

VF Series

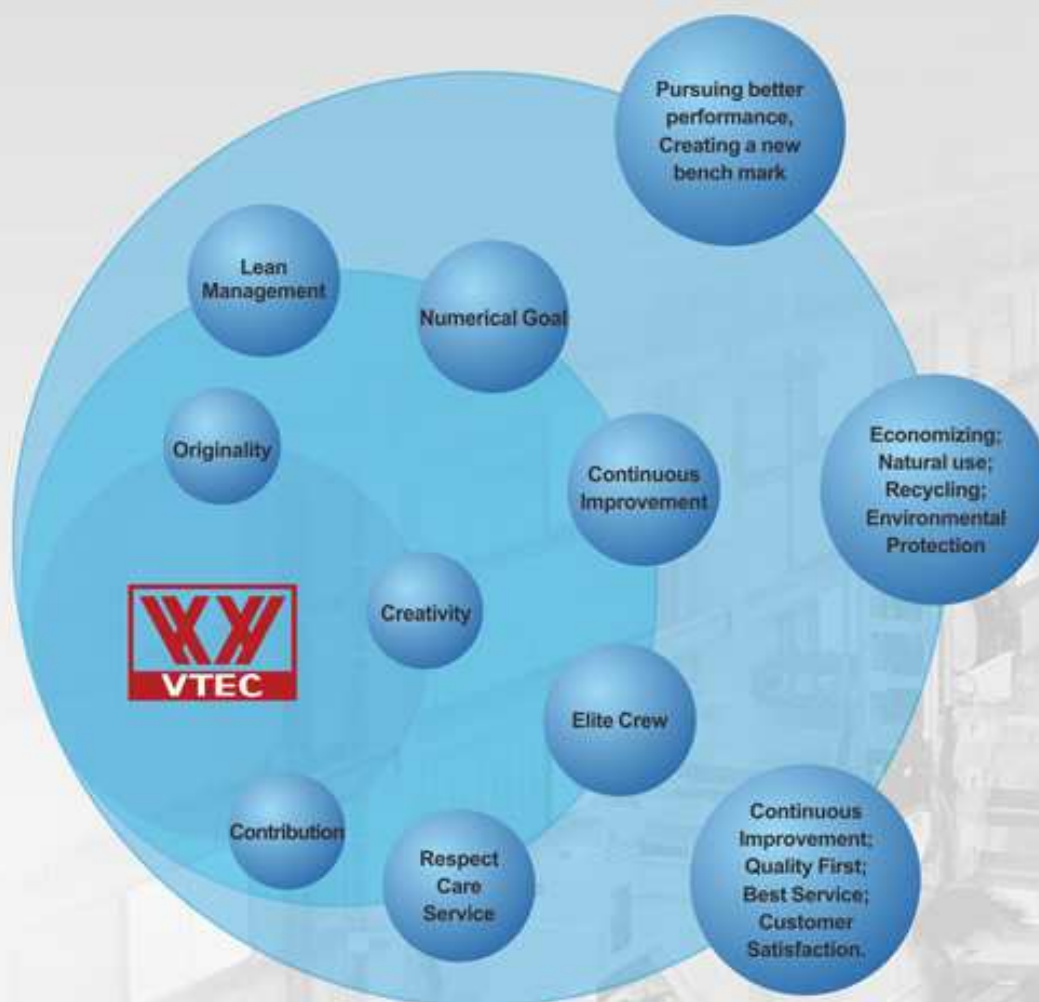


CNC Double Column Vertical Machining Center

Casting Structure
3 - Axis Box Way
Y axis Slant Beam with Triple Guide Ways
920 mm Z Stroke



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)

Casting Structure 3 Axis Box Way Rigid, Reliable, High Performance!

- All made of casting structure: base, columns, beam, saddle, and headstock
- X, Y, Z hardened box way with low friction Turcite material
- Distance between columns: 2.4m / 2.7m
- Cutting length: 2.2m-5.2m
- Z stroke: 920 / 1,020mm (Opt.)
- Extra wide front door opening
- Metal cover for Y axis
- Fast cam-type ATC
- Max. exchanging tool: Ø215mm x L450mm
- Pendulum type operation panel
- Head attachments (Opt.): 90 degree / extended / universal / 2-axis
- Enhanced Vision Wide FX series graphical user interface
(for FANUC 0iMD / 31iB)

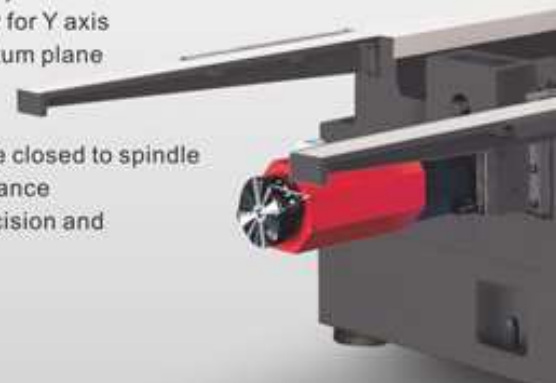


High splash guard for CTS (Opt.)



- 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 ≥ 4m)

- Optimal center-line layout of the spindle system
- Columns and beams made of casting with larger cross-section area to ensure optimal rigidity
- Slant beam with 3 guide way for Y axis
- Grinded table surface as datum plane
- 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





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



Box way

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: 4,500 6,000 8,000 10,000rpm

■ Gear type spindle (4,500 / 6,000 rpm)



■ Belt-driven type spindle (8,000 / 10,000 rpm)

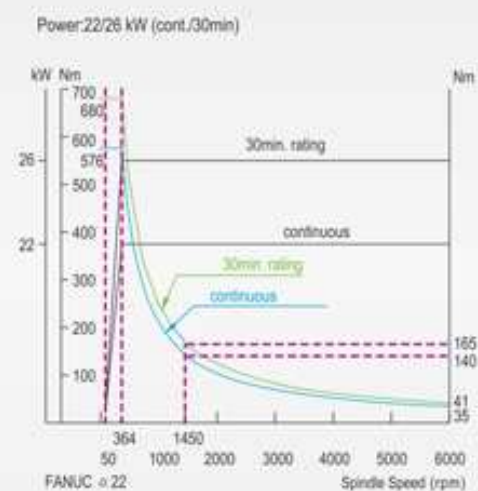
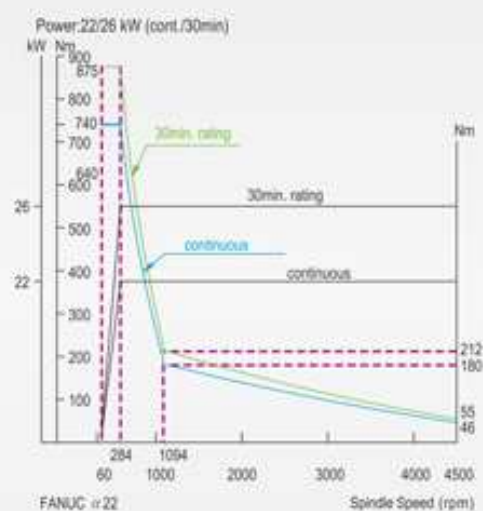
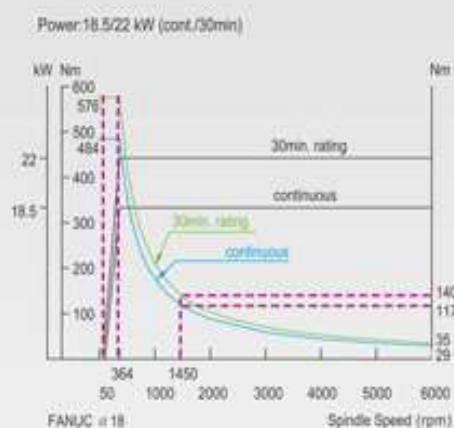
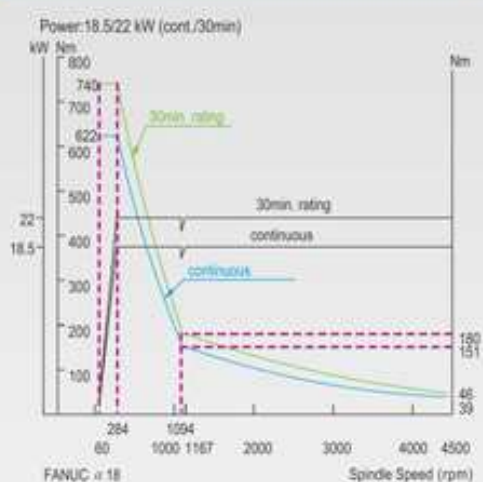


Twin Hydraulic cylinders plus pressured nitrogen accumulator balancing design provides smooth & accurate feeding performance. Cylinders are self-alignment, balancing force is set optimally by adjustable pressure valve. (SF/VB/VF/NF/VH)

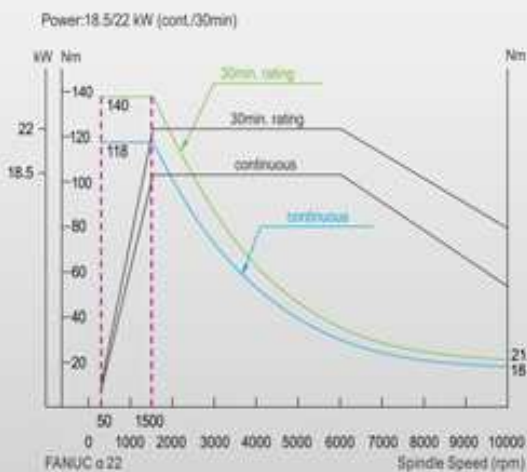
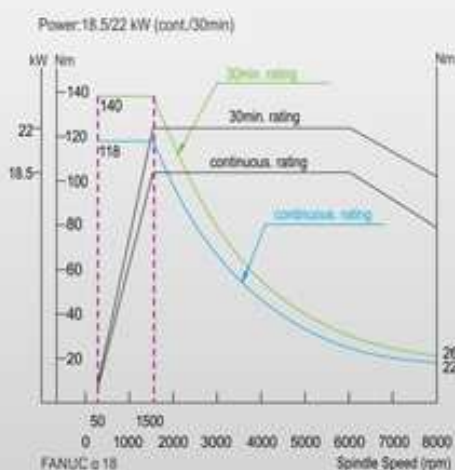


Spindle Power and Torque Chart

Gear type



Belt-driven type



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



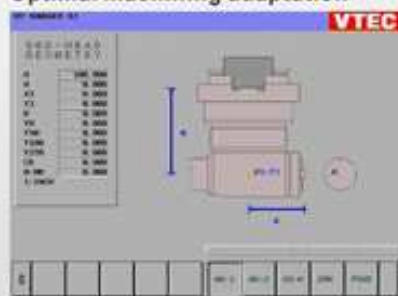
+, -, ×, ÷ arithmetic operations
Sine, cosine and tangent function
10 sets memory registering

Machining Parameter



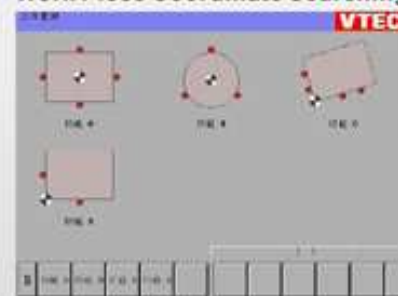
Additions 3 parameters for machining
The best efficiency machining modules
The highest precision machining modules
The smoothest machining modules

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

Service-oriented design

Efficiency management

In-time service

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



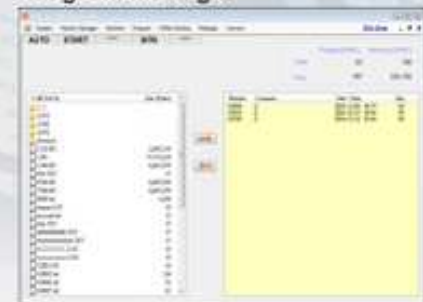
Built-in e-book for quick lookup
Easy parameter backup

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 / 31iMB



HEIDENHAIN iTNC530 HSCI

With More Standard / Optional Accessories

Accessories

- 01 Auto. tool length measurement (Opt.)
- 02 Ring & nozzle type flood coolant (incompatible with attachment heads)
- 03 X axis ball screw supporter (stroke $\geq 4m$)
- 04 Screw type chip conveyor
- 05 Ball screw cooling system (Opt.)
- 06 Heat exchanger for electrical cabinet
- 07 Splash water gun & air outlet
- 08 Cam type ATC
- 09 Operation manual
- 10 Pressured air assist balancing
- 11 Spindle cooling system
- 12 Caterpillar chip conveyor & cart (Opt.)





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Multi-layer front door design provides
the widest door opening



- Fast Cam-type Automatic Tool Changer
- 3 second tool-to-tool



- AC head with swing arm type head bracket (Opt.)

TPS Management

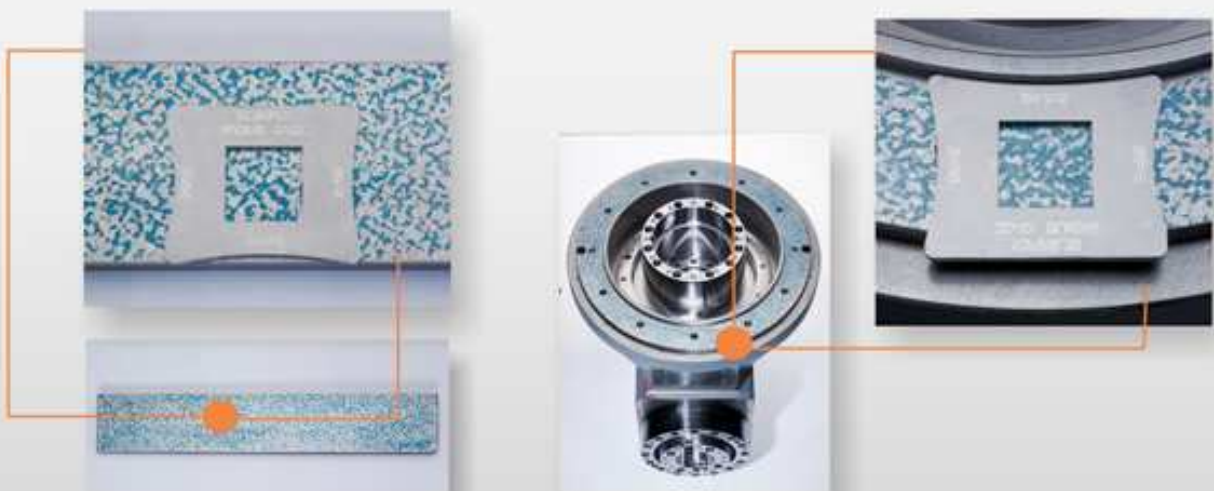
Under the guideline of constructing a thinking-active environment, while in the RD process, we set up the management of production quality. By imposing the necessary training in every key task and keeping continuous improvement, we pursuit the best performance of technology and quality.



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



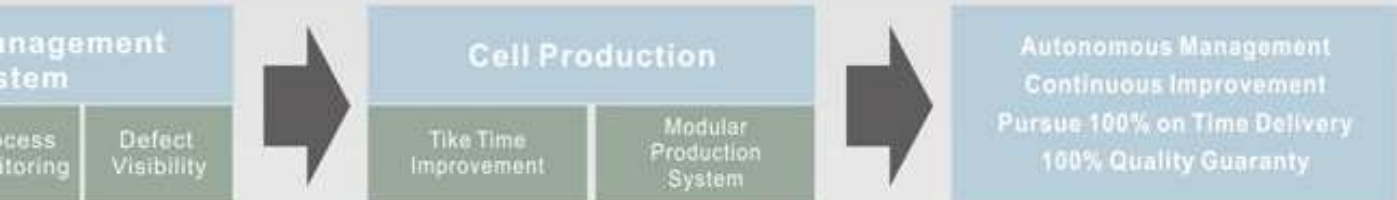
Craft of realization for high rigidity concerning assemble.



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



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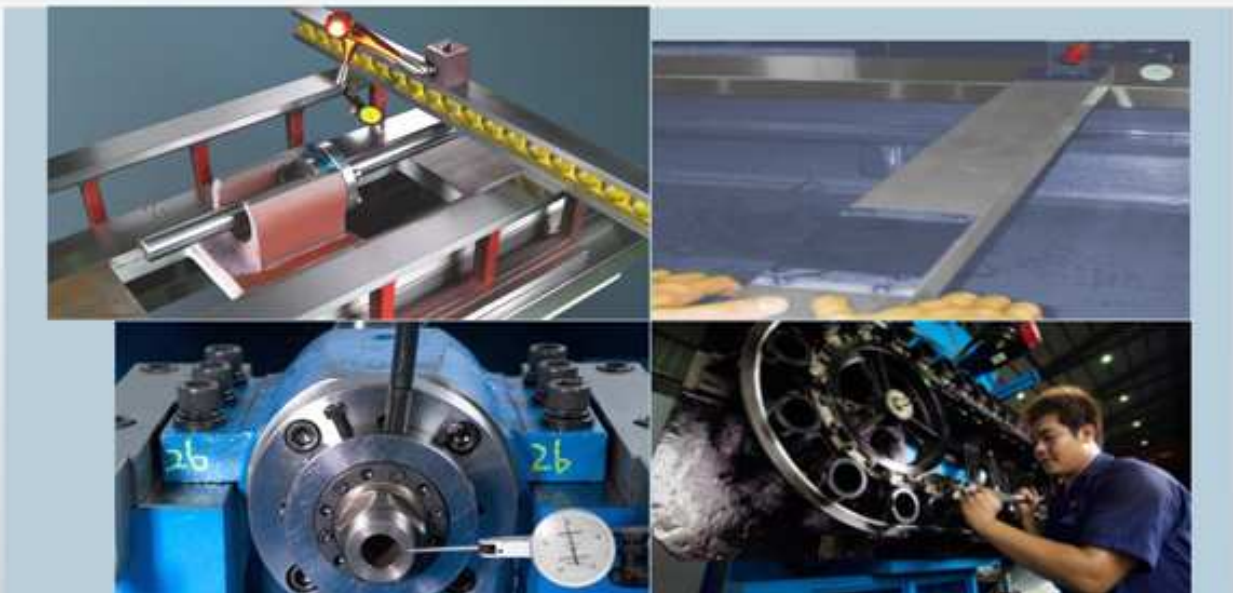
CNC software test and development



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



Precision adjustment in every manufacturing process



ISO 9001:2008 Quality Management

Quality & Inspection



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

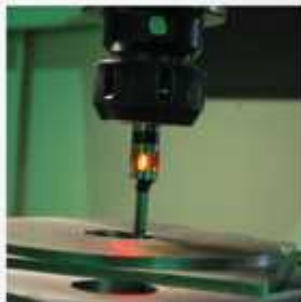
Assembly
inspection

Cutting
test

Geometric
accuracy
inspection

Positioning
accuracy
inspection

Function
test



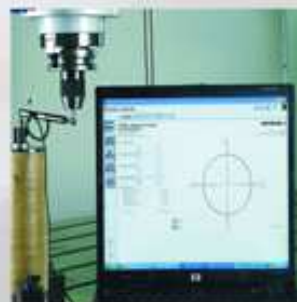
3D mold cutting



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



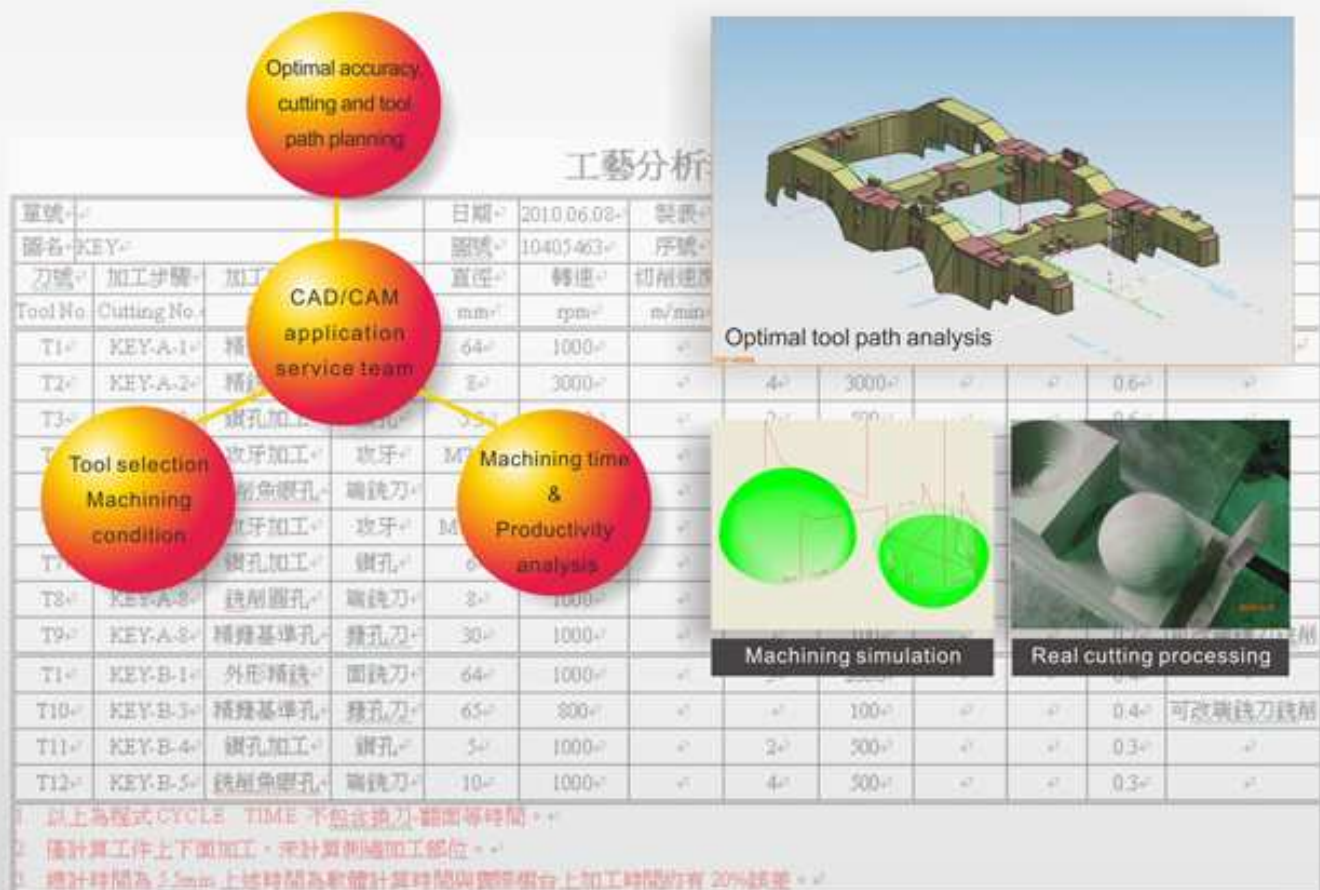
With FANUC e-handbook and remote control, the operator can query and monitor anywhere immediately.



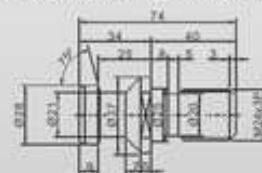
Complete record

CAD/CAM analysis service

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



unit: mm(inch)



Attachment Heads

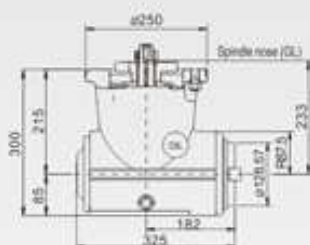


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Manual Attachments Heads



90° angular head

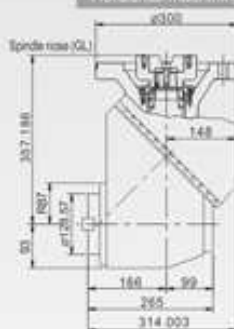


Max. power	11kW
Max. speed	2,000rpm
Spindle taper	#50
Head clamping	Manual
Axis indexing	Manual at C-axis



Universal head

Horizontal machining

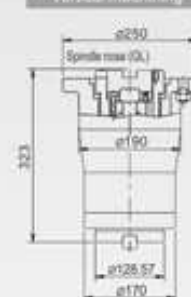


Max. power	11kW
Max. speed	1,200rpm
Spindle taper	#50
Head clamping	Manual
Axis indexing	Manual at A and C-axis



Extended head

Vertical machining

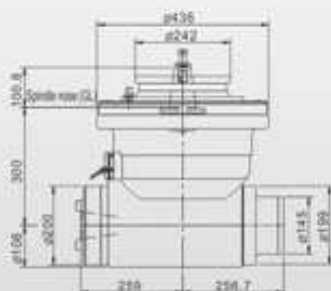


Max. power	11kW
Max. speed	2,000rpm
Spindle taper	#50
Head clamping	Manual
Axis indexing	Not available

Hydraulic Attachment Heads



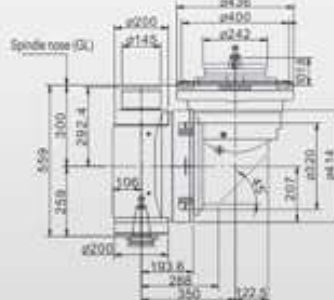
AC 90° angular head



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



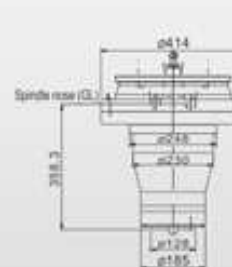
AC 2-axis head



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

VF series

MODEL	UNIT	VF-2000	VF-3000
TRAVEL			
X axis	mm	2,200	3,200
Y axis	mm	2,300	2,300
Z axis	mm	920 / 1,020 (opt.)	920 / 1,020 (opt.)
Distance from spindle nose to table	mm	150-1,070	150-1,070
Distance from spindle center to column	mm	390	390
Distance between columns (port width)	mm	2,400	2,400
TABLE			
Dimension	mm	2,200 x 2,050	3,200 x 2,050
T-slot (Width x Number x Pitch)	mm	28 x 11 x 180	28 x 11 x 180
Max. table load	kg	9,000	11,000
SPINDLE			
Spindle motor (Continuous / 30 minutes rated)	kW	18.5 / 22 (22 / 26 opt.)	
Spindle speed (2-step gear)	rpm	4,500 / 6,000 (opt.)	4,500 / 6,000 (opt.)
Spindle speed (Belt-driven)	rpm	8,000 / 10,000 (opt.)	8,000 / 10,000 (opt.)
Spindle taper		ISO NO. 50	ISO NO. 50
FEED			
Cutting feed rate	mm/min	1-7,000	1-7,000
Rapid traverse	m/min	X Y Z: 12	X Y Z: 12
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	P0.035
Repeatability	Refer to JIS B6333	mm	± 0.003
	Refer to VDI 3441	mm	Ps0.028
ATC			
ATC capacity	pcs	40 / 60 (opt.)	40 / 60 (opt.)
Max. tool weight	kg	18	18
Tool size (D x L) (Full tools)	mm	Ø125 x 450L	Ø125 x 450L
Max. tool size (D x L) (next pocket empty)	mm	Ø215 x 450L	Ø215 x 450L
Tool shank		BT 50 / CAT 50	BT 50 / CAT 50
Pull stud		P50T-1	P50T-1
OTHERS			
Electric power consumption	kVA	60	60
Machine net weight	kg	29,000	33,400
Machine gross weight	kg	32,000	37,100
Max. space volume	mm	8,000 x 6,100 x 4,700	10,000 x 6,100 x 4,700

Standard Accessory & Function

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> 01. Fanuc Oi MD controller 02. 4,500 rpm two-step gear spindle 03. Spindle and gear box cooling system 04. Twin hydraulic cylinders with pressured air assistance balancing system 05. X axis ball screw supporter (4m above) 06. 40 tools magazine with arm type ATC 07. Centralized auto. lubrication system 08. Independent lubrication oil collector | <ul style="list-style-type: none"> 09. Enclosed splash guard (without roof) 10. Working Light 11. 3-color signal lamp 12. Air blast through spindle 13. Movable manual pulse generator 14. Wash gun and pneumatic interface 15. RS232 / RJ45 interface 16. Absolute pulse coder feedback 17. Vision Wide VW-FX graphical user interface | <ul style="list-style-type: none"> 18. Flood coolant system (Ring & Nozzle) (without AC interface) 19. Heat exchanger for electrical cabinet 20. Twin chip screws on table side 21. Caterpillar type chip 22. Foundation pads and bolts kits 23. Tool kits 24. Operation manual, PLC & electrical circuit diagram |
|---|--|--|



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VF-4000	VF-5000	VF-3026	VF-4026	VF-5026
4,200	5,200	3,200	4,200	5,200
2,300	2,300	2,600	2,600	2,600
920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)
150-1,070	150-1,070	150-1,070	150-1,070	150-1,070
390	390	390	390	390
2,400	2,400	2,700	2,700	2,700
4,200 x 2,050	5,200 x 2,050	3,200 x 2,050	4,200 x 2,050	5,200 x 2,050
28 x 11 x 180	28 x 11 x 180	28 x 11 x 180	28 x 11 x 180	28 x 11 x 180
13,000	15,000	11,000	13,000	15,000
18.5 / 22 (22 / 26 opt.)				
4,500 / 6,000 (opt.)	4,500 / 6,000 (opt.)	4,500 / 6,000 (opt.)	4,500 / 6,000 (opt.)	4,500 / 6,000 (opt.)
8,000 / 10,000 (opt.)	8,000 / 10,000 (opt.)	8,000 / 10,000 (opt.)	8,000 / 10,000 (opt.)	8,000 / 10,000 (opt.)
ISO NO. 50	ISO NO. 50	ISO NO. 50	ISO NO. 50	ISO NO. 50
1-7,000	1-7,000	1-7,000	1-7,000	1-7,000
X: 10, Y Z: 12	X: 10, Y Z: 12	X Y Z: 12	X: 10, YZ: 12	X: 10, YZ: 12
± 0.005 / 300, ± 0.015 / Full Travel				
P0.035	P0.045	P0.035	P0.035	P0.045
± 0.003	± 0.003	± 0.003	± 0.003	± 0.003
Ps0.028	Ps0.028	Ps0.028	Ps0.028	Ps0.028
40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)
18	18	18	18	18
Ø125 x 450L	Ø125 x 450L	Ø125 x 450L	Ø125 x 450L	Ø125 x 450L
Ø215 x 450L	Ø215 x 450L	Ø215 x 450L	Ø215 x 450L	Ø215 x 450L
BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50
P50T-1	P50T-1	P50T-1	P50T-1	P50T-1
60	60	60	60	60
38,400	43,400	36,400	41,400	46,400
43,400	48,400	40,100	46,400	51,400
12,000 x 6,100 x 4,700	14,000 x 6,100 x 4,700	10,000 x 6,400 x 4,700	12,000 x 6,400 x 4,700	14,000 x 6,400 x 4,700

⊙ All specifications are subjected to change without prior notice.

Optional Accessory & Function

- | | | |
|--|--|---|
| 01. 6,000 rpm two-step gear spindle | 10. Oil skimmer | 16. Automatic work piece measurement |
| 02. 8,000 rpm / 10,000 rpm belt-driven spindle | 11. Oil mist cooling device | 17. Manual clamping heads: 90 degree / extended / universal |
| 03. 60 tool magazine | 12. Rotary table | 18. Semi-auto clamping heads: 90 degree |
| 04. Coolant through tool holder interface | 13. Interface preserved for rotary table (Machine contains within the hose and oil tank) | 19. Transformer |
| 05. Coolant through spindle system | 14. 3-axis manual pulse generator | 20. Chip cart |
| 06. Ball screw cooling system | 15. Automatic tool length measurement | 21. Z-axis retract function at power failure |
| 07. HEIDENHAIN linear scale feedback | | 22. Full enclosure splash guard |
| 08. 200 / 300 / 400 mm higher column extension | | |
| 09. Sub working table | | |



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Vertical, Bridge, 5-Face Machining Center