

Vcenter - 205/305

Pendulum Machining

High Versatility

- Long Fixed Table accommodates heavier loads and long parts.
- Traveling column with X-axis travel 2050/3050 mm provides excellent access to work area.
- Easy installation for rotary tables or hydraulic fixtures.

High Productivity

- Rapid feeds 30 m/min (Vc-205) or 32 m/min (Vc-305) reduce tool changeover time.
- Directly Coupled Spindle avoids belt vibration for better finish.
- Central Partition enables higher production than VMC with 2-pallet APC.



High Versatility Through A Wide Range Of Set-ups

With a central partition guarding installed, the Vcenter-205/305 can effectively be turned into two smaller vertical machining centers, machining on one side while loading or unloading parts on the other side.



Vcenter-205 (std. 4 doors)



Vcenter-305

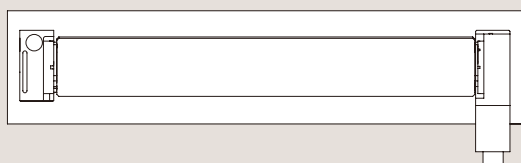
Pendulum machining by Central Partition System

- With the central partition guarding installed, the spindle can effectively machine on one side while loading or unloading parts on the other side.
- X-axis travel limit is automatically set up by interlock when partition guarding installed, and the machining area are split into the right and left area.
- The interlock function assures safe setup for one side while machining is made in the other side.
- Central Partition System features higher productivity than that of vertical machining center equipped with a 2-pallet APC.



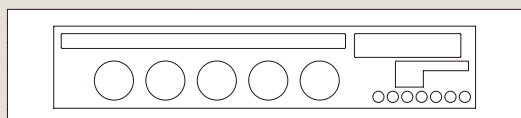
- Additional operation panel for pendulum machining.
- Easy installation for the 4th/5th axis rotary table and fixtures.

Advantages of Long Fixed Table with Traveling Column



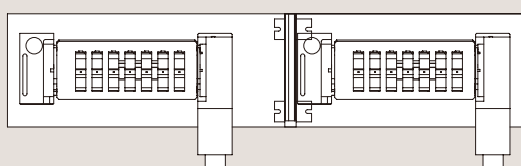
Full Table

with one part loaded



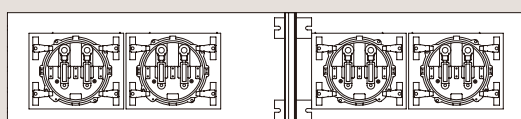
Full Table

with many parts loaded



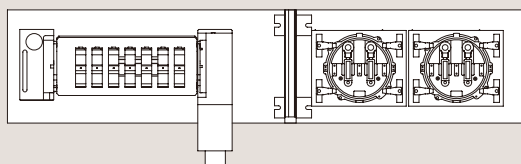
Split Table

with two identical parts loaded for two different operations



Split Table

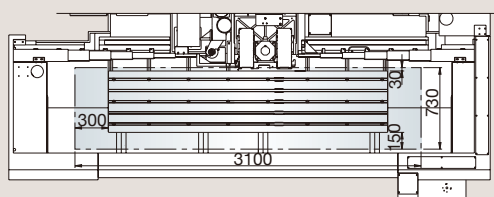
with two identical set-ups for the same operations
(with or without rotary tables or fixtures)



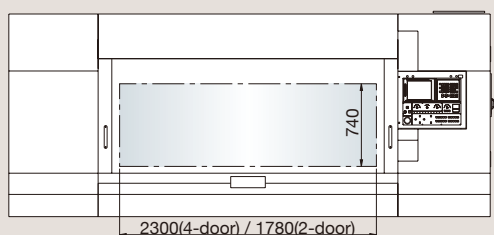
Split Table

with two different setups for two different operations.

Optimized design for part loading

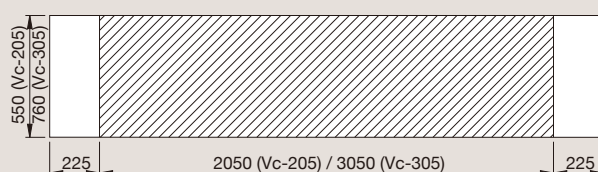


Loading from the top (Vc-205 with 4 doors)

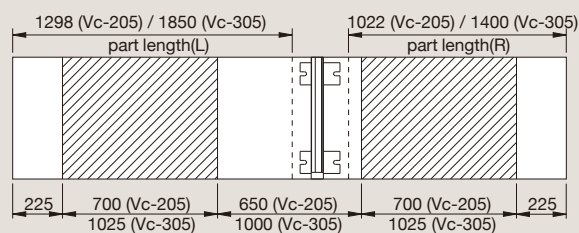


Loading from the front (Vc-205)

Maximum machining range



Partition guarding is removed



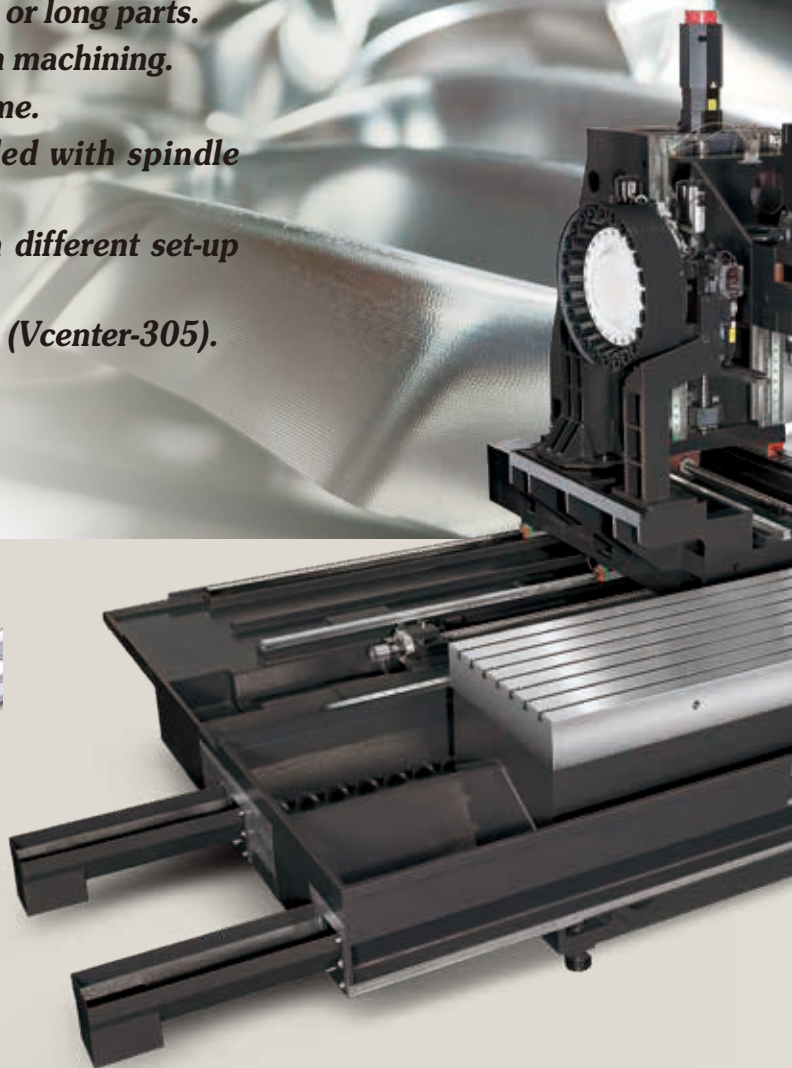
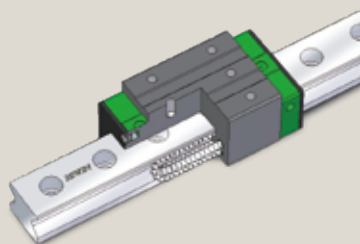
Partition guarding is installed

Highest Productivity & Reliability

- Long Fixed Table accommodates heavy loads or long parts.
- Central Partition Guarding enables pendulum machining.
- High Rapid Feed reduce the tool exchange time.
- 12000 rpm BBT-40 Spindle directly coupled with spindle motor avoids belt vibration for better finish.
- Easy installation for 2 off rotary tables with different set-up for individual machining.
- Y-axis travel 550mm (Vcenter-205) / 760mm (Vcenter-305).

X/Y/Z AXES

- Travels:
2050/550/560 mm (Vc-205)
3050/760/700 mm (Vc-305)
- Rapid feeds:
30/30/30 m/min (Vc-205)
32/32/32 m/min (Vc-305)
- Guideway width:
45/45/45 mm (Vc-205)
45/55/45 mm (Vc-305)
- Roller type linear motion guideways (Vc-305, opt. for Vc-205)

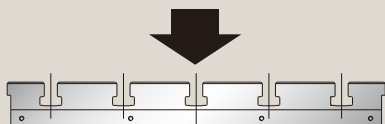


Vcenter-305

TABLE

1200 kg (Vc-205)

3000 kg (Vc-305)



2500 x 550 mm (Vc-205)

3150 x 770 mm (Vc-305)

ATC

- Tool magazine moves with traveling column to shorten tool exchanging time.
- 24 tools (opt. 32, 40)
- Tool exchange time:
2.9 (tool-tool), 7.2 (chip-chip) (Vc-205)
3.0 (tool-tool), 8.3 (chip-chip) (Vc-305)





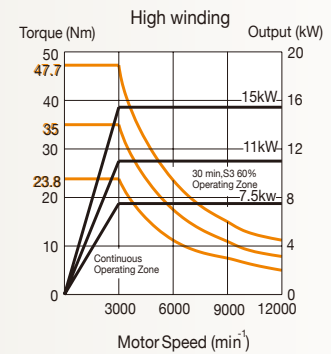
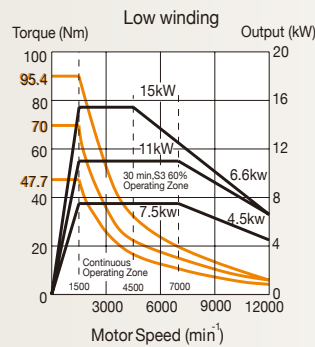
12000 rpm SPINDLE (15 kW, S3)

- BigPlus® BT-40 oil/air lubricated spindle (opt. for Vc-205)
- 12000 rpm spindle directly coupled to AC spindle motor.
- Spindle oil cooler is included

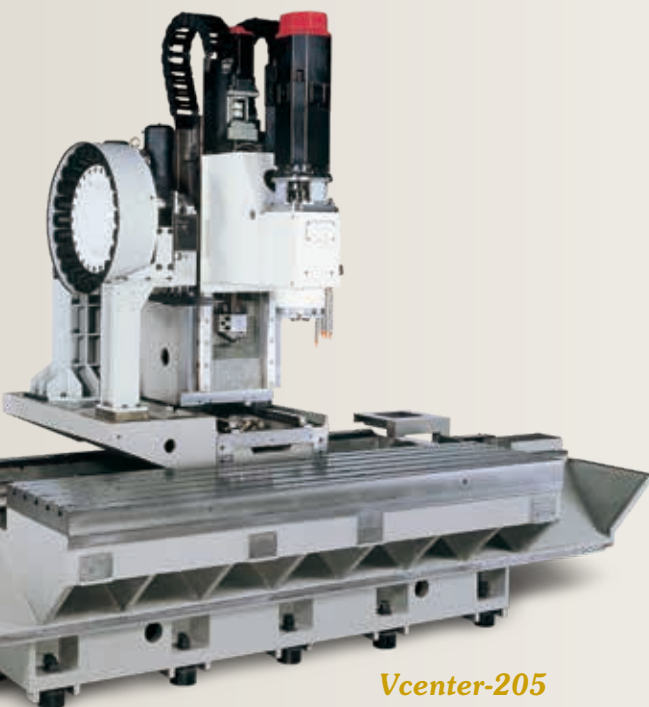


Certificated Casting

GB300



FANUC αT8/12000i



Vcenter-205

Coolants & Chip Disposal

- 2 screws inside as chip removers (Vc-305).
- Chip conveyor is included as standard.

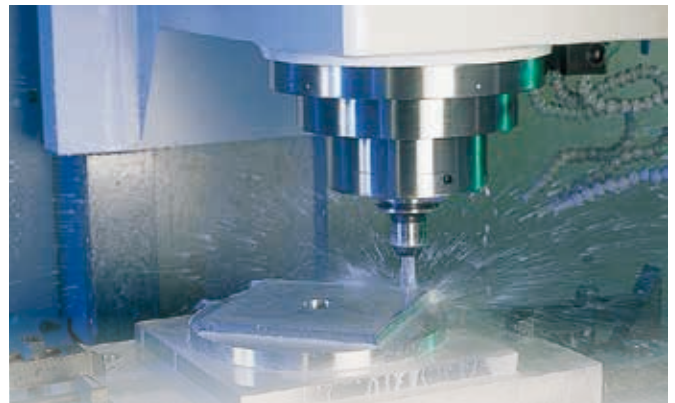


Options



32 or 40 tool magazine

Optional 40 (or 32 for Vc-205) servo driven tool magazine enables pendulum machining on two split tables for different set-ups or two different applications.



Coolant Through Spindle (CTS)

For improved deep hole drilling and boring capability, coolant can be forced through the center of the spindle under the high pressure (14/20/35/70 bars) directly to the cutting area. To ensure long and reliable running of this system, fine particles produced during machining must be filtered out to prevent damage to the spindle. Bellows canvas is mounted at the top of the machine for Vcenter-205 with 4 door design and equipped with 32 or 40 tool magazine.



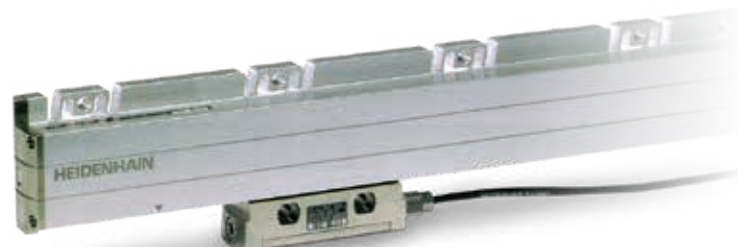
2-door design for Vcenter-205 for part lifting by crane

No beam existed at the top of machine facilitates to lift long part by crane. Simple top cover mounted around spindle is included when CTS is equipped to reduce the pressurized coolants to jump out.

Bellows canvas on top (Vc-205, 4 doors)



Simple top cover (Vc-205, 2 doors)



Linear scales for improved repeatability

Linear scales offer exceptional positioning accuracy up to 0.005mm over full stroke. Heidenhain or Fagor linear scales with a thermal behavior similar to that of the machine are selected to compensate for the thermal expansion and to enhance repeatability. Sealed encoders with durable Aluminum housing offer improved reliability and service life. *Linear scale on Y-axis is not available for Vcenter-205

Auto tool length measurement

To reduce tool set-up time, Victor offers two automatic tool length measuring systems:

- Simple tool length measurement

Metrol system T-24E is mostly used for tapping and drilling as the probe only measures the tool length.

- Advance tool length measurement

Renishaw system TS-27R offers further advancement with the probe capable of measuring both tool lengths and diameters. This system is ideal for batch production where tools need to be constantly changed or replaced.



Workpiece measurement

To reduce time spent setting workpiece positions and then manually inspecting finished parts, automatic workpiece measurement is available with the use of Renishaw MP-10 or OMP-60 measuring probes. The 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-process checking can be performed on the machine to maintain tight tolerance after rough machining.



Lateral door with supporter



Bellows covers for X/Y axes

Lateral door with supporter



Coolant Options

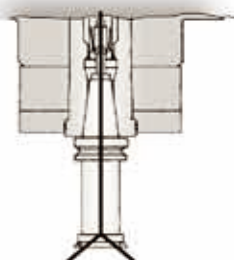
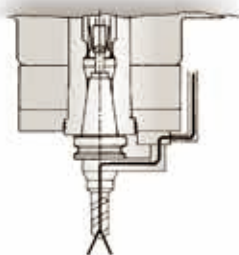
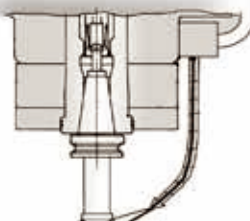
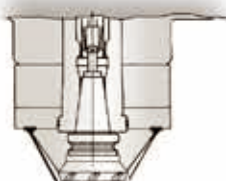
Std. - coolant ring
Purpose - general

Opt. - directional pipe
Purpose - general

Opt. - oil hole coolant
Purpose - drilling, boring

Opt. - thru. spindle coolant
Purpose - drilling, boring

Opt. - oil mist
Purpose - tapping, reaming



VICTOR Taichung's NC PACKAGE

Standard accessories including Moving CRT

New Fanuc Oi-MF Plus (type-1) control includes:

- 10.4" screen
- AICC-2 (200 blocks)
- QWERTY keyboard
- 2GB CF card
- Manual Guide i (MGI)
- VSS Macros (Victor's GUI)

VSS (Victor Software System) Macros

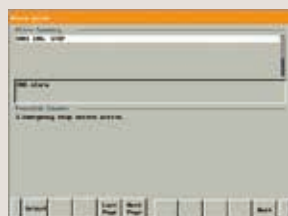
With exclusive software developed in-house by highly experienced engineers, VSS macros (Victor GUI), which is included when the controller is upgraded with 10.4" monitor, enhance not only machine operation to reduce tool set-up time but also safety features to protect costly spindle. Productivity can be further increased when the adaptive controlled cutting is implemented.



Victor Taichung's GUI "VSS macros"



Tool breakage detection



Alarm display with diagnosis



Tool management



Tool management

Heidenhain TNC-620 / 640 / 7 control

Powerful dialog programming with fully alphanumeric keyboard, Heidenhain control is also available. Without remembering complicated G-codes, sophisticated graphics functions with 15" screen make programming check easy. TNC-620/640 controller is capable of addressing 5000 blocks and further makes use of hard drive memory for advanced 4 or 5 axis simultaneous control.



Control Features for Fast Contour Milling (Victor Taichung's standard)

Feature \ Controller	FANUC			HEIDENHAIN		
	Oi-MF Plus (type 1)	Oi-MF Plus (type 0)	31i-B Plus	TNC-620	TNC-640	TNC7 (TNC7 basic)
Block addressing time	1 ms	0.4 ms	0.2 ms	1.5 ms	0.5 ms	0.5 ms [1.5 ms]
Preview contouring (look ahead blocks)	200	200 (Opt. 400)	1000	5000	5000	5000
Graphic display	10.4"	15" (Opt. 10.4")	15" (Opt. 19")	15"	15" (Opt. 19")	19" [16"]
Data storage	5120m (2MB)	5120m (2MB)	10240m (4MB) Opt. 20480m (8MB)	Min. 2GB	Std. 21GB (by SSDR) Opt. 144GB (by HRD)	240GB (by SSDR) + 30GB (by CF card) [60GB by CF card]
Memory extension	Std. (CF card, 2GB)	Std. (CF card, 2GB)	Std. (CF card, 2GB)	Opt. (by USB)	N.A.	No
DATA SERVER	Opt. (by CF Card)	Opt. (by CF Card)	Std.	Std.	Std.	Std.
Ethernet link	Std.	Std.	Std.	Std.	Std.	Std.
Touch panel	N.A.	Incl.	Incl.	Opt.	Opt. (Std. for 19")	Incl.
Conversational function	Manual guide I (MGI) + VSS macros	iHMI + MGI + VSS macros	iHMI + MGI + VSS macros	Std.	Std.	Std.
Data transfer interface	PCMCIA + USB	PCMCIA + USB	PCMCIA + USB	USB	USB	USB

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	G52, G53, G54~G59
19.	Addition of Workpiece Coordinate System Pair	48 Pairs
20.	Optional Chamfering/Corner R	Std.
21.	Sub Program Call	4 folds nested
22.	Custom macro B	Std.
23.	Addition of Custom Macro Common Variables	#100~#199, #500~#999
24.	Canned cycle For Drilling	G73/G74/G76, G80-G89
25.	Small hole peck drilling cycle	G83
26.	Program Stop / Program End	M00 / M01 / M02 / M30
27.	Scaling	G51
28.	Rigid tapping	M29
29.	Coordinate System Rotation	G68
30.	Programmable mirror image	G50.1
31.	Manual Guide I (MGI) conversational programming	Std.
32.	Fine Surface Machining	Std.
33.	Smooth tolerance control+	Std.

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	0~200%
4.	Spindle Override	50~200%
5.	Manual Handle Feed Rate	X1, X10, X100
6.	AI contour control (AICC, G05.1) (in total)	200 blocks

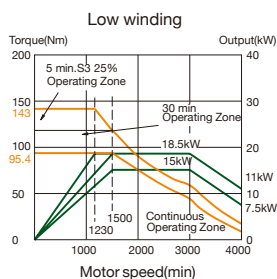
Edit Operation:

1.	Part Program Storage Length (in total)	5120m
2.	Part Program Editing / Protect	Std.
3.	Memory Card Editing (Max. 63 programs.)	Std.

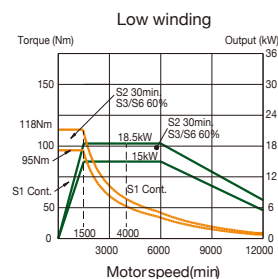
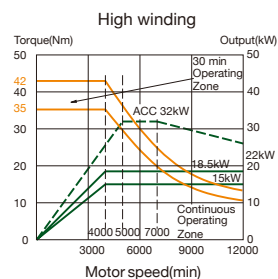
OPTIONS

ITEM	SPECIFICATION	DESCRIPTION
With hardware included:		
1.	Data server (with PCB and CF card 1GB)	☐
2.	Ethernet/IP (to be linked to robot)	☐
3.	PROFIBUS-DP (to be linked to robot)	☐
4.	CC-Link (to be linked to robot)	☐
5.	Fast Ethernet (required for SCADA Web with additional RJ45 port)	☐
6.	15" LCD with Panel iH (iHMI) and touch screen	☐
7.	AI contour control 400 blocks	☐
Edit Operation:		
8.	Tool load monitoring (with Victor own PLC)	☐
9.	Cylindrical interpolation (G7.1) (used on 4th axis)	☐
10.	Addition of work-piece coordinate systems 300 sets	☐
11.	Tilted working plane indexing command	☐
12.	Memory card program entry count extension (Max. 1000)	☐

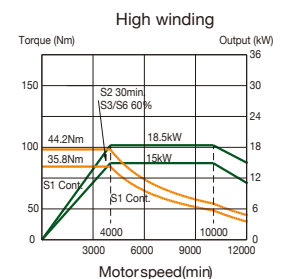
Higher power spindle (Optional)



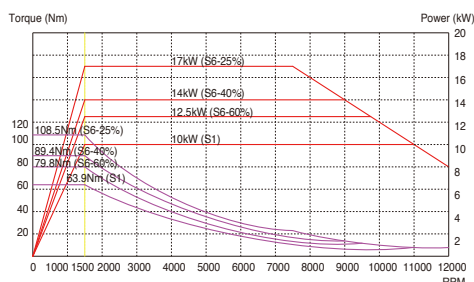
Fanuc alpha L8/15000i (Vc-205)



Fanuc alpha i15/12000 (Vc-305)



Machine Color Option



Heidenhain motor QAN200UH



Standard



RAL-7024

Machine Specification

Item \ model		Units	Vcenter-205	Vcenter-305
Travel	X axis travel	mm	2050	3050
	Y axis travel	mm	550	760
	Z axis travel	mm	560	700
Distance	Spindle center to column	mm	638	881
	Spindle nose to table surface	mm	180 ~ 740	150 ~ 850
Table	Table work area	mm	2500 x 550	3510 x 770
	Dimension of T-slot	mm	5 x 18 x 100	7 x 18 x 100
	Max. table load	kg	1200	3000
Spindle	Spindle taper		BT-40 (opt. BBT-40)	BBT-40
	Spindle motor - cont / 30 min	kW	7.5 / 11 / 15 (opt. 15 / 18.5 / -)	7.5 / 11 / 15 (opt. 15 / 18.5 / -)
	Spindle speed	rpm	12000	12000 (opt. 15000)
Feed rate	Rapid feed rate - X/Y/Z	m/min	30 / 30 / 30	32 / 32 / 32
	Axis feed motor - X/Y/Z	kW	4 / 3 / 4	9 / 7 / 9
	Cutting feedrate by table	m/min	20	20
	X ballscrew (dia. x pitch)	mm	50 x P20	55 x P20
	Y ballscrew (dia. x pitch)	mm	40 x P10	45 x P16
	Z ballscrew (dia. x pitch)	mm	40 x P10	45 x P16
	Linear guide width (X/Y/Z)	mm	45 / 45 / 45	45 / 55 / 45
Tools	Max. tool length	mm	350	350
	Max. tool weight	kg	8	8
	Magazine capacity		24 disc (opt. 32, 40)	24 disc (opt. 40)
	Max. tool diameter (without adjacent tools)	mm	80 (127)	80 (127)
	Tool exchange time	sec.	2.9 (T-T), 7.2 (C-C)	3.0 (T-T), 8.3 (C-C)
	Pull stud angle	deg.	15	15
	Tool selection method		Random	Random
Accuracy (ISO 230-2)	Positioning accuracy (bi-directional)	mm	0.015	0.015
	Repeatability	mm	0.007(±0.0035)	0.007(±0.0035)
Machine	Power requirement	kVA	40 (excl. CTS)	45 (excl. CTS)
	Air pressure requirement	kg/cm²	5.5 ~ 6.5	5.5 ~ 6.5
	Coolant tank capacity	L.	600	650
	Std. NC controller (Fanuc)		0i-MF Plus (10.4")	0i-MF Plus (10.4")
	Floor space requirement	mm	5230 x 3600	7281 x 4511
	Max. machine height	mm	3000	3602
	Machine weight	kg	9840	21500

Standard accessories

- Chip conveyor with cart
- Spindle oil cooler
- Central partition guarding
- Fully enclosed splash guard
- Rigid tapping
- Remote MPG
- Hand tools and toolbox
- T nuts for table slot
- Built-in work light
- Auto power off system
- Leveling blocks
- Air conditioner for electric cabinet
- Moving CRT
- Handy air gun + coolant gun

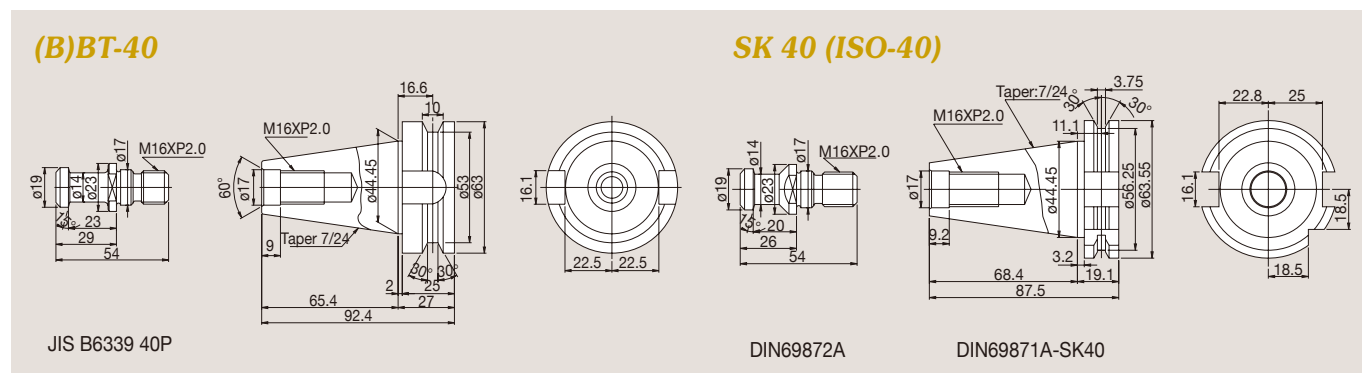
Optional accessories

- Air dryer for DCS spindle
- 32, 40 tool magazine
- Coolant through spindle (CTS)
- Linear scales
- Auto tool length measurement
- Stop block for special tool
- 4th / 5th axis interface
- Hydraulic interface
- Rotary tables
- Workpiece measurement
- Table flush system
- Oil skimmer
- Auto door
- Lateral windows with supporter
- SK-40 / CAT-40 tooling system

*Machine and controller specifications are subject to change without notice

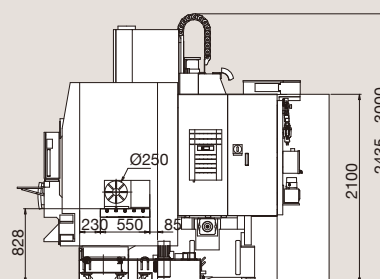
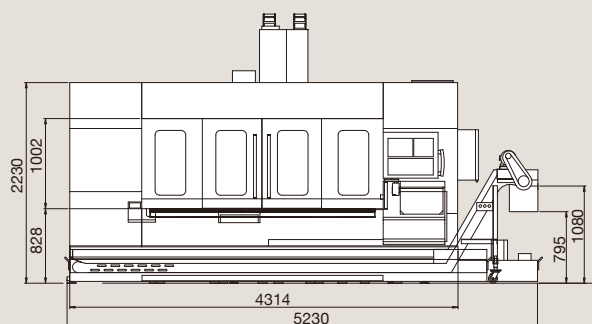
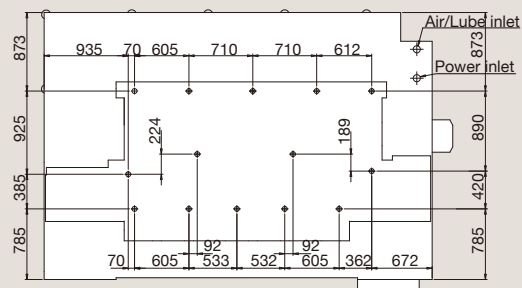
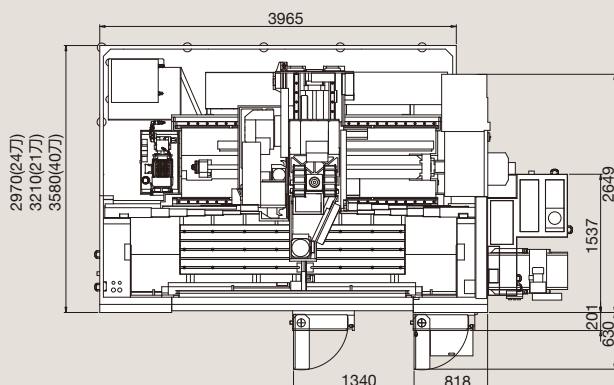
**Available with CE / UKCA / TS / GB certificates

Tool Shank

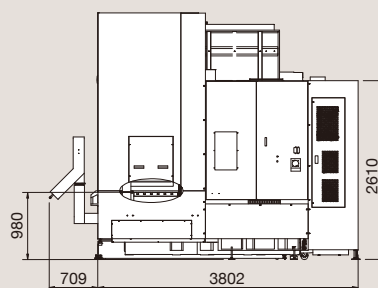
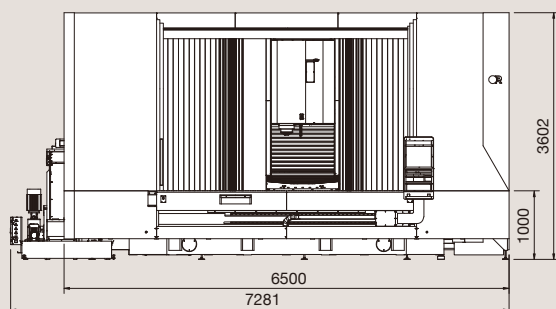
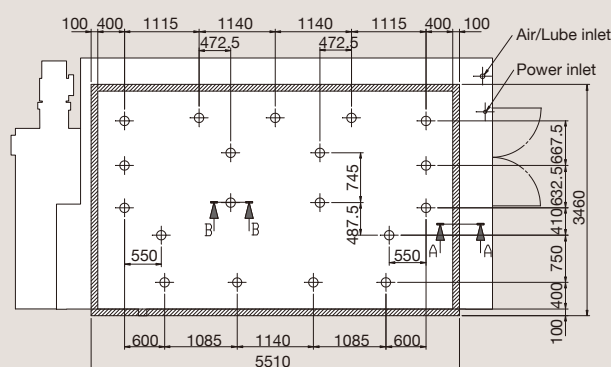
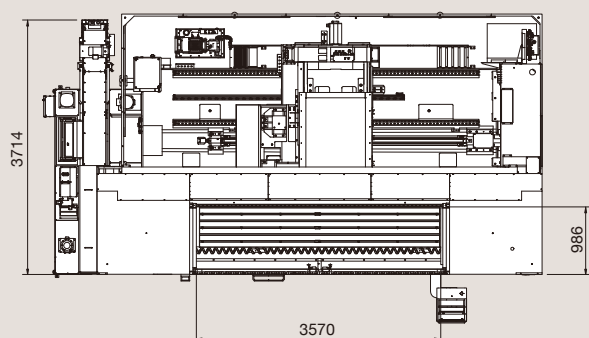


Machine Layout (excl. transformer)

Vcenter-205



Vcenter-305





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.



VMT-X260



Vcenter-NH5000



Vcenter-P136



THE VICTOR-TAICHUNG COMPANIES



HTL

VTL

VMC

HMC

XMT

PIM

TAIWAN

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