



# Five Axis Machining Center



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SUZHOU GUDWAY CNC EQUIPMENT CO.,LTD

# GFM1000 SERIES

T type bed structure



- The highest rigidity, the highest processing superior performance. The bed base adopts integral casting process, and the overall rigidity is greatly improved
- Heidenhain five-axis closed-loop measurement system. Guarantee of high precision of machine.

- High-rigidity bed base with three-point support. No special requirements for foundation. The bed is not easy to distort, with high accuracy.

- German INA/ Swiss SCHNEEBERGER linear guide, widened slider, more durable accuracy



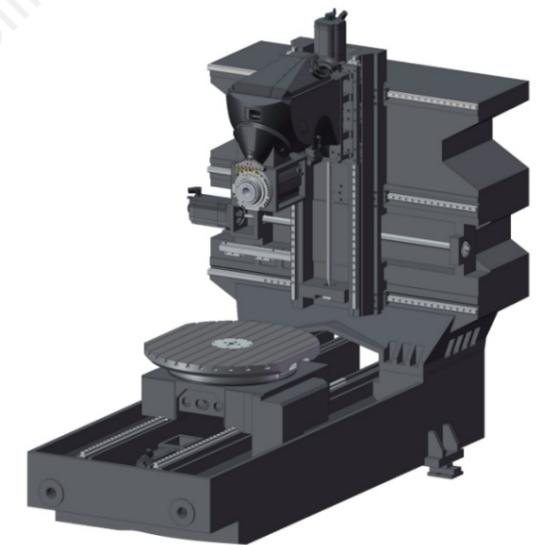
# GFM1300/1600 SERIES

## Wall back bed structure



- Higher rigidity  
More speed  
Smaller overturning moment
- Heidenhain five-axis closed-loop measurement system  
Guarantee of high precision of machine
- High-rigidity bed base with three-point support  
No fuss about the foundation  
Excellent stability is demonstrated in all situations

- SHUTON elongated double nut structure screw effectively improves the preload, greatly improves the positioning accuracy and cutting performance
- German INA linear guide rail, widened slider, more durable accuracy
- Siemens 1FT series high dynamic response motor



# GFM2100/2300 SERIES

## Gantry moving beam bed structure

Adopt 45 degree oblique five-axis head structure, closed-loop system. Rigid enough, good positioning accuracy /X\Y axis stroke 2300mm, suitable for processing aviation casings and other products/The turntable can be moved into the dragon door frame, making the machine cantilever smaller. The screw is fixed and the nut is rotated, so that the machine tool is large and not bulky, and the real high-performance five-axis machine tool is realized.

● Using the grating ruler full closed-loop control

● Hollow cold screw, take away the heat generated by the movement, the accuracy is guaranteed

● Choose water-cooled 1FT series high-performance motor, with high dynamic response and motion control accuracy

● All guide rails are used constant temperature cooling system, reduce heat deformation, further improve the accuracy

● Bed 3-point support, not affected by foundation distortion, good accuracy retention

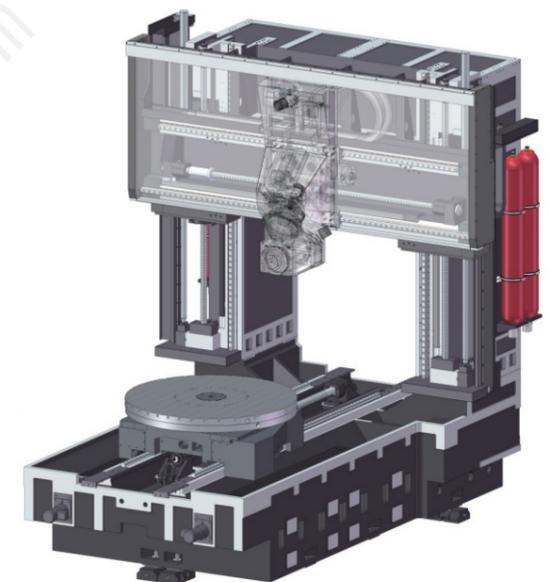
● Base cast with integral cross reinforcement, better rigidity

● Double balance cylinder, a total of 4 large capacity balance accumulators, beam movement is smooth, high control accuracy

● Linear shaft screw drive, screw fixed not rotating, motor drive lock, can achieve high dynamic response

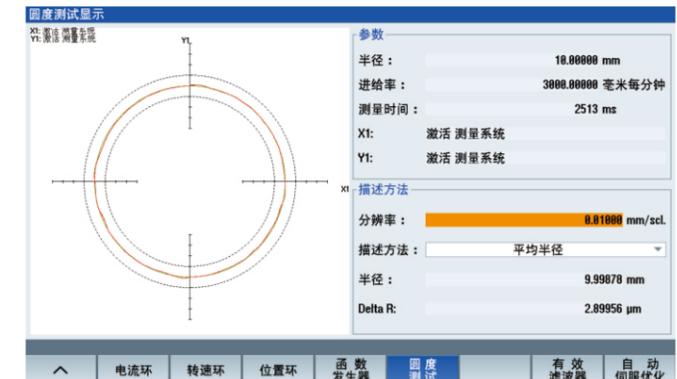
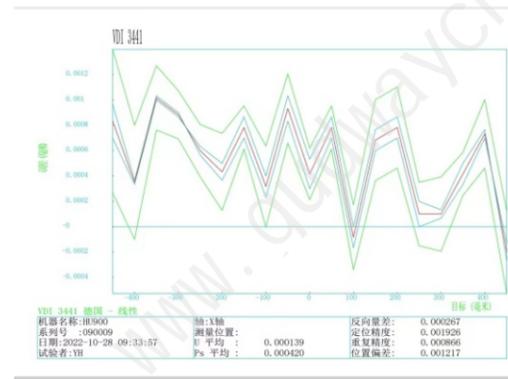
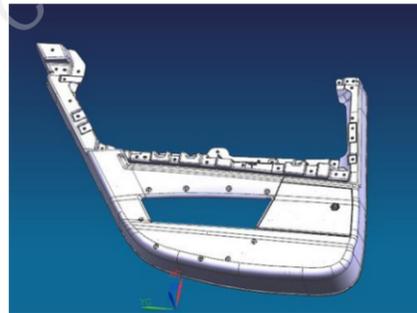
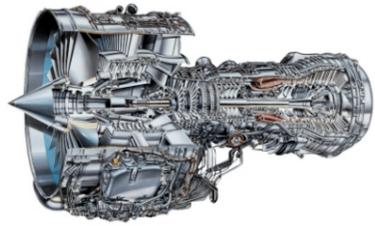
● 55mm high precision guide rail imported from Switzerland

● YRT turntable bearing + thrust bearing, turntable bearing ability is excellent



Our machines serve various machining industries such as military defense, aerospace, energy and power

Production assembly debugging



## Linear axis

|                                 | <b>GFM1000</b>             | <b>GFM1300</b>             | <b>GFM1600</b>             | <b>GFM2100</b>             | <b>GFM2300</b>             |
|---------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Machine stroke X/Y/Z axis (mm)  | 1050/1100/850              | 1300/1300/1000             | 1600/1500/1250             | 2100/2100/1250(1700)       | 2300/2300/1250(1700)       |
| Fast moving speed X/Y/Z (m/min) | 40/40/40                   | 40/40/40                   | 40/40/40                   | 40/30/40                   | 40/30/40                   |
| Measurement system              | Heidenhain Linear Encoders |
| Control system                  | Siemens SINUMERIK ONE      |

## Spindle

|         | <b>GFM1000</b>                                 | <b>GFM1300</b>  | <b>GFM1600</b>  | <b>GFM2100</b>  | <b>GFM2300</b>  |
|---------|--|---|---|---|---|
| Spindle | HSK-A63/15000 rpm/min<br>HSK-A63/18000 rpm/min | HSK100A / 8000 rpm/min<br>HSK100A / 10000 rpm/min<br>HSK100A / 12000 rpm/min<br>HSK100A / 15000 rpm/min | HSK100A / 8000 rpm/min<br>HSK100A / 10000 rpm/min<br>HSK100A / 12000 rpm/min<br>HSK100A / 15000 rpm/min | HSK100A / 8000 rpm/min<br>HSK100A / 10000 rpm/min<br>HSK100A / 12000 rpm/min<br>HSK100A / 15000 rpm/min | HSK100A / 8000 rpm/min<br>HSK100A / 10000 rpm/min<br>HSK100A / 12000 rpm/min<br>HSK100A / 15000 rpm/min |

## B axis (45 degree swing head) data

|                  | <b>GFM1000</b>                                       | <b>GFM1300</b>                                       | <b>GFM1600</b>                                       | <b>GFM2100</b>                                       | <b>GFM2300</b>                                       |
|------------------|--|--|--|--|--|
| Measuring system | HEIDENHAIN Linear Encoder Close Loop Feedback System |
| Resolution       | 0.001 °  | 0.001 °  | 0.001 °  | 0.001 °  | 0.001 °  |
| Control mode     | Simultaneous Control /AnyDegree                      | Simultaneous Control /Any Degree                     |
| Max Feed Rate    | 15 rpm/min   | 15 rpm/min   | 15 rpm/min   | 12 rpm/min   | 12 rpm/min   |
| Swivel Range (°) | -30°~180°  | -30°~180°  | -30 to 180 °   | -30 to 180 °   | -30 to 180 °   |

## A-axis (fork milling head) data

|                   | <b>GFM1000</b>          | <b>GFM1300</b>          | <b>GFM1600</b>          | <b>GFM2100</b>          | <b>GFM2300</b>          |
|-------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Transmission mode | Precision gear          |
| Bearings          | INA YRT series bearings | INA YRT series bearings | INA YRT series bearings | INA YRT series bearings | INA YRT series bearings |
| Maximum feed      | /                       | 15rpm/min               | 15rpm/min               | 15rpm/min               | 15rpm/min               |
| Feed torque       | /                       | 4100Nm                  | 4100Nm                  | 4100Nm                  | 4100Nm                  |
| Itinerary         | /                       | -30 to 125 degrees      |

## C-axis (turntable) data

|                                      | <b>GFM1000</b>                         | <b>GFM1300</b>                         | <b>GFM1600</b>                         | <b>GFM2100</b>                         | <b>GFM2300</b>                         |
|--------------------------------------|--|--|--|--|--|
| Measuring system                     | Heidenhain grating closed loop control |
| Resolution                           | 0.001 °                                | 0.001 °                                | 0.001 °                                | 0.001 °                                | 0.001 °                                |
| Control mode                         | Simultaneous Control /Any Degree       |
| Max rotational speed                 | 12 rpm/min                             | 12 rpm/min                             | 360 degrees                            | 10 rpm/min                             | 10 rpm/min                             |
| Itinerary                            | 360 degrees                            | 360 degrees                            | 1500mm                                 | 360 degrees                            | 360 degrees                            |
| Turntable dimensions                 | 1100mm                                 | 1250-1100mm                            | 5000kg                                 | 1700mm                                 | 1700mm                                 |
| Load bearing                         | 2000kg                                 | 2500kg                                 | 400rpm                                 | 8000kg                                 | 8000kg                                 |
| Max speed (with turning function)    | /                                      | 400rpm                                 | 7900Nm                                 | 250rpm                                 | 250rpm                                 |
| Rated torque (with turning function) | /                                      | 5400Nm                                 |  | 7900Nm                                 | 7900Nm                                 |

## TOOL MAGAZINE

|                               |             |
|-------------------------------|-------------|
| Tool Capacity                 | 50          |
| Chain rotation                | Servo motor |
| Tool changing time(tool-tool) | 9s          |

## GFM1000

|                               |             |
|-------------------------------|-------------|
| Tool Capacity                 | 50          |
| Chain rotation                | Servo motor |
| Tool changing time(tool-tool) | 9s          |

## GFM1300

|                               |             |
|-------------------------------|-------------|
| Tool Capacity                 | 40/60/120   |
| Chain rotation                | Servo motor |
| Tool changing time(tool-tool) | 8s          |

## GFM1600

|                               |             |
|-------------------------------|-------------|
| Tool Capacity                 | 40/60/120   |
| Chain rotation                | Servo motor |
| Tool changing time(tool-tool) | 8s          |

## GFM2100

|                               |             |
|-------------------------------|-------------|
| Tool Capacity                 | 40/60/120   |
| Chain rotation                | Servo motor |
| Tool changing time(tool-tool) | 8s          |

## GFM2300

|                               |             |
|-------------------------------|-------------|
| Tool Capacity                 | 40/60/120   |
| Chain rotation                | Servo motor |
| Tool changing time(tool-tool) | 8s          |

## Other data

|                         | GFM1000   | GFM1300  | GFM1600  | GFM2100  | GFM2300  |
|-------------------------|-----------|----------|----------|----------|----------|
| Weight                  | 15t       | 28t      | 38t      | 53t      | 55t      |
| Floor area              | 7.4*4.9m  | 6.5*4.5m | 8.5*7.5m | 12*9m    | 12*9m    |
| Height                  | 4m        | 4m       | 4.1m     | 6m       | 6.5m     |
| Voltage                 | 400V      | 400V     | 400V     | 400V     | 400V     |
| Power Capacity          | 100KVA    | 100KVA   | 120KVA   | 150KVA   | 150KVA   |
| Compressed air pressure | 0.6-0.8MP | 0.6MP    | 0.6MP    | 0.6MP    | 0.6MP    |
| Compressed air max flow | 650L/min  | 650L/min | 650L/min | 650L/min | 650L/min |

## Optional

- High power spindle
- Workpiece Probe
- Tool Pre-setter
- Coolant Through Spindle
- Remote Diagnosis Service
- Turn-key Project
- Adaptive Machining Function
- Process Monitoring System/Collision Detection System
- FMS system.

