VF Series

VISION WIDE

WIDEN YOUR CUTTING VISION

VISION WIDE TECH CO., LTD.

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Representative:

Daya 04-24521567 - 2013.09.1000

CNC Double Column Vertical Machining Center

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

http:// www.visionwide-tech.com

Vertical. Bridge. 5-Face Machining Center

VISION WIDE TECH CO., LTD.

High Value. High Precision.
High Reliability Products

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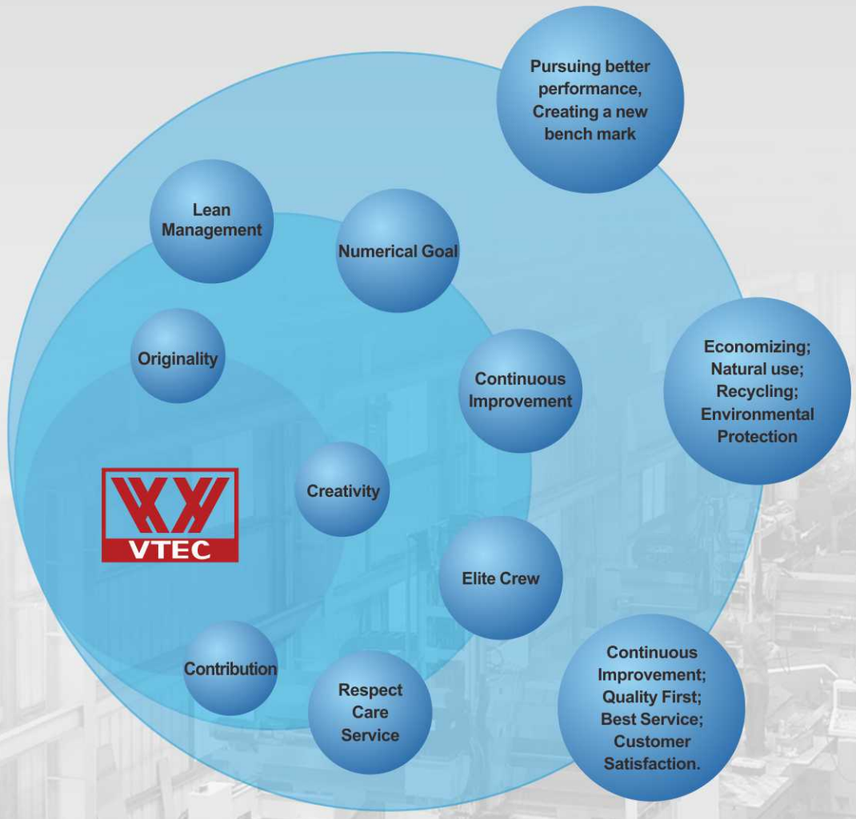


Pursuing better performance, Creating a new bench mark!

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.


VB Series


SF Series


VF Series

Attachment Heads

Manual Attachment Heads
(not available for BM)


90° angular head | Universal head | Extended head

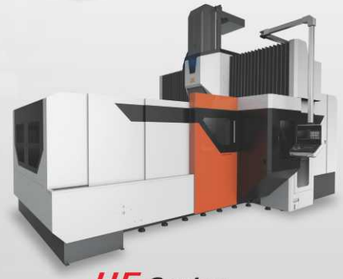
Automatic Attachment Heads
Auto 5-face machining / fully-auto 5-face machining


AC 90° angular head | AC 2-axis head | AC extended head
(not available for VB)


NF Series


FA Series


BM Series


HF Series

VB series
X: 1.5 - 4.0m
Y: 1.6 / 2.0m
Z: 800 / 1,020mm (Box way)

SF series
X: 2.1 - 4.1m (Linear way)
Y: 1.2 / 1.6 / 2.0 / 2.3 / 2.7m (Linear way)
Z: 800 / 1,000mm (Linear way)
Z: 800 / 1,020mm (Box way)

VF series
X: 3.2 - 5.2m
Y: 2.3 / 2.6m
Z: 920 / 1,020mm (Box way)

NF series
X: 2.2 - 10.2m
Y: 2.3 / 2.6 / 3.0 / 3.3 / 3.2 / 3.9m
Z: 920 / 1,020mm (Box way)
Z: 1,000 / 1,200 / 1,400mm (Linear way)

FA series
X: 3.2 - 6.2m
Y: 3.3 / 3.9m
Z: 1,000 / 1,200mm

HF series
X: 4.2 - 10.2m
Y: 3.0 / 3.5 / 4.0m
Z: 920 / 1,020mm (Box way)
Z: 1,000 / 1,200 / 1,400mm (Linear way)

BM series
X: 4.2 - 10.2m
Y: 3.0 / 3.5 / 3.7 / 4.2m
Z: 1,000 / 1,200 / 1,400mm
W: 1,000 / 1,200 / 1,300 / 1,400 / 1,500mm

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

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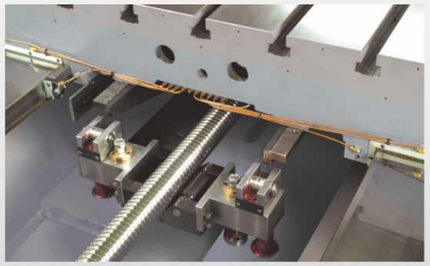
Machine Features

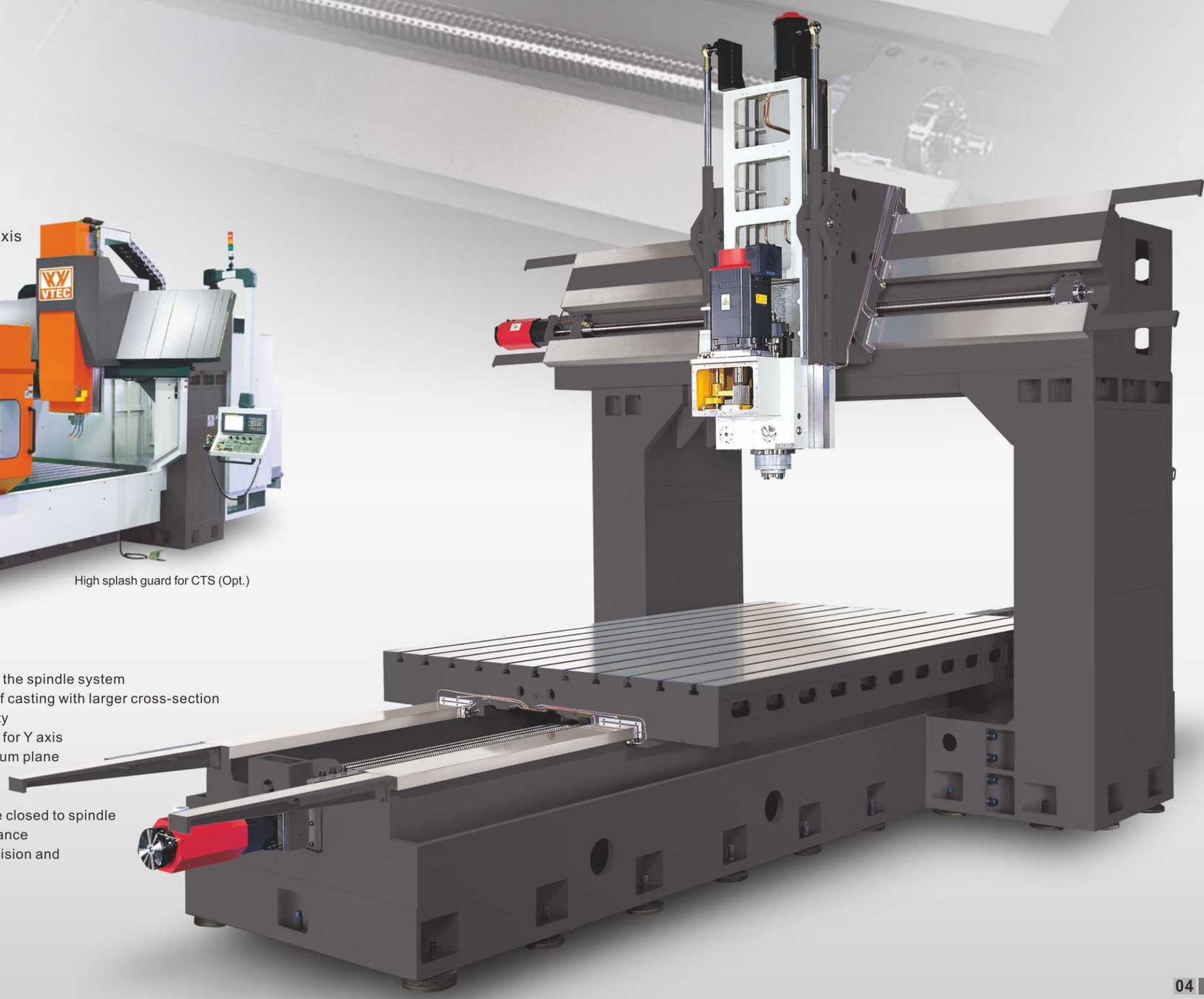
- All made of casting structure: base, columns, beam, saddle, and headstock
- X, Y, Z hardened box way with low friction Turcite material
- Distance between columns: 2.4m / 2.7m
- Cutting length: 3.2m-5.2m
- Z stroke: 920 / 1,020mm (Opt.)
- Extra wide front door opening
- Metal cover for Y axis
- Fast 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



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

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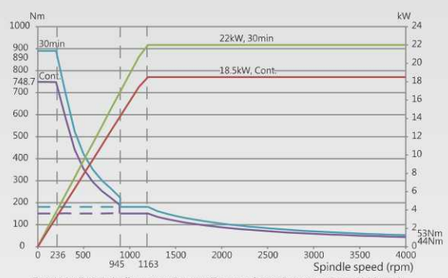
Box way

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

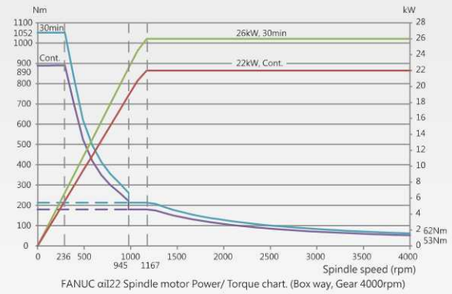
Spindle Power and Torque Chart

Gear type

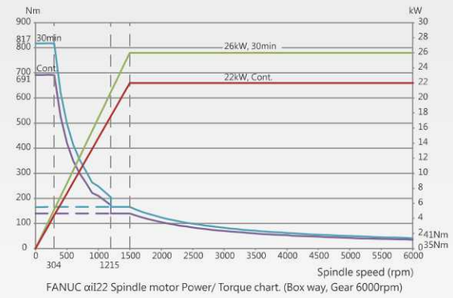


FANUC αiI18 Spindle motor Power/ Torque chart. (Box way, Gear 4000rpm)

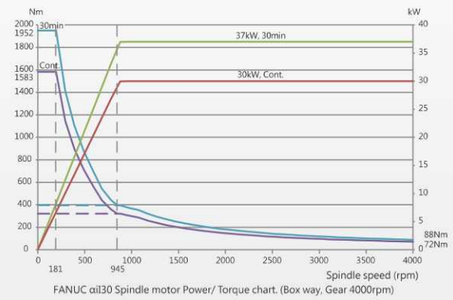
FANUC αiI18 Spindle motor Power/ Torque chart. (Box way, Gear 6000rpm)



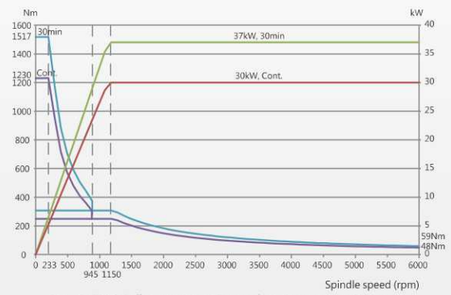
FANUC αiI22 Spindle motor Power/ Torque chart. (Box way, Gear 4000rpm)



FANUC αiI22 Spindle motor Power/ Torque chart. (Box way, Gear 6000rpm)

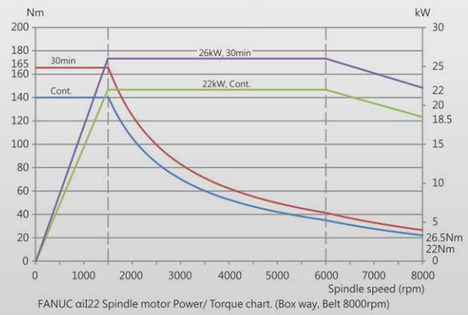


FANUC αiI30 Spindle motor Power/ Torque chart. (Box way, Gear 4000rpm)

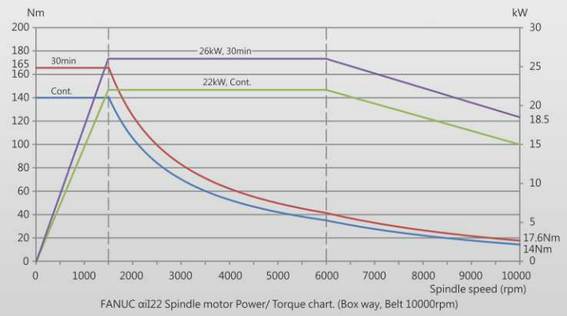


FANUC αiI30 Spindle motor Power/ Torque chart. (Box way, Gear 6000rpm)

Belt-driven type

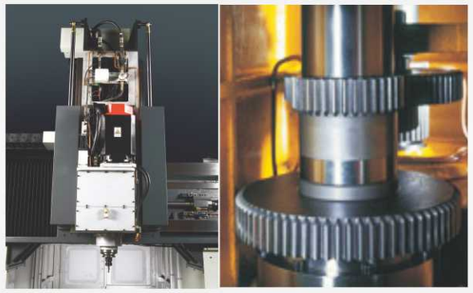


FANUC αiI22 Spindle motor Power/ Torque chart. (Box way, Belt 8000rpm)



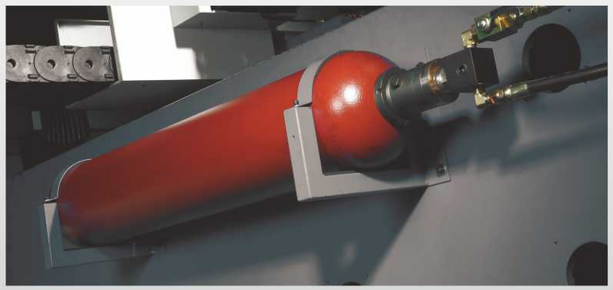
FANUC αiI22 Spindle motor Power/ Torque chart. (Box way, Belt 10000rpm)

■ Gear type spindle (4,000 / 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)



Vision Wide convenient software for safe and easy operations

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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

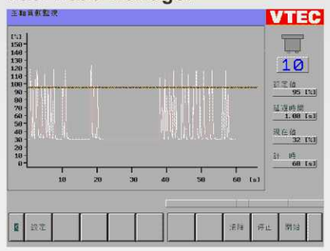
Tool Table

Tool table data
Tools status refer to ATC

Tool Compensation Table

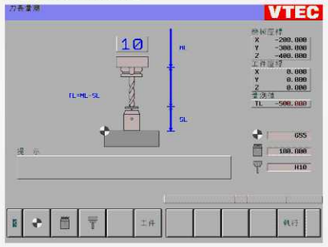
Tool compensation data
Duty rate information

Tool Load Manager



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

Manual Tool Compensation & Measurement

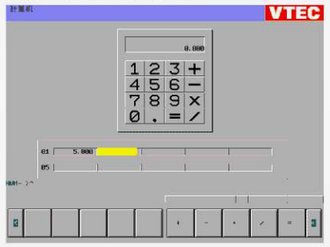


Fast tool compensation
Manual tool compensation

Machine Status

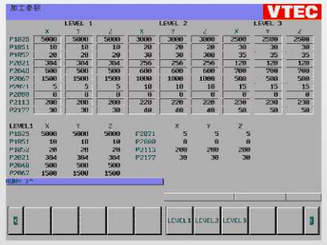
Fast mappings of I/O and program comment
Quick maintenance

Calculator Function



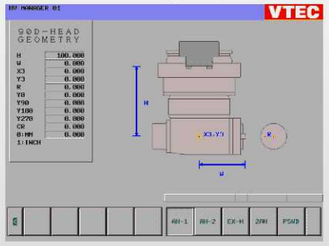
+, , ×, ÷ arithmetic operations
Sine, cosine and tangent function
10 sets memory registering

Machining Parameter



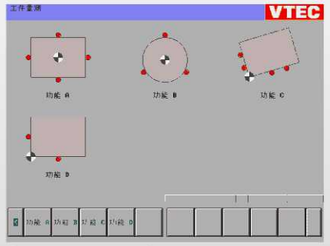
Additions 3 parameters for machining
The best efficiency machining modules
The highest precision machining modules
The smoothest machining modules

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)

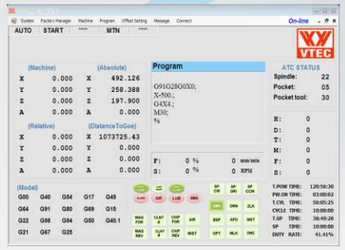
Work Piece Coordinate Searching



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

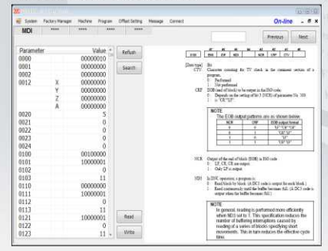
Remote control

Machine Status Monitor



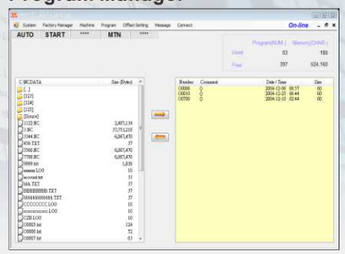
Tools status refer to ATC
Duty rate information
Coordinates display
Running program display
Running function display

Machine Parameter



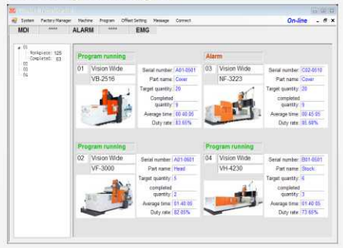
Built-in e-book for quick lookup
Easy parameter backup

Program Manager



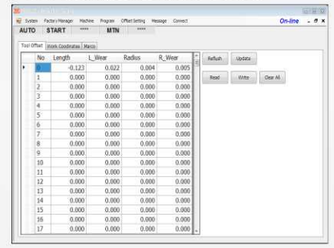
NC memory file manager
Data Server file manager
Simple and quick transfer

Factory Manager



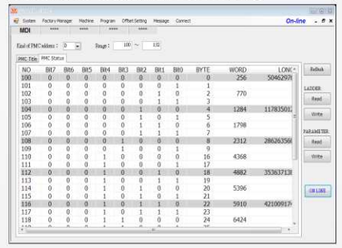
Operation time counter
Duty rate counter
Machined parts counter

Tool Compensation Table



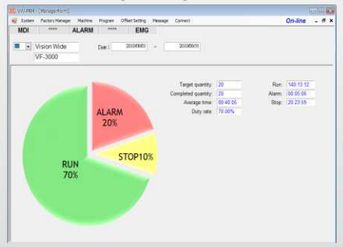
Tool compensation data
Variable value setting in Macro

Machine Status Detecting



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

Productivity Analysis



Machine productivity analysis
Factory productivity analysis

Numerical Controller

SIEMENS 840D

FANUC 0iMD / 31iB

HEIDENHAIN iTNC530 HSCI

With More Standard / Optional Accesssories

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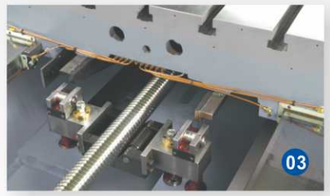
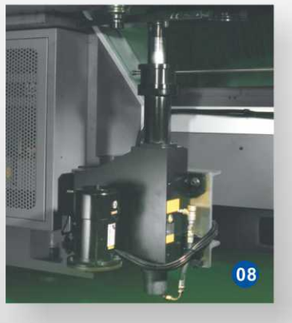
01 Auto. tool length measurement (Opt.)
02 Ring & nozzle type flood coolant (incompatible with attachment heads)
03 X axis ball screw supporter (stroke≧ 4m)
04 Screw type chip conveyor
05 Ball screw cooling system
06 Heat exchanger for electrical cabinet
07 Splash water gun & air outlet
08 Cam type ATC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





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

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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.

Productivity Diagram — Production Planning | Quality Management

→ **Key Job Analysis** — Production Layout Management | Training Standardization

→ **Visual Management System** — Pull Production System | Process Monitoring | Defect Visibility

→ **Cell Production** — Tike Time Improvement | Modular Production System

→ **Autonomous Management**
Continuous Improvement
Pursue 100% on Time Delivery
100% Quality Guaranty

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

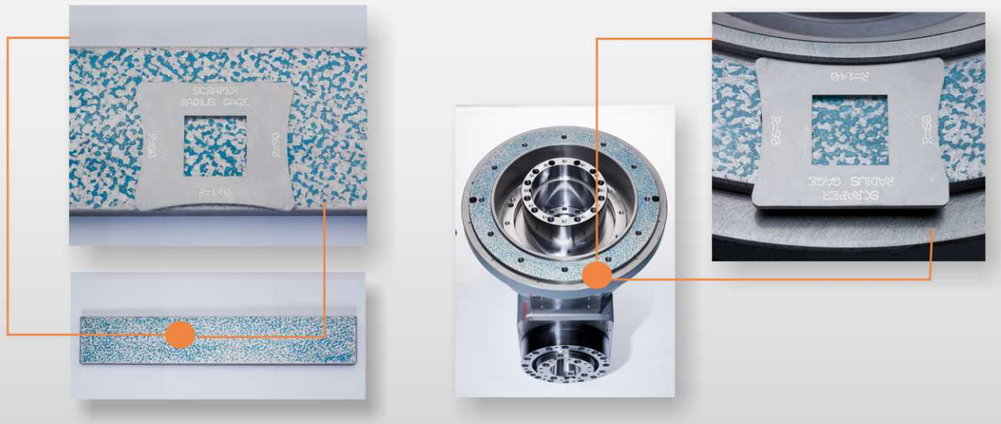

Headstock


Angle head checking and running

CNC software test and development

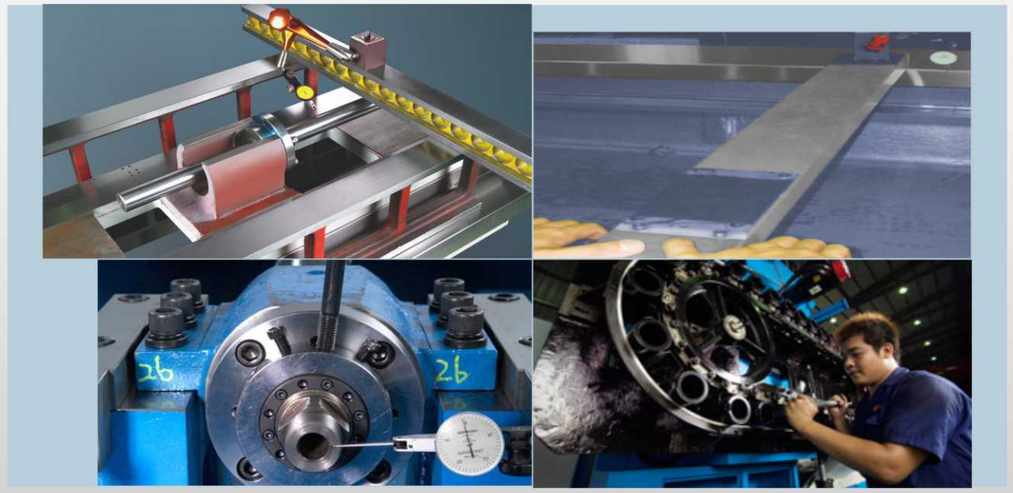
Max. measurement travel 20 m. Straightness is inspected by optical instruments.

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

Precision adjustment in every manufacturing process



ISO 9001:2008 Quality Management

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CMM inspection

Dynamic accuracy
(ISO 10791-7)

Straightness inspection
with collimator

Quality plan

Supplier self-inspection

Continual Improvement

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

Materials inspection

Reliability test

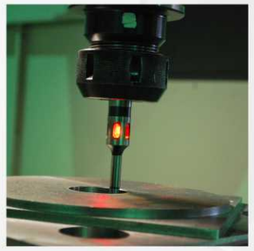
Assembly inspection

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

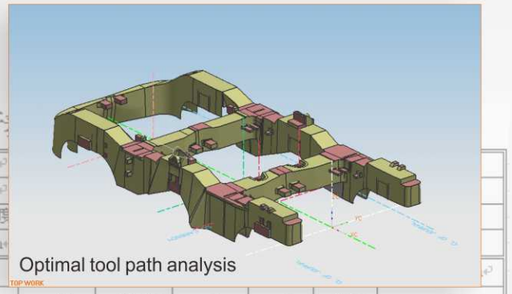
The CAD/CAM application team offers the best proposal according to customers' machining requirements.

Optimal accuracy, cutting and tool path planning

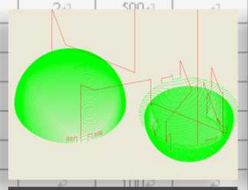
CAD/CAM application service team

Tool selection Machining condition

Machining time & Productivity analysis



Optimal tool path analysis



Machining simulation

Real cutting processing

工藝分析

單號				日期	2010.06.08	製表						
圖名	KEY			圖號	10405463	序號						
刀號	加工步驟	加工		直徑	轉速	切削速度						
Tool No.	Cutting No.			mm	rpm	m/min						
T1	KEY-A-1	精		64	1000							
T2	KEY-A-2	精銑		8	3000		4	3000			0.6	
T3		鑽孔加工	鑽孔									
T		攻牙加工	攻牙	M								
		銑削魚眼孔	端銑刀									
		攻牙加工	攻牙	M								
T7		鑽孔加工	鑽孔	6								
T8	KEY-A-8	銑削圓孔	端銑刀	8	1000							
T9	KEY-A-8	精搪基準孔	搪孔刀	30	1000							
T1	KEY-B-1	外形精銑	面銑刀	64	1000							
T10	KEY-B-3	精搪基準孔	搪孔刀	65	800			100			0.4	可改端銑刀銑削
T11	KEY-B-4	鑽孔加工	鑽孔	5	1000		2	500			0.3	
T12	KEY-B-5	銑削魚眼孔	端銑刀	10	1000		4	500			0.3	

1. 以上為程式 CYCLE TIME 不包含換刀-翻面等時間。
2. 僅計算工件上下面加工，未計算側邊加工部位。
3. 總計時間為 5.5min 上述時間為軟體計算時間與實際機台上加工時間約有 20%誤差。

Attachment Heads

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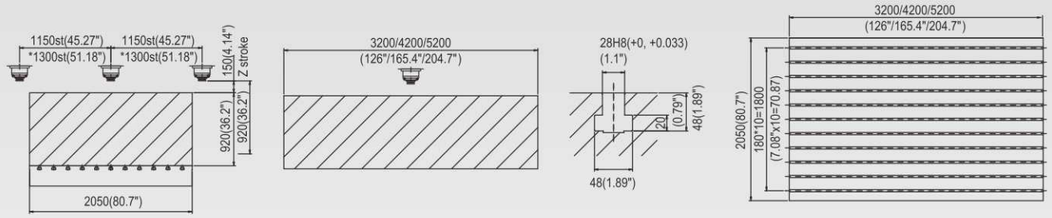
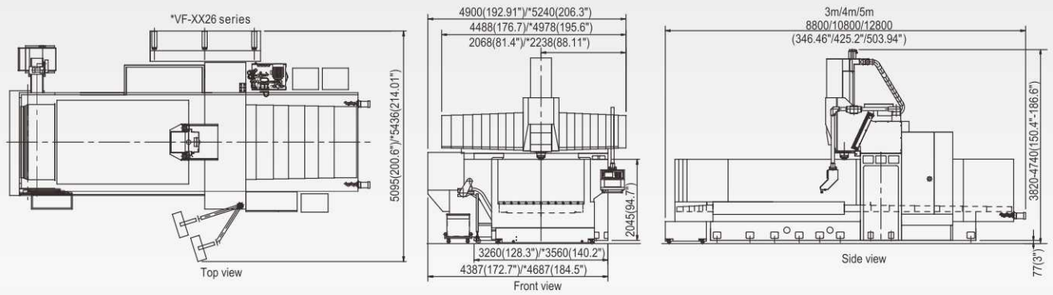
Table and T-slot Dimension

unit: mm(inch)



Major Machine Dimension

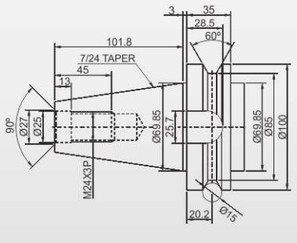
unit: mm(inch)



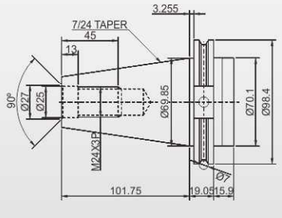
Tool Shank & Pull Stud Dimension

unit: mm

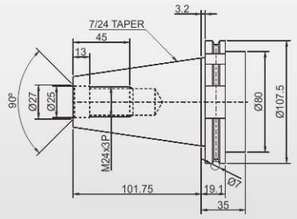
Tool shank (BT-50)



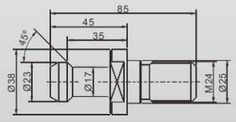
Tool shank (CAT-50)



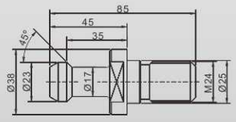
Tool shank (DIN-50, DIN69871)



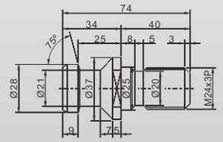
Pull stud bolt (P50T-1)



Pull stud bolt (CAT-50)

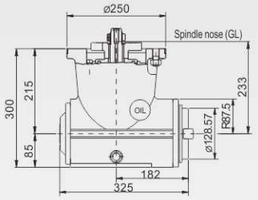


Pull stud bolt (DIN-50, DIN69872B, ISO7388/2-4A)



Manual Attachments Heads

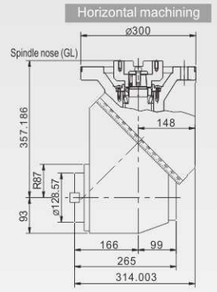
90° angular head



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

Universal head

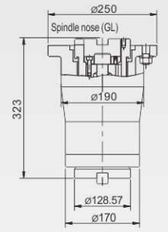
Horizontal machining



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

Extended head

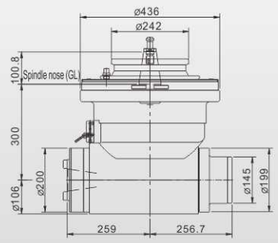
Vertical machining



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

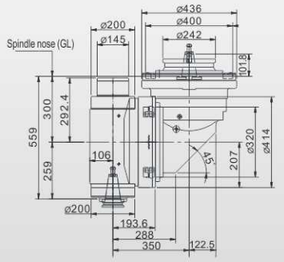
Hydraulic Attachment Heads

AC 90° angular head



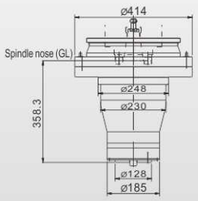
Max. power	26kW
Max. speed	3,000rpm
Spindle taper	#50
Head clamping	Hydraulic
Axis indexing	Auto angular indexing (1°, C-axis)

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

VTEC

VISION WIDE
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Specifications

VF series

MODEL		UNIT	VF-3000	VF-4000	VF-5000	VF-3026	VF-4026	VF-5026
TRAVEL								
X axis		mm	3,200	4,200	5,200	3,200	4,200	5,200
Y axis		mm	2,300	2,300	2,300	2,600	2,600	2,600
Z axis		mm	920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)	920 / 1,020 (opt.)
Distance from spindle nose to table		mm	150-1,070	150-1,070	150-1,070	150-1,070	150-1,070	150-1,070
Distance from spindle center to column		mm	390	390	390	390	390	390
Distance between columns (port width)		mm	2,400	2,400	2,400	2,700	2,700	2,700
TABLE								
Dimension		mm	3,200 x 2,050	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
T-slot (Width x Number x Pitch)		mm	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	28 x 11 x 180
Max. table load		kg	11,000	13,000	15,000	11,000	13,000	15,000
SPINDLE								
Spindle motor (Continuous / 30 minutes rated)		kW	18.5 / 22 (22 / 26 opt.)(30 / 37 opt.)		18.5 / 22 (22 / 26 opt.)(30 / 37 opt.)			
Spindle speed (2-step gear box)		rpm	4,000 / 6,000 (opt.)	4,000 / 6,000 (opt.)	4,000 / 6,000 (opt.)	4,000 / 6,000 (opt.)	4,000 / 6,000 (opt.)	4,000 / 6,000 (opt.)
Spindle speed (Belt-driven)		rpm	8,000 (opt.) / 10,000 (opt.)	8,000 (opt.) / 10,000 (opt.)	8,000 (opt.) / 10,000 (opt.)	8,000 (opt.) / 10,000 (opt.)	8,000 (opt.) / 10,000 (opt.)	8,000 (opt.) / 10,000 (opt.)
Spindle taper			ISO NO. 50	ISO NO. 50	ISO NO. 50	ISO NO. 50	ISO NO. 50	ISO NO. 50
FEED								
Cutting feed-rate		mm/min	1-7,000	1-7,000	1-7,000	1-7,000	1-7,000	1-7,000
Rapid traverse		m/min	X Y Z: 12	X: 10, Y Z: 12	X: 10, Y Z: 12	X Y Z: 12	X: 10, Y Z: 12	X: 10, Y Z: 12
ACCURACY								
Positioning accuracy	Refer to JIS B6333	mm	± 0.005 / 300, ± 0.015 / Full Travel		± 0.005 / 300, ± 0.015 / Full Travel			
	Refer to VDI 3441	mm	P0.028	P0.028	P0.038	P0.028	P0.028	P0.038
Repeatability	Refer to JIS B6333	mm	± 0.003	± 0.003	± 0.003	± 0.003	± 0.003	± 0.003
	Refer to VDI 3441	mm	Ps0.025	Ps0.025	Ps0.025	Ps0.025	Ps0.025	Ps0.025
ATC								
Tool storage capacity		pcs	40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)	40 / 60 (opt.)
Max. tool weight		kg	18	18	18	18	18	18
Tool size (D x L) (Full tools)		mm	Ø125 x 450L	Ø125 x 450L	Ø125 x 450L	Ø125 x 450L	Ø125 x 450L	Ø125 x 450L
Max. tool size (D x L) (next pocket empty)		mm	Ø215 x 450L	Ø215 x 450L	Ø215 x 450L	Ø215 x 450L	Ø215 x 450L	Ø215 x 450L
Tool shank			BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50	BT 50 / CAT 50
Pull stud			P50T-1	P50T-1	P50T-1	P50T-1	P50T-1	P50T-1
OTHERS								
Electric power consumption		kVA	60	60	60	60	60	60
Pneumatic input pressure		kg/cm²	6	6	6	6	6	6
Machine net weight		kg	33,400	38,400	43,400	36,400	41,400	46,400
Machine gross weight		kg	37,100	43,400	48,400	40,100	46,400	51,400
Max. floor space (L x W x H)		m	10 x 6.1 x 4.7	12 x 6.1 x 4.7	14 x 6.1 x 4.7	10 x 6.4 x 4.7	12 x 6.4 x 4.7	14 x 6.4 x 4.7

◎ All specifications are subjected to change without prior notice.

Standard Accessory & Function

01. Fanuc 0i MD CNC
02. 4,000 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, 5m)
06. 40 tools magazine with arm type ATC
07. Centralized auto. lubrication system
08. Independent lubrication oil collector
09. Ball screw cooling system
10. Four pieces splash guard (without roof)
11. Working Light
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
18. Macro executer
19. Flood coolant system (Ring & Nozzle)
20. Heat exchanger for electrical cabinet
21. Twin chip screws on table side
22. Caterpillar type chip conveyer
23. Foundation pads and bolts kits
24. Tool kits
25. Operation manual, PLC & electrical circuit diagram

Optional Accessory & Function

01. 6,000 rpm two-step gear spindle
02. 8,000 rpm / 10,000 rpm belt-driven spindle
03. 60 tools magazine
04. Coolant through tool holder interface
05. Interface preparation for coolant through spindle system (Include: hose)
06. Coolant through spindle system
07. HEIDENHAIN linear scale feedback
08. 200 / 300 / 400 mm higher column
09. Sub working table
10. Oil skimmer
11. Oil mist cooling device
12. Rotary table
13. Interface preserved for rotary table (Include: hose and oil tank)
14. 3 axis manual pulse generator
15. Automatic tool length measurement
16. Automatic work piece measurement
17. Manual 90 degree / extended / universal head attachment (Located in table type head bracket, manual swiveling arm type head bracket)
18. AC 90 degree / extended / 2-axis head attachment (Located in table type head bracket, manual / auto. swiveling arm type head bracket)
19. Transformer
20. Enclosed splash guard (With roof)
21. Chip cart
22. Auto warm up function