VISION WIDE TECH CO., LTD.

VISION WIDE TECH CO., LTD., founded in 1999 as a professional manufacturer of Double Column Machining Centers, commits to devoting the equipments of easy machining technology according to different industries’ demands and provide the complete solution service from machine products to concerned application technology. Wide range products are available for different machining purposes: heavy cutting, high speed, efficiency, five-axis cutting, 5-axis cutting, five-axis beam moving, etc. In addition, we will launch the new developing of machines with spindle quill traveling and column moving features in coming years. Our products are applied in the field of Components Machining, Plastic, Motor, Train, Aerospace, Vessel and Power Industries.

Pursuing the Innovative Technology, Vision Wide keeps the core values of the employees’ education through the operating management of TQM system, NQM (Numerical Objective Management) and teaching training system, to create an active-thinking working environment. Implementing Continual Improvement, Creativity and Execution, Vision Wide inspires all the VW members to embrace the shared Company Vision to achieve the mission of contributing the Human Society.

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**Advanced Technology**


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**Rigid heavy cutting machine**

1. Super heavy cutting ability done by 3-axis box way and unique scraping skills.
2. Least heat transformation done by unique internal 3-axis cooling system.
3. High torque transmission on X-axis by X-axis gear box.(VF)

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**High efficiency machine**

1. X-Y axis with linear roller guide way, implementing high stiffness, low friction and high acceleration.
2. 2400 mm/min rapid feeding for SF series; 2418 mm/min for NF series.
3. Best transmission accuracy done by x-axis gear box.

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**Ultra-precision moving beam/ fixed beam 5-face machining center**

1. Spindle torque: more than 1,000 Nm
2. Column distance: 2.4–4m
3. Distance from table to spindle: 1.2–2.6m

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**High performance 5-axis machining center**

1. 18,000–24,000 rpm built-in spindle.
2. Backlash-less IDD design in B and C axis
3. Axis° positioning accuracy in B and C axis.

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**Ultra-precision moving beam 5-face machining center**

1. W axis travel 1.2–1.6m
Continual Improvement

Having the production skills, which deriving from customers’ demands, we want to offer the machine-craft with the best quality and technology under the rigorous control in every R&D phase. Combining the creativity of our RD team and envisaging every necessary machining segment of customers, we pursue the endless improvement and progress.

2-axis continuous head
Built-in spindle Torque/Power Chart

- Compact, rigid solution for machining medium-sized and large workpieces.
  - Very efficient and precise 5-axis machining to reduce the position error form repeating clamping.
  - Driven by built-in spindle, specially versatile for the milling of filiform and narrow work place contours.
  - The position accuracy can be +/-2".

- Applying laser interference instrument and Fl-TI-TG instrument for all geometric uncertainties in a 5-axis machine.
- Static and dynamic accuracy of a 5-axis machine based on ISO 230 and ISO 10791.
- Applying the KINEMATIC function of the Siemens controller to raise the machining accuracy efficiency of 5-axis simultaneous cutting.

5-axis machining.
- Simultaneous 5-axis machining.
- Good for large-sized work piece machining.

Auto-hydraulic clamping Head
- 1° C-axis indexing
- Up to 300Nm/arm bearing load in spindle as good as a vertical spindle.
- The 400mm dia. indexing structure, carrying high rigidity and positioning accuracy while indexing.
- With Gable module 5.5°/trivell (100N/mm force to get max. heavy cutting).
- Unique oil-mist lubrication to remove the heat efficiency and guarantee long life and high precision.
- With any angle cutting, coordinate compensation system available.
- Unique user interface for all product range.
- Offering all kinds of angular heads with different customers’ demand.
- Even in an extreme narrow machining space (+100mm) the head is still designed with best rigidity.
Enter Software Features

Concept of Software Development

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

Remote control

Machine Status Monitor
- Machine status monitor
- Easy parameter setting
- Status display
- Machine status display
- Easy parameter display

Program Manager
- Parameter file manager
- Easy parameter setting
- Simple and quick setting

Factory Manager
- Operator time counter
- Manual part counter

Tool Compensation Table
- Tool compensation data
- Variable value setting

Calculation Function
- Quick checking of machine status by a remote PC
- Time Keep relay Counter/UPS

In-time service
Efficiency management
Easy operation

Safe
- Predicting for social event tracking
- Separating device for signal and serve signal
- Storage distance reduction function at power failure
- Reaction function at power failure
- USC safety regulation with filter

Simple
- Distribution trouble shooting for ATC
- Malfunction diagnosis after resetting
- Direct connection with Ethernet A 168.200
- 3 MFG with Fixed Orderer's master (Option)
- 3D Tool feeding operation for Auto.
- Hydraulic Clamping Heads
- 3D measurement and home position setting
- Auto. Hydraulic Clamping Heads
- Automatic measurement
- Yes / no condition / work piece setting

Practical
- Max. tool setting for each tool
- Auto. from the limit of tool position in ATC
- Change the function or Fixed ATC setting
- Large tool management
- Data Server function (option)
- Thermal compensation function (option)

Vision Wide Tech
wwwVISIONWIDE-Tech.COM
CNC Double Column Vertical Machining Center
Quality First Insistence

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 pursue 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.

Precision adjustment in every manufacturing process

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

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

Autonomous Management
Continual Improvement
Pursue 100% on Time Delivery
100% Quality Guaranty

Productivity Diagram
Key Job Analysis
Visual Management System
Cell Production

Autonomous Management
Pull Production System
Process Monitoring
Modular Production System

Reliability test
Cutting test
Positioning accuracy limitation
Function test

Surface fitness inspection at 1 pitch by laser equipment (ISO 330-3)

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

Parts inspection
Straightness inspection with collimator

3D mold cutting
Heavy cutting
Circularity by ball bar test (ISO 230-4)

Squarness checking with 2H gauge (ISO 10371-2)
Perpendicularity checking with 1.5m gauge (ISO 10371-2)
Vibration inspection
Axial heat extension inspection (ISO 230-3)
Best Service

Global Sales and Service Network

High quality technology service
Annual maintenance and service Manufacture technical team, cooperated with local agents, gives routine mechanical inspection and maintenance to ensure the most efficiency at customers’ site.

- E-handbook in NC control monitor
  Operators can find and read solutions instantly for help in the controller (FANUC) when working.

- Complete record
  The complete manufacture details and maintenance records are filed for every machine.

CAD/CAM analysis service
The application team, with CAD/CAM knowledge, have abundant practical precision machining experience. According to customers' machining requirements, we provide the analysis for tool path, cutting conditions and cutting time, and offer the best proposal.

- Global Exhibitions where direct communication and service happen to agents and customers.
- Frequent overseas service training given to agents so that profession and service are delivered.

- Optimal tool path analysis
- Machining simulation
- Tool selection
- Machining time & Productivity analysis

E-order data system
Through internet, all agents and customers know the production progress of the ordered machines, and get the newest technical documents.

- Frequent overseas service training given to agents so that profession and service are delivered.
VB Series
Heavy Duty Machine

VB series machines, with typical VW products features of rigid structure and high precision, are designed with box ways with hand scraping, cutting vibration adapting, and precise power transmission to get the efficient, rigid and accurate cutting.

Wide base with solid columns and beam, providing the best structure stiffness to ensure the best geometric accuracy of 3-axis travel.

Full casting components with square guideways coated with precision scraping to ensure the best stiffness and low friction. (VB/VF)

One-piece casting for gear head/transmission and headstock.
Z-axis is at the symmetrical position of spindle motor, allowing accuracy and precision with linear smooth movement. (VF/VF)
VF Series
Heavy Duty Machine

VF series machines, with typical VW products features of rigid structure and high precision, are designed with box ways with hand scraping, slant beam with three ways, direct-driven Y-Z transmission, to get the heavy cutting and precision cutting with high acceleration/deceleration control. It’s the best choice for medium-to-large parts and mold machining.

Z-axis is at the symmetrical position of spindle motor, offering accuracy and precision with micro smooth movement. Using Japan made JISO gears for gear head to get the advantages of high rigidity, high precision, and low noise.

1. 3 axes independent ball-screw cooling device.
2. Solid casting structure, providing good mechanical static and dynamic accuracy.

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Heat Extension Measurement

An independent cooling device for 3-axes ball screws will restrict the axial heat extension. (VF series)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LV0</th>
<th>VF-JNRG</th>
<th>VF-2069</th>
<th>VF-6600</th>
<th>VF-6600V</th>
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Separated oil coolers for spindle and 3-axes ball screws, with temperature setting: 2° lower than room temperature, will decrease the heat deformation when machining (VF series)
SF Series
High Speed Machine

SF series machines, with typical VW products features of rigid structure and high precision, are designed with direct-driven X-Y transmission device and torque enlarger unit on X-axis, increase the X-Y moving accuracy and offer the combination control of speed and precision.
- Twin Hydraulic cylinders plus pressurized nitrogen accumulator balancing design provides smooth & accurate feeding performance. Z-axis can reach 8.5G acceleration and keep a halving position at power failure.
- Heavy duty roller ways on X-Y axis contain the advantages of low friction and high stiffness.
- High stiffness light-weight table design, ensures high acceleration/deceleration when loading.

Built-in high speed spindle
1. 18,000-24,000 rpm
2. <0.002mm axial extension
3. Tremendous low vibrations.

Torque enlarger unit on X-axis increases the transmission torque and ensures the transmission accuracy.

X-axis upper roller way is positioned on the top of beam at max. span design offers strong supporting.

Better than ISO standard
- Bore holes tolerance = 0.001mm (ISO 10791-7)
- Cylindrical tolerance = 0.15mm (ISO 10791-7)

Above data is guaranteed only if machines are installed in a sound foundation consideration and in an isothermal environment.

Ball bar circularity test
- Circularity Gap: 0.025mm (ISO 10791-6)
- Vision White Gap: 0.01mm

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<th>SF-2612</th>
<th>SF-3112</th>
<th>SF-4112</th>
<th>SF-21152</th>
<th>SF-26152</th>
<th>SF-31152</th>
<th>SF-41152</th>
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<td>Spindle motor (rpm, in. rev)</td>
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</table>
NF Series
High Speed 5-face Machine

NF series machines, with typical VW products features of rigid structure and high precision, are designed with 5-face function of multi-angle cutting and X-Y roller ways structure. It speeds up 3 axes rapid traverse and increases the machine's efficiency of utilization.

Wide base with 3 roller sliding ways improve the load capacity and dynamic accuracy.

Solid beam with big cross section and roller ways design strengthens the stiffness of Y-travel.

| MODEL | Model | Spindle
<table>
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<td>NF-3260</td>
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Machine Specifications:
- Spindle Speed: 2,000 - 10,000 rpm
- Table Size: 3,000 x 1,500 mm
- X-Y-Z Travel: 2,500 x 1,500 x 1,200 mm
- Chip Conveyor: Yes
- Coolant Method: High Pressure
- Control System: CNC

AC 90 degree angular head
AC 2-axis head
AC extended head

Auto swiveling arm type head bracket (on operation side)
Multi-heads magazine (on magazine sides)
One head auto head magazine (outward)
Manual swiveling arm type head bracket (on operation side)
HF Series
High Speed 5-face Machine

HF series machines, with typical VW products features of rigid structure and high precision, are designed for super-sized work piece machining with variable automatic hydraulic clamping heads to carry multi-function cutting for huge dimension requirement.

- More than 1.1m height of rigid stepped beam structure effectively enhances guide way span and provides Y-axis straightness and rigidity needed for heavy cutting.
- Y-axis with 65mm ultra-load guide way not only enhances more than 40% rigidity on higher cutting load but also extends longer lifetime.
- Symmetrical 3 roller type guide ways design with large span with 2 guide way outside of the large span symmetry in the gravity of the table load, intermediate guide way and drive screw with smallest span design, and symmetry in motion center to achieve full stroke movement straightness.

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<th>Model</th>
<th>EM10</th>
<th>EM15</th>
<th>EM20</th>
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</table>

Auto arirling arm type head bracket (on operation side)
One head auto head magazine outward
Manual arirling arm type head bracket (on operation side)
Multi-heads magazine (on magazine side)
BM Series
Cross Rail 5-face Machine

BM series machines, with typical VW products features of rigid structure and high precision, is unique by the features of movable cross rail and W-axis feed cutting synchronic with other axial feeding. The max. height for work piece & machining is 2,450mm & 2,400mm.

The movable cross rail can be positioned precisely by dual synchronized servo motors driving system. Besides, it can carry precision feeding and heavy cutting on W-axis.

Double beams configuration: Fixed beam to keep the best parallelism and maintain the structure rigidity. Movable beam to have the dynamic straightness and sustain the cutting power.

Double beams configuration: Fixed beam to keep the best parallelism and maintain the structure rigidity. Movable beam to have the dynamic straightness and sustain the cutting power.

Table: Specifications

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<th>Model</th>
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<tr>
<td>F axis</td>
<td>mm</td>
<td>2,000 ± 0.100</td>
<td>2,000 ± 0.100</td>
<td>2,000 ± 0.100</td>
<td>2,000 ± 0.100</td>
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<tr>
<td>Z axis</td>
<td>mm</td>
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<tr>
<td>Table dimension</td>
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<tr>
<td>Max. table load</td>
<td>kg</td>
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</tr>
<tr>
<td>Servo motor (rpm/min, rating)</td>
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<td>60 rpm/13,000</td>
<td>60 rpm/13,000</td>
<td>60 rpm/13,000</td>
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<tr>
<td>Cutting feed (m/min)</td>
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<td>950</td>
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<td>1,400</td>
<td>1,550</td>
<td>1,700</td>
<td>1,850</td>
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<tr>
<td>Head rotation (rpm/min, rating)</td>
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<tr>
<td>Max. chip load (g/min)</td>
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<tr>
<td>Machine weight (kg)</td>
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<td>5,000</td>
<td>6,000</td>
<td>7,000</td>
<td>8,000</td>
<td>9,000</td>
<td>10,000</td>
<td>11,000</td>
</tr>
<tr>
<td>Machine overall size (mm)</td>
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<td>5,000 x 15,000</td>
<td>5,000 x 15,000</td>
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<td>5,000 x 15,000</td>
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FA Series
High Performance 5-axis Machining Center

5-axis machining efficiently shortens the paths in machining, considerably reduces the cutting time, and extends the life of cutting tools. Rigid structure designed by double column frame meets wide range of machining requirements. High dynamic performance on XYZ-axis with high accuracy 2-axis head realizes high excellent performance in multi-angle machining with 5-axis machining center.

Machine performance through 48 items can be indicated by ISO test workpiece.

Achieving excellent 5-axis machining accuracy & performance

- Radial linear motion on XYZ-axis, straightness 0.01mm, full travel straightness 0.015mm.
- Reciprocal linear motion on XYZ-axis, 0.015mm perpendicularly between each axis.
- 5-axis positioning accuracy ±0.5', C-axis positioning accuracy ±0.5'.
- Swiss dynamic synchronization accuracy (TCPM) 0.14mm.
- Auto rotation axis accuracy compensation.
- Spindle vibration lower than ten microns.
- Thermal deformation of whole machine is within 0.02mm not affected by thermal variation from spindle operation and environmental temperature.

Spindle and rotation axis protection system:
1. Spindle lubrication monitoring.
2. Spindle vibration protection.
3. Tool dynamic balance error test.
4. Spindle and motor overheating protection.
5. B/C-axis motor overheating protection.
6. Spindle overloading protected by software.

Geometric accuracy test of dynamic machining

Contour accuracy test of dynamic machining