



Five Axis Machining Center



SUZHOU GUDWAY CNC EQUIPMENT CO.,LTD

Add : No. 21 Xiexin Road, New District, Suzhou City, Jiangsu Province, China.

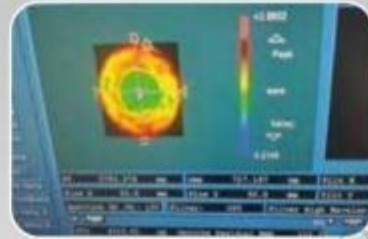
Tel : +86-0512-65580060

Email : info@gudwaycnc.com

Web : <http://www.gudwaycnc.com>

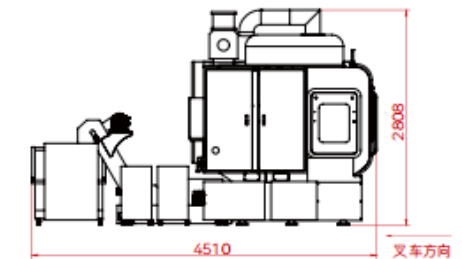
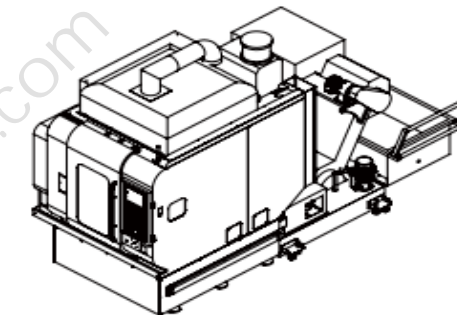
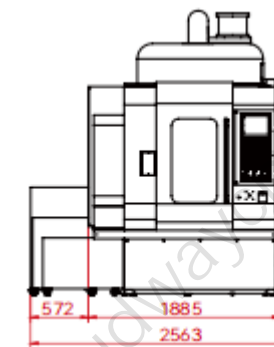
SUZHOU GUDWAY CNC EQUIPMENT CO.,LTD

GFM-200U



GFM-200U high speed 5-axis machining center

项目	Specifications	单位	
三轴行程 (x/y/z)	x/y/z axes travel	mm	400/400/260
主轴鼻端至台面	spindle nose to work table	mm	46-306
回转台直径	tumtable diameter	mm	180
最大回转直径	maximum rotary diameter	mm	260
A/C 轴旋转速度	rotational speed of AC axis	r/min	100/200
A 轴倾斜角度	A axis travel	deg	±110°
C 轴倾斜角度	C axis travel	deg	360°
A 轴扭矩 (额定 / 最大)	A axis torque(RT/max.)	Nm	710/1300
C 轴扭矩 (额定 / 最大)	C axis torque(RT/max.)	Nm	320/600
A/C 轴锁紧扭矩	locking torque	Nm	83/38
A/C 定位精度	Position precision	mm	6"/6"
A/C 重复定位精度	Repeat position precision	mm	3"/3"
最大载重	max loading	kg	60
三轴快移速度	3 axes rapid move speed	m/min	48/48/48
主轴转速	spindle rotation speed	rpm	32000
主轴切削扭矩 (额定 / 最大)	cutting torque(RT/max.)	Nm	11.5/18.5
主轴锥度	spindle taper		BBT30/45°拉钉
主轴电机功率	spindle motor	kw	11
直线电机推力额定 / 最大	the linear motor force(con./max.)	N	x/z 1180/3750 y 2415/7450
定位精度	position precision	mm	0.004/400
重复定位精度	Repeat position precision	mm	0.002/400
刀库	tool magazine	pcs	20/32
机械重量	machine weight	kg	5500
外形尺寸	machine size	mm	1800*2000*2500



Standard configuration

· main unit	· Bosch Rexroth Advanced Systems, Germany	· MTX-performance
· Permanent Magnet Synchronous Spindle (Precision Synchronous Type)	· XYZ Linear Motor (Bosch Rexroth)	· XYZ Roller Guideway (Bosch Rexroth)
· Cradle 5-axis table (DD motor)	· Disc type tool magazine (20 tools)	· Water cooler (spindle cooling)
· Oil cooler (linear motor cooling, 4/5 axis)	· Tool length measurement system (contact, Metrol)	· 50nm Optical scale (Fage)
· Handwheel (with wire)	· Pneumatic Components (SMC)	· Electrical components (Schneider)
· Centralized lubrication system	· Cutting oil pump (water tank)	· Electric cabinet air conditioner
· Oil mist collection system	· Operation lighting fixtures	Transformer (380kva-380kva. Isolates external voltage and prevents interference from external voltage)

Optional configuration

· Huazhong 918 control system	· Scraper + Backflush	· Automatic door
· Cutting fluid cooling	· Centrifugal Chip Conveyor	· Renishaw probe OMP-400
· Laser tool setter (Hexagon)	· Paper Belt Filter	· 3D type
· DD Rotary table fixture	· Online inspection function	· DD Rotary Table Hydraulic
· airtightness testing interface	· 32-bit chain tool magazine	· Clamp Interface

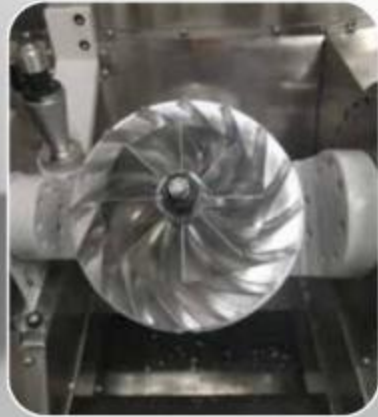
Product Features

- 1) Adopting high thrust linear motor and high resolution scale, high positioning accuracy, no backlash, high machining accuracy and high stability of machine.
- 2) Adopting German Rexroth system with high control precision, fast operation speed and high processing efficiency.
- (3) Customized high speed and high torque ultra-precision spindle for long time operation without precision drift.

Advantages of machine tools

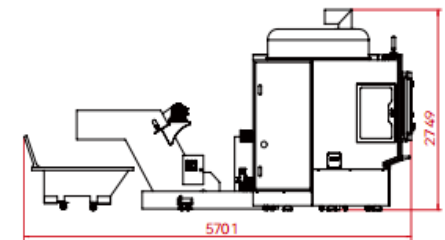
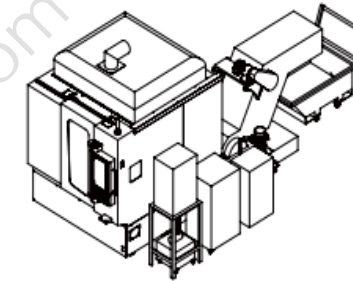
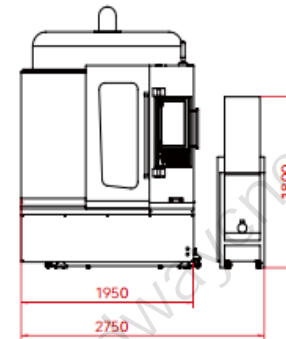
- 1) Automation interface reserved, data acquisition, optional automotive pressure impeller special fixtures, to achieve stand-alone automated production.
- 2) Especially suitable for: precision parts, optical lenses, impellers, fans, leaf disks and other products high-speed precision machining.

GFM-320U



GFM-320U high speed 5-axis machining center

项目	Specifications	单位	
三轴行程 (x/y/z)	x/y/z axes travel	mm	400/400/260
主轴鼻端至台面	spindle nose to work table	mm	90-350
回转台直径	tumtable diameter	mm	260
最大回转直径	maximum rotary diameter	mm	320
A/C 轴旋转速度	rotational speed of AC axis	r/min	120/200
A 轴倾斜角度	A axis travel	deg	±110°
C 轴倾斜角度	C axis travel	deg	360°
A/C 轴锁紧扭矩	locking torque	N.m	420/180
A/C 定位精度	Position precision	mm	6*/6*
A 轴扭矩 (额定 / 最大)	A axis torque(RT/max.)	N.m	710/1300
C 轴扭矩 (额定 / 最大)	C axis torque(RT/max.)	N.m	320/600
A/C 重复定位精度	Repeat position precision	mm	3*/3*
最大载重	max loading	kg	60
三轴快移速度	3 axes rapid move speed	m/min	48/48/48
主轴转速	spindle rotation speed	rpm	22000
主轴切削扭矩 (额定 / 最大)	cutting torque(RT/max.)	N.m	28/34
主轴锥度	spindle taper		HSK-A50
主轴电机功率	spindle motor	kw	16
直线电机推力额定 / 最大	the linear motor force(con./max.)	N	x/z 1180/3750 y 2415/7450
定位精度	position precision	mm	0.004/400
重复定位精度	Repeat position precision	mm	0.002/400
刀库	tool magazine	pcs	16/40
机械重量	machine weight	kg	5700
外形尺寸	machine size	mm	1950*2000*2500



Product Features

- 1) Adopting high thrust linear motor and high resolution scale, high positioning accuracy, no backlash, high accuracy and high stability.
- 2) Adopting German Rexroth system with high control precision, fast operation speed and high processing efficiency.
- (3) Customized high speed and high torque ultra-precision spindle for long time operation without precision drift.

Advantages of machine tools

- 1) Automation interface reserved, data collection, can realize stand-alone automated production.
- 2) Especially suitable for: aluminum alloy (material), high temperature alloy (material), titanium alloy (material), super-hard stainless steel (material); optical lenses, automotive impellers, impeller, leaf fan, leaf disk, medical shaped parts, aviation aerospace shaped parts and other products of high-speed precision machining.

Standard configuration

· main unit	· Bosch Rexroth Advanced Systems, Germany	· MTX-performance
· Permanent Magnet Synchronous Spindle (Precision Synchronous Type)	· XYZ Linear Motor (Bosch Rexroth)	· XYZ Roller Guideway (Bosch Rexroth)
· Cradle 5-axis table (DD motor)	· Disc type tool magazine (16 tools)	· Water cooler (spindle cooling)
· Oil cooler (linear motor cooling, 4/5 axis)	· Tool length measurement system (contact, Metrol)	· 50nm Optical scale (Fage)
· Handwheel (with wire)	· Pneumatic Components (SMC)	· Electrical components (Schneider)
· Centralized lubrication system	· Cutting oil pump (water tank)	· Electric cabinet air conditioner
· Oil mist collection system	· Operation lighting fixtures	Transformer (380kva-380kva. Isolates external voltage and prevents interference from external voltage)

Optional configuration

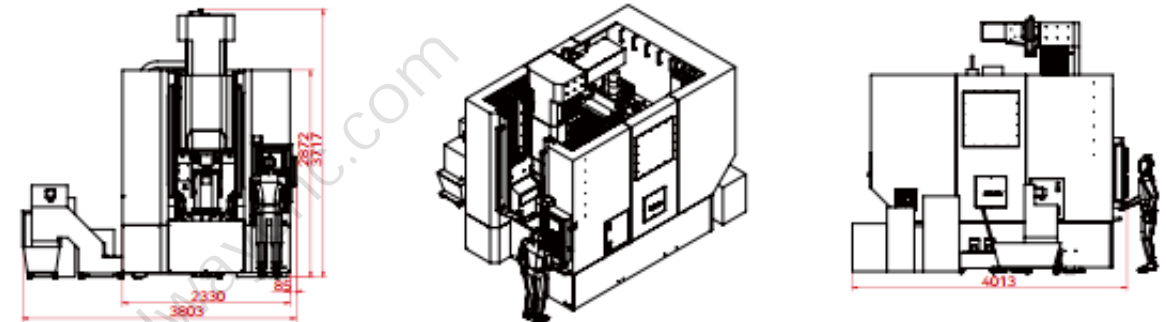
· Huazhong918controlsystem	· Automaticdoor	· Cuttingliquidcooling
· Scraper + Backflush Centrifugal Chip Conveyor	· RenishawprobeOMP-4003Dmodel	· 40-bit chain tool magazine
· Papertapefilter	· Onlineinspectionfunction	· Spindlecenteroutletsystem
· Laser tool setter (Hexagon)		

GFM-600U



GFM-600U high speed 5-axis machining center

项目	Specifications	单位	
三轴行程 (x/y/z)	x/y/z axes travel	mm	600/650/500
主轴鼻端至台面	spindle nose to work table	mm	95-595
回转台直径	turtable diameter	mm	400
最大回转直径	maximum rotary diameter	mm	600
A/C 轴旋转速度	rotational speed of AC axis	r/min	80/120
A 轴倾斜角度	A axis travel	deg	±110°
C 轴倾斜角度	C axis travel	deg	360°
A 轴扭矩 (额定 / 最大)	A axis torque(RT/max)	N.m	710/1300
C 轴扭矩 (额定 / 最大)	C axis torque(RT/max)	N.m	320/600
A/C 轴锁紧扭矩	locking torque	N.m	2X1500/1000
A/C 定位精度	Position precision	mm	6/16"
A/C 重复定位精度	Repeat position precision	mm	3/3"
最大载重	max loading	kg	350
三轴快移速度	3 axes rapid move speed	m/min	70/70/70
主轴转速	spindle rotation speed	rpm	16000
主轴切削扭矩 (额定 / 最大)	cutting torque(RT/max)	N.m	70/120
主轴锥度	spindle taper		HSK-A63
主轴电机功率	spindle motor	kw	30
直线电机推力额定 / 最大	the linear motor force(con/max)	N	x/z/2'y 3150/10000
定位精度	position precision	mm	0.005/600
重复定位精度	Repeat position precision	mm	0.003/600
刀库	tool magazine	pcs	32/48
机械重量	machine weight	kg	15000
外形尺寸	machine size	mm	4230*3785*3783



Product Features

Advantages of machine tools

- 1) Adopting high thrust linear motor and high resolution scale, high positioning accuracy, no backlash, high machining accuracy and high stability of machine tool.
- 2) Adopting German Rexroth system with high control precision, fast operation speed and high processing efficiency.
- (3) Customized high speed and high torque ultra-precision spindle for long time operation without precision drift.

Especially suitable for: aluminum alloy (material), high-temperature alloy (material), titanium alloy (material), super-hard stainless steel (material); large automotive parts, aerospace parts, large optical lenses and other products, high-speed precision machining.

Standard configuration

· main unit	· Bosch Rexroth Advanced Systems, Germany	· MTX-performance
· Permanent Magnet Synchronous Spindle (Precision Synchronous Type)	· XYZ Linear Motor (Bosch Rexroth)	· XYZ Roller Guideway (Bosch Rexroth)
· Cradle 5-axis table (DD motor)	· Disc type tool magazine (32 tools)	· Water cooler (spindle cooling)
· Oil cooler (linear motor cooling, 4/5 axis)	· Tool length measurement system (contact, Metrol)	· 50nm Optical scale (Fage)
· Handwheel (with wire)	· Pneumatic Components (SMC)	· Electrical components (Schneider)
· Centralized lubrication system	· Cutting oil pump (water tank)	· Electric cabinet air conditioner
· Oil mist collection system	· Operation lighting fixtures	· Transformer (380kva-380kva. Isolates external voltage and prevents interference from external voltage)

Optional configuration

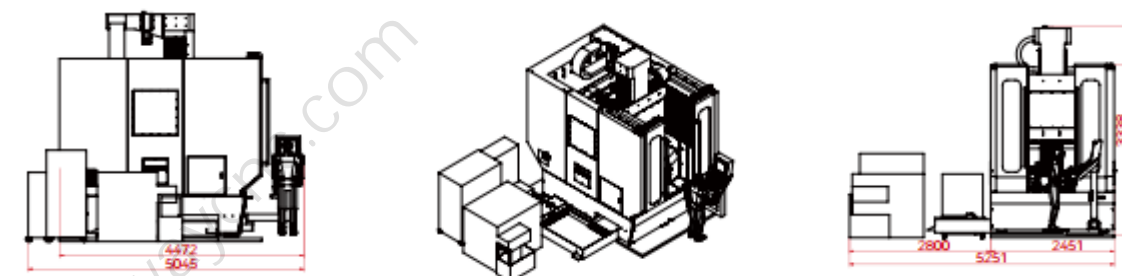
· Heidenhain HNC-640 control system	· Automatic door	· Laser tool setter (Hexagon)
· Huazhong 848 control system	· Cutting liquid cooling	· Online inspection function
· 10nm optical scale	· Paper tape filter	· Spindle center outlet system
· Scraper + Backflush Centrifugal Chip Conveyor	· Renishaw probe OMP-4003D model	· 48,64 chain tool magazine

GFM-800U



GFM-800U high speed 5-axis machining center

项目	Specifications	单位	
三轴行程 (x/y/z)	x/y/z axes travel	mm	800/860/580
主轴鼻端至台面	spindle nose to work table	mm	120-700
回转台直径	turntable diameter	mm	630
最大回转直径	maximum rotary diameter	mm	800
A/C 轴旋转速度	rotational speed of AC axis	r/min	60/100
A 轴倾斜角度	A axis travel	deg	±110°
C 轴倾斜角度	C axis travel	deg	360°
A 轴扭矩 (额定 / 最大)	A axis torque(RT/max.)	N.m	2000
C 轴扭矩 (额定 / 最大)	C axis torque(RT/max.)	N.m	720
A/C 轴锁紧扭矩	locking torque	N.m	2X2500/2000
A/C 定位精度	Position precision	mm	8"/8"
A/C 重复定位精度	Repeat position precision	mm	5"/5"
最大载重	max loading	kg	600
三轴快移速度	3 axes rapid move speed	m/min	70/70/70
主轴转速	spindle rotation speed	rpm	16000
主轴切削扭矩 (额定 / 最大)	cutting torque(RT/max.)	N.m	70/120
主轴锥度	spindle taper		HSK-A63
主轴电机功率	spindle motor	kw	30
直线电机推力额定 / 最大	the linear motor force(con./max.)	N	x/z/2*y 3150/10000
定位精度	position precision	mm	0.005/800
重复定位精度	Repeat position precision	mm	0.003/800
刀库	tool magazine	pcs	32/48
机械重量	machine weight	kg	22000
外形尺寸	machine size	mm	4527*3646*4030



Standard configuration

<ul style="list-style-type: none"> main unit Permanent Magnet Synchronous Spindle (Precision Synchronous Type) Cradle 5-axis table (DD motor) Oil cooler (linear motor cooling, 4/5 axis) Handwheel (with wire) Centralized lubrication system Oil mist collection system 	<ul style="list-style-type: none"> Bosch Rexroth Advanced Systems, Germany XYZ Linear Motor (Bosch Rexroth) Disc type tool magazine (32 tools) Tool length measurement system (contact, Metrol) Pneumatic Components (SMC) Cutting oil pump (water tank) Operation lighting fixtures 	<ul style="list-style-type: none"> MTX-performance XYZ Roller Guideway (Bosch Rexroth) Water cooler (spindle cooling) 50nm Optical scale (Fage) Electrical components (Schneider) Electric cabinet air conditioner Transformer (380kva-380kva. Isolates external voltage and prevents interference from external voltage)
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Optional configuration

<ul style="list-style-type: none"> Heidenhain HNC-640 control system Scraper + Backflush Centrifugal Chip Conveyor Papertapefilter Onlineinspectionfunction 	<ul style="list-style-type: none"> Huazhong 848 control system Automatic door Renishaw probe OMP-400 3D model Spindle center outlet system 	<ul style="list-style-type: none"> 10 nm optical scale Cutting liquidcooling Spindle center outlet system 48,64 chain tool magazine
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Product Features

- 1) Adopting high thrust linear motor and high resolution scale, high positioning accuracy, no backlash, high machining accuracy and high stability of machine.
- 2) Adopting German Rexroth system with high control precision, fast operation speed and high processing efficiency.
- (3) Customized high speed and high torque ultra-precision spindle for long time operation without precision drift.

Advantages of machine tools

Especially suitable for: aluminum alloy (material), high-temperature alloy (material), titanium alloy (material), super-hard stainless steel (material); large automotive parts, aerospace parts, large optical lenses and other products, high-speed precision machining.

GFM-300UW



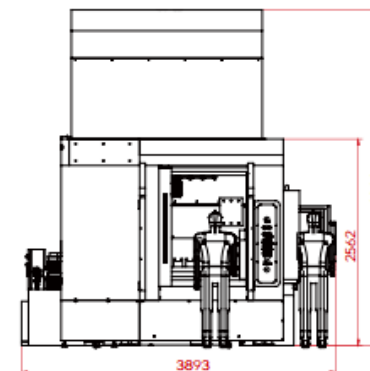
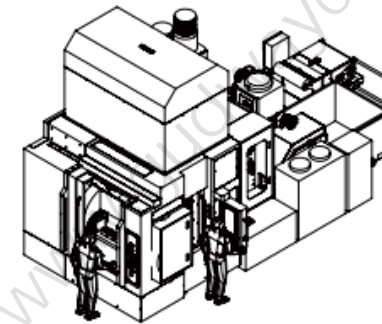
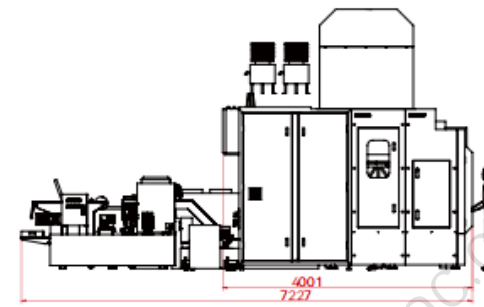
ABS valve body

Machine Advantages

1. Double spindles machining at the same time, high speed and high efficiency.
2. With 4-axis rotary table, double-changing table, using a combination of fixtures can complete the workpiece 6-face machining in a single clamping, machining at the same time the double-changing table to realize the material change without stopping, theoretically, 0 standby time, which can greatly enhance the production capacity.
3. A total capacity of 120 tools allows for one-time machining of complex parts with multiple tools.
4. High-torque, high-speed electric spindle with center outlet removes cutting more efficiently and improves the production beat.
5. The perfect aluminum alloy machining chip removal system can remove chips without manual intervention around the clock, and the pre-cooled and highly purified cutting fluid provides a reliable guarantee for spindle cutting and fixture cleaning.

Application industries:

1. Processing of small automobile parts: ABS valve body processing, suspension swing arm processing, etc.
2. Pneumatic parts machining: valve body machining, manifold machining, etc.



Itinerary of work

X-axis	300mm
Y-axis (tool change position)	400mm (620mm)
Z-axis	450mm
Spindle spacing	300mm

Workbench

Cradle-type working platform/	About 3.5 seconds
Two ends with self-locking support: swing time 0/180°	
A-axis and U-axis for mounting fixtures up to the maximum size	Diameter 450 mm x 800 mm
Drive system	Torque motor
Motion Load	2x450KG

A-axis and U-axis speed range	1-50 rpm/minute
C- and W-axis*	2 PCS

Work spindle

Time to accelerate to maximum speed 0-nmax	1-15,000 rpm/minute/0.9 sec.
Spindle bearing diameter	80mm
Torque (40% ED)	2x30 kW/4000 rpm/minute
Torque (40% ED)	2 x 70 Nm

Feed drive

Drive system	Linear motor
Fast moving speed X/Y/Z	60m/minute
Acceleration X/Y/Z	12/12/20m/second 2
Max. feed force X/Y/Z	3750/7450/3750Newton

Accuracy (according to VDI/DGQ3441 standard)

Positioning Measurement System	Direct measurement, absolute measurement
Positioning accuracy X/Y/Z	Tp=0,008mm

Tool magazine

Tool Changer System	Grabbing type
Capacity	2x60
Max. tool diameter	100/180mm(neighboring empty tool)
Max. tool length	300mm
Max. tool weight	8kg

Change tools

Cut-to-out time	About 2.25 seconds
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Weight/Size

Shipping size W x H x L	3.23m x 3.05m x 5.10m
Machine weight	About 18000kg
Mounting size W x H x L	3.89m x 4.16m x 7.10m

Power supply

Working Voltage	3x400 Volt, 50 Hz, TN-S/TN-C grid
Total power	About 120 kVA
Compressed air consumption	1,0 Nm 3/min (6 bar)

CNC control system

Rexroth	MTX
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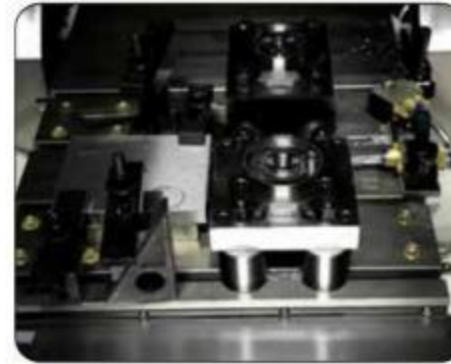
Product Features

- 1) Three-axis frame-in-frame construction
- 2) Linear axes are driven by linear motors with full closed-loop scale to maintain stable accuracy over time.
- 3) Horizontal rotary axis A-axis is driven by double-end fixed double DD motors, with fast response speed, high positioning accuracy and repeatable positioning accuracy.
- 4) The control system adopts German Rexroth MTX multi-axis linkage control system with high speed response, which can realize the multi-axis control of double spindles of the machine tool.
- 5) Each heat generating accessory of the machine is equipped with an independent temperature control unit to maximize the performance of linear motor, spindle and control drive.
- 6) Standard 120 tools of large-capacity chain tool magazine, can realize synchronous and rapid tool replacement, to meet the needs of complex parts machining tool, tool magazine built-in tool broken tool detection device.
- 7) Optional non-contact laser tool setting device, in the tool change at the same time that completes the tool length, tool loss and broken tool detection, to achieve automated machine tool management.
- 8) The whole machine bed is fully enclosed sheet metal, and equipped with oil mist collection device standard configuration chain chip conveyor, water tank is equipped with low water level alarm function, flow alarm function.
- 9) The DD turntable is equipped with multi-channel hydraulic and pneumatic interfaces, which can be installed with automatic hydraulic clamping fixtures and gas-tightness testing devices.
- 10) The machine tool is equipped with automatic door as standard, which is synchronized with the external manipulator through the automation interface to realize the fully automatic loading and unloading function of the machine tool.

GFM-700M



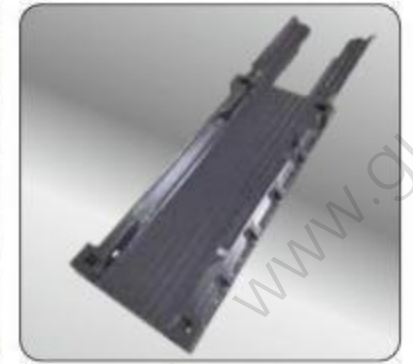
GFM-700M High-speed, high-precision machining center



Eddy dynamic disk processing



High Precision Mold Processing



Stainless steel thin-walled guide rail parts processing

项目	Specifications	单位	
三轴行程 (x/y/z)	x/y/z axes travel	mm	650/700/400
主轴鼻端至台面	spindle nose to work table	mm	150-550
工作台尺寸	Work table size	mm	650*660
T型槽 (数目 - 尺寸 * 间距)	T-slot(number-size*distance)		9-12-80
最大载重	max loading	kg	300
三轴快移速度	3 axes rapid move speed	m/min	40/40/40
主轴转速	spindle rotation speed	rpm	24000
主轴切削扭矩 (额定 / 最大)	cutting torque(RT/max.)	N.m	35/42
主轴锥度	spindle taper		HSK-A63
主轴电机功率	spindle motor	kw	20
直线电机推力额定 / 最大	the linear motor force(con/max.)	N	x/y/z 3750/10000
定位精度	position precision	mm	0.005/800
重复定位精度	Repeat position precision	mm	0.003/800
刀库	tool magazine	pcs	21/32
机械重量	machine weight	kg	9500
外形尺寸	machine size	mm	2200*3000*2650

Standard configuration

· Main unit	· Bosch Rexroth Advanced Systems, Germany	· IndraMotion MTX micro
· Permanent Magnet Synchronous Spindle	· XYZ Linear Motor (Bosch Rexroth)	· XYZ Roller Guideway (Bosch Rexroth)
· Umbrella tool magazine (21 tools)	· Oil cooler (linear motor cooling)	· Water cooler (spindle cooling)
· 50mm Optical scale (FaGe)	· Tool length measurement system (bench. contact, Metrol)	· Electrical components (Schneider)
· Handwheel (with wire)	· Pneumatic Components (SMC)	· Oil mist collection system
· Heat exchanger	· Centralized lubrication system	· Cutting oil pump (water tank)
· Linear motor cooling device	· Spindle overload protection function	· Operation lighting fixtures
· Transformer (380kva-380kva.) Isolates external voltages to prevent interference from external voltages)		

Optional configuration

· 10nm optical scale (FaGe)	· On-line inspection probe (Renishaw)	· Spindle center outlet system
· Paper tape filter (glass powder filter)	· OMP40-2	
	· Spindle center outlet system	

Product Features

- 1) Ultra-high configuration, guarantee the premise of precision, improve the machining efficiency by more than 2 times.
- 2) Precision protection enables multi-purpose processing of metal and graphite and saves customer's expense.

Advantages of machine tools

Particularly suitable for: precision molds, medical molds, automotive lamp molds, graphite electrodes, scrolling static disk (iron), deep hole processing, deep cavity mold processing, etc..