

VH Series

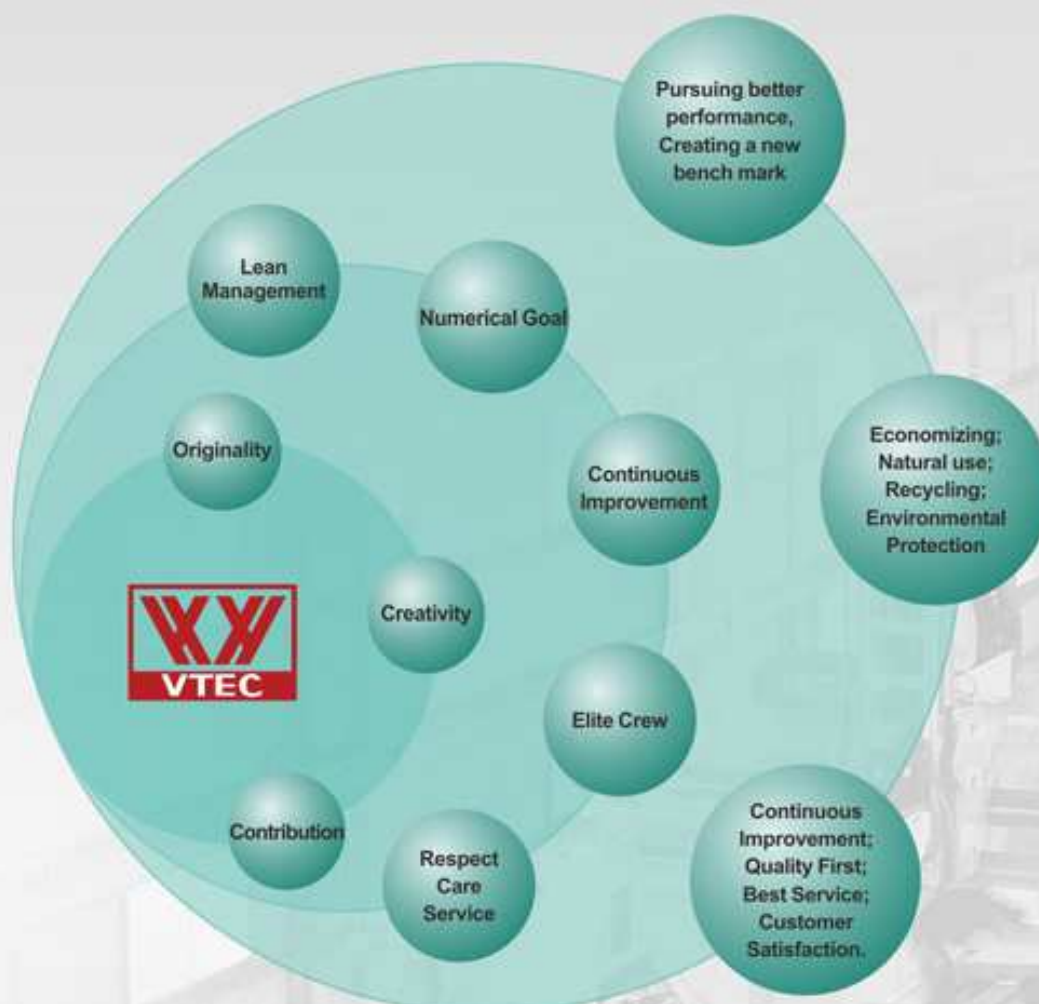


CNC Double Column Vertical Machining Center

3.0m / 3.5m Width
X,Y Axis Roller Type Linear Way
4 Guide Way for X Axis
VH-AH Automatic 5 Face Machining (opt.)



VISION WIDE TECH CO., LTD.



Pursuing better performance, Creating a new bench mark!

Vision Wide offers high quality and competitive priced products, our advantages are derived from customer-oriented machine designs, utilizing reliable high quality components and suppliers, integrating our precise process control during production, assembly and testing.

Pursuing better performance, Creating a new bench mark! We solidify our commitment to the company motto of "Originality", "Creativity", and "Contribution" for best performance and organizational enhancements from a professional team-based environment.

From the little improvements to the future new products, we have the technology for today's industries. We continue to make us more competitive nowadays and afterwards in the CNC machining centers.

High Value. High Precision.
High Reliability Products



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1. SF series

X: 2.1 - 4.1m (Linear way)
Y: 1.2 / 1.6 / 2.0m (Linear way)
Z: 800 / 1,000mm (Linear way)
Z: 800mm (Box way)



4. NF series

X: 2.2 - 10.2m
Y: 2.3 / 2.6m
Z: 920 / 1,020mm (Box way)
Z: 1,000 / 1,200mm (Linear way)



2. VB series

X: 2.0 - 4.0m
Y: 1.6 / 2.0m
Z: 800 / 1,020mm (Box way)



5. VH series

X: 4.2 - 10.2m
Y: 3.0 / 3.5 / 4.0m
Z: 1,000 (Box way)
Z: 1,000 / 1,200mm (Linear way)



3. VF series

X: 2.0 - 5.0m
Y: 2.3 / 2.6m
Z: 920 / 1,020mm (Box way)



6. BM series

X: 4.2m - 10.2m
Y: 3.0 / 3.5 / 3.7 / 4.2m
Z: 1,000 / 1,200mm
W: 1,000 / 1,200mm



7. Attachment Heads

Manual Attachment Heads (not available for BM)



90° angular head



Universal head



Extended head

Automatic Attachment Heads semi-auto 5-face machining (AC)
fully-auto 5-face machining (AH)



AC 90° angular head



AC 2-axis head



AC extended head

(not available for SF and VB)

4 Guide Way Bed X, Y Axis Roller Type Linear Way Rigid, Reliable, High Performance Machine

- Bed supported by 4 guide ways
- All made of casting structure: table, columns, beam, saddle, and headstock
- Roller type linear ways made by Japan or German (X, Y axis)
- VH & VH-AC type with Z axis box way headstock
- VH-AH type with Z axis linear way headstock
- Distance between columns: 3.0m / 3.5m
- Cutting length: 4.2m-10.2m
- Z stroke: 1,000mm
- VH-AH gear type: 4,200rpm / 6,000rpm (Opt.)
- VH & VH-AC gear type: 4,500rpm / 6,000rpm (Opt.)
- Extra wide front door opening
- ATC for vertical spindle or vertical-to-horizontal spindle (Opt. for VH-AH)
- Max. exchanging tool: Ø215mm x L450mm
- Pendulum type operation panel (Opt.)
- Head attachments: 90 degree / 30 degree / extended / universal / 2-axis
- AH type (Opt.): automatic head magazine / vertical-to-horizontal head exchange during 5 face machining
- Enhanced Vision Wide graphical user interface (for FANUC 0iMD / 31iB)

High pendulum type operation panel (Opt.)



Enclosed splash guard (without roof)



- Optimal center-line layout of the spindle system
- Columns and beams made of casting with larger cross-section area to ensure optimal rigidity
- Precision and smoothness in motion based on dual nitrogen cylinders, which are closed to spindle head and make a weight balance
- Feeding design for high precision and high stability
- Pre-tensioned ball screws with C3 grade
- Optimal rigidity at X axis based on gear power transmission
- Unique damping and supporting design for ball screws at X and Y axis (stroke > 4 m)





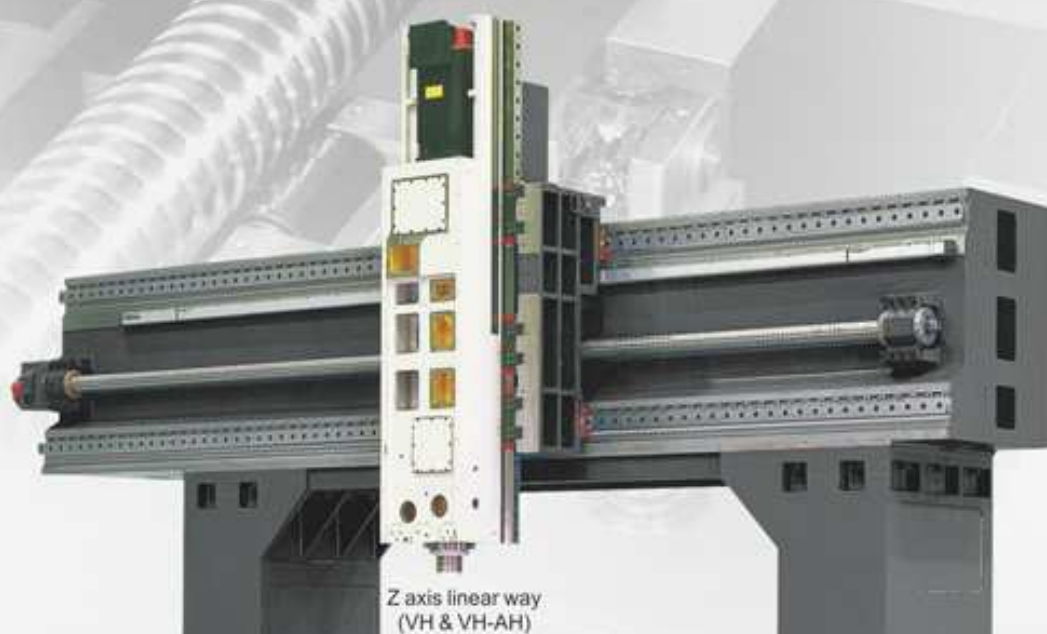
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Headstock Categories: VH / VH-AC / VH-AH

Spindle Type	VH	VH-AC	VH-AH
Automatic Tool Changing	Vertical	Vertical	Vertical & Horizontal
Head Magazine	Manual	Semi-automatic	Fully Automatic



Z axis box way
(VH & VH-AC)



Z axis linear way
(VH & VH-AH)

Photo shows VH-AH type structure

Best center-line layout of spindle system provides powerful and reliable performance!

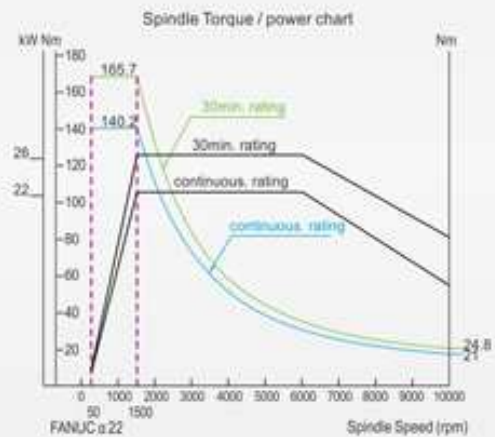
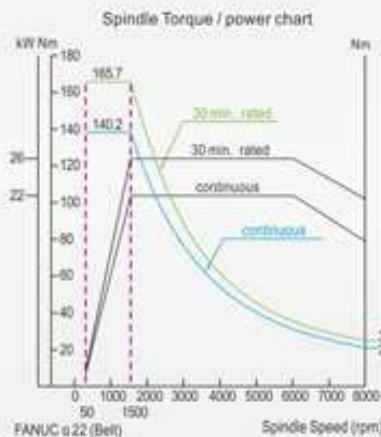


Design Feature of Spindle System

- Least thermal deformation based on box structure, and spindle centered at the interception point of motor, ball screw, and dual balancing weight
- Durable and stable gear box based on one piece casting design and short shaft
- High efficient power transmission with low noise are produced by Japanese JIS 0 grade gears
- Spindle made by the first class supplier
- Floating tool release mechanism
- Temperature cooling system for gears, bearings, and spindle
- Various spindle selections for versatile applications: 4,200 4,500 6,000 8,000 10,000rpm

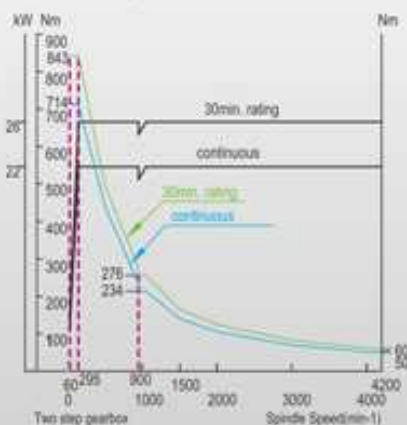
Spindle Power and Torque Chart

Belt-driven type / Direct-driven type

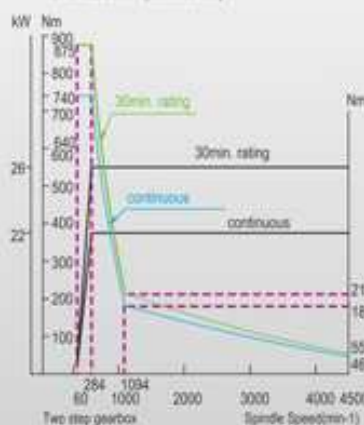


Gear type

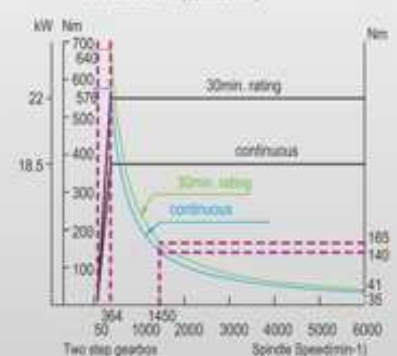
Power: 22/26 kW (cont./30min)



Power: 22/26 kW (cont./30min)



Power: 22/26 kW (cont./30min)



Fully automatic 5 face machining



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VH-AH package (Opt.)

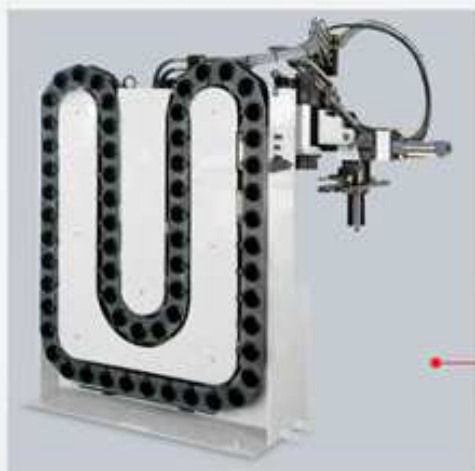
AC 90 degree head



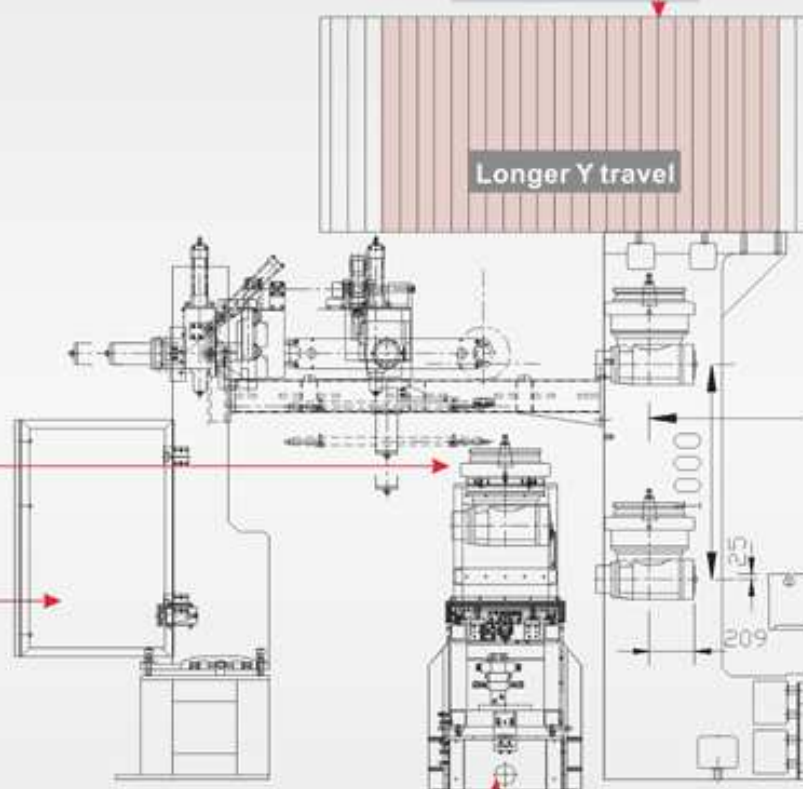
Spindle (power 22/26 kW)
Z axis, 1m linear way



60 tools V/H ATC



Longer Y travel



Automatic head magazine (1 head)



Automatic head magazine (3 heads)



Vision Wide convenient software for safe and easy operations

Concept of Software Development

Background of co-growing by experience sharing with customers. Design concept of simple, quick and convenient operation. Customer satisfaction from quick service and working process shortening. Win-win by supporting customers for productivity management.

VW FX

Tool Table



Tool table data
Tools status refer to ATC

Tool Compensation Table



Tool compensation data
Duty rate information

Tool Load Manager



Over load alarm for each tool
Setting range 0~120%
No need any further external hardware

Manual Tool Compensation & Measurement



Fast tool compensation
Manual tool compensation

Machine Status



Fast mappings of I/O and program comment
Quick maintenance

Calculator Function



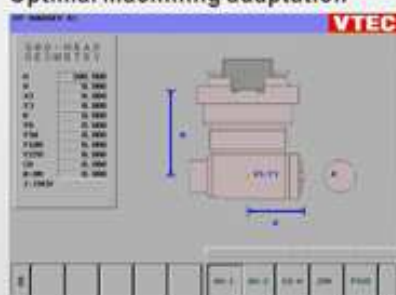
+, ×, ÷ arithmetic operations
Sine, cosine and tangent function
10 sets memory registering

Machining Parameter



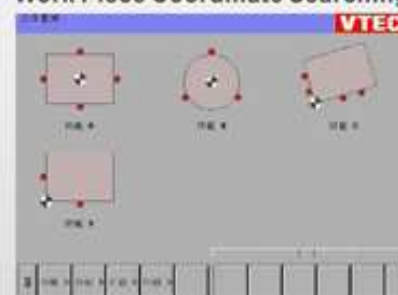
Additions 3 parameters for machining
The best efficiency machining modules
The highest precision machining modules
The smoothest machining modules

Optimal machining adaptation



V/H Tool length and diameter compensation
Working coordinates affine transformation and compensation (between different faces)
Automatic horizontal spindle center finding
V/H rigid tapping
V/H manual interrupting
V/H manual feeding
(V/H = vertical/horizontal)

Work Piece Coordinate Searching



Get the middle point of a rectangle geometry
Get the radius and center of a circular geometry
Calculate the tilted angle between a line and X axis
Get the corner of the included angle

In-time service
Efficiency management
Customer-oriented design

Remote control

Machine Status Monitor



Tools status refer to ATC
Duty rate information
Coordinates display
Running program display
Running function display

Factory Manager



Operation time counter
Duty rate counter
Machined parts counter

Productivity Analysis



Machine productivity analysis
Factory productivity analysis

Machine Parameter



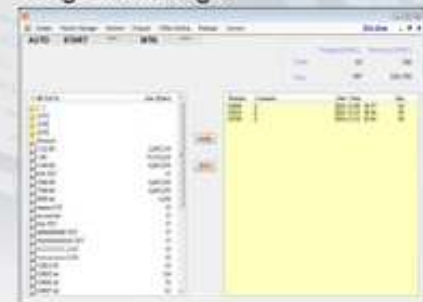
Built-in e-book for quick lookup
Easy parameter backup

Tool Compensation Table



Tool compensation data
Variable value setting in Macro

Program Manager



NC memory file manager
Data Server file manager
Simple and quick transfer

Machine Status Detecting



Quick checking of machine status by a remote PC (Timer/Keep relay/Counter/Data)

Numerical Controller



SIEMENS 840D



FANUC 0iMD / 31iB



HEIDENHAIN iTNC530 HSCI

With More Standard / Optional Accessories

- 01 High pendulum type operation pane (Opt.)
- 02 X axis ball screw supporter (4m above)
- 03 Pressured air assist balancing
- 04 Automatic tool changing: 40 / 60 (Opt.) / 90 tools (Opt.)
Max. exchanging tool : $\varnothing 180 \times L380$ mm
- 05 Gear reducer for X axis
- 06 Ring & nozzle type flood coolant
(only for box way spindle, it cannot be used with head attachment)
- 07 Heat exchanger for electrical cabinet
- 08 AC head with swing arm type head bracket (Opt.)
- 09 Cam type ATC
- 10 Splash water gun & air outlet
- 11 Operation manual
- 12 Screw type chip conveyor
- 13 Caterpillar chip conveyor / Chip cart (Opt.)
- 14 Spindle cooling system





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06



07



08



09



10



11



12



13



14

TPS Management

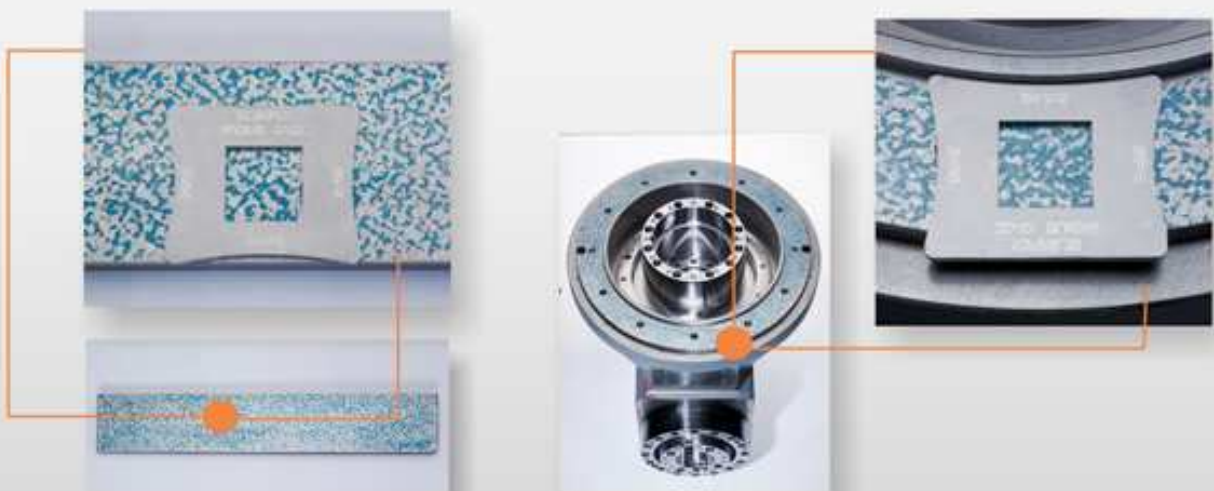
Under the guideline of constructing a thinking-active environment, while in the RD process, we set up the management of production quality. By imposing the necessary training in every key task and keeping continuous improvement, we pursuit the best performance of technology and quality.



Modular Production – After components assembled and tested, they will be combined with the main production line.



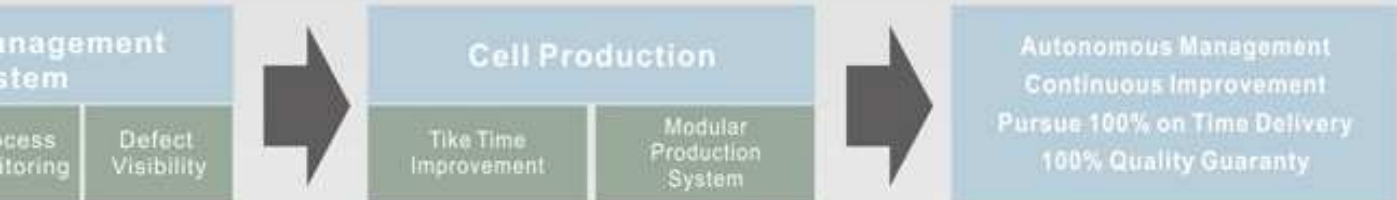
Craft of realization for high rigidity concerning assemble.



Sliding face: 15~20 scrapping spots, 70% contact rate
Fixed face: 25~30 scrapping spots, 70% contact rate



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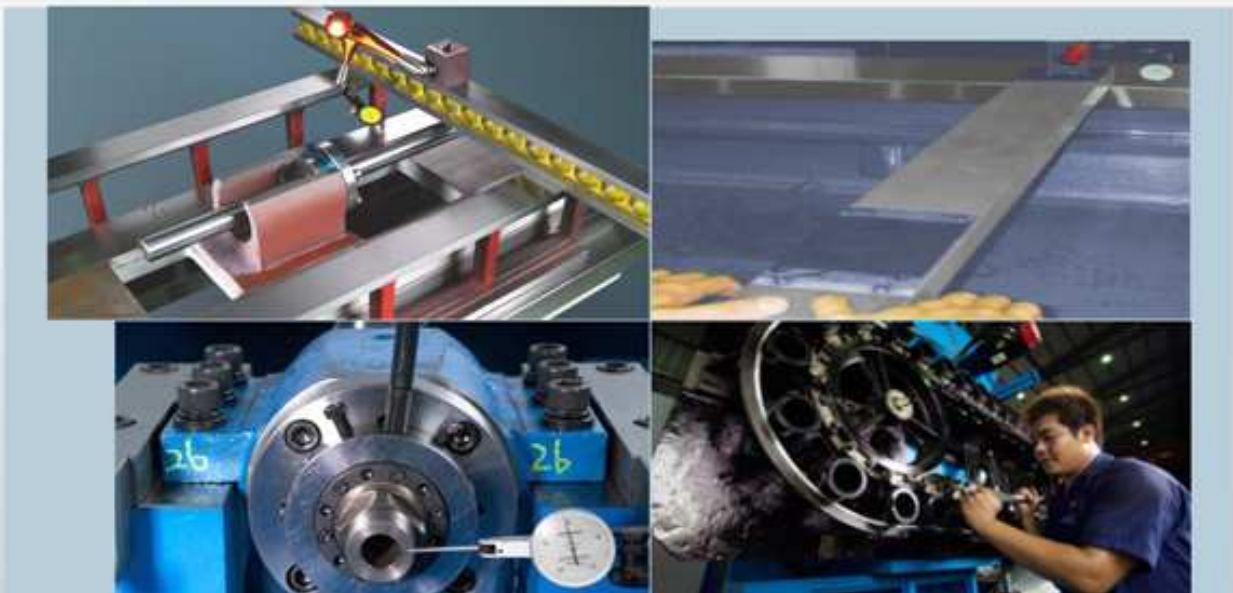
CNC software test and development



Max. measurement travel 20 m. Straightness is inspected by optical instruments.



Precision adjustment in every manufacturing process



ISO 9001:2008 Quality Management



Dynamic accuracy
(ISO 10791-7)



CMM inspection



Straightness inspection
with collimator

Quality
plan

Supplier
self-inspection

Continual
Improvement

Materials
inspection

We commit for
"Quality First"
by following P-D-C-A
process in every
production segment,
using the advanced
instruments and strict
quality standards.

Reliability
test

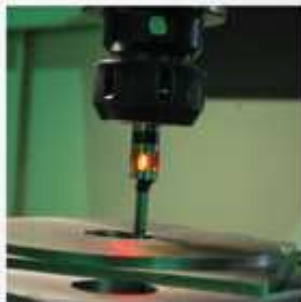
Assembly
inspection

Cutting
test

Geometric
accuracy
inspection

Positioning
accuracy
inspection

Function
test



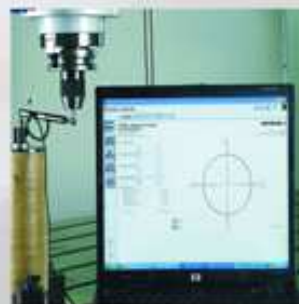
3D mold cutting



Vibration inspection



Heavy cutting



Circularity by ball bar test
(ISO 230-4)

High quality technology service

Annual maintenance and service



Frequent overseas service training given to agents so that profession and service are delivered



With FANUC e-handbook and remote control, the operator can query and monitor anywhere immediately.



Complete record

CAD/CAM analysis service

The CAD/CAM application team offers the best proposal according to customers' machining requirements.

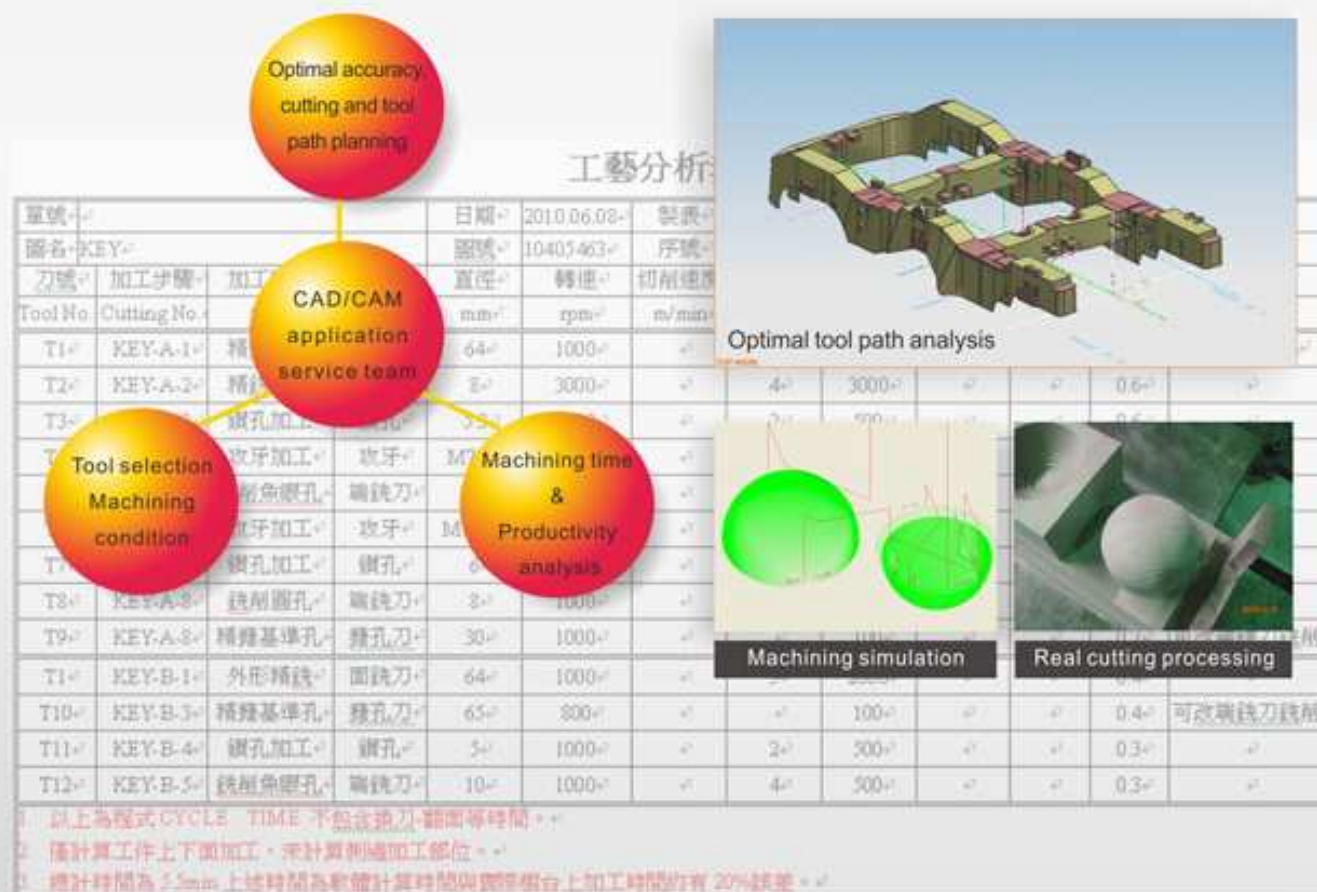
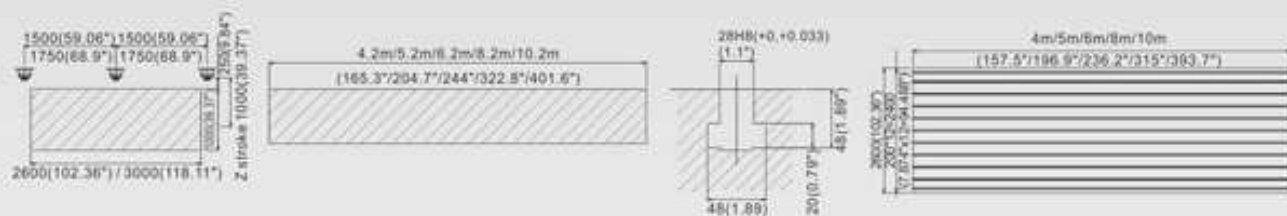


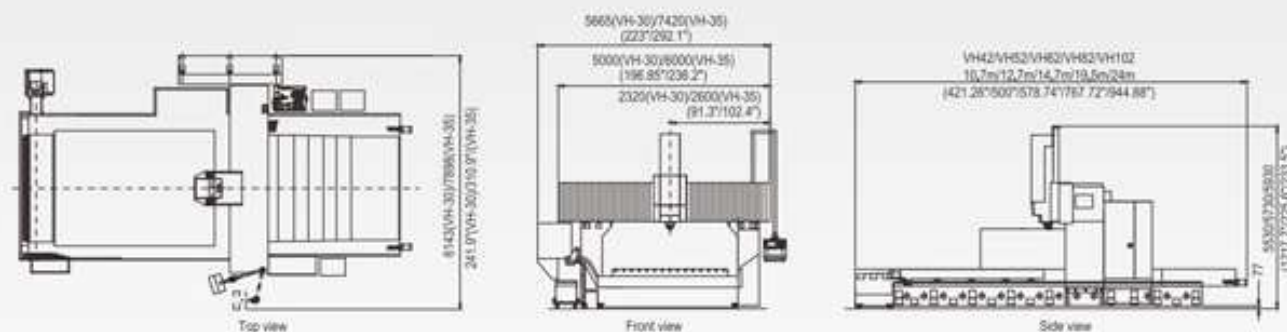
Table and T-slot Dimension

unit: mm(inch)



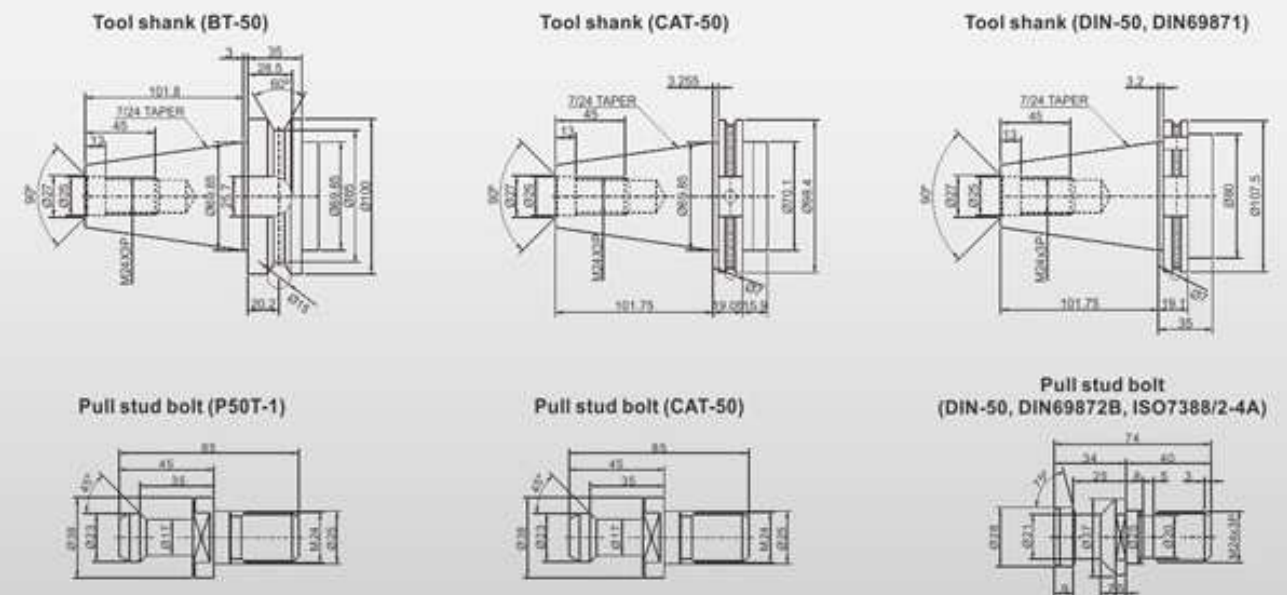
Major Machine Dimension

unit: mm(inch)



Tool Shank & Pull Stud Dimension

unit: mm



Attachment Heads

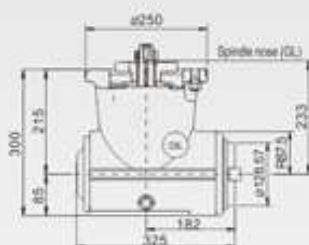


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Manual Attachments Heads



90° angular head

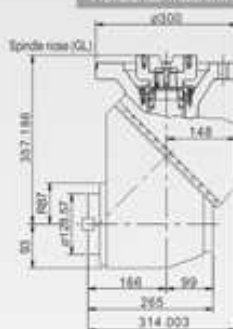


Max. power	11kW
Max. speed	2,000rpm
Spindle taper	#50
Head clamping	Manual
Axis indexing	Manual at C-axis



Universal head

Horizontal machining

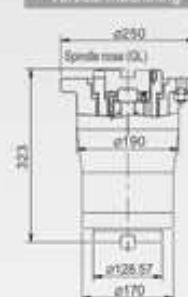


Max. power	11kW
Max. speed	1,200rpm
Spindle taper	#50
Head clamping	Manual
Axis indexing	Manual at A and C-axis



Extended head

Vertical machining

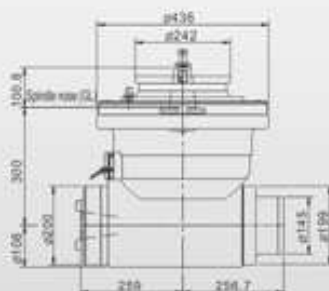


Max. power	11kW
Max. speed	2,000rpm
Spindle taper	#50
Head clamping	Manual
Axis indexing	Not available

Hydraulic Attachment Heads



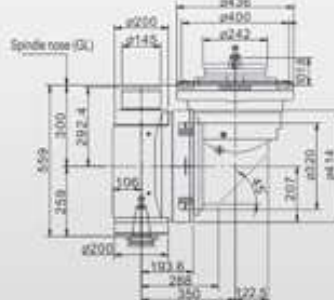
AC 90° angular head



Max. power	26kW
Max. speed	3,000rpm
Spindle taper	#50
Head clamping	Hydraulic
Axis indexing	Auto angular indexing (1°, C-axis)



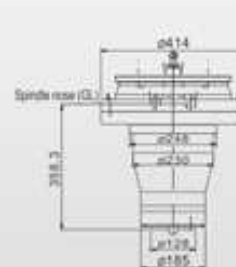
AC 2-axis head



Max. power	26kW
Max. speed	3,000rpm
Spindle taper	#50
Head clamping	Hydraulic
Axis indexing	Auto angular indexing (5°, C-axis)



AC extended head



Max. power	26kW
Max. speed	4,000rpm
Spindle taper	#50
Head clamping	Hydraulic
Axis indexing	Not available

VH series

MODEL	UNIT	VH-4230(AC)	VH-5230(AC)	VH-6230(AC)	VH-8230(AC)	VH-10230(AC)
TRAVEL						
X axis	mm	4,200	5,200	6,200	8,200	10,200
Y axis	mm	3,000				
Z axis	mm	1,000				
Spindle head structure (Z guide way)	mm	Box way for VH & VH-AC, Roller type linear way for VH-AH				
Distance from spindle nose to table	mm	225-1,225 (VH-AC), 250-1,250 (VH & VH-AH)				
Distance from spindle center to column	mm	455				
Distance between columns (port width)	mm	3,000				
TABLE						
Dimension	mm	4,000 x 2,600	5,000 x 2,600	6,000 x 2,600	8,000 x 2,600	10,000 x 2,600
T-slot (Width x Number x Pitch)	mm	28 x 13 x 200				
Max. table load	kg	20,000	24,000	28,000	32,000	36,000
SPINDLE						
Spindle motor (Continuous / 30 minutes rated)	kW	22 / 26				
Spindle speed (2-step gear)	rpm	4,200 / 6,000 (Opt.) for VH-AH, 4,500 / 6,000 (Opt.) for VH & VH-AC				
Spindle taper	-	ISO 50				
FEED						
Cutting feed rate	mm/min	1-7,000				
Rapid traverse	m/min	X Y: 10, Z: 12		X: 8, Y: 10, Z: 12		
X, Y, Z motor	kW	X: 9, Y: 4.5, Z: 3.5				
ACCURACY (X, Y, Z) (Measured by laser instrument)						
Positioning accuracy	Refer to JIS B6333	mm	± 0.005 / 300, ± 0.015 / Full travel			
	Refer to VDI 3441	mm	P0.045			
Repeatability	Refer to JIS B6333	mm	± 0.003			
	Refer to VDI 3441	mm	Ps0.035			
ATC						
Tool storage capacity	pcs	40 / 60 (Opt.)				
Automatic tool changing ability	-	Vertical				
Max. tool weight	kg	18				
Tool size (D x L) (Full tools)	mm	Ø125 x L450				
Max. tool size (D x L) (Next pockets empty)	mm	Ø215 x L450				
Tool shank	-	BT 50 / CAT 50				
Pull stud	-	P50T-1				
OTHERS						
Electric power consumption	kVA	60				
Machine net weight	kg	54,000	60,000	66,000	78,000	86,000
Machine gross weight	kg	58,000	65,000	72,000	86,000	94,000
Max. space volume (L x W x H)	m	12.0 x 7.3 x 5.6	14.0 x 7.3 x 5.6	17.0 x 7.3 x 5.6	21.0 x 7.3 x 5.6	25.0 x 7.3 x 5.6

Standard Accessory & Function

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> 01. Fanuc 0i MD controller 02. 4,200rpm (VH-AH), 4,500rpm (VH & VH-AC) two-step gear spindle 03. Spindle and gear box cooling system 04. Twin hydraulic cylinders with pressured air assistance balancing system 05. X,Y axis ball screw supporter (X > 4m) 06. Cantilevered and rotary operation panel 07. 40 tools magazine with arm type ATC (VH & VH-AC) 08. Centralized auto. lubrication system | <ul style="list-style-type: none"> 09. Independent lubrication oil collector 10. Four pieces splash guard 11. Working lamp 12. 3-color signal lamp 13. Air blast through spindle 14. Movable manual pulse generator 15. Wash gun and pneumatic interface 16. RS232 / RJ45 interface 17. Absolute pulse coder feedback 18. Vision Wide VW-FX graphical user interface | <ul style="list-style-type: none"> 19. Flood coolant system (Ring & Nozzle) (only for box way spindle, it cannot be used with head attachment) 20. Heat exchanger for electrical cabinet 21. Twin chip screws on table side 22. Caterpillar type chip conveyor 23. Foundation pads & bolts kits 24. Tool kits 25. Operation manual, PLC & electrical circuit diagram |
|---|--|---|



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VH-xx37 AH	VH-4235(AC)	VH-5235(AC)	VH-6235(AC)	VH-8235(AC)	VH-10235(AC)	VH-xx42 AH
as VH-xx30	4,200	5,200	6,200	8,200	10,200	as VH-xx35
3,700	3,500					4,200
	1,000					
as VH-xx30	Box way for VH & VH-AC, Roller type linear way for VH-AH 225-1,225 (VH-AC), 250-1,250 (VH & VH-AH)					as VH-xx35
	455					
	3,500					
as VH-xx30	4,000 x 3,000	5,000 x 3,000	6,000 x 3,000	8,000 x 3,000	10,000 x 3,000	as VH-xx35
	28 x 15 x 200					
as VH-xx30	20,000	24,000	28,000	32,000	36,000	as VH-xx35
	22 / 26					
50 ~ 4,200 / 6,000 (Opt.)	4,200 / 6,000 (Opt.) for VH-AH, 4,500 / 6,000 (Opt.) for VH & VH-AC					50 ~ 4,200 / 6,000 (Opt.)
	ISO 50					
	1-7,000					
as VH-xx30	X Y: 10, Z: 12	X: 8, Y: 10, Z: 12			as VH-xx35	
	X: 9, Y: 4.5, Z: 3.5					
	± 0.005 / 300, ± 0.015 / Full travel					
	P0.045					
	± 0.003					
	Ps0.035					
60 / 90 (Opt.)	40 / 60 (Opt.)					60 / 90 (Opt.)
Vertical and Horizontal	Vertical					Vertical / Horizontal
	18					
	Ø125 x L450					
	Ø215 x L450					
	BT 50 / CAT 50					
	P50T-1					
	60					
W + 2,000	56,000	62,000	68,000	82,000	90,000	W + 2,000
W + 2,000	60,000	67,000	74,000	90,000	98,000	W + 2,000
W = 8.9	12.0 x 7.8 x 5.6	14.0 x 7.8 x 5.6	17.0 x 7.8 x 5.6	21.0 x 7.8 x 5.6	25.0 x 7.8 x 5.6	W = 9.32

© All specifications are subjected to change without prior notice.

Optional Accessory & Function

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> 01. 6,000 rpm 2-step gear spindle 02. 60 tools magazine (VH & VH-AC) 03. ATC for vertical & horizontal spindle with 60 / 90 tools magazine (VH-AH) 04. Coolant through tool holder interface 05. Coolant through spindle system 06. Enclosed splash guard (without roof) 07. Full enclosed splash guard (with roof) 08. HEIDENHAIN linear scale feedback 09. 200 / 300 / 400 / 600 / 800 mm higher column 10. Sub working table | <ul style="list-style-type: none"> 11. Oil skimmer 12. Oil-mist cooling device 13. Rotary table 14. Interface preparation for rotary table (Machine contains within the hose and oil tank) 15. 3 axis manual pulse generator 16. Automatic tool length measurement (for vertical spindle) 17. Automatic work piece measurement | <ul style="list-style-type: none"> 18. Semi-automatic head attachment: 90 degree / extended / universal / 30 degree (VH & VH-AC) 19. Fully automatic head attachment: 90 degree / extended / 2-axis (VH-AH) 20. Z-axis retract function at power failure 21. Transformer 22. Chip cart |
|--|---|---|
- * AH type fully automatic 5-face machining package:
 Y travel extended 700 mm / Automatic heads changing /
 Automatic head magazine / ATC for vertical & horizontal spindle
 * AC: automatic clamping for diversified head attachment.



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VISION WIDE TECH CO., LTD.

No.43, 17th Industrial Rd., Taiping,
Taichung 41154, Taiwan
TEL: 886-4-2271 2000
FAX: 886-4-2271 2009
E-mail: info@visionwide.com.tw

Representative:

[http:// www.visionwide-tech.com](http://www.visionwide-tech.com)

Vertical. Bridge. 5-Face Machining Center