



VISION WIDE

High Efficiency Machining Center

2019 *ANNUAL* *JOURNAL*



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Leader of High Precision & Large Machine Manufacturing

| High Precision & large machine manufacturing | High Speed Machining | 5-Face Machining | 5-Axis Machining |
 | Mill-Turn Machining | Composite Materials Machining |

Heavy Duty on
Structure Machining

Precision & Speedy
Mold & Die Machining

Aluminum & Composite
Component Machining

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VISION WIDE
ANNUAL
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Achieve Vision for
High Precision &
Large Machine
Manufacturing



Towards Global Manufacturing



Maanshan Factory, Anhui Province

- In 2017, officially opening Nantou Factory in Taiwan. A new generation factory with constant temperature & humidity and high-precision manufacturing production base and building a global R&D product experimental plant.
- In 2019, officially opening Maanshan Factory in Anhui.
- Continuously constructing precision manufacturing capability for large-scale machine tool.
- Continuously developing high precision, high efficiency and high reliability large-scale CNC equipment.
- Promoting intelligent-automated customized product services.
- Implementing closed relation between customer demand and production.
- Developing with high-level applications and services to meet customized requirement. To created a win-win situation.

Towards Global
Manufacturing

Thermal Stable System

Whole house central air conditioners



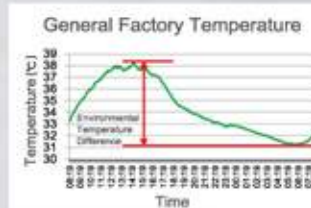
Advanced Production Base

- Thermal-stable manufacture environment : 1°C temperature control.
- High Rigidity Structure Foundation : 12 ton/m² Bearing Capacity.

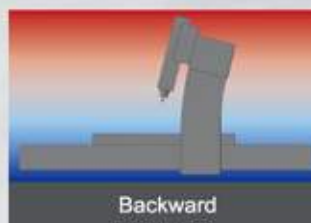


Accuracy is not changed for decades and new factory remains unshakable and become even firmer as time goes by.

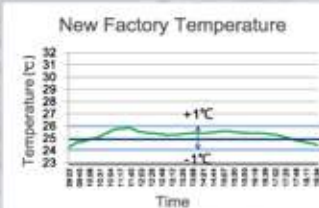
Environmental Temperature of General Factory



General Factory Full Day Environmental Temperature Up to 6°C or more



1. As the plant's environmental temperature changes, the machine will have deformations of forward and backward.
2. Has different assembled datum at different assembled time.
3. Inducing unstable quality of machine assembly.



Product environment has 1°C difference temperature control.

Creating a large machine tool in a steady environment, with a manufacturing environment for consistent manufacturing accuracy and stable performance at all times.



1. Stable environment temperature control.
2. Same assembled datum at any times.
3. Provide stable quality of machine assembly.

Solution . Satisfaction . Smile

Exquisite and Skillful Scientific Manufacturing Workmanship Full of Craftsman's Focus and Persistence



R&D test plant, continuous operating test



Standardized, modular, consistent materials flow line



Precision Scraping



CMM accuracy inspection of components



Environmental Negative Pressure Automotive grade painting equipment

Painting quality of machines remains unshakable and become even firmer as time goes by.



Focus and Persistence

Precision and High Speed Machining Application

High Speed Mold Surface Finishing

Car Headlight Mold

- L800 x W55 x H250 mm
- P20
- 12,000 rpm
- 4,000 mm/min

Feature:

- Ra 0.4 μm
- Contour Accuracy 0.04 mm



Mold Base High Positioning Machining

- 900 mm
- FC300
- 0.02 mm roundness
- 2,000 x 1,000 mm high position accuracy of boring hole

Feature:

- Boring positioning accuracy 0.006 mm (Pitch 400 x 700 mm)

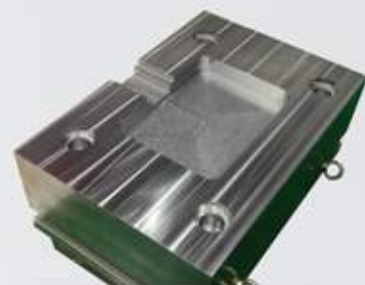
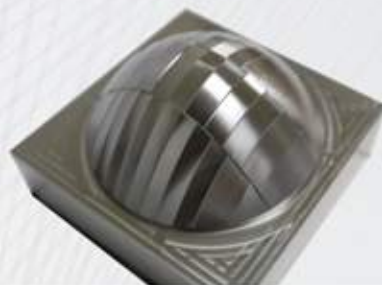
Speedy Mold Surface Finishing

Automotive Light Reflector Core

- L160 x W160 x H100 mm
- NAK 80
- 12,000 rpm
- 1,500 mm/min

Feature:

- Ra 0.4 μm
- Contour Accuracy 0.04 mm



Mold Base High Speed and High Feed rate Cutting

- L800 x W500 x H250 mm
- S45C
- 2,000 rpm
- 10,000 mm/min

Feature:

- Vc 220 m/min
- 300 cc/min
- Boring positioning accuracy 0.006 mm (Pitch 400 x 700mm)

Aerospace Aluminum Frame High Speed Machining (HSM)

- L1425 x W680 x H70 mm
- A6061
- 10,500 rpm
- 24,000 mm/min
- 2,000 cc/min

Feature:

- Cutting efficiency 100 cc/kW (up to 200% increase in productivity)



Engine Hood Mold

- L2000 x W1600 x H500 mm
- FC300
- 12,000 rpm
- 10,000 mm/min

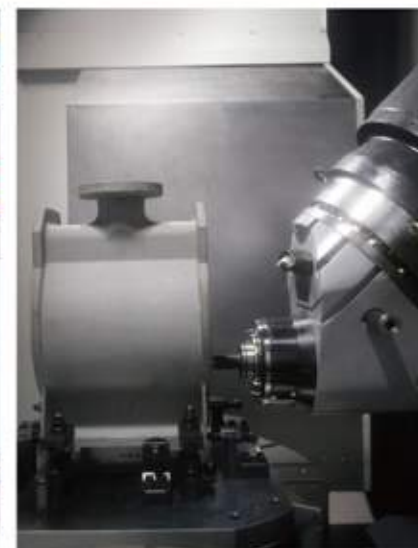
Feature:

- 10 m/min high feed mold face machining
- 0.3G high acceleration machining
- Total finish time : 5.2 Hrs.
- Step < 2 μm

Total Solution Provider for Advance Manufacturing Challenge



Automotive Mold Machining



Mill-Turn Machining for Hydraulic Pump



Large Tire Mold Machining

FPD Chamber Machining



Aerospace Parts Machining



Blade Machining

5-Axis Machining Application

Processing Application





Large Structure
Machining Application



Cutting Application



Total Solution Provider for Advance Manufacturing Challenge



Railway Bogie Frame and Rail Machining



Wind Body Machining



Oil and Gas Industry Machining

Chamber Machining

Lifting Equipment Machining

CNC TalkBox



CNC TalkBox

Monitoring Software for Supporting Multiple Controllers
Make Production Management Clear at A Glance

- Expandable industrial monitoring equipment, support multi-brand controllers, wireless transmission.
- Data transmission, accurate recording, automatic real-time monitoring, downloading machine status, capacity data, master the production rhythm and equipment production.



Boundaryless Intelligent Factory Management

CNC has computing, storage, and industrial of Internet functions. The production information can be uploaded to the cloud database or mobile device after computing. Achieve minimum hardware management and optimal mobile information for exchanging performance.

Economic

Small hardware devices for rapid introduction of Industrial Internet of Things(IoT).

Stable

Timely and completely record production history is conducive analysis of production processes to increase capacity and profitability.

Easy to Expand

Complete data collection can make better decisions for process, dispatch, tool and material management.

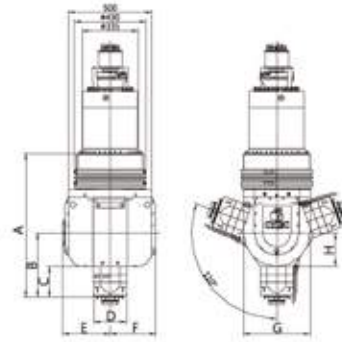
Smart Factory
Management

Continuous 2-Axis Head

A variety of spindle units with a continuous 2-axis head, to achieve a single machine to complete all machining.

FA SERIES

5-axis Double Column
Machining Center

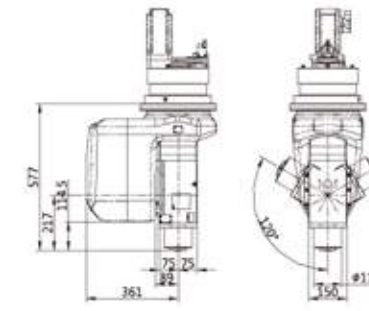


High Performance for Multi Applications

| Speed rpm | SPEC. | Power KW | Torque Nm | A mm | B mm | C mm | D mm | E mm | F mm | G mm | H mm |
|--------------|-------|-------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|
| *12,000 | M21 | 57 / 75 | 162 / 205 | 863 | 385 | 185 | 198 | 284 | 275 | 400 | 200 |
| 20,000 | M21 | 34 / 34 | 72 / 91 | 788 | 310 | 110 | 176 | 284 | 275 | 400 | 200 |
| | S8XL | 40 / 48 | 67 / 80 | 631 | 265 | 110 | 180 | 265 | 265 | 310 | 155 |

ADM SERIES

5-axis Composite Material
Machining Center

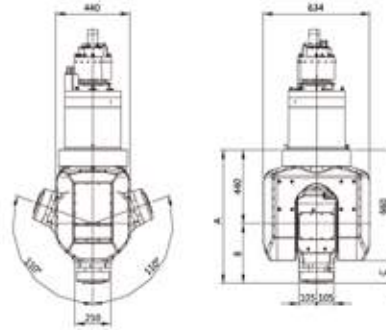


CFRP, GFRP Machining Application

| Speed rpm | SPEC. | Power KW | Torque Nm |
|--------------|-------|-------------|--------------|
| *24,000 | HS675 | 15 / 18 | 19 / 21 |

GSF SERIES

5-axis Gantry Type
Machining Center

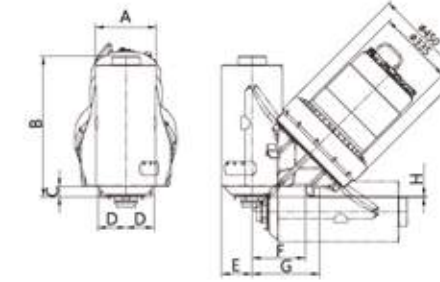


High Power Application for Aluminum

| Speed rpm | SPEC. | Power KW | Torque Nm | A mm | B mm | C mm |
|--------------|--------|-------------|--------------|---------|---------|---------|
| 12,000 | HST810 | 47 / 63.5 | 150 / 202 | 797 | 357 | 137 |
| *15,000 | HST810 | 50 / 65 | 95.5 / 124 | 731 | 291 | 71 |
| 24,000 | HST610 | 25 / 30 | 30 / 36 | 696 | 256 | 36 |

ASM SERIES

5-axis Universal
Machining Center



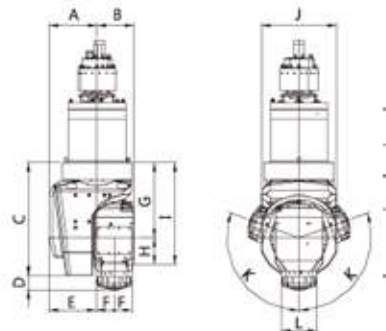
Mill-Turn Machining Application

| Speed rpm | SPEC. | Power KW | Torque Nm | A mm | B mm | C mm | D mm | E mm | F mm | G mm | H mm |
|--------------|--------|-------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|
| *10,000 | M21-45 | 57 / 75 | 162 / 205 | 270 | 623 | 47 | 125 | 135 | 236 | 299 | 2.5 |
| 20,000 | M21-45 | 34 / 43 | 72 / 91 | 270 | 548 | 47 | 125 | 135 | 236 | 299 | 2.5 |
| 7,000 | G30-45 | 42 / 53 | 392 / 506 | 300 | 742 | 170 | 129.5 | 136 | 407 | 792 | 85 |
| ○ 10,000 | M21-45 | 57 / 75 | 162 / 205 | 270 | 638 | 140 | 115 | 135 | 236 | 299 | 95 |
| ○ 10,000 | M21-45 | 42 / 53 | 201 / 253 | 270 | 638 | 140 | 115 | 135 | 236 | 299 | 95 |
| ○ 7,000 | G30-45 | 42 / 53 | 392 / 506 | 300 | 742 | 170 | 129.5 | 136 | 407 | 792 | 85 |

○ Only for ASM-FD Series

GSF SERIES

5-axis Gantry Type
Machining Center

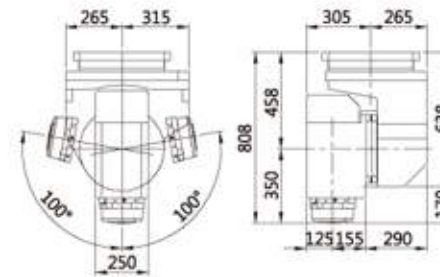


High Speed Application for Deep Cavity Mold

| Speed rpm | SPEC. | Power KW | Torque Nm | A mm | B mm | C mm | D mm | E mm | F mm | G mm | H mm | I mm | J mm | K degree | L mm |
|--------------|--------|-------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------|
| *15,000 | HST810 | 50 / 65 | 95.5 / 124 | 281 | 215 | 660 | 83 | 276 | 105 | 440 | 155 | 595 | 440 | 110 | 205 |
| 24,000 | HST810 | 42 / 55 | 67 / 87.5 | 281 | 215 | 660 | 84 | 276 | 105 | 440 | 268 | 708 | 440 | 110 | 205 |
| | HST610 | 25 / 30 | 30 / 36 | 216 | 204 | 475 | 120 | 242 | 84 | 315 | 280 | 595 | 334 | 90 | 168 |

GSA SERIES

Indexing Head Gantry Type
Machining Center



IAC High Speed Indexing Head

| Speed rpm | SPEC. | Power KW | Torque Nm |
|--------------|-------|-------------|--------------|
| 24,000 | ES510 | 42 / 55 | 67 / 87.5 |
| *15,000 | ES510 | 50 / 65 | 95.5 / 124 |
| 12,000 | ES511 | 47 / 63.5 | 150 / 202 |

- Above 40kW Spindle Driving Capacity.
- Auto Indexing: B/C axis 1°
- Surrounding Coolant Nozzles.
- Coolant Through Spindle 20 / 70 bars.

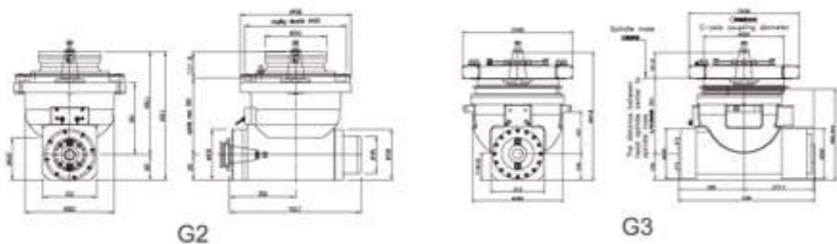
High Rigidity / High Speed Attachment Heads

Multi-type automatic and manual attachment heads are available for multi-angle machining.

AC 90° angular head



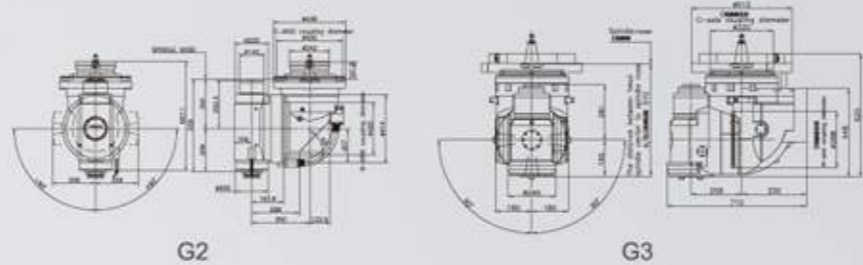
| Item | AC 90° angular head | |
|-------------------------------|-------------------------|------------------------------------------|
| | G2 | G3 |
| Max. speed | 3,000rpm | 5,000rpm |
| Max. power | 26kW | |
| Tool clamping | Auto hydraulic clamping | |
| Head clamping | Auto hydraulic clamping | |
| C-axis indexing | Auto 1° /5° | |
| Machining coolant | External nozzle | Spindle nose ring cutting coolant system |
| Coolant Through Spindle(opt.) | 20 bar /70 bar. | 20 bar /70 bar. |



AC 2-axis head



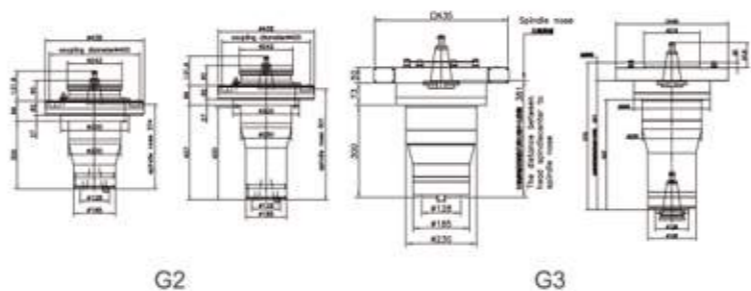
| Item | AC 2-axis head | |
|-------------------------------|--------------------------|------------------------------------------|
| | G2 | G3 |
| Max. speed | 3,000rpm | 5,000rpm |
| Max. power | 26kW | |
| Tool clamping | Auto hydraulic clamping | |
| Head clamping | Auto hydraulic clamping | |
| C-axis indexing | Auto 1° /5° | |
| B-axis indexing | Auto 5° Manual 1° /5° | Auto 1° /5° |
| Machining coolant | External nozzle | Spindle nose ring cutting coolant system |
| Coolant Through Spindle(opt.) | 20 bar /70 bar. | 20 bar /70 bar. |



AC extended head



| Item | AC extended head 300mm | | AC extended head 420mm | |
|-------------------|-------------------------|------------------------------------------|------------------------|------------------------------------------|
| | G2 | G3 | G2 | G3 |
| Max. speed | 4,000rpm | 5,000rpm | 4,000rpm | 5,000rpm |
| Max. power | 26kW | | | |
| Tool clamping | Auto hydraulic clamping | | | |
| Head clamping | Auto hydraulic clamping | | | |
| C-axis indexing | Auto 1° /5° | | | |
| Machining coolant | External nozzle | Spindle nose ring cutting coolant system | External nozzle | Spindle nose ring cutting coolant system |

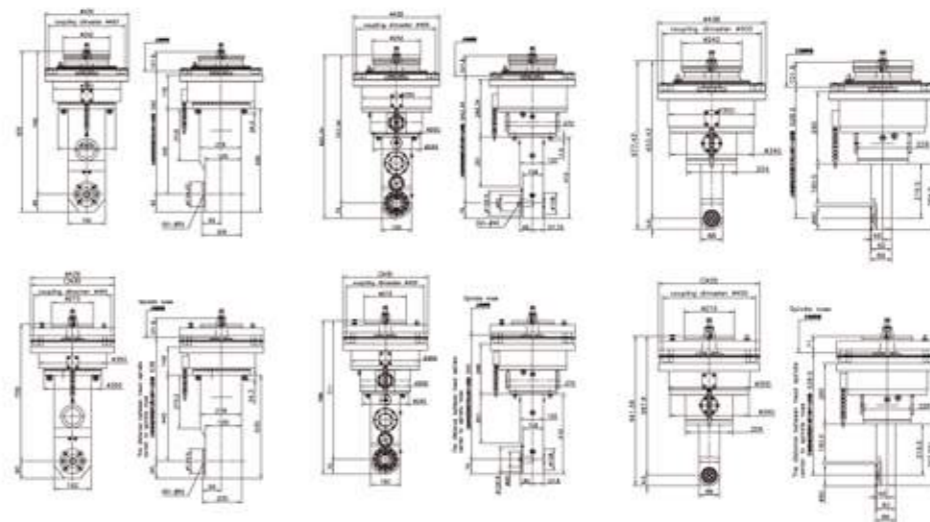


Newly launched, high torque, high speed and comprehensively promote automatic machining.

AC milling head



| Item | AC milling head(Large) | | AC milling head(Medium) | | AC milling head(Small) | |
|-------------------|-------------------------|--------|-------------------------|--------|-------------------------|--------|
| | G2 | G3 | G2 | G3 | G2 | G3 |
| Max. speed | 800rpm | 800rpm | 800rpm | 800rpm | 800rpm | 800rpm |
| Max. power | 26kW | 11kW | 11kW | 8kW | 8kW | 8kW |
| Tool clamping | Manual | | Manual | | Manual | |
| Head clamping | Auto hydraulic clamping | | Auto hydraulic clamping | | Auto hydraulic clamping | |
| C-axis indexing | Auto 1° /5° | | Auto 1° /5° | | Auto 1° /5° | |
| Machining coolant | External nozzle | | External nozzle | | External nozzle | |

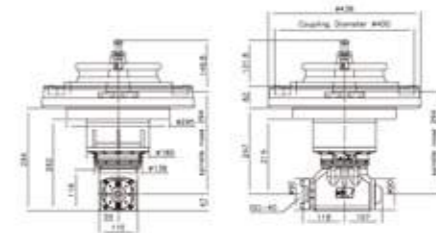


Small AC 90° milling head

Please contact sales for special specifications.



| Item | Small AC 90° milling head |
|-------------------|---------------------------|
| Max. speed | 2500rpm |
| Max. power | 9kW |
| Tool clamping | Manual |
| Head clamping | Auto hydraulic clamping |
| C-axis indexing | Manual 1° |
| Machining coolant | External nozzle |



Intelligent multi-face machining

5-axis Level Tool Point Center Management TCPM

Each type of head attachment with tool center point management, takes vertical workpiece as origin benchmark, and converts the workpiece coordinates to any new specified plane of workpiece coordinates automatically.

Auto Coordinates Tool axis 3D Conversion

3-axis mechanical coordinates system can be automatically converted to machining coordinates system, easily achieving face milling, end milling, drilling and rigid tapping machining operations in different directions.

Head Attachment Dimensions Correction

Intelligent compensation on each type of head attachments. The compensation including rotation center, tool size, workpiece coordinates system correction management. It greatly simplifies the complexity of programming and operation to achieve perfect auto multi-angle machining.



TCPM0.04mm



VISION WIDE 5-AXIS MACHINING

Solution . Satisfaction . Smile



ASM SERIES

5-axis Universal Machining Center



Multi-Task Solution Provider

- V/H 5 Axis Synchronized Motion.
- Mill-Turn Machining.
- APC- Automatic Pallet Changer.
- 40/ 60/ 120T Automatic Tool Change.
- Auto Geometric Precision Correction.
- Full-time Precision Thermal Compensation.
- Auto Tool Length Diameter Measurement.
- Auto Warming-Up System.
- 5,000cc/min Chip Removal Capability.



Built-in Motor with IDD Driven



High Speed Turning Function

Pump Industry
Vacuum Compressor
Body
Cast Iron FC200



Energy Technology
Vacuum Chamber
Stainless Steel



Automotive Industry
Engine
Cast Aluminum



Aerospace Technology
Aircraft Engine
Titanium Alloy

| Model | X axis | Y axis | Z axis | Table diameter | Max. table load (center) | Spindle speed | Cutting feed rate | Rapid traverse(x/y/z) |
|--------------|--------|--------|--------|----------------|--------------------------|---------------|-------------------|-----------------------|
| Unit | mm | mm | mm | mm | kg | rpm | m/min | m/min |
| ASM-1012 | 1,000 | 1,260 | 1,050 | ∅1,000 | 2,000 | 10,000 | 1-24,000 | 40 / 40 / 40 |
| ASM-1212 | 1,250 | | | ∅1,200 | 2,000 | | | |
| ASM-1612 | 1,620 | | | ∅1,500 | 3,000 | | | |
| ASM-1612G | 1,620 | | | ∅1,500 | 3,000 | | | |
| ASM-1012 FD | 1,000 | 1,260 | 1,050 | ∅1,000 | 2,000 | 7,000 | 1-24,000 | 40 / 40 / 40 |
| ASM-1212 FD | 1,250 | | | ∅1,200 | 3,000 | | | |
| ASM-1612 FD | 1,620 | | | ∅1,500 | 3,000 | | | |
| ASM-1612G FD | 1,620 | | | ∅1,500 | 3,000 | | | |

For details, please refer to Machine Specification Instruction

A ccuracy

Positioning Accuracy: P 0.006mm
Repeatability Accuracy: Ps 0.0055mm

S peedy

40 m/min Rapid traverse
24 m/min Cutting feedrate
0.3G Acceleration

M ax. Power

Universal 5-axis
57/75kW power

5-Axis
Machining



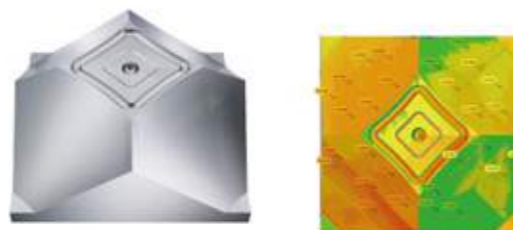
FA SERIES

5-axis Double Column Machining Center



Achieve High Precision, High Speed and Fully Automatic Machining

- 5-axis machining efficiently shortens the paths in machining, considerably reduces the cutting time, and extends the life of cutting tool.
- 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.
- CYTEC 2-axes head equips high torque rotation structure of B/C axis, and D.D. motor on B axis.



5-axis Synchronized Cutting Precision Verified Mold

L280, W 280, H120 mm
The mold accuracy of multi-axis synchronized and fixed axis machining. Tool marks <0.04mm.



Automatic Kinematic Measurement and Compensation

Achieve Excellent Accuracy Performance of 5-Axis Synchronization Motion. Dynamic Accuracy Reaches 0.04mm(TCPM).

- B axis rotation positioning accuracy $\pm 5''$.
- C axis rotation positioning accuracy $\pm 3''$.
- B/C axis IDD motor design without backlash.
- Embedded spindle vibration sensor : limited to 1 mm/sec.

| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (cont./ 30 min rated) | Spindle speed | Cutting feed rate | Rapid traverse (x/y/z) |
|---------|--------|---------------|--------------------|-----------------|-----------------|-------------------------------------|----------------------|-------------------|------------------------|
| Unit | mm | mm | mm | mm | kg | kW | rpm | mm/min | m/min |
| FA-2123 | 2,100 | 2,300 | 800/1,000 (Opt.) | 2,000 x 1,500 | 8,000 | 20 / 26 | 20,000 | 1-10,000 | 24 / 20 / 15 |
| FA-2623 | 2,600 | | | 2,500 x 1,500 | 9,000 | | | | |
| FA-3123 | 3,100 | | | 3,000 x 1,500 | 10,000 | | | | |
| FA-4123 | 4,100 | 2,700 | 1,000/1,200 (Opt.) | 4,000 x 1,500 | 12,000 | 57 / 75 (34/43 Opt.) | 12,000/ 20,000(Opt.) | 1-10,000 | 24 / 18 / 15 |
| FA-3127 | 3,100 | | | 3,000 x 1,800 | 10,000 | | | | |
| FA-4127 | 4,100 | 4,000 x 1,800 | 12,000 | 3,000 x 2,450 | 13,000 | 57 / 75 (34/43 Opt.) | 12,000/ 20,000(Opt.) | 1-10,000 | 24 / 15 / 15 |
| FA-3233 | 3,200 | 4,000 x 2,450 | 16,000 | | | | | | |
| FA-4233 | 4,200 | 3,300 | 1,000/1,200 (Opt.) | 5,000 x 2,450 | 20,000 | 57 / 75 (34/43 Opt.) | 12,000/ 20,000(Opt.) | 1-10,000 | 18 / 15 / 15 |
| FA-5233 | 5,200 | | | 6,000 x 2,450 | 22,000 | | | | |
| FA-6233 | 6,200 | | | 8,000 x 2,450 | 24,000 | | | | |
| FA-8233 | 8,200 | | | 8,000 x 2,450 | 24,000 | | | | |

For details, please refer to Machine Specification Instruction

5-Axis
Machining

GSF SERIES

5-axis Gantry Type Machining Center

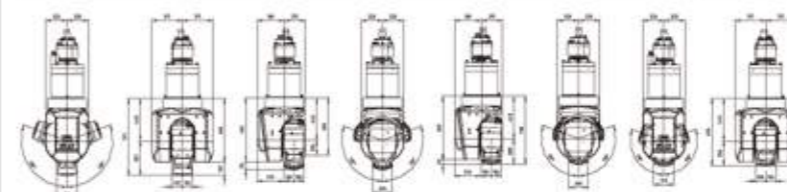


Continuous 2-Axis Head 5-Axis Synchronization

- Built-In Spindle Direct-Driven on B & C axis.
- Backlashless driving on B/C axis.
- The smallest interference between workpiece and machine head.
- Thermal protection in all motors and bearing.
- Vibration protection in all bearings.
- High-resolution feed back from B & C axis.
- 5-axis dynamic synchronization accuracy reaches 0.04mm(TCPM).
- Rotation positioning accuracy $\pm 5''$ on B & C axis.

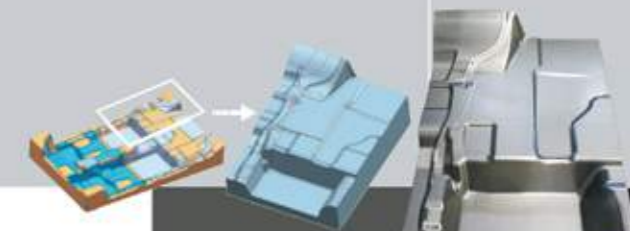


| Synchronized 2-Axis Head | 12,000 rpm HST810+ES510 Double Sided | | 15,000 rpm/ 24,000 rpm HST810+ES510 Single Sided | | 24,000 rpm HST810+ES505 Double Sided | |
|--------------------------|-----------------------------------------|-----------------|-----------------------------------------------------|-----------------|-----------------------------------------|-----------------|
| | B-axis | C-axis | B-axis | C-axis | B-axis | C-axis |
| Rotation range | $\pm 110^\circ$ | $\pm 270^\circ$ | $\pm 110^\circ$ | $\pm 270^\circ$ | $\pm 110^\circ$ | $\pm 270^\circ$ |
| Positioning accuracy | $\pm 4''$ | $\pm 4''$ | $\pm 4''$ | $\pm 4''$ | $\pm 5''$ | $\pm 4''$ |
| Rotation speed | 30 rpm | 30 rpm | 30 rpm | 30 rpm | 30 rpm | 30 rpm |
| Rotation torque(Cont.) | 1,414 Nm | 1,250 Nm | 707 Nm | 1,250 Nm | 480 Nm | 680 Nm |
| Clamping torque | 4,000 Nm | 4,000 Nm | 2,000 Nm | 4,000 Nm | 1,800 Nm | 2,000 Nm |



| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (S1/S5) | Spindle speed | Cutting feed rate | Rapid traverse (x/y/z) |
|----------|--------|--------|--------------------|-----------------|-------------------|-----------------------|---------------|-------------------|------------------------|
| Unit | mm | mm | mm | mm | kg/m ³ | kW | rpm | mm/min | m/min |
| GSF-1627 | 1,600 | 2,700 | 1,000/1,200 (Opt.) | 1,500 x 2,700 | 3,000 | 50 / 65 | 15,000 | 1~20,000 | 32 / 32 / 20 |
| GSF-2227 | 2,200 | | | 2,200 x 2,700 | | | | | |
| GSF-3027 | 3,000 | | | 3,000 x 2,700 | | | | | |
| GSF-4027 | 4,000 | | | 4,000 x 2,700 | | | | | |
| GSF-5027 | 5,000 | | | 5,000 x 2,700 | | | | | |
| GSF-6027 | 6,000 | | | 6,000 x 2,700 | | | | | |
| GSF-2232 | 2,200 | 3,200 | 1,000/1,200 (Opt.) | 2,200 x 3,200 | 3,000 | 50 / 65 | 15,000 | 1~20,000 | 32 / 32 / 20 |
| GSF-3032 | 3,000 | | | 3,000 x 3,200 | | | | | |
| GSF-4032 | 4,000 | | | 4,000 x 3,200 | | | | | |
| GSF-5032 | 5,000 | | | 5,000 x 3,200 | | | | | |
| GSF-6032 | 6,000 | | | 6,000 x 3,200 | | | | | |

For details, please refer to Machine Specification Instruction



Car Bottom Plate Mold

- Size : 640 x 505 x 270 mm
- Material : P20 (HRC30')
- Tool : D16R8 Ball End
- Finishing Pitch : 0.3mm
- Tool Path : 45° Projection Cutting
- Spindle Speed : 15,000 rpm
- Cutting Feedrate : 5,000mm/min

Features

- High feedrate finishing of mold surface F5,000mm/min
- High acceleration cutting 0.2G
- Total finishing time reduce 20%, 6hr08min→4hr54min
- Surface roughness : Ra0.8 μm

5-Axis
Machining

ADM SERIES

5-axis Composite Material Machining Center



Aerospace Parts / Large Composite Workpiece Focus on CFRP / GFRP Machining

ADM is a 5-axis machining center to process composite materials with high speed, precision and automation.

ADM is aimed at processing materials such as Carbon Fiber Reinforced Polymer (CFRP), Fiberglass, Plastic and Aluminum.

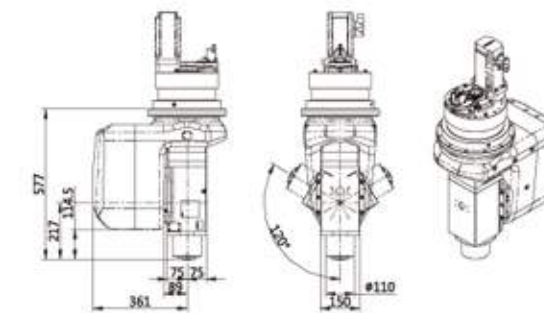
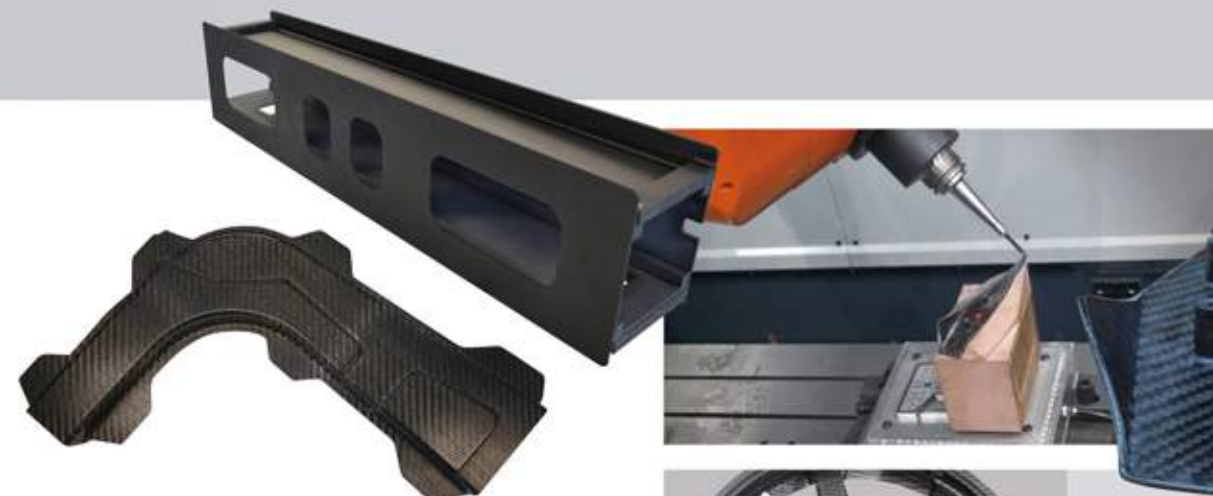
- High Speed Spindle.
- Dual ATC Magazines.
- Synchronize 5-Axis Machining.
- Ultra-Low Temperature Spiral Tube Cooler.
- Single Working Table / Dual Working Table.
- Dust Suction Device.



BC-axis SPEC.

| Spindle speed (rpm) | SPEC. | Spindle power (S1/S6) (kW) | Max. Torque (S1/S6) |
|---------------------|-------|----------------------------|---------------------|
| 24,000 | HS675 | 15 / 18 | 19 / 21 |

| | B-axis | C-axis |
|------------------------------|--------|--------|
| Swiveling range | ±110° | ±270° |
| Rotation speed (rpm) | 30 | 30 |
| Positioning accuracy | ±4" | ±4" |
| Rotation torque(con.) (Nm) | 782 | 688 |
| Rotation torque(max.) (Nm) | 1,414 | 1,250 |
| Clamping torque(60 bar) (Nm) | 4,000 | 4,000 |



| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (cont./30 min rated) | Spindle Taper | Cutting feed rate | Rapid traverse (x/y/z) |
|----------|--------|--------|--------|----------------------|-------------------|------------------------------------|---------------|-------------------|------------------------|
| Unit | mm | mm | mm | mm | kg/m ² | kW(HP) | | mm/min | m/min |
| ADM-2638 | 2,600* | 3,800 | 1,000 | 2,500 x 1,500 x 2pcs | 3,000 | 15 / 18 | HSK-A63 | 20,000 | XY:40 Z:20 |

For details, please refer to Machine Specification Instruction

5-Axis
Machining



VISION WIDE HIGH SPEED MACHINING

Solution . Satisfaction . Smile



SE SERIES

High Speed Double Column Machining Center



High Speed and High Accuracy Machining of Mold Industry. High Efficient Machining of Aluminum Structure.

SE high speed machining center has a 50% increase in productivity by excellent mechanism and structural performance.

Extraordinary performance particularly meets high speed and high accuracy machining of mold, and mass removal machining of aluminum alloy.

The performance of High Speed Machining (HSM) is created by precise mechanism and multiple spindle combination.

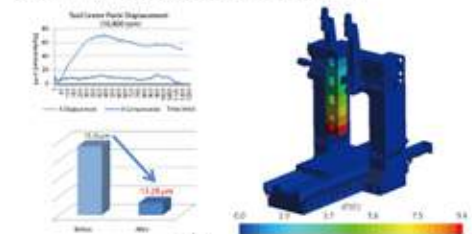
- 0.5G Axial Thrust.
- Spindle Speed Reaches 28,000 rpm.
- 20 m/min Feedrate.
- Precise Contour Accuracy.
- Delicate Surface Roughness.
- Positioning Accuracy P 0.007mm.
- Repeatability Ps 0.003mm.
- Aluminum Alloy Chips Removal Rate 7,000 cc/min.

Structure of Machine Head

- Box shape, symmetrical, and thermal friendly structure enables outstanding rigidity and precise accuracy.
- Anti-bending and distortion-resistant characteristic supports whole Z-axis travel and provides best straightness.

Friendly Thermal Accuracy

Ambient Temperature Compensation (ATC) 0.005mm
Spindle Thermal Compensation (STC) 0.02mm



Aerospace Aluminum Frame



- Size : 1,425 x 680 x 75 mm
- Material : Al6061
- Tool : D25 End Mill
- Speed : 10,500 rpm
- Ap: 70 mm
- Tool Path : Equal TEA Angle Path

Features

- 24 m/min High Cutting Feedrate
- 2.8 times Tool Diameter~Cutting Depth Ratio
- 2000 cc/min High Material Removal Rate
- Alumina Cutting Efficiency: 90 cc/kW (2 Times Productivity)

Car Headlight Mold



- Size : 800 x 550 x 250 mm
- Material : P20 (HRC30°)
- Tool : D10R5 Ball End
- Finish Pitch: 0.15mm
- Tool Path : 45° Projection Cutting
- Speed : 12,000 RPM
- Cutting Feedrate : 4,000mm/min

Features

- 0.2G High Acceleration Mold Finishing
- High Feed Rough Machining: D40R1, F10,000mm/min, 160cc/min
- High Feed Mold Surface Finishing : D10R5 Ball End, F4,000mm/min
- High Surface Roughness : Ra0.4 μm
- 0.04 mm Contour Accuracy

| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (cont./ 30 min rated) | Spindle speed | Cutting feed rate | Rapid traverse(x/y/z) |
|---------|--------|--------|------------------|-----------------|-----------------|----------------------------------------|---------------|-------------------|-----------------------|
| Unit | mm | mm | mm | mm | kg | kW | rpm | mm/min | m/min |
| SE-1612 | 1,600 | | | 1,800 x 1,100 | 8,000 | 15 / 18.5 | 15,000 | 1~24,000 | 24 / 30(Opt.) |
| SE-2112 | 2,100 | 1,200 | 800/1,000 (Opt.) | 2,000 x 1,000 | 10,000 | | | | |
| SE-2612 | 2,600 | | | 2,800 x 1,100 | 12,000 | 15 / 18.5 | 15,000 | 1~24,000 | 24 / 30(Opt.) |
| SE-1618 | 1,600 | | | 1,800 x 1,600 | 8,000 | | | | |
| SE-2118 | 2,100 | 1,800 | 800/1,000 (Opt.) | 2,300 x 1,600 | 10,000 | | | | |
| SE-2618 | 2,600 | | | 2,800 x 1,600 | 12,000 | | | | |
| SE-3118 | 3,100 | | | 3,300 x 1,600 | 14,000 | | | | |

For details, please refer to Machine Specification Instruction

High Speed
Machining

GS SERIES

Gentry Type Machining Center



High Speed Solution for Large Mold and Workpiece Machining Project

Precise contour accuracy, high-speed cutting feedrate, and excellent surface roughness.

- 30 m/min Feed Rate (OPT.)
- Positioning Accuracy P 0.006mm
- Repeatability Ps 0.004mm
- Aluminum Alloy Chips Removal Rate 5,000 cc/min

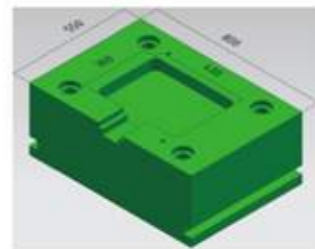


- ▶ Optimal dynamic response mechanism to achieve high speed feed and high acceleration and deceleration.
- ▶ Machine head/ Moving beam/ Base : 1/3/7
- ▶ Excellent structure for steady and speedy motion

Optional Spindles For Fanuc Controller



Mold Base High Speed Feed Cutting



- Size : L800mm,W550mm ,H250mm
- Material : S45C
- Tool: D40R1
- Speed : 2,000rpm
- Cutting Feed Rate : 10,000mm/min

Features

- F10,000mm/min High Feed Machining
- 300 cc/min Material Removal Rate
- VC 250m/min
- 0.008 mm Position Accuracy of Boring Hole (Pitch 400x 700mm)



Large Mold Machining

- F10,000mm/min High Speed Mold Surface Machining
- 0.3G Acceleration
- Tool Marks Gap: Ra < 0.2 μm

| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (S1/S6) | Spindle speed | Cutting feed rate | Rapid traverse(x/y/z) |
|---------|--------|--------|------------------|-----------------|-------------------|-----------------------|---------------|-------------------|-----------------------|
| Unit | mm | mm | mm | mm | kg/m ² | kW | rpm | mm/min | m/min |
| GS-1220 | 1,200 | 2,000 | 800/1,000 (Opt.) | 1,200 x 2,000 | 3,000 | L:15 / 18.5 kW | 15,000 | 1~24,000 | XYZ:24 / 30(Opt.) |
| GS-1620 | 1,600 | | | 1,600 x 2,000 | | | | | |
| GS-2020 | 2,000 | | | 2,000 x 2,000 | | | | | |
| GS-2520 | 2,500 | | | 2,500 x 2,000 | | | | | |
| GS-3020 | 3,000 | | | 3,000 x 2,000 | | | | | |

For details, please refer to Machine Specification Instruction

High Speed
Machining

GSA SERIES

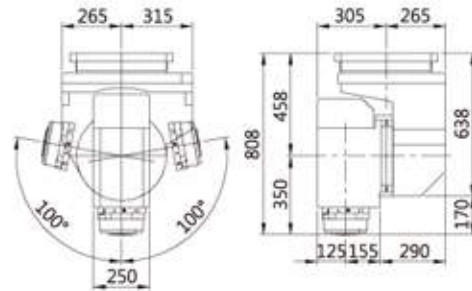
Indexing Head Gantry Type Machining Center



Multi-Angle Machining Solution with Indexing, Compact, and High Speed IAC Head.

- Above 40kW Spindle Driving Capacity
- 12,000/15,000/24,000 rpm Spindle Speed
- Auto Tool Clamping
- Auto Indexing: B Axis 1° / C axis 1°
- Spindle Cooling Device
- High Tool Clamping Force: 20kN
- Surrounding Coolant Nozzles
- Coolant Through Spindle 20/70 bars
- Independent Position Encoder for Each Rotation Axis

IAC - Indexing Attached Head :
High Speed / Fixed / Multi-angle



| | | | |
|-------------------------|----------------------------------------|----------------------------|-----------|
| Spindle speed | 12,000rpm | 15,000rpm | 24,000rpm |
| Model Code | VAS16-120 | VAS14-150 | VAS15-240 |
| Max. power (kW) | 47 / 63.5kW | 50 / 65kW | 44 / 55kW |
| Head Change | Fixed (Can't to exchanged) | | |
| Spindle taper | HSK-A100/ BT/CAT/DIN 50 | HSK-A100/ BT/CAT/DIN 50 | HSK-A63 |
| Full tools length | 300mm | 300mm | 200mm |
| Full tools weight | 18 kg | 18 kg | 8 kg |
| Tool size | ∅ 215 | ∅ 215 | ∅ 150 |
| Tool clamping force | 20kN | | |
| Tool clamping | Auto-hydraulic clamping | | |
| Indexing function | B, C Auto Angle Positioning (B/C Axis) | | |
| C-axis angle | ±200° | | |
| B-axis angle | ±100° | | |
| index | B axis 1° / C axis 1° | | |
| Indexing precision (mm) | ±0.03 / 300mm/min | | |
| Machining coolant | Spindle ring cutting coolant system | | |
| Coolant through spindle | 20 / 70bar | | |

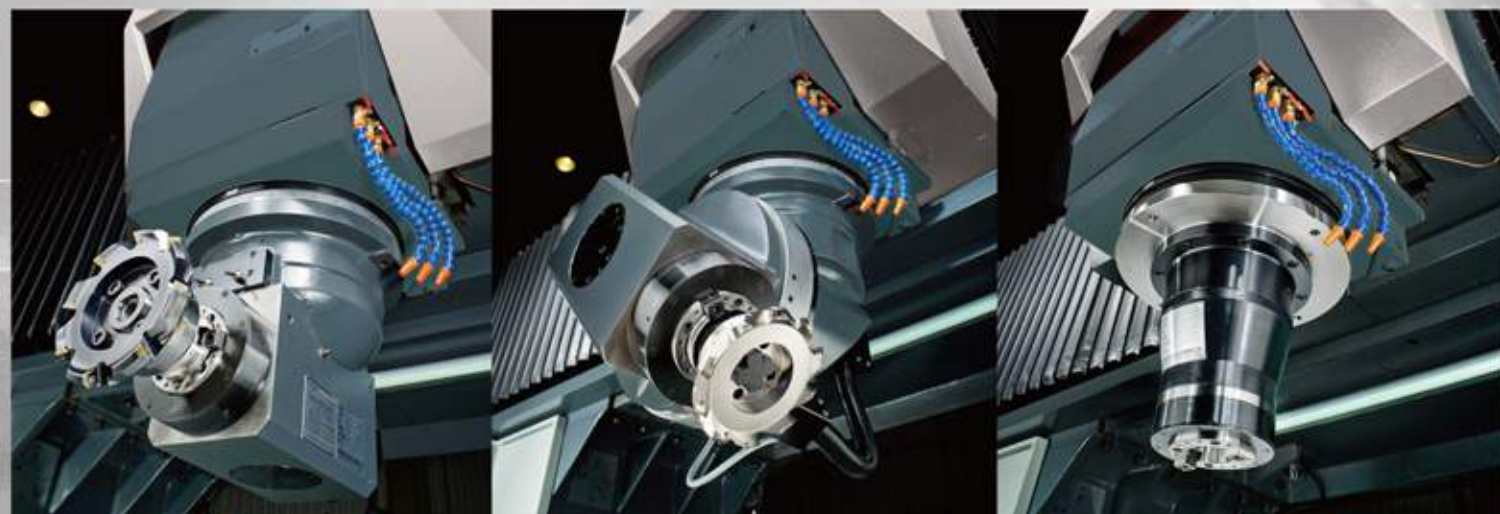
| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor(S1/S6) | Spindle speed | Cutting feed rate | Rapid traverse(x/y/z) |
|----------|--------|--------|-----------------------|-----------------|-----------------|----------------------|---------------|-------------------|-----------------------|
| Unit | mm | mm | mm | mm | kg/m | kW | rpm | mm/min | m/min |
| GSA-1627 | 1,600 | 2,700 | 1,000/1,200 (Opt.) | 1,600 x 2,700 | 3,000 | 50 / 65 | 15,000 | 1~20,000 | 32 / 32 / 20 |
| GSA-2227 | 2,200 | | | 2,200 x 2,700 | | | | | |
| GSA-3027 | 3,000 | | | 3,000 x 2,700 | | | | | |
| GSA-4027 | 4,000 | | | 4,000 x 2,700 | | | | | |
| GSA-5027 | 5,000 | | | 5,000 x 2,700 | | | | | |
| GSA-6027 | 6,000 | | | 6,000 x 2,700 | | | | | |
| GSA-2232 | 2,200 | 3,200 | 1,000/1,200 (Opt.) | 2,200 x 3,200 | 3,000 | 50 / 65 | 15,000 | 1~20,000 | 32 / 32 / 20 |
| GSA-3032 | 3,000 | | | 3,000 x 3,200 | | | | | |
| GSA-4032 | 4,000 | | | 4,000 x 3,200 | | | | | |
| GSA-5032 | 5,000 | | | 5,000 x 3,200 | | | | | |
| GSA-6032 | 6,000 | | | 6,000 x 3,200 | | | | | |

For details, please refer to Machine Specification Instruction



High Speed
Machining





VISION WIDE *MULTI-ANGEL* MACHINING

Solution . Satisfaction . Smile



SF SERIES

High Efficiency Double Column Machining Center

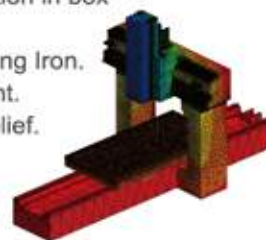


Machining Center

- Z-axis adopts double counterweight, oil-gas separation accumulator distribution device. There is no traditional mechanical hydraulic steering delay situation. Z-axis does not slide down under power-off situation, providing the most stable performance of mold machining.
- Heavy-loaded roller type linear guideway on XYZ axis, which combines the low friction and rigidity. Ensure the best dynamic accuracy performance when machine is cutting.
- The working table structure is designed for high-rigidity and lightweight to ensure cutting on high acceleration and deceleration when table is loaded.

Best Rigidity and Persistent Accuracy

- Optimal streamline in structural design with Finite Element Analysis.
- Symmetrical heat conduction in box shape structure.
- MEEHANITE Grade Casting Iron.
- Stress relief heat treatment.
- V.S.R Vibration Stress Relief. Eliminated component's interior stress via its natural frequency.



| Model | X axis | Y axis | Table dimension | Max. table load | Cutting feed rate | Rapid traverse(x/y/z) |
|---------|--------|--------|-----------------|-----------------|-------------------|-----------------------|
| Unit | mm | mm | mm | kg | mm/min | m/min |
| SF-2116 | 2,100 | 1,600 | 2,000 x 1,500 | 8,000 | 1~10,000 | 24 / 24 / 15 |
| SF-2616 | 2,600 | | 2,500 x 1,500 | 9,000 | | |
| SF-3116 | 3,100 | | 3,000 x 1,500 | 10,000 | | |
| SF-4116 | 4,100 | 2,300 | 4,000 x 1,500 | 12,000 | | 18 / 24 / 15 |
| SF-2123 | 2,100 | | 2,000 x 1,500 | 8,000 | | |
| SF-2623 | 2,600 | | 2,500 x 1,500 | 9,000 | | 24 / 20 / 15 |
| SF-3123 | 3,100 | 2,000 | 3,000 x 1,500 | 10,000 | | 18 / 20 / 15 |
| SF-4123 | 4,100 | | 4,000 x 1,500 | 12,000 | | |
| SF-2120 | 2,100 | | 2,000 x 1,800 | 8,000 | | 24 / 24 / 15 |
| SF-2620 | 2,600 | 2,700 | 2,500 x 1,800 | 9,000 | | 18 / 24 / 15 |
| SF-3120 | 3,100 | | 3,000 x 1,800 | 10,000 | | |
| SF-4120 | 4,100 | | 4,000 x 1,800 | 12,000 | 24 / 20 / 15 | |
| SF-2127 | 2,100 | 2,700 | 2,000 x 1,800 | 8,000 | 18 / 20 / 15 | |
| SF-2627 | 2,600 | | 2,500 x 1,800 | 9,000 | | |
| SF-3127 | 3,100 | | 3,000 x 1,800 | 10,000 | | |
| SF-4127 | 4,100 | | 4,000 x 1,800 | 12,000 | | |

For details, please refer to Machine Specification Instruction

Multi-Angel
Machining



NF/HF SERIES

High Efficiency Double Column Machining Center



Large Travel Fully Auto 5-face Machining High Efficiency Production

- The rigid beam has 1.1m height, with stepped design, and large span in Y axis for rigidity.
- Y axis with 65mm ultra-load guide way not only enhances more than 40% rigidity on higher cutting load but also extends longer lifetime.
- Configured position of symmetric 3 roller type guide way, and large span outer two rails are symmetric to the center of table load. Minimum span is designed for intermediate rail and ball screw and also symmetrical to the center of motion to achieve high straightness in full stroke.

Enclosed Box Ram type machine head (OPT.)

- Four-sided constrain structure provide best rigidity for heavy cutting application.
- High rigidity ensure high accuracy cutting application with XZ accuracy 0.01 mm / 1,000mm.



| Model | X axis mm | Y axis mm | Z axis | | Table dimension mm | Max. table load kg | Spindle motor (opt./30 min rated) kW | Spindle speed | | Cutting feed rate mm/min | Rapid traverse (x/y/z) m/min |
|-------------|--------------|----------------|----------------------|---------------------------------------------|--------------------------|--------------------------|--------------------------------------------|----------------------------------------|----------------------------------------------|--------------------------------|---------------------------------|
| | | | Box way mm | Linear way mm | | | | Box way rpm | Linear way rpm | | |
| NF-3223/30 | 3,200 | 2,300/3,000 | 920 / 1,020(Opt.) | 1,020(Opt.)/ 1,200(Opt.)/ 1,400(Opt.) | 3,000 x 2,050 | 13,000 | 18.5/22 (22/26 Opt.) (30/37 Opt.) | 2-step gear: 4,000 / 6,000(Opt.) | 2-step gear: 4,000(Opt.) / 6,000(Opt.) | 1~10,000 | X:24 Y:20/15 Z:15 |
| NF-4223/30 | 4,200 | | | | 4,000 x 2,050 | 16,000 | | | | | X:18 Y:20/15 Z:15 |
| NF-5223/30 | 5,200 | | | | 5,000 x 2,050 | 20,000 | | | | | X:12.5 Y:20/15 Z:15 |
| NF-6223/30 | 6,200 | | | | 6,000 x 2,050 | 22,000 | | | | | X:10 Y:20/15 Z:15 |
| NF-8223/30 | 8,200 | | | | 8,000 x 2,050 | 24,000 | | | | | X:8 Y:20/15 Z:15 |
| NF-10223/30 | 10,200 | | | | 10,000 x 2,050 | 26,000 | | | | | X:8 Y:20/15 Z:15 |
| NF-3226/33 | 3,200 | 2,600/3,300 | 920 / 1,020(Opt.) | 1,020(Opt.)/ 1,200(Opt.)/ 1,400(Opt.) | 3,000 x 2,450 | 13,000 | 18.5/22 (22/26 Opt.) (30/37 Opt.) | 2-step gear: 4,000 / 6,000(Opt.) | 2-step gear: 4,000(Opt.) / 6,000(Opt.) | 1~10,000 | X:24 Y:20/15 Z:15 |
| NF-4226/33 | 4,200 | | | | 4,000 x 2,450 | 16,000 | | | | | X:18 Y:20/15 Z:15 |
| NF-5226/33 | 5,200 | | | | 5,000 x 2,450 | 20,000 | | | | | X:12.5 Y:20/15 Z:15 |
| NF-6226/33 | 6,200 | | | | 6,000 x 2,450 | 22,000 | | | | | X:10 Y:20/15 Z:15 |
| NF-8226/33 | 8,200 | | | | 8,000 x 2,450 | 24,000 | | | | | X:8 Y:20/15 Z:15 |
| NF-10226/33 | 10,200 | | | | 10,000 x 2,450 | 26,000 | | | | | X:8 Y:20/15 Z:15 |
| NF-3232/39 | 3,200 | 3,200/3,900 | 920 / 1,020(Opt.) | 1,020(Opt.)/ 1,200(Opt.)/ 1,400(Opt.) | 3,000 x 2,450 | 13,000 | 18.5/22 (22/26 Opt.) (30/37 Opt.) | 2-step gear: 4,000 / 6,000(Opt.) | 2-step gear: 4,000(Opt.) / 6,000(Opt.) | 1~10,000 | X:24 Y:15/12 Z:15 |
| NF-4232/39 | 4,200 | | | | 4,000 x 2,450 | 16,000 | | | | | X:18 Y:15/12 Z:15 |
| NF-5232/39 | 5,200 | | | | 5,000 x 2,450 | 20,000 | | | | | X:12.5 Y:15/12 Z:15 |
| NF-6232/39 | 6,200 | | | | 6,000 x 2,450 | 22,000 | | | | | X:10 Y:15/12 Z:15 |
| NF-8232/39 | 8,200 | | | | 8,000 x 2,450 | 24,000 | | | | | X:8 Y:15/12 Z:15 |
| NF-10232/39 | 10,200 | | | | 10,000 x 2,450 | 26,000 | | | | | X:8 Y:15/12 Z:15 |
| HF-4235/42 | 4,200 | 3,500/4,200 | 920 / 1,020(Opt.) | 1,020(Opt.)/ 1,200(Opt.)/ 1,400(Opt.) | 4,000 x 3,000 | 20,000 | 22/26 (30/37Opt.) | 2-step gear: 4,000 / 6,000(Opt.) | 2-step gear: 4,000(Opt.) / 6,000(Opt.) | 1~7,000 | X:10 Y:10 Z:12 |
| HF-5235/42 | 5,200 | | | | 5,000 x 3,000 | 24,000 | | | | | X:8 Y:10 Z:12 |
| HF-6235/42 | 6,200 | | | | 6,000 x 3,000 | 28,000 | | | | | X:10 Y:10 Z:12 |
| HF-8235/42 | 8,200 | | | | 8,000 x 3,000 | 32,000 | | | | | |
| HF-10235/42 | 10,200 | | | | 10,000 x 3,000 | 36,000 | | | | | |
| HF-4240/47 | 4,200 | | | | 4,000 x 3,500 | 20,000 | | | | | |
| HF-5240/47 | 5,200 | 5,000 x 3,500 | 24,000 | | | | | | | | |
| HF-6240/47 | 6,200 | 6,000 x 3,500 | 28,000 | | | | | | | | |
| HF-8240/47 | 8,200 | 8,000 x 3,500 | 32,000 | | | | | | | | |
| HF-10240/47 | 10,200 | 10,000 x 3,500 | 36,000 | X:8 Y:10 Z:12 | | | | | | | |

For details, please refer to Machine Specification Instruction

Multi-Angel
Machining



BM SERIES

Beam Moving Double Column Machining Center



Beam Moving Large-Scale & Multi-Angle Machining Center

BM machine target on large-scale automatic machining.

- With the firm structure, the max. height for workpiece is 2,715mm.
- The W-axis is provided with random positioning ATC and sync machining.
- BM series is also offered the features of heavy workpiece loading capacity, large spindle torque capacity.
- Auto multi-angle head attachments and auto head attachments tool changing to achieve auto application of large scale workpiece.



- W-axis with double hydraulic cylinders, ensures the accuracy of equalizing load of W-axis screw, and improves the straightness of Y-axis movement.
- W-axis ball screw with dual independent linear scale position feedback provides the best movement positioning accuracy of W-axis.



Enclosed Box Ram type machine head (OPT.)

Hydrostatic Guideway type machine head (OPT.)

| Model | X axis | Y axis | Z axis | W axis | Table dimension | Max. table load | Spindle motor (cont./ 30 min rated) | Spindle speed 2-slep gear | Cutting feed rate | Rapid traverse (X/Y/Z/W) |
|----------|--------|--------|---------------------------------------|-----------------------|-----------------|-----------------|----------------------------------------|-----------------------------------------------------------------------------------|------------------------|-----------------------------|
| Unit | mm | mm | mm | mm | mm | kg | kW | rpm | mm/min | m/min |
| BM-4237 | 4,200 | 3,700 | 1,000/ 1,200(Opt.)/ 1,400(Opt.) | 1,000/1,200 (Opt.) | 4,000 x 2,600 | 20,000 | 22 / 26 (30/37Opt.) | 22 / 26kW: 4,000/ 6,000(Opt.); 30 / 37kW: 3,000(Opt.)/ 5,500(Opt.) | XYZ:1-7,000 W:1,000 | 10 / 10 / 12 / 2 |
| BM-5237 | 5,200 | | | | 5,000 x 2,600 | 24,000 | | | | 8 / 10 / 12 / 2 |
| BM-6237 | 6,200 | | | | 6,000 x 2,600 | 28,000 | | | | 8 / 10 / 12 / 2 |
| BM-8237 | 8,200 | 4,200 | 1,000/ 1,200(Opt.)/ 1,400(Opt.) | 1,000/1,200 (Opt.) | 8,000 x 2,600 | 32,000 | 22 / 26 (30/37Opt.) | 22 / 26kW: 4,000/ 6,000(Opt.); 30 / 37kW: 3,000(Opt.)/ 5,500(Opt.) | XYZ:1-7,000 W:1,000 | 8 / 10 / 12 / 2 |
| BM-10237 | 10,200 | | | | 10,000 x 2,600 | 36,000 | | | | 10 / 10 / 12 / 2 |
| BM-4242 | 4,200 | | | | 4,000 x 3,000 | 20,000 | | | | 10 / 10 / 12 / 2 |
| BM-5242 | 5,200 | | | | 5,000 x 3,000 | 24,000 | | | | 10 / 10 / 12 / 2 |
| BM-6242 | 6,200 | 4,200 | 1,000/ 1,200(Opt.)/ 1,400(Opt.) | 1,000/1,200 (Opt.) | 6,000 x 3,000 | 28,000 | 22 / 26 (30/37Opt.) | 22 / 26kW: 4,000/ 6,000(Opt.); 30 / 37kW: 3,000(Opt.)/ 5,500(Opt.) | XYZ:1-7,000 W:1,000 | 8 / 10 / 12 / 2 |
| BM-8242 | 8,200 | | | | 8,000 x 3,000 | 32,000 | | | | 8 / 10 / 12 / 2 |
| BM-10242 | 10,200 | | | | 10,000 x 3,000 | 36,000 | | | | 8 / 10 / 12 / 2 |

For details, please refer to Machine Specification Instruction

Multi-Angel
Machining

VB SERIES

Heavy Duty Double Column Machining Center



| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (opt./30 min rated) | Spindle speed | | Cutting feed rate | Rapid traverse (X/Y/Z) | | | |
|---------|--------|--------|---------------------|-----------------|-----------------|---------------------------------------|-----------------------|------------------------------|-------------------|---------------------------|------------------------------|---------|--------------|
| | | | | | | | 2-step gear | Belt type | | | | | |
| Unit | mm | mm | mm | mm | kg | kW | rpm | rpm | mm/min | m/min | | | |
| VB-2016 | 2,000 | 1,600 | 800/1,020 (Opt.) | 2,000 x 1,300 | 8,000 | 18.5/22 (22/26Opt.) (30/37Opt.) | 4,000/ 6,000(Opt.) | 8,000(Opt.)/ 10,000(Opt.) | 1~7,000 | 15 / 15 / 15 | | | |
| VB-2516 | 2,500 | | | 2,500 x 1,300 | 9,000 | | | | | 12 / 12 / 15 | | | |
| VB-3016 | 3,100 | | | 3,100 x 1,300 | 10,000 | | | | | 15 / 15 / 15 | | | |
| VB-2020 | 2,000 | 2,000 | 800/1,020 (Opt.) | 2,000 x 1,700 | 9,000 | | | | | 4,000/ 6,000(Opt.) | 8,000(Opt.)/ 10,000(Opt.) | 1~7,000 | 12 / 12 / 15 |
| VB-2520 | 2,500 | | | 2,500 x 1,700 | 10,000 | | | | | | | | 15 / 15 / 15 |
| VB-3020 | 3,100 | | | 3,100 x 1,700 | 11,000 | | | | | | | | 12 / 12 / 15 |
| VB-4020 | 4,100 | | | 4,100 x 1,700 | 12,000 | 10 / 12 / 12 | | | | | | | |

For details, please refer to Machine Specification Instruction

Box Way Design Rigidity Cutting Machine

- Casting Structure
- 3 axis Box Way
- Step Square beam
- 800/1,020mm Z stroke

X axis

Gear reducer with 7 kW high power motor offers max. force and best precision in X axis motion.



Y axis

Y axis with 4kW high power motor to achieve best transmission accuracy and acceleration performance.



Z axis

Transmission is equipped with high speed cylinder. Z axis has highly shock-absorbing box way with 15m rapid traverse and reaching 0.5 acceleration.



Gear type spindle
4,000 rpm/ 6,000rpm(Opt.)



Belt type spindle
8,000 rpm(Opt.)/ 10,000rpm(Opt.)

Spindle Motor : 22/26kW
Spindle Speed : 4,000rpm
Material : S45C

Face Milling
Tool dia. : 125 mm
Spindle Speed : 600 RPM
Cutting Feed : 1000 mm/min
Cutting Width : 100 mm
Cutting Depth : 6 mm
Removal Rate : 600 cc/min

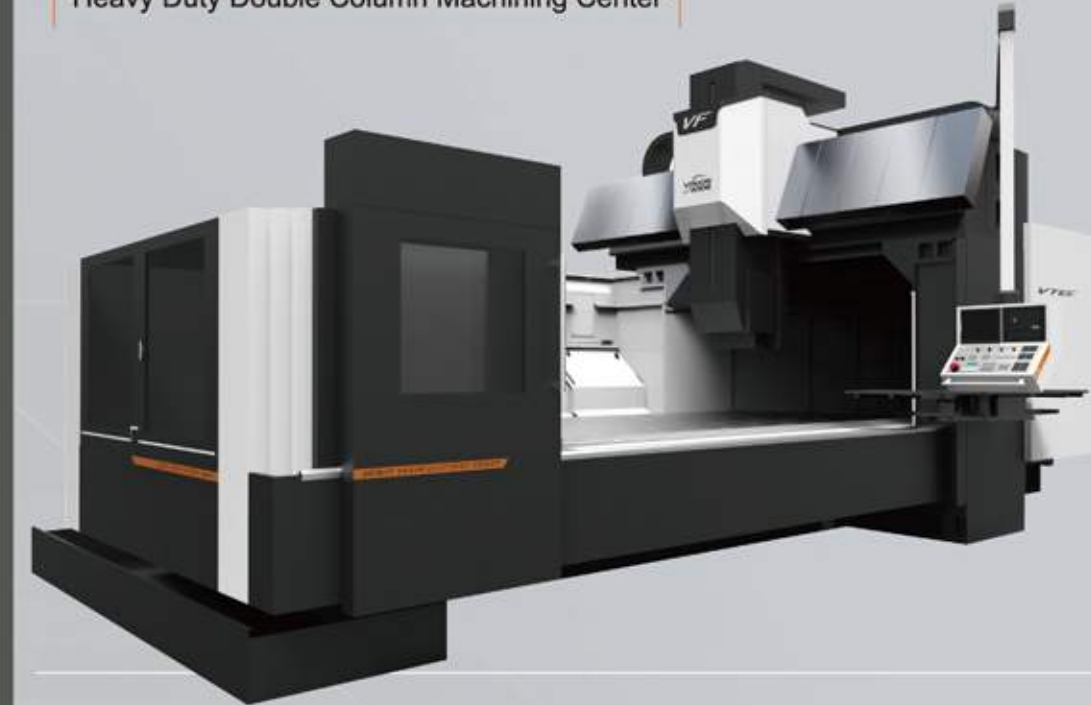
End Mill (Helical cutter)
Tool dia. : 63 mm
Spindle Speed : 800 RPM
Cutting Feed : 400 mm/min
Cutting Width : 40 mm
Cutting Depth : 20 mm
Removal Rate : 200 cc/min

Indexable Insert Drilling
Tool dia. : 63 mm
Spindle Speed : 880 RPM
Cutting Feed : 80 mm/min
with CTS

Cutting Test Conditions:
1/2x(Z axis travel)Drilling Tool with CTS

VF SERIES

Heavy Duty Double Column Machining Center



| Model | X axis | Y axis | Z axis | Table dimension | Max. table load | Spindle motor (opt./30 min rated) | Spindle speed | | Cutting feed rate | Rapid traverse (X/Y/Z) | | | |
|---------|--------|---------------|---------------------|-----------------|-----------------|---------------------------------------|-----------------------|------------------------------|-------------------|---------------------------|------------------------------|---------|--------------|
| | | | | | | | 2-step gear | Belt type | | | | | |
| Unit | mm | mm | mm | mm | kg | kW | rpm | rpm | mm/min | m/min | | | |
| VF-3000 | 3,200 | 2,300 | 900/1,020 (Opt.) | 3,200 x 2,050 | 11,000 | 18.5/22 (22/26Opt.) (30/37Opt.) | 4,000/ 6,000(Opt.) | 8,000(Opt.)/ 10,000(Opt.) | 1~7,000 | 12 / 12 / 12 | | | |
| VF-4000 | 4,200 | | | 4,200 x 2,050 | 13,000 | | | | | 10 / 12 / 12 | | | |
| VF-5000 | 5,200 | 5,200 x 2,050 | 15,000 | 12 / 12 / 12 | | | | | | | | | |
| VF-3026 | 3,200 | 2,600 | 900/1,020 (Opt.) | 3,200 x 2,050 | 11,000 | | | | | 4,000/ 6,000(Opt.) | 8,000(Opt.)/ 10,000(Opt.) | 1~7,000 | 12 / 12 / 12 |
| VF-4026 | 4,200 | | | 4,200 x 2,050 | 13,000 | | | | | | | | 10 / 12 / 12 |
| VF-5026 | 5,200 | | | 5,200 x 2,050 | 15,000 | | | | | | | | 10 / 12 / 12 |

For details, please refer to Machine Specification Instruction

Heavy Cutting Precision Cutting

- Casting Structure
- 3-axis Box Way / Slant Support Design on Cross Beam
- 3 Guide Ways Support on Y Axis
- 920/1,020mm Z stroke

- Z axis center closing to beam and achieves exclusively excellent dynamic performance.
- Beam contact width (805mm) and 3 box ways support design to greatly improve beam rigidity and cutting capability.
- Y axis motion in best straightness and cutting rigidity.



The large size on column cross section dimension 425x1,000mm gives the beam the strongest support.

Multi-Angel
Machining

HFM SERIES

Box in Box Structure
High Rigidity Hydraulic Bearing Design
Z Axis Travel 2,000~4,000mm
Large Workpieces Cutting Range



New Product Launch 1,500~2,500Nm Spindle Torque Output

- Cross beam design by box-in-box structure, can reduce deformation caused by Z-axis loaded on a side of cross beam.
- Head always stayed between two cross beam and reduce the influence from room temperature.
- Head transmit by Hydraulic-Static system, provide better rigidity and low friction and suitable for large Z-axis travel machine.

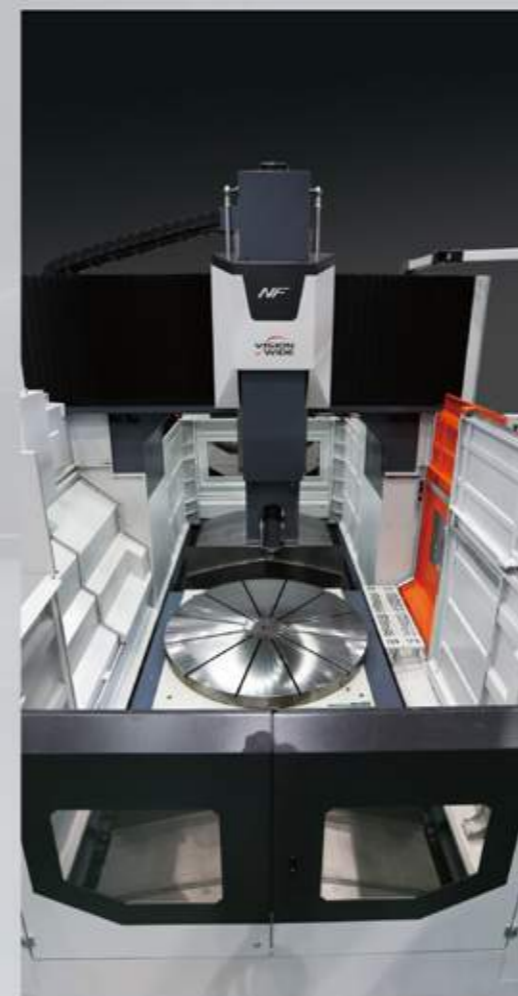
| Model | X axis | Y axis | Z axis | Table Dimension | Max. Table Load | Spindle Motor (continuous/30 minute rated) | Spindle Speed (2-step gear) | Cutting Feed Rate | Rapid Traverse (X/Y/Z/W) | | | |
|-----------|--------|----------------|-----------------------------------------------------------------------|-----------------|-----------------|-----------------------------------------------|--------------------------------|-------------------|-----------------------------|----------------------------|---------|--------------|
| Unit | mm | mm | mm | mm | kg | kW | rpm | mm/min | m/min | | | |
| HFM-7245 | 7,200 | 4,500 | 2,000/ 2,500(Opt.)/ 3,000(Opt.)/ 3,500(Opt.)/ 4,000(Opt.) | 6,000 x 3,500 | 60,000 | 22 / 26 (30/37Opt.) | 4,000 / 6,000 (Opt.) | 1~7,000 | 10 / 10 / 10 | | | |
| HFM-9245 | 9,200 | | | 8,000 x 3,500 | 80,000 | | | | 8 / 10 / 12 | | | |
| HFM-10245 | 10,200 | | | 10,000 x 3,500 | 100,000 | | | | 8 / 10 / 12 | | | |
| HFM-7250 | 7,200 | 6,000 x 4,000 | 60,000 | 10 / 10 / 10 | | | | | | | | |
| HFM-9250 | 9,200 | 5,000 | 8,000 x 4,000 | 80,000 | 8 / 10 / 12 | | | | | | | |
| HFM-10250 | 10,200 | 10,000 x 4,000 | 100,000 | 8 / 10 / 12 | | | | | | | | |
| HFM-7255 | 4,200 | 5,500 | 2,000/ 2,500(Opt.)/ 3,000(Opt.)/ 3,500(Opt.)/ 4,000(Opt.) | 6,000 x 4,500 | 60,000 | | | | 22 / 26 (30/37Opt.) | 4,000 / 6,000 (Opt.) | 1~7,000 | 10 / 10 / 10 |
| HFM-9255 | 6,200 | | | 8,000 x 4,500 | 80,000 | | | | | | | 8 / 10 / 12 |
| HFM-10255 | 8,200 | | | 10,000 x 4,500 | 100,000 | | | | | | | 8 / 10 / 12 |
| HFM-7260 | 7,200 | 6,000 x 5,000 | | 60,000 | 10 / 10 / 10 | | | | | | | |
| HFM-9260 | 9,200 | 6,000 | | 8,000 x 5,000 | 80,000 | 8 / 10 / 12 | | | | | | |
| HFM-10260 | 10,200 | 10,000 x 5,000 | | 100,000 | 8 / 10 / 12 | | | | | | | |

For details, please refer to Machine Specification Instruction

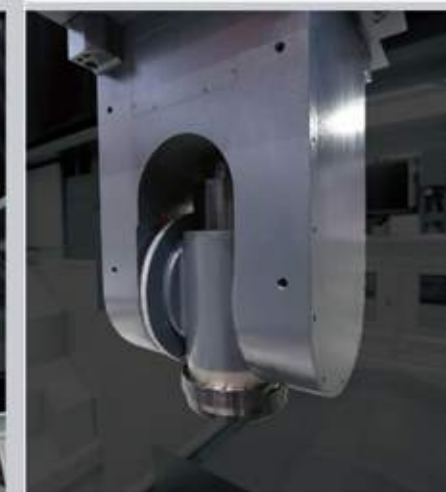
New Product

NFT

Double Column Machining Center
With A Large Turntable Design



Designed for
Cylindrical
Workpiece



| | |
|------------------------|---------------------------------|
| Tool Clamping Type | Auto-Hydraulic Clamping |
| Head Clamping Type | Fixed |
| C axis Angle | Fixed |
| B axis Angle | ±200° |
| B axis Index | B axis 1° |
| Indexing Precision(mm) | ±0.03 / 300 |
| Indexing Function | Auto angle positioning (B axis) |
| Lubrication | Bearing Oil-Air Lubrication |
| CTS Function | Available for 20 / 50 Bar |
| Spindle Cooling | Oil Cooling Circulation |
| Max. Cutting Power | 26kW |
| Spindle Power | 5,000rpm |

| X axis | Y axis | Z axis | Distance from Vertical Spindle Nose to Table | Distance from Horizontal Spindle Nose to Table | Table Dimension | Table Load (Central Region) | Min. division accuracy | Rated Torque | Max. Torque | Braking Torque | Max. Cutting Torque under Braking |
|--------|--------|--------|----------------------------------------------|------------------------------------------------|-----------------|-----------------------------|------------------------|--------------|-------------|----------------|-----------------------------------|
| mm | mm | mm | mm | mm | mm | mm | degree | Nm | Nm | Nm | Nm |
| 2,200 | 2,300 | 1,400 | 118~1,518 | 431~1,831 | ∅1,800 | 3,000 | 0.001 | 2,040 | 3,800 | 10,210 | 7,000 |

For details, please refer to Machine Specification Instruction

For special specifications,
please contact sales.