear of cutting chips.

Linear scales (standard on Vcenter-H1000)

Linear scales on all 3 axes offer exceptional positioning accuracy, up to 0.005 mm over full stroke. Heidenhain® or FAGOR® linear scales with a thermal behaviour similar to that of the machine are selected, so that thermal expansion can be compensated for further enhancing repeatability.

Sealed encoders with durable aluminum housing offer improved reliability and service life. This option is included as standard for Vcenter-H1000 to guarantee the consistent accuracy.

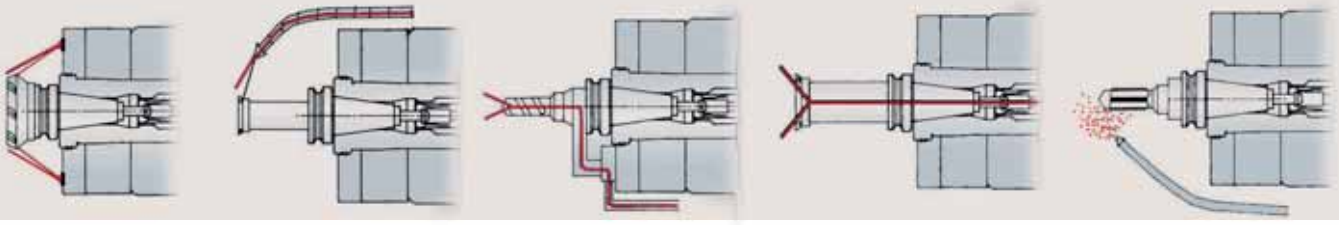
Expandable tool magazine

Modular design allows from 60 to 120 tools to be held in tool magazine.

Since the magazine is made up of cast-sections it is easy to slot in additional sections to expand tool capacity on site!

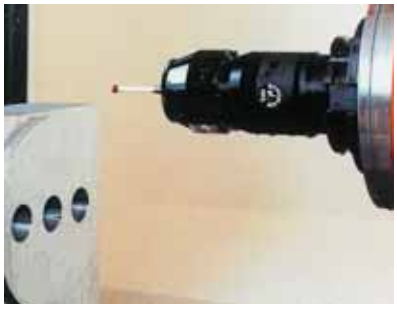
Coolant options

Std. - coolant ring	Opt. - directional pipe	Opt. - oil hole coolant	Opt. - thru. spindle coolant	Opt. - oil mist
Purpose : general	Purpose : general	Purpose : drilling, boring	Purpose : drilling, boring	Purpose : tapping, reaming



Workpiece measurement

To reduce time spent setting workpiece positions and then manually inspecting finished parts, which would be better invested in machining, automatic workpiece measurement is available with the use of Renishaw MP-10, OMP-60 or RMP-60 measuring probes. Workpiece position can be identified with the probe and work offsets automatically updated, enabling parts to be made right first time. During batch production in-processing checking can be performed on the machine, while for optimum accuracy in machining part inspection can be done after roughing so that finished part can maintain tight tolerances.



Auto tool length measurement

To reduce tool set-up times and improve machine operator interface, Victor Taichung offers Renishaw® TS-27R probe or NC-4 non-contact tool setter, the tool length and diameter values can be automatically inputted into the tool offset values once the tool is tipped off the probe. This system is ideal for batch production where tools need to be constantly changed or replaced.

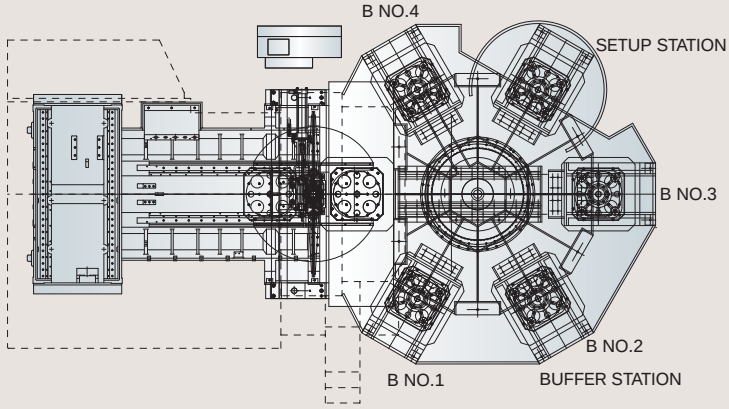
Multi-face table (Tombstone fixture)

T-slotted or bolted fixture block allows a variety of parts to be clamped offering improved productivity over vertical machine centres. Used in conjunction with standard B-axis pallet allows more parts to be set-up at a time!

Single cell FMC or FMS for unmanned operation

For HS high speed series HMC with rotary type APC, pallet-pool design with 6 pallets and traverse mechanism composes a compact cell for unmanned operation. 12 pallets can be easily built up by two floors of pallets at the same floor space.

For HD heavy duty series HMC with parallel type APC, FMC is composed by multiple pallets and RGV (Rail Guided Vehicle) for unmanned operation.



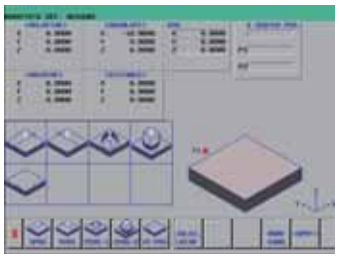
Victor Taichung's NC Package

Fanuc 0i-MF/31i-B controls

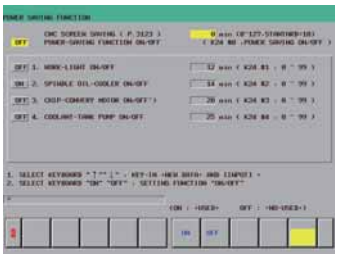
With 10.4" color display included as standard, Victor Taichung's Fanuc control package includes conversational function MANUAL GUIDE I to reduce the programming time for easier operation. Through the latest technology for AI contouring control (AICC), Fanuc 0i-MD control is capable of addressing look-ahead up to 200 blocks to offer optimal reliability with the highest level of machine integration. For higher speed and precision, the control can be upgraded to 31i-B control which is capable of addressing 600 blocks as standard and optionally 1000 blocks available by the so-called AICC-2 with HSP function (High Speed Processing) to further reduce the block addressing time for better surface finish.

Victor's GUI (Graphic User Interface) - VSS Macros

With exclusive software developed in-house by highly experienced engineers, VSS (Victor Smart System) enhances not only machine operation to reduce tool set-up time but also safety features to protect costly spindle. Productivity can be further increased when the adaptive controlled cutting is implemented.

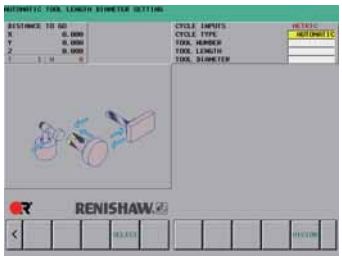


Smart workpiece measurement



Power saving (ECO)

Air Bag (abnormal load monitoring)



Renishaw® GUI

Heidenhain 620/iTNC-530/640 controls

Powerful dialog programming with fully alphanumeric keyboard, Heidenhain control is also available on Vcenter A series machining centers. Without remembering complicated G codes, the sophisticated graphic functions with 15" TFT monitor make programming check easy. Heidenhain TNC-620/i530/640 controls are capable of addressing more than 1000 blocks and further makes use of hard drive memory for advanced 4 or 5 axis simultaneous controls.

Control features for fast contour milling

Feature \ Controller	Fanuc			Heidenhain		
	0i-M	32i-B	31i-B	TNC-620	iTNC-530	TNC-640
Block addressing time	2 ms* (with AICC-2)	2 ms	0.4 ms	1.5 ms	0.5 ms	0.5 ms
Preview contouring (look ahead blocks)	200* (with AICC-2)	200	600 (Opt. 1000 by HSP)	5000	1024	5000
Graphic display	10.4"	10.4"	10.4"	15"	15" (Opt. 19")	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	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)	Std. 21 GB (by SSRD) Opt. 144 GB (by HRD)
Ethernet link	Std.	Std.	Std.	Std.	Std.	Std.
Conversational function	Manual guide i + VSS macros	Manual guide i	Manual guide i	Std.	Std. + smarT.NC	Std.
Data transfer interface	PCMCIA + USB	PCMCIA + USB	PCMCIA + USB	USB	USB	USB

*Victor Taichung's standard

VICTOR's FANUC 0i-MF/32i-B/31i-B Control SPECIFICATIONS

Standard

ITEM	SPECIFICATION	DESCRIPTION
Controlled Axes		
1.	Controlled Axes	3 Axes (X, Y, Z)
2.	Simultaneous Controlled Axes	Position / Linear interpolation / Circular interpolation (3 / 3 / 2)
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	±99999.999mm (±9999.9999in)
6.	Fine Acceleration & Deceleration Control	Std.
7.	High Speed HRV Control	Std.
8.	Inch / Metric Conversion	Std. (G20 / G21)
9.	Interlock	All Axes / Each Axis / Cutting Block Start
10.	Machine Lock	All Axes / Each Axis
11.	Emergency Stop	Std.
12.	Over-travel	Std.
13.	Stored Stroke Check 1 and Check 2	Std.
14.	Mirror Image	Each Axis
15.	Mirror Image M73, M74, M75, M76	X, Y Axes
16.	Follow-up	Std.
17.	Position switch (with Victor ' s own PLC)	Std.
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.	Program Number Search	Std.
6.	Sequence Number Search	Std.
7.	Sequence Number comparison and stop	Std.
8.	Buffer Register	Std.
9.	Dry Run	Std.
10.	Single Block	Std.
11.	JOG Feed	Std.
12.	Manual Reference Position Return	Std.
13.	Manual Handle Feed	1 Unit / Each Path
14.	Manual Handle Feed Rate	X1, X10, X100
15.	Z Axis Neglect	Std.
Interpolation		
1.	Positioning	G00
2.	Single Direction Positioning	G60
3.	Exact Stop Mode	G61
4.	Exact Stop	G09
5.	Linear Interpolation	G01
6.	Circular Interpolation	G02, G03 (multi-quadrant is possible).
7.	Dwell	G04
8.	Helical interpolation	Std.
9.	Skip Function	G31
10.	Reference Position Return	G28
11.	Reference Position Return Check	G27
12.	2nd / 3rd / 4th Reference Position Return	Std.
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 Acceleration / Deceleration	Rapid traverse: linear; Cutting feed: exponential
7.	Rapid traverse Bell–shaped Acc. / Deceleration	Std. (G00)
8.	Bell–shaped Acc. / Deceleration Before & After Cutting Feed Interpolation	Std. (G01)
9.	Automatic Corner Deceleration	Std. (G64)
10.	Linear Acc / Deceleration Before & After Cutting Feed Interpolation	Std. (G01)
11.	Feed rate Override	0 ~ 150%
12.	Jog Override	0 ~ 100%
13.	Automatic Corner Override	G62.
14.	Feed Stop	Std.
15.	AI contour control (AICC, G05.1) (in total)	200 blocks (0i/32i with AICC-2)
16.	AICC-2 + High speed processing (G05.1) (in total)	600 blocks (31i)
17.	Jerk Control	Std. (18i/31i)
18.	Rigid Tapping Bell–Shaped Acc./Deceleration	Std.
19.	Feed rate clamp by arc radius (G02/G03)	Std.
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.	Work piece 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/32i) 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
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 ~ 120%
5.	1st Spindle Orientation	Std.
6.	M Code Function	M3 digit
7.	S Code Function	S5 digit
8.	T Code Function	T2 digit
9.	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)
2.	Number of Registerable programs (in total)	400 (0i/32i),1000 (18i/31i)
3.	Part Program Editing / Protect	Std.
4.	Background Editing	Std.
5.	Memory card editing	Std. (0i-F)
Setting and Display		
1.	Status Display	Std.
2.	Clock Function	Std.
3.	Current Position Display	Std.
4.	Program Display	Program name 31 characters
5.	Parameter Setting and Display	Std.
6.	Self Diagnosis Function	Std.
7.	Alarm Display	Std.
8.	Alarm History Display	25
9.	Operation History Display	Std.
10.	Help Function	Std.
11.	Run Hour and Parts Count Display	Std.
12.	Actual Cutting Feedrate Display	Std.
13.	Display of Spindle Speed and T Code At All Screens	Std.
14.	Graphic Function	Std.
15.	Dynamic graphic display	Std.
16.	Servo Setting Screen	Std.
17.	Spindle Setting Screen	Std.
18.	Display of Hardware and Software Configuration	Std.
19.	Multi-Language Display	Std.
20.	Data Protection Key	Std.
21.	Erase CRT Screen Display	Std.
22.	Machining Condition Selecting Screen	Std.
23.	Color LCD / MDI	10.4 " (0i/32i/31i)
Data Input / Output		
1.	Reader / Puncher Interface	RS-232 interface
2.	External Work piece number search	9999
3.	Memory Card Interface	Std.
4.	Embedded Ethernet (10Mbps)	Std.
5.	USB Device	Std.

OPTIONS

ITEM	SPECIFICATION	DESCRIPTION		
With hardware included		**0i-M**	**32i-B**	**31i-B**
1.	Conversational programming (Manual Guide i)	Std.	Std.	Std.
2	Conversational programming (Super Cap i)	N.A.	N.A.	N.A.
3.	Data server (with PCB and CF card 1GB)	□	□	Std.
4.	Fast Ethernet (100Mbps, available in Data server)	□	Std.	Std.
5.	Tool life management (2 buttons on control panel)	□	□	□
6.	Part Program Storage Length 5120m (2MB in total)	□	□	□
7.	Part Program Storage Length 8MB in total	N.A.	N.A.	□
8.	Program restart	□	□	□
9.	Optional block skip 9 blocks	□	□	□
10.	High Precision Contour Control (HPnanoCC, with RISC board)*1	N.A.	N.A.	Std.
11.	Profibus	□	□	□
12.	5-axis simultaneous control	N.A.	N.A.	□ (31i-B5)
Without hardware included				
13.	AI contour control II (AICC-2, G05.1, 200 blocks) *2	Std.	Std.	Std.
14.	Look ahead block expansion (1000 blocks in total) *2	N.A.	N.A.	□
15.	Tool load monitoring (with Victor own PLC)	□	□	□
16.	Programmable mirror image (G50.1)	□	□	□
17.	Bi-directional Pitch Error Compensation	□	□	□
18.	Addition of tool pairs for tool life management 512 sets	N.A.	□	□
19.	Cylindrical interpolation (G7.1) (used on 4th-axis)	Std.	□	□
20.	Interruption type custom macro	N.A.	□	□
21.	Addition of work-piece coordinate systems 300 sets	N.A.	N.A.	□
22.	Exponential interpolation (G2.3)	N.A.	N.A.	□
23.	Smooth interpolation	N.A.	N.A.	□
24.	Spiral/conical interpolation	N.A.	N.A.	□
25.	Polar coordinate interpolation	N.A.	□	□
26.	Floating reference position return	N.A.	N.A.	□
27.	Hypothetical axis interpolation (G07)	N.A.	N.A.	□
28.	Tool retract and return (G10.6 with Victor own PLC)	N.A.	N.A.	□

*1. Block addressing time:
- 2 ms for AICC-2 (0i-F/31i-B)
- 1ms for HPCC (max. cutting feed 60 m/min) (31i-B)
- 0.4ms for AI HPCC and AI nano HPCC (150m/min) (31i-B) and AICC-2+ High speed processing (31i-B)

Machine Specification

Item		Units	Vcenter-H400	Vcenter-H500HS	Vcenter-H500
Capacity	X axis travel	mm	500	720	720
	Y axis travel	mm	600	650	650
	Z axis travel	mm	500	720	720
Distance	Spindle nose to table center	mm	150-650	160-880	140-860
	Spindle center to table surface	mm	80-680	50-700	50-700
	Max. part dimension (W x L x H)	mm	Ø600 x 750	Ø720 x 750	Ø720 x 750
Working Table	Table work area	mm	400 x 400	500 x 500	500 x 500
	Max. table pallet	kg	400	800	800
	Surface configuration		M12 x P1.75	M16 x P2.0	M16 x P2.0
	Min. angle of rotation	deg.	1 (opt. 0.001 for CNC table)	1 (opt. 0.001 for CNC table)	1 (opt. 0.001 for CNC table)
	Pallet exchange time	sec.	7 (P-P), 11.4 (C-C)	6.5 (P-P), 11 (C-C)	6.5 (P-P), 11 (C-C)
	Pallet exchange type		rotary	rotary	rotary
	Time to index 90°	sec.	3 (opt. 1.6 for CNC table)	3 (opt. 1.6 for CNC table)	3 (opt. 1.6 for CNC table)
	Time to index 180°	sec.	5 (opt. 2.96 for CNC table)	5 (opt. 2.96 for CNC table)	5 (opt. 2.96 for CNC table)
Spindle	Spindle taper		BBT-40	BT-40	BT-50
	Spindle motor-cont/30min	kW	18.5/22 (high winding)	18.5/22 (high winding)	11/15 (opt. 15/18.5 for 10000 rpm spindle)
	Spindle speed	rpm	15000	15000	6000 (opt. 10000)
	Spindle bearing diameter	mm	70	70	110
Axis feed	Rapid feed rate - X/Y/Z	m/min	48/48/48	30/30/24	24/24/24
	Axis feed motor - X/Y/Z	kW	4.5/4.5/4.5	4/7/4	4/7/4
	Cutting feed rate by table	m/min	20	20	20
	B axis feed motor	kW	1.6 (opt. 3 for CNC table)	1.6 (opt. 4 for CNC table)	1.6 (opt. 4 for CNC table)
	X/Y/Z ball screw (dia. X pitch)	mm	Ø40 x 12	Ø45 x 20	Ø45 x 12
	Boxway hardness		SNS 35/45/45	NRS 55/55/55	NRS 55/55/55
ATC & Tools	Tool magazine capacity		60 Disk type	40 (opt. 60, 90) Chain type	40 (opt. 60, 90) Chain type
	Tool selection		Random	Fixed tool pot number	Fixed tool pot number
	Max. tool dia. (without Adjacent tool)	mm	80 (125)	85 (170)	120 (240)
	Max. tool length	mm	300	400	400
	Max. tool weight	kg	7	7	20
	Tool exchanging Time	sec.	1.8 (T-T), 4.5 (C-C)	4.1 (T-T), 8.5 (C-C)	6.8 (T-T), 10.6 (C-C)
	Pull stud angle	deg.	15 (JIS 40P)	90	60
Machine	Standard CNC controller		0i-MF (10.4")	0i-MF (10.4")	0i-MF (10.4")
	Power requirement	kVA	44 (54 with CTS)	50 (60 with CTS)	40 (50 with CTS)
	Air pressure requirement	kg/cm^2	5.5~6.5	5.5~6.5	5.5~6.5
	Coolant tank	L	550	400	400
	Chip disposal (with chip conveyor)		Rear	Front and left	Front and left
	Machine height	mm	2571	2937	2937
	Floor space requirement	mm	2580 x 5320	4393 x 5393	4393 x 5393
	Machine weight	kg	9000	12500	12500

Standard accessories：

- 1° indexing table
- Spindle oil cooler
- Coolant tank
- Fully enclosed splash guard
- Manual pulse generator (remote type)
- Hand tools and tool box
- Scroll type chip removers (except Vcenter-H400)
- Built-in work lamp
- Programming end light
- Leveling block
- Automatic pallet changer
- Spindle load meter
- Oil skimmer
- Rigid tapping
- Air conditioner for electrical cabinet
- Chip conveyer with cart
- Handy coolant gun
- Fanuc e-book (CD)

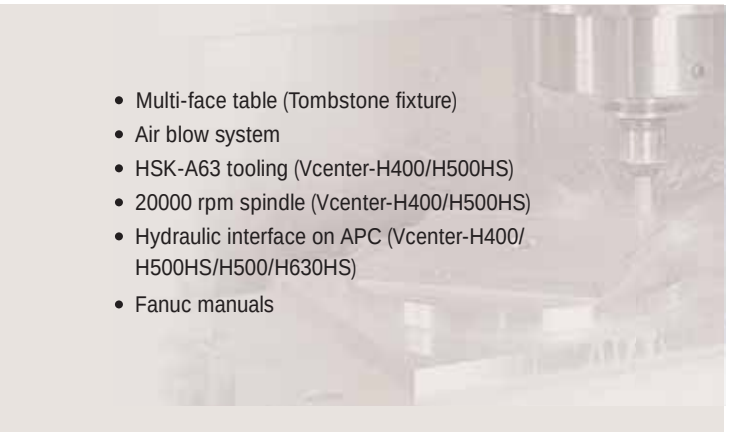
Optional accessories：

- Table shower system
- Coolant Through Spindle (CTS)
- CNC table with 0.001° continuous indexing
- 60, 90, 120 tool magazine
- T-slot pallet
- Tool length measurement
- Workpiece measurement
- Linear encoder feedback

Tool Specification

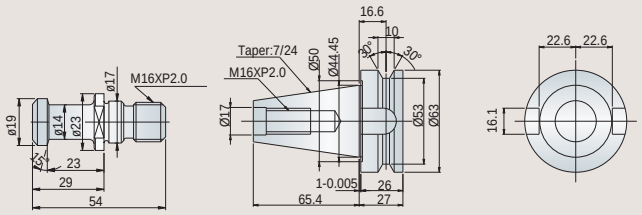
VICTOR-TAICHUNG

Vcenter-H630HS	Vcenter-H630HD	Vcenter-H1000
1000	900	1350
850	800	1050
900	710	1050
150-1050	200-910	220-1270
75-925	0-800	0-1050
Ø1000 x 1150	880 x Ø1200 x 930	Ø1350 x 1350
630 x 630	630 x 630	1000 x 1000
1200	1200	2000
M16 x P2.0	M16 x P2.0	M16 x P2.0
1 (opt. 0.001 for CNC table)	1 (opt. 0.001 for CNC table)	1 (opt. 0.001 for CNC table)
7 (P-P), 12 (C-C)	41 (chip-chip)	48 (chip-chip)
rotary	Parallel	Parallel
3 (opt. 1.6 for CNC table)	5 (opt. 2 for CNC table)	8 (opt. 4 for CNC table)
5 (opt. 3 for CNC table)	7 (opt. 3 for CNC table)	10 (opt. 5 for CNC table)
BT-50 (opt. BBT-50)	BT-50	BT-50
25/30 (high winding)	15/18.5 (opt. 18.5/22)	18.5/22
10000	4500 (opt. 6000)	4500
100	100	100
48/48/48	24/24/24	15/15/15 (opt. 20/20/15)
4/7/4	7/9/7	9/9/9
20	15	15
3 (opt. 3 for CNC table)	1.6 (opt. 4 for CNC table)	4 (opt. 7 for CNC table)
Ø45 x 16	Ø50 x 10	Ø55 x 10
RGW 55/55/55 (roller)	HRC 55	HRC 55
60 (opt. 90, 120)	60 (opt. 90, 120)	90 (opt. 120)
Fixed tool pot number	Fixed tool pot number	Fixed tool pot number
125 (250)	110 (245)	110 (245)
450	600	600
20	25	25
5.9 (T-T), 7.5 (C-C)	13.8 (T-T), 14.2 (C-C)	13.8 (T-T), 20.5 (C-C)
60	60	60
0i-MF (10.4")	0i-MF (10.4")	0i-MF (10.4")
69 (79 with CTS)	40 (50 with CTS)	54 (60 with CTS)
5.5~6.5	5.5~6.5	5.5~6.5
550	500	600
Front and left	Left and front	Left and front
3268	3195	3950
3978 x 5396	3635 x 5250	4580 x 8400
18850	18000	31420

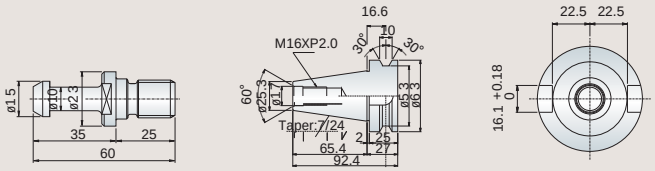


- Multi-face table (Tombstone fixture)
- Air blow system
- HSK-A63 tooling (Vcenter-H400/H500HS)
- 20000 rpm spindle (Vcenter-H400/H500HS)
- Hydraulic interface on APC (Vcenter-H400/ H500HS/H500/H630HS)
- Fanuc manuals

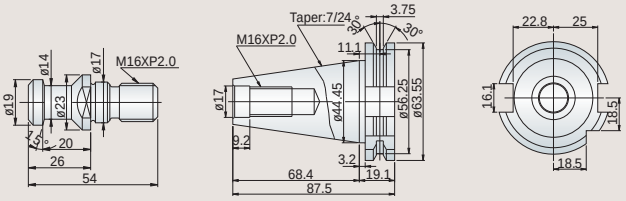
BBT-40 (used for Vcenter-H400)



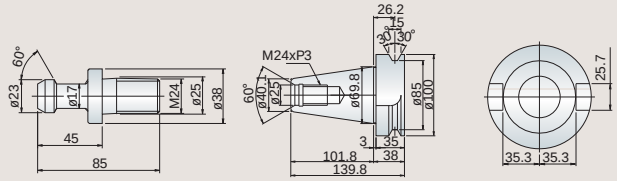
BT-40 (used for Vcenter-H500HS)



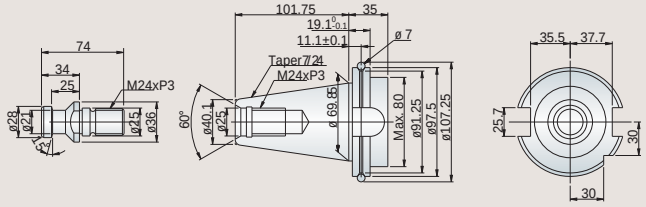
SK-40 (used for Vcenter-H400/H500HS)



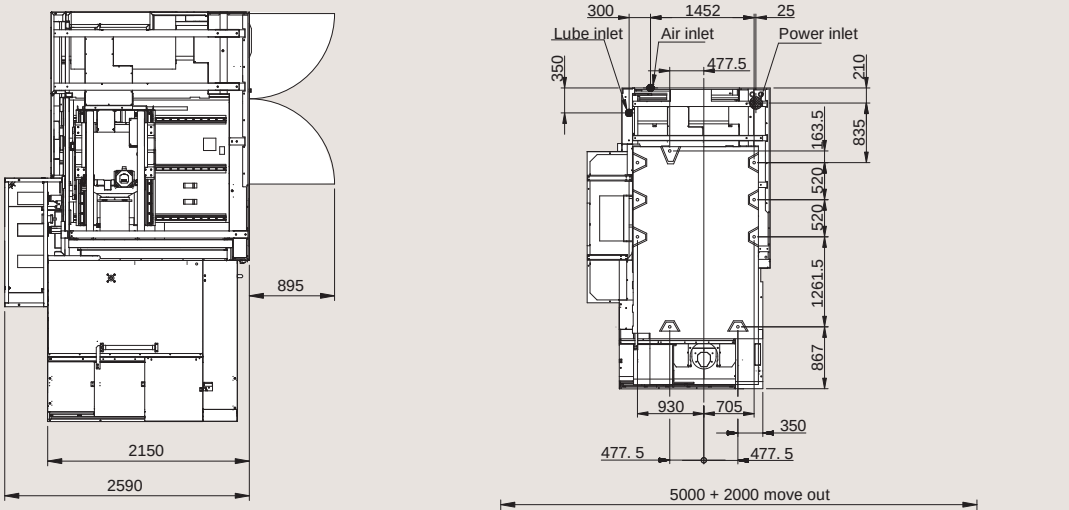
BT-50 (used for Vcenter-H500/H630HS/ H630HD/H1000)



SK-50 (used for Vcenter-H500/H630HS/ H630HD/H1000)



Vcenter-H400



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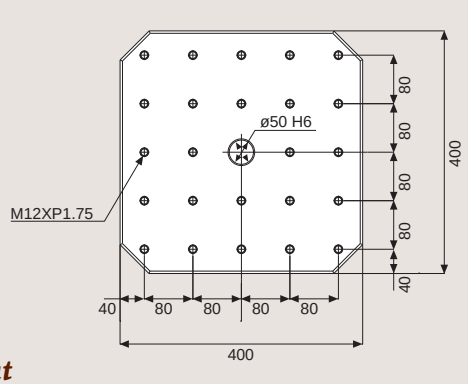
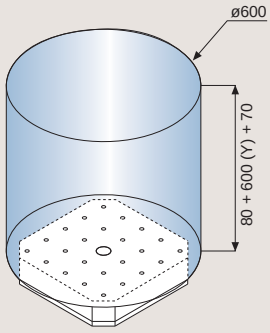
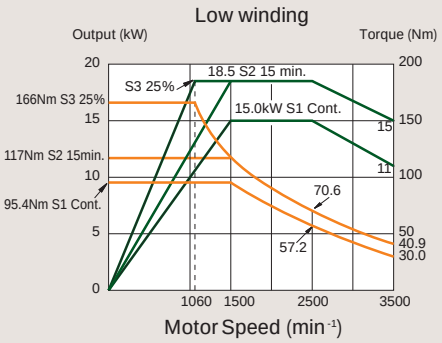
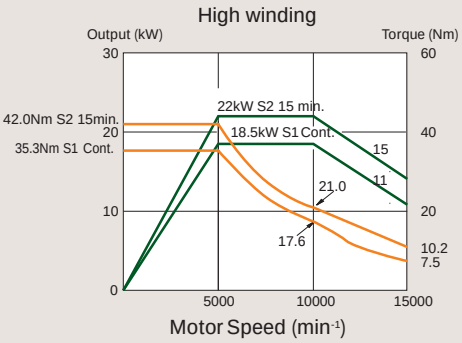


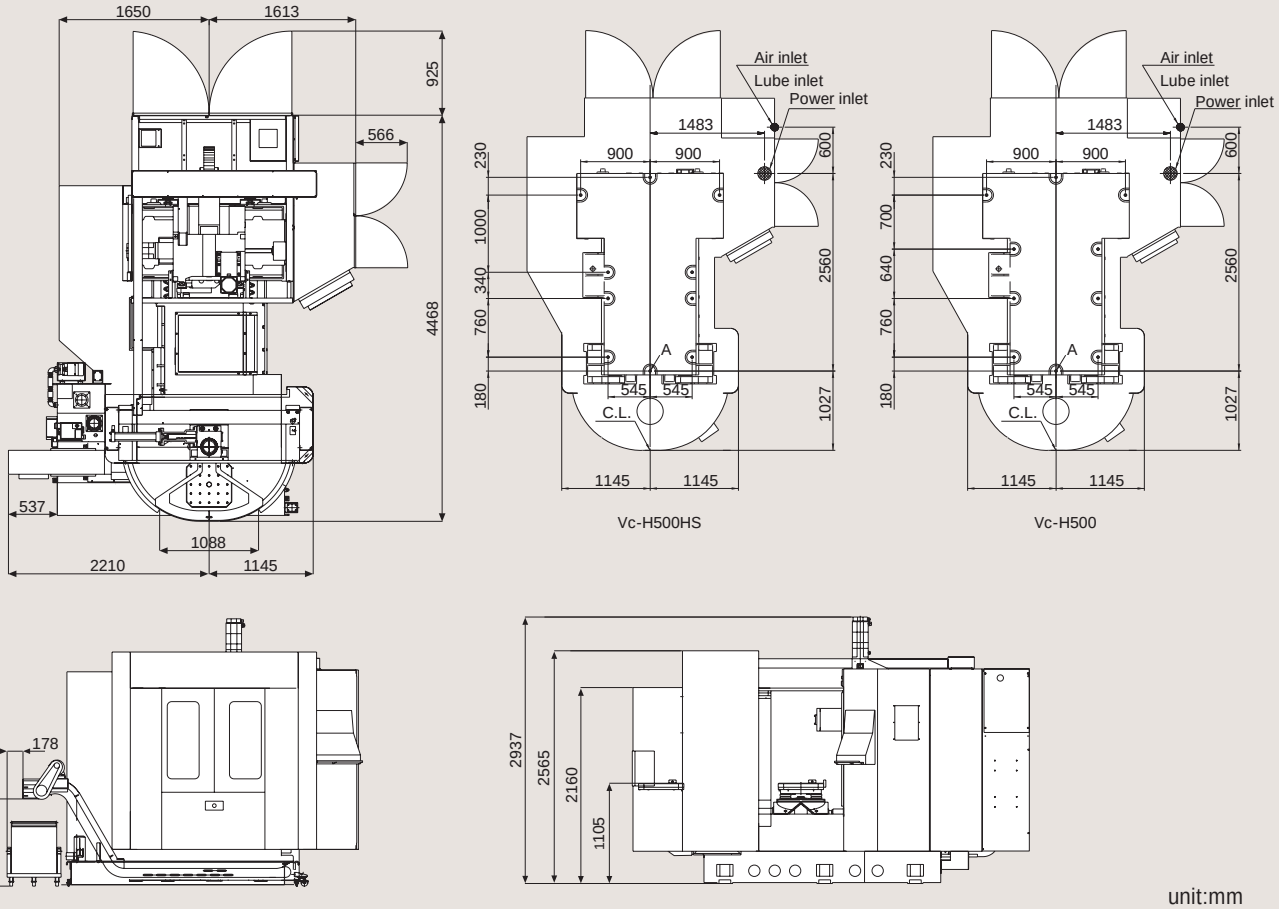


Spindle Output

15000 rpm BBT-40 spindle (Fanuc motor αB112L-18.5/15000i)



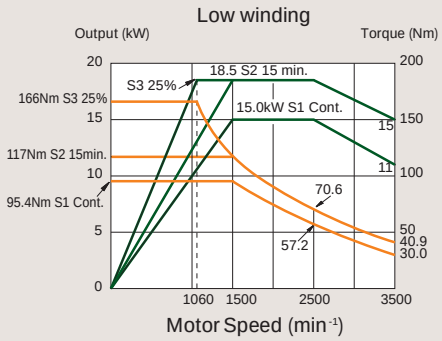


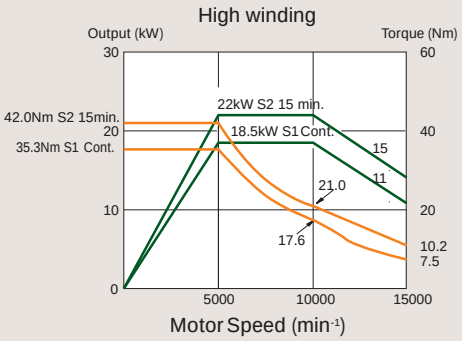


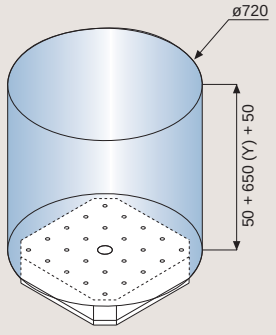
unit:mm

Spindle Output

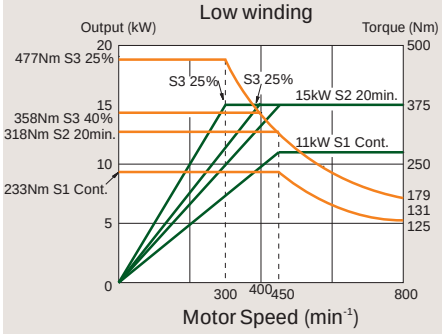
15000 rpm BT-40 or BBT-40 spindle (Fanuc motor αB112L-18.5/15000i)

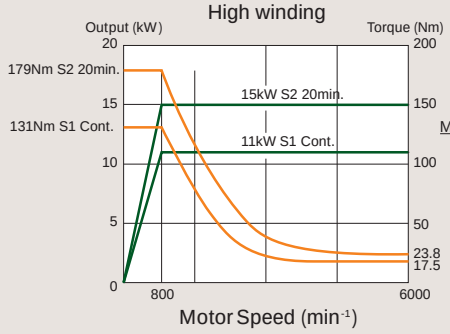


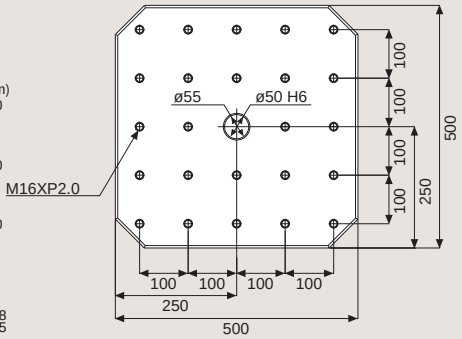




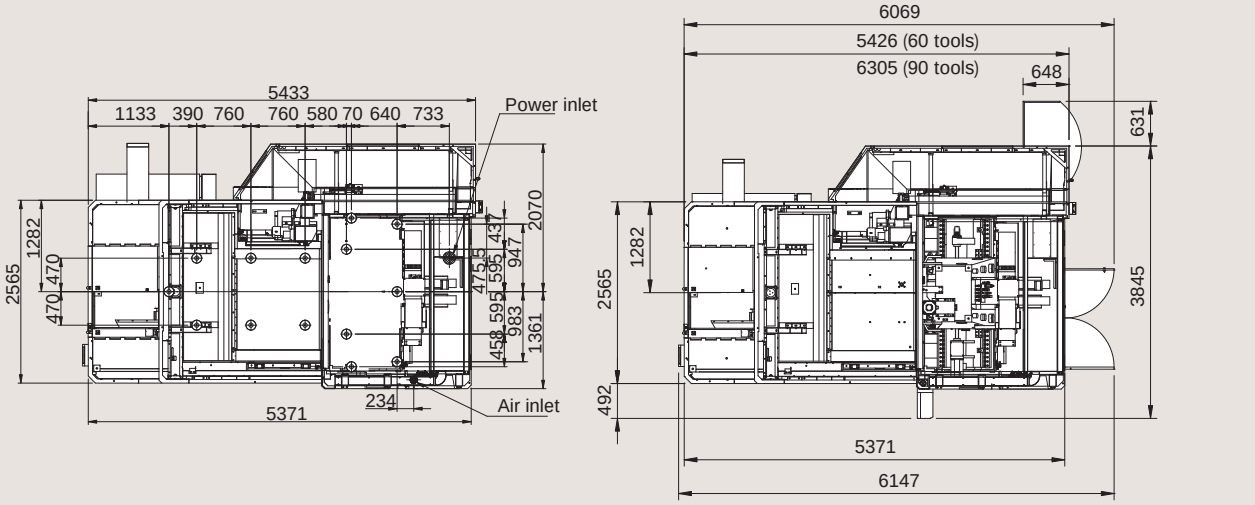
6000 rpm BT-50 spindle (Fanuc motor αB180M-11/6000i)

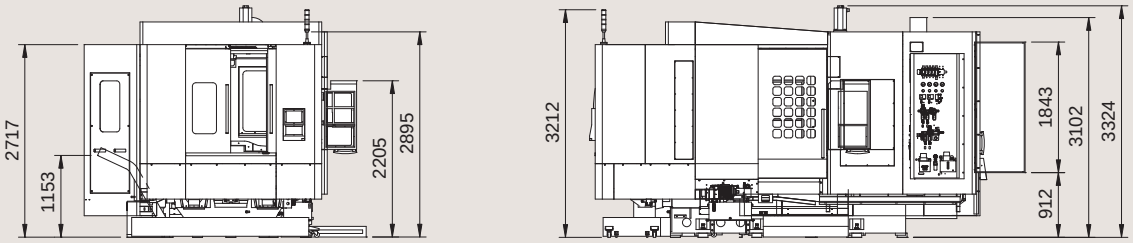






Vcenter-H630HS





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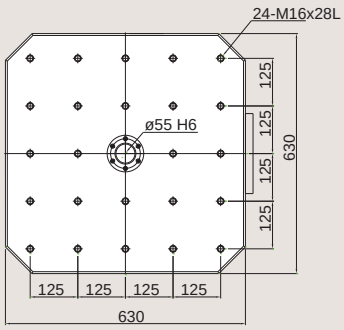
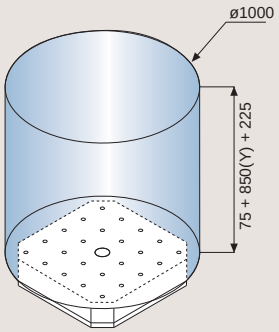
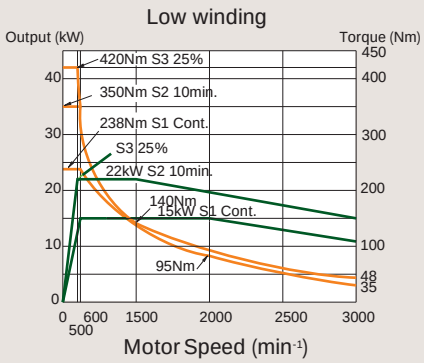
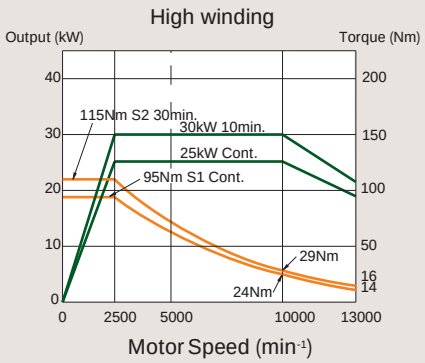


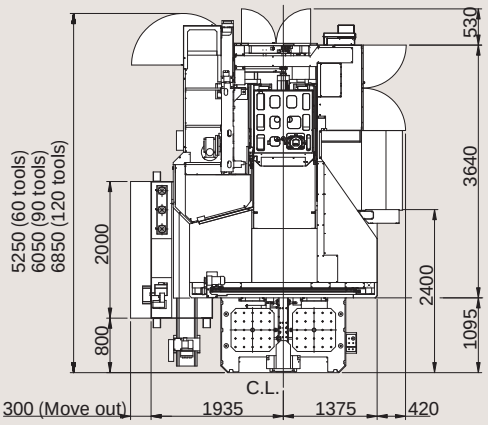


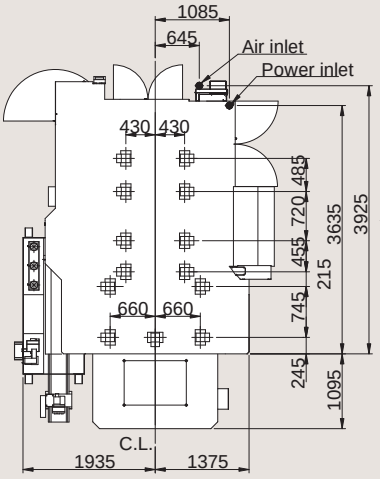
Spindle Output

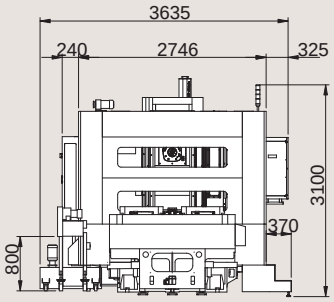
10000 rpm BT-50 spindle (Fanuc motor αB160LL/13000i)

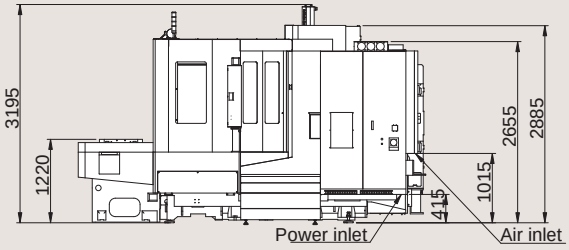




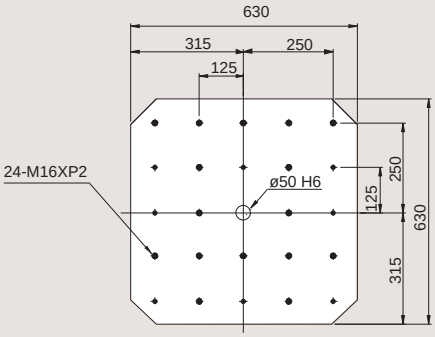


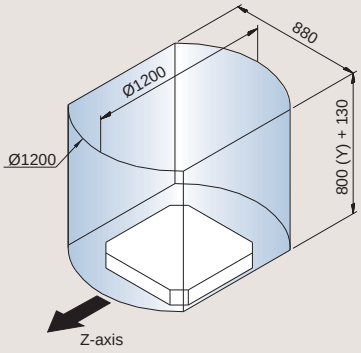






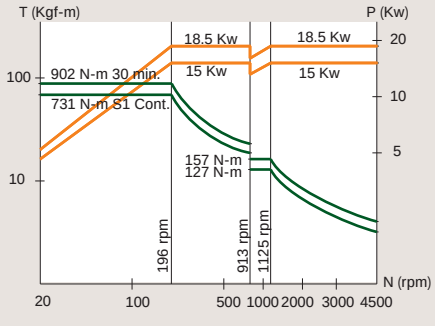
unit:mm



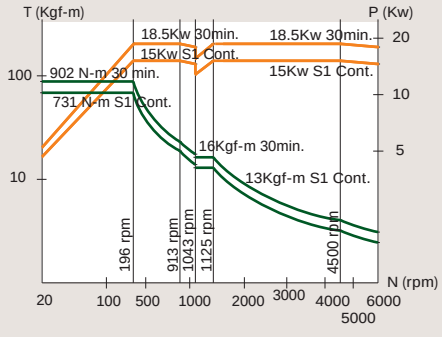


Spindle Output

Spindle speed-output diagram

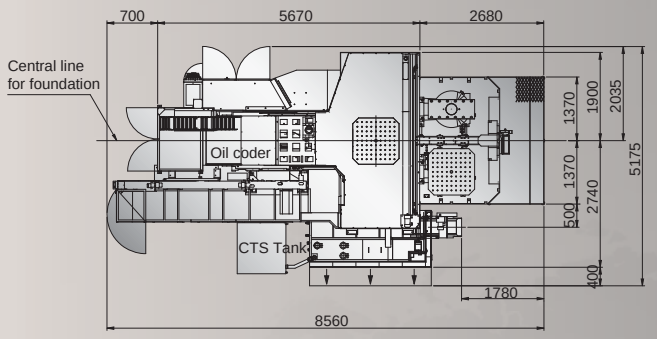


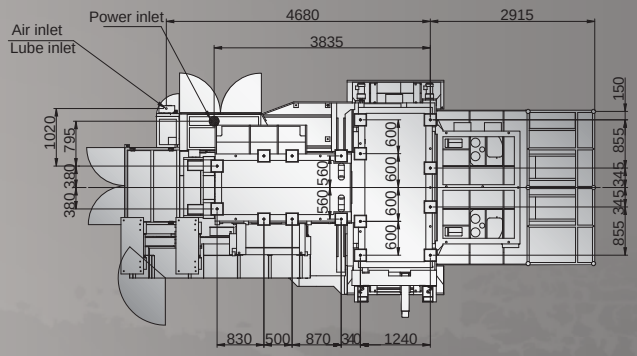
Spindle Speed

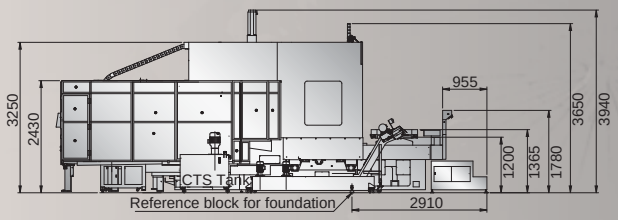


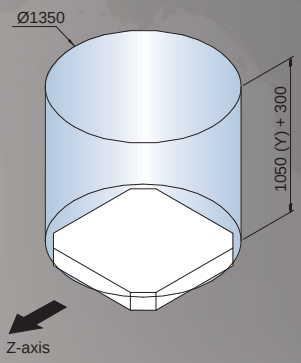
Spindle Speed

Vcenter-H1000

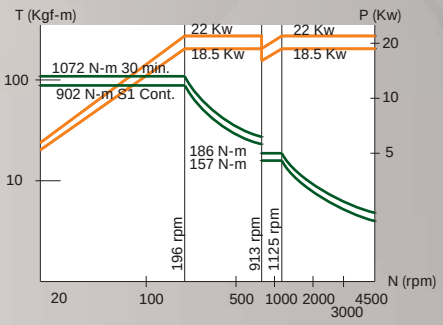




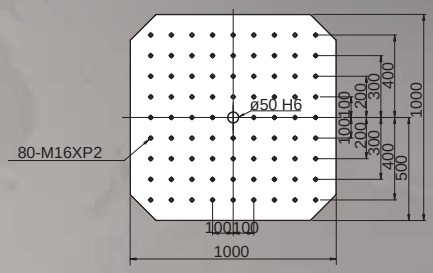




Spindle Output



Spindle Speed



unit:mm

VictorTaichung profile:
Sales turnover: USD 138 mil's (in 2015)*
No. of employees: 831
*Exchange rate: 1 USD=30 TWD.

THE VICTOR-TAICHUNG COMPANIES

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☐ PT. Victor Machinery Indonesia
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☐ Fortune International Inc.
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FAX : 1-732-2140701

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

CHINA
☐ Victor Taichung
Machinery (Shanghai)
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FAX : 86-21-59768009

VictorTaichung was also marketed under the brand names VICTOR (outside North America) and FORTUNE HMCGE15EB

16081603 MACS. TEL: 04-24733326