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# Horizontal Type Boring Machining Center



SUZHOU GUDWAY CNC EQUIPMENT CO.,LTD

## GUDWAY CNC Milling and Boring Machine

GUDWAY's diverse milling and boring machines are designed to meet the high class machining needs of the unique and different industries. The high quality and high precision guaranteed by our zero-defect manufacturing processes have won the trust and praise from many customers in the world.

GHB table type and cross slide type CNC milling and boring machine can easily complete a variety of processing such as boring, milling, drilling, tapping, especially suitable for deep hole boring on complex and precision box parts. They are widely used in various industries, such as aerospace, shipbuilding, railways, mining and metallurgy, engineering machinery, valves, and new energy.

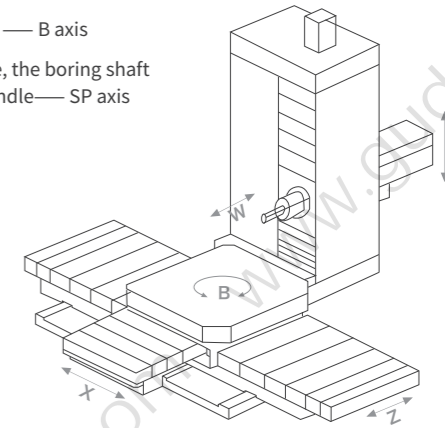
- Key components R&D finished by GUDWAY independently. For example the independent designed head stock and automatic shifting system to realize high-speed high precision machining and low-speed high-torque machining; the independent designed high precision rotary table to achieve 0.001 degree high precision indexing and improve rotation accuracy by more than 30%.
- Excellent rigidity and precision. Large-span bed, double-walled structure column, greatly improved rigidity; using rolling and sliding composite guide way structure and top brand components to greatly improve the bearing capacity of the machine tool. The slewing mechanism with double gears to eliminate backlash, ensure accurate transmission; the slewing shaft is equipped with optical scale, effectively guarantee the accuracy of the machine.
- Various options configurations. GUDWAY milling and boring machine can be easily configured with various optional accessories and functions, such as tool magazine, cooling through spindle, heavy loading precision rotary table, right-angle milling head, universal milling head, spindle support sleeve, CNC rotary table, etc.



## GHB Series- CNC Horizontal Milling and Boring Machine

- This series of models adopt a typical cross slide layout, with fixed columns and side-mounted headstock. The worktable move and rotate on the cross slide and the boring shaft can be extended.
- Equipped with precise gear shifting high-end gear box, which can be used for both high-speed light cutting and low-speed heavy cutting. One machine is multi-purpose.
- Complete a variety of processes in one clamping, suitable for large parts' milling, boring, drilling, reaming, tapping, turning, etc.
- It is widely used in aerospace, shipbuilding, railway, mining and metallurgy, engineering machinery, valves, new energy and other industries. It is the preferred processing equipment for various parts, such as boxes, housings, and bases.

- Horizontal movement of work table — X axis
- Headstock moves up and down — Y axis
- Longitudinal movement of work table — Z axis
- Axial movement of boring shaft — W axis
- Rotary motion of worktable — B axis
- Two-layer spindle structure, the boring shaft rotates with the milling spindle — SP axis



### GHB 110

- It adopts precise gear transmission spindle box, equipped with high precision and high rigidity telescopic boring spindle, high precision spindle bearings.
- Equipped with precise oil cooling system to effectively control the spindle thermal deformation.
- High torque 3000N.m, high speed 3000rpm.



GUDWAY designed and made spindle



Cross slide type milling and boring machine  
(full protection cover is optional)

Full column protection



Full bed protection

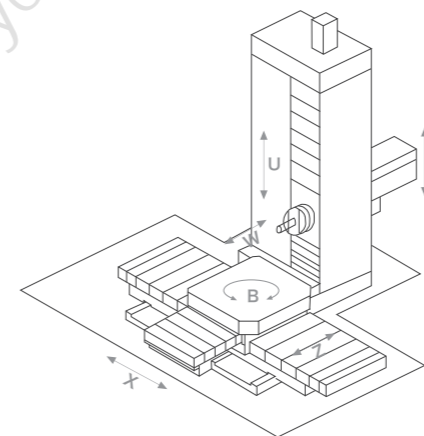
## GHB 110U

- This series of models adopt a typical cross slide layout, with fixed columns and side-mounted headstock. The worktable move and rotate on the cross slide and the boring shaft can be extended.
- The main spindle consists of one facing head, one milling spindle, and one boring shaft. There is tool clamping device inside of the boring shaft.
- Complete a variety of processes in one clamping, suitable for large parts' milling, boring, drilling, reaming, tapping, turning, etc.
- It is widely used in aerospace, shipbuilding, railway, mining and metallurgy, engineering machinery, valves, new energy and other industries. It is the preferred processing equipment for various parts, such as boxes, housings, and bases.



### CNC Facing Head

- The spindle composed of three layers of spindle, one facing head, one milling spindle and one boring shaft. The boring shaft is equipped with tool clamping & unclamping device.
- The facing head and its spindle are installed in the spindle box; the milling spindle support sleeve is installed in the facing head and can rotate independently; the boring shaft is embedded in the milling spindle, which can be axially telescopically moved and kept synchronized with the milling spindle.
- The facing head rotary movement is controlled by the hydraulic cylinder, which can realize the switch between facing head movement and boring shaft rotary. The facing head and boring shaft can rotate at different speeds at the same time or separately.



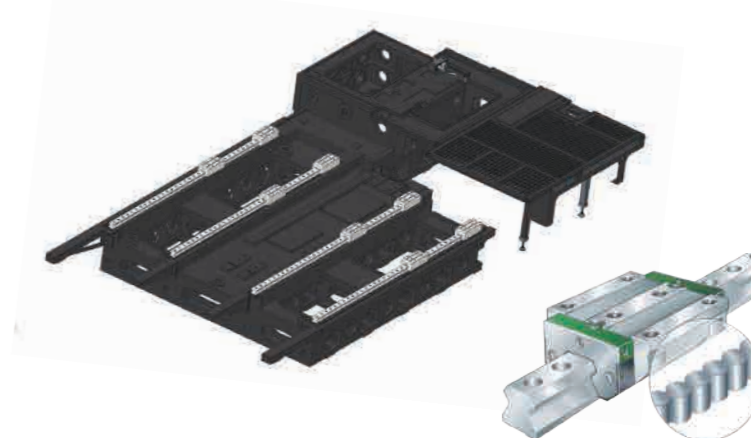
- Horizontal movement of work table — X axis
- The headstock moves up and down — Y axis
- Longitudinal movement of work table — W axis
- Axial movement of boring axis — W axis
- Rotary motion of worktable — B axis
- Facing head sliding movement — U axis
- Three-layer spindle structure, the boring shaft rotates with the milling spindle; the facing head can rotate independently, and can also rotate at the same time with the milling spindle together — SP axis



## GHB 110S

### Heavy Duty Roller Linear Guideway

- The linear axis adopts precision imported heavy-duty roller linear guide way, greatly improve the feed speed and acceleration, with better dynamic performance, higher cutting efficiency, higher load-bearing capacity and higher positioning accuracy.



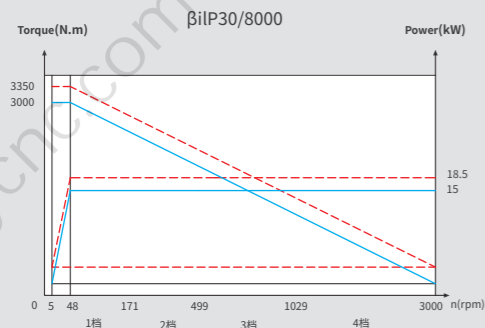
### Whole raised bed

- GHB110/GHB110U models adopt high rigidity overall heightened bed design, light weight sliding saddle structure, ensuring low speed heavy cutting and high speed light cutting, high efficiency, high precision and high reliability.
- The bed adopts multi-point support, humanized structure design to realize pleasant operation, easy assembly & maintain.

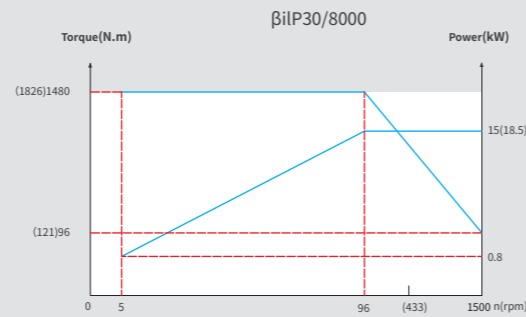


### Spindle Power Torque Diagram

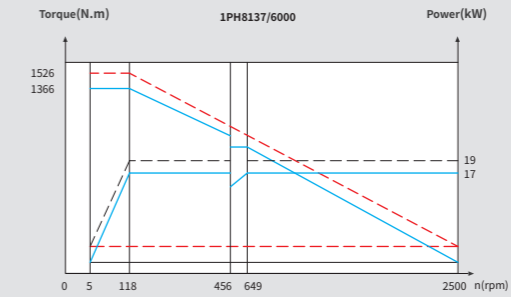
GHB110



GHB110U

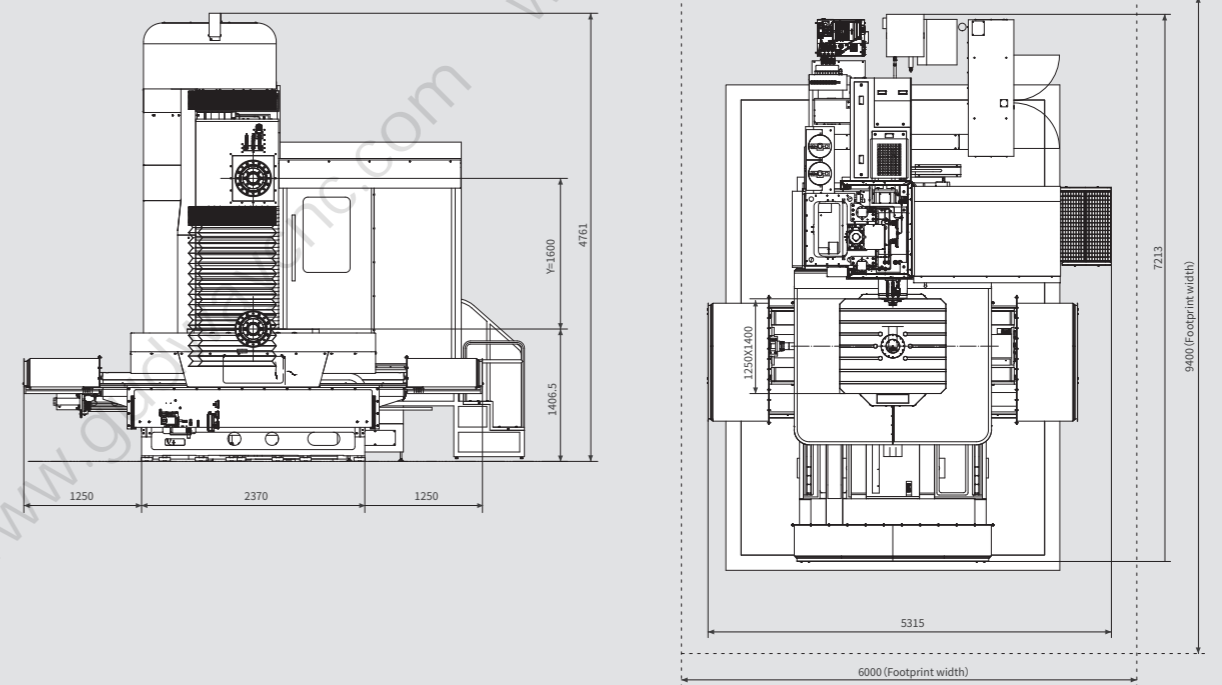


GHB110S

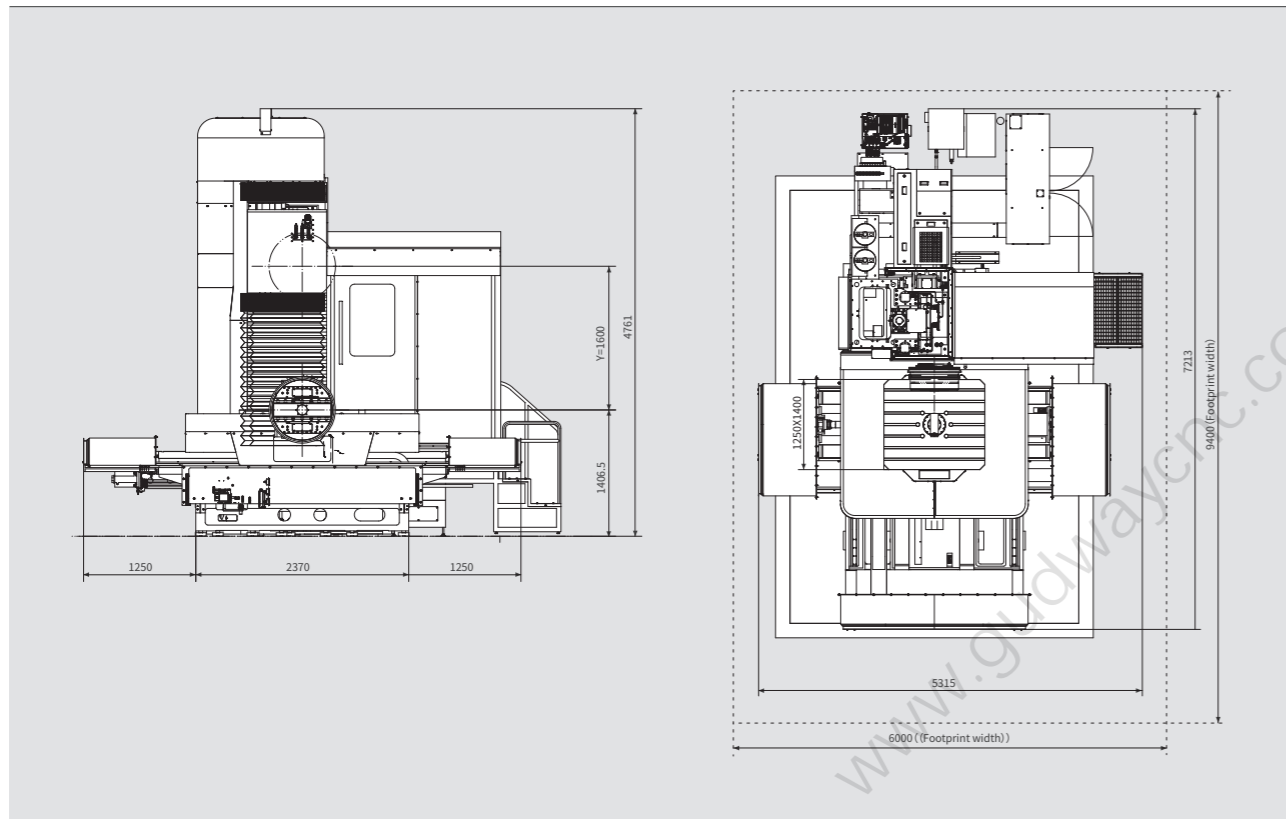


### External Dimensions

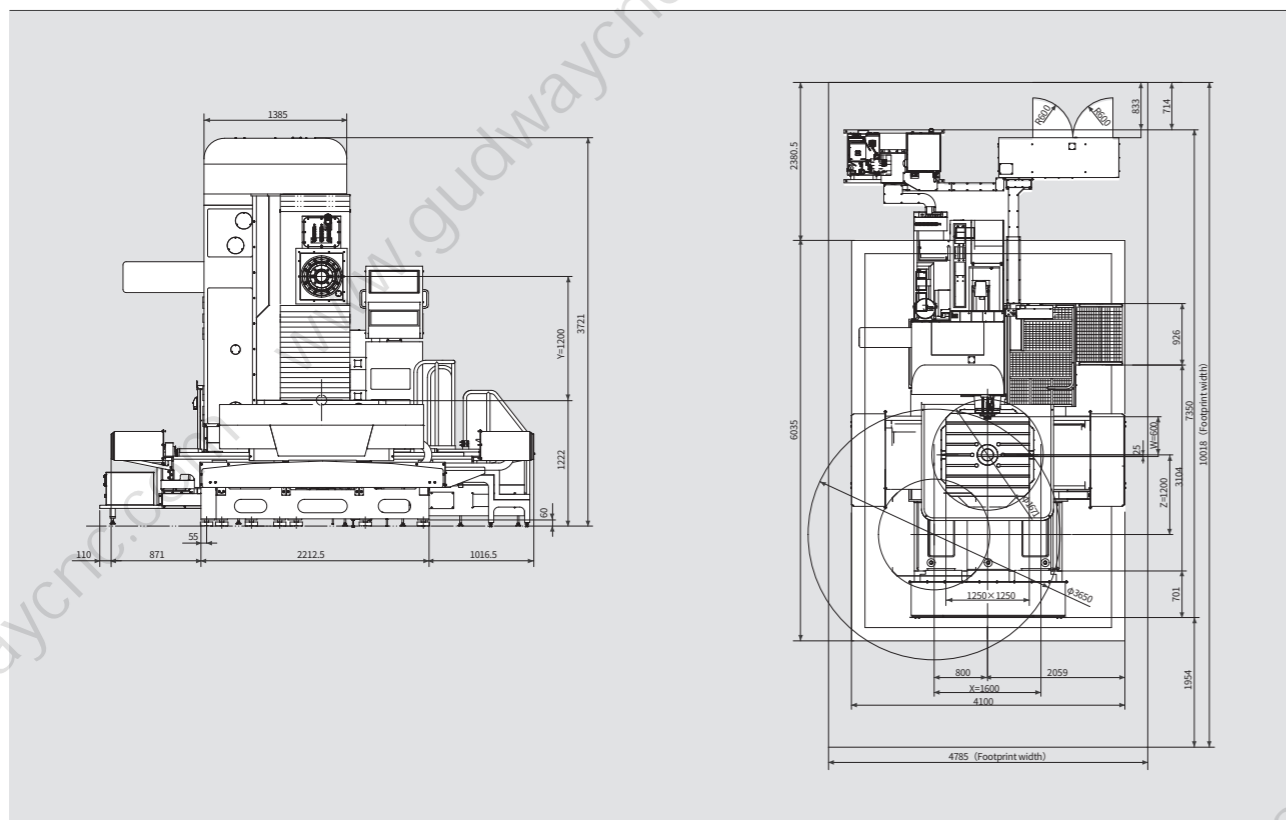
GHB110



**GHB110U**



**HB110S**



Item		Unit	GHB110S	GHB110	GHB110U
Worktable	Worktable size	mm	1250×1250	1250×1400	1250×1400
	Max. worktable loading	kg	5000	5000	5000
	T slot width	mm	28	28	28
	Min. table indexing	°	0.001	0.001	0.001
	Max. worktable rotary speed B	rpm	3	2	2
	Worktable horizontal travel X	mm	1600	1800	1800
Working capacity	Spindle box vertical travel Y	mm	1200	1600	1600
	Worktable longitudinal travel Z	mm	1200	1400	1400
	Boring shaft axial travel W	mm	600	600	600
	Facing head sliding blocks radial moves U	mm	/	/	200 (±100)
	Workable rotary travel B	°	360 (any angle)	360 (any angle)	360 (any angle)
	Spindle center line to worktable	mm	0~1200	0~1600	0~1600
	Spindle terminal to center line of worktable	mm	-25~1775	-25~1975	-130~1870
	Travel				
Rapid speed X/Y/Z/W/U	m/min	10/10/10/8	5/5/5/3	5/5/5/3/2.5	
Max. cutting feed speed X/Y/Z/W/U	m/min	8/8/8/6	3/3/3/2	3/3/3/2/1	
Spindle	Boring shaft dia.	mm	φ110	φ110	φ110
	Milling shaft end dia.	mm	φ221.44	φ221.44	/
	Spindle taper	-	BT50	BT50	BT50
	Pull stud size	-	MAS403 P50T-1	MAS403 P50T-1	MAS403 P50T-1
	Motor power	kW	15/18.5	15/18.5	15/18.5
	Spindle speed	rpm	5~2500	5~3000	5~1500
	Max. milling shaft torque	N.m	1205/1487(30min)	3000/3651(30min)	1480/1826(30min)
	Max. boring shaft tensile	N	15000	15000	15000
Facing head	Facing head dia.	mm	/	/	φ670
	Facing head speed	rpm	/	/	7-165
	Max. Facing head torque	N.m	/	/	2227/2742(30min)
Magazine	Tool shank	-	1	1	1
	ATC (option)	-	[ 40 (chain type)]	[ 40 (chain type)]	/
	Tool size	-	MAS403 BT50	MAS403 BT50	/
	Max. tool dia/length/weight	mm/mm/kg	φ125/400/25	φ125/400/25	/
	Max. tool diameter (empty neighbor cell)	mm	φ250	φ250	/
Machine accuracy	Min. setting unit	mm	0.001	0.001	0.001
	Positioning accuracy X/Y/Z/W/U	mm	0.015/0.015/0.015/0.02	0.02/0.02/0.02/0.02	0.02/0.02/0.02/0.02/0.03
	Repositioning accuracy X/Y/Z/W/U	mm	0.01/0.01/0.01/0.015	0.015/0.015/0.015/0.015	0.015/0.015/0.015/0.015/0.025
	Positioning accuracy B	"	10	10	10
Repositioning accuracy B	"	6	6	6	
Other	CNC controller	-	GUDWAY FANUC		
	CNC coordinate axis number	-	[SIEMENS] Total 5 axis, 4 axis		Total 6 axis, 4 axis interpolation
	Auto chip conveyor (option)	-	interpolation [chain type chip conveyor + external coolant tank]		
	Machine power capacity	kVA	55	55	55
	Air source/pressure	-	500L/min 6~8bar	500L/min 6~8bar	500L/min 6~8bar
	Machine weight	kg	16000	21000	21300

**Standard configuration:**

B-axis circular optical scale, operator room, water tray, full protective cover for bed, full protective cover for column

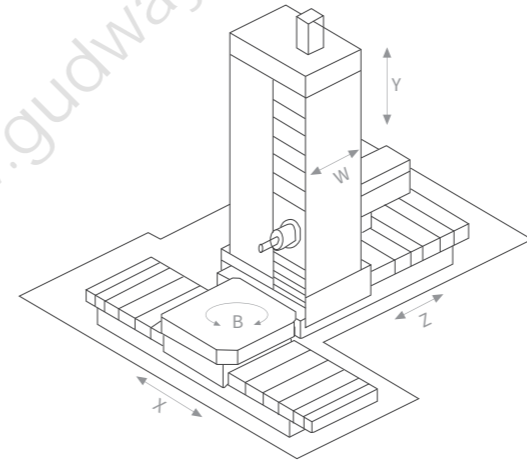
**Optional configuration:**

Tool magazine, chip conveyor, tool external cooling (large water tank), tool internal cooling (CTS), X/Y/Z/W axis linear scale, worktable protection room, complete machine protection, tool detection, etc.

**GHB110:** Boring shaft support sleeve, right-angle milling head, extension milling head, universal milling head, facing head, etc.

## GHB Series- CNC Table Type Horizontal Milling and Boring Machine

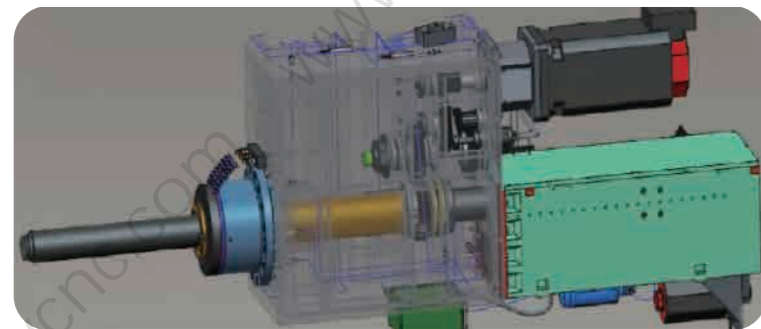
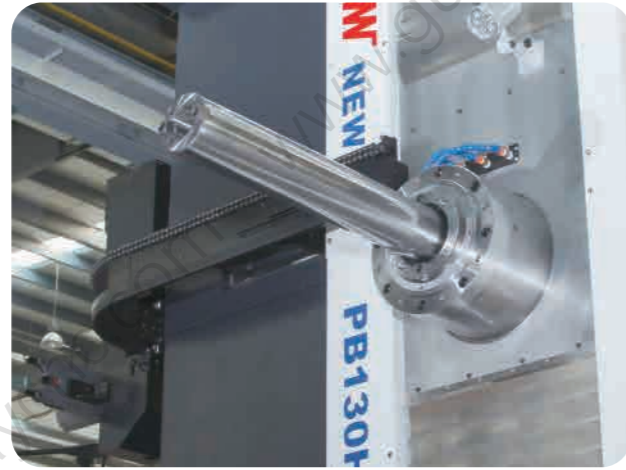
- This series of models adopt a typical horizontal table type structure, with the headstock side mounted, the boring shaft embedded in the milling spindle, the rotary worktable placed on the top of the slide seat and it can be rotated; the column make longitudinal movement.
- The main spindle is equipped with a gearbox, which is suitable for both high-speed cutting of molds and general low-speed high torque machining.
- Complete a variety of processes in one clamping, suitable for big parts' milling, boring, drilling, reaming, tapping, turning, etc.
- Widely used in aerospace, shipbuilding, railway, mining and metallurgy, engineering machinery, valves, new energy and other industries. It is the preferred processing equipment for various parts, such as boxes, housings, and bases.



- Horizontal movement of worktable — X axis
- Headstock moves up and down — Y axis
- Longitudinal movement of column — Z axis
- Axial movement of boring shaft — W axis
- Rotary motion of the worktable — B axis
- Two-layer spindle structure, the boring shaft rotates with the milling spindle — SP axis

### GHB130H

- Telescopic precise spindle is composed of boring shaft, milling spindle, tool clamping & unclamping system and so on.
- The spindle cooling adopts a high-performance oil-cooled temperature control device, which can automatically and accurately cool all bearings, gears and other mechanisms inside of the spindle to effectively reduce thermal deformation and ensure processing accuracy.



#### Precision Gear Transmission Headstock

Two-speed transmission, independently developed by GUDWAY

The closed headstock structure design provides a high rigid foundation for heavy cutting.





### Rotary Worktable

High precision, large load capacity, multiple optional sizes

- High-quality cast iron HT300
- Secondary aging treatment guarantee stable accuracy
- Optimized design through finite element to ensure high rigidity
- Streamlined design without redundant structure

Worktable Options				
worktable size (mm)	1400×1600	1600×1800	2000×2000	2500×3000
		2000×2000	2000×2500	3000×3000 3000×3500
Max. loading (T)	8	15	25	40
X axis travel (mm)	2500	3000	2000-4000	2000-6000

### High Rigidity Bed

- Three-axis full-stroke support to ensure long-term accuracy
- The three-axis guide rails are designed with high rigidity square guide way, which greatly improves the rigidity and heavy cutting ability
- Large contact surface, large span, higher rigidity and stability

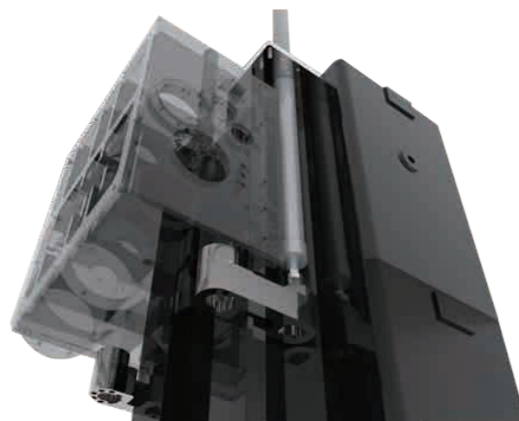


Precise High Rigidity Inlaid Steel Guide Way



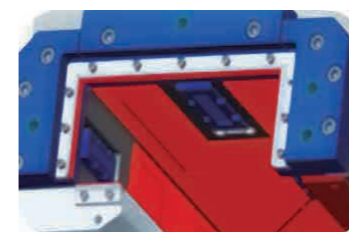
### Double-cylinder Nitrogen Oil Mixed Counter Balance Structure

GHB110H / GHB110 / GHB110U adopts double cylinder nitrogen oil mixed counter balance structure. This balance system uses the principle of accumulator to balance the weight of the headstock by gas pushing oil. No external power equipment is needed, fast response, no noise, can improve the quality of parts processing. Compared with air pressure counter balance system, the nitrogen liquid counter balance system has the advantages of high accuracy, high stability, energy saving, noise reduction and environmental protection. The double balance cylinder structure has double balance points, which effectively improves sagging, and has higher accuracy and stability.



### Box and Roller Composite Guide Way

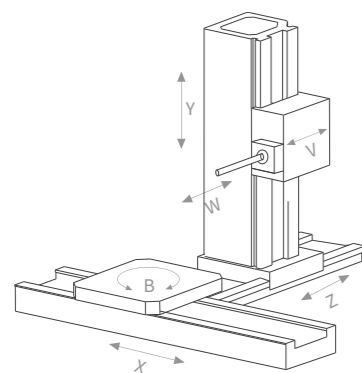
- The rollers are in contact with the box guide way surface at same time, which not only has the high rigidity of the box guide way surface contact, but also has the smooth of the rollers contact. This structure can effectively avoid the defects of box-way crawling and shaking.



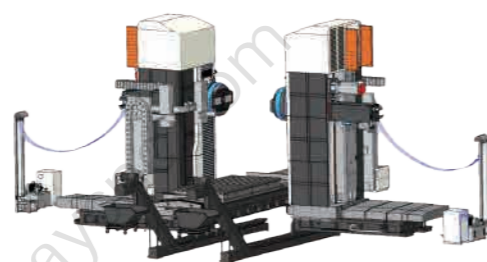


# GHB130R GHB160R

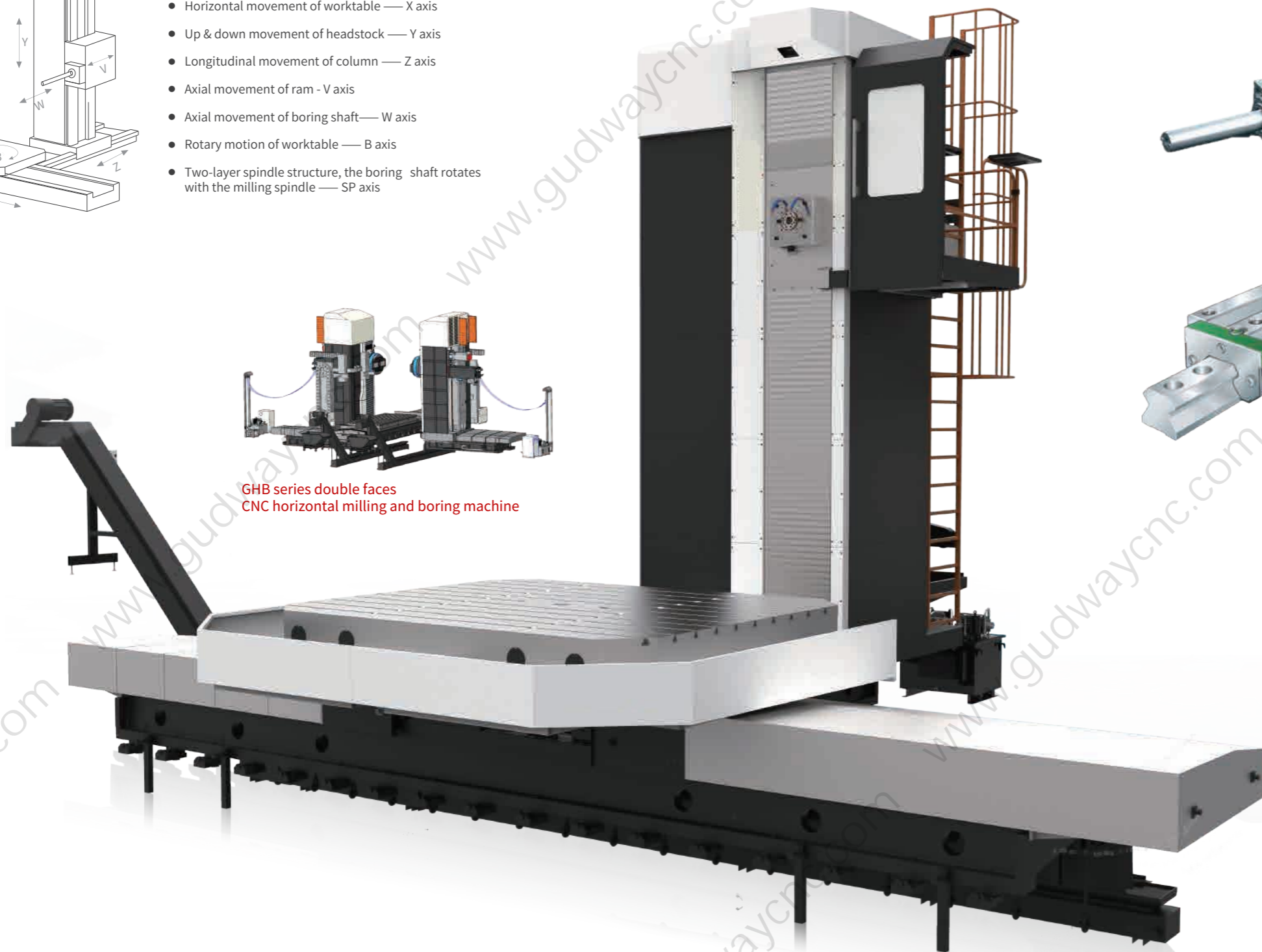
- This series is a new generation of square ram type CNC planing table horizontal milling and boring machine, with planing table layout and side hung spindle box structure. The machine is with six-axis, any four-axis interpolation, with the ability of rough and fine machining.
- Complete various processes by one clamping, suitable for big parts' milling, boring, drilling, reaming, tapping, turning, high precision both-head boring, etc.
- With excellent processing performance, this machine is the preferred processing equipment for the energy, marine, civil aviation, engineering machinery, mining equipment and other industries.



- Horizontal movement of worktable — X axis
- Up & down movement of headstock — Y axis
- Longitudinal movement of column — Z axis
- Axial movement of ram - V axis
- Axial movement of boring shaft— W axis
- Rotary motion of worktable — B axis
- Two-layer spindle structure, the boring shaft rotates with the milling spindle — SP axis

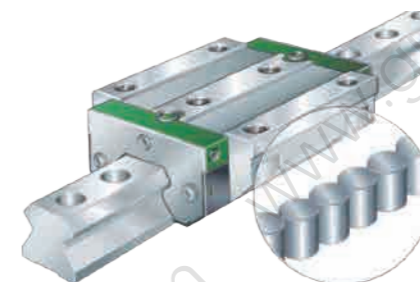


GHB series double faces  
CNC horizontal milling and boring machine



## High Precision Boring & Milling Shaft System

- Ram is made from QT600-3 high quality nodular cast iron.
- High precision boring and milling shaft system, milling shaft supporting size is 2 times of boring shaft travel span to ensure and maintain excellent cutting rigidity when the boring shaft extend outside completely.
- Advanced ram compensation technology.
- Spindle air curtain seal protection.



## Heavy Duty Roller Linear Guideway

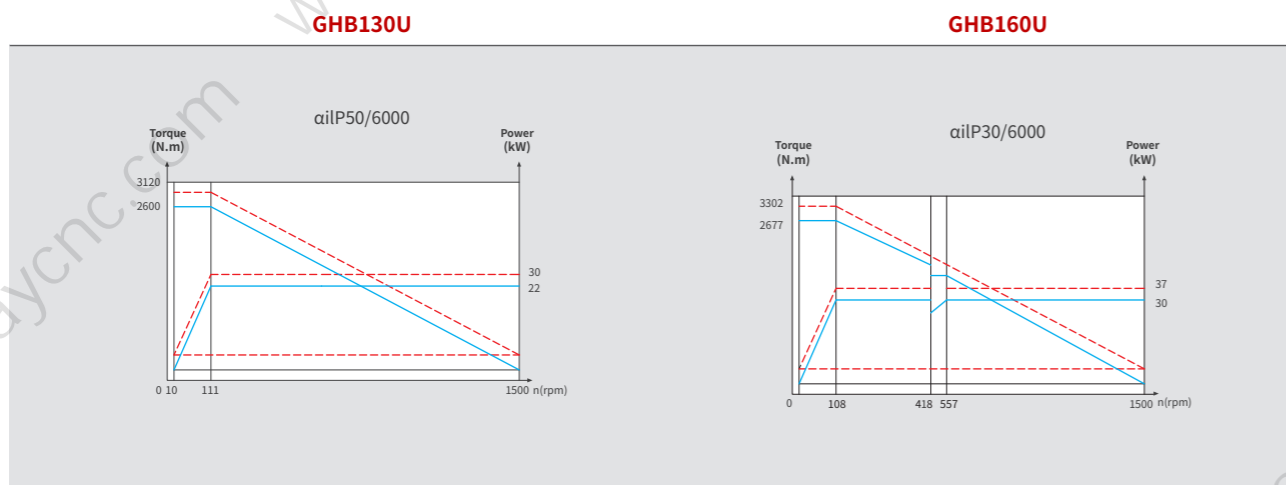
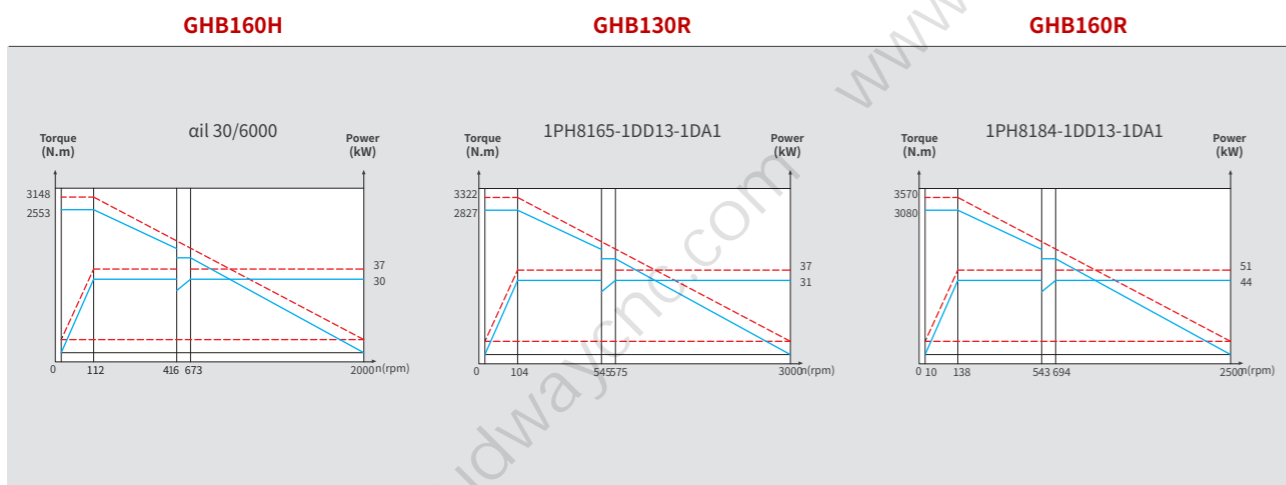
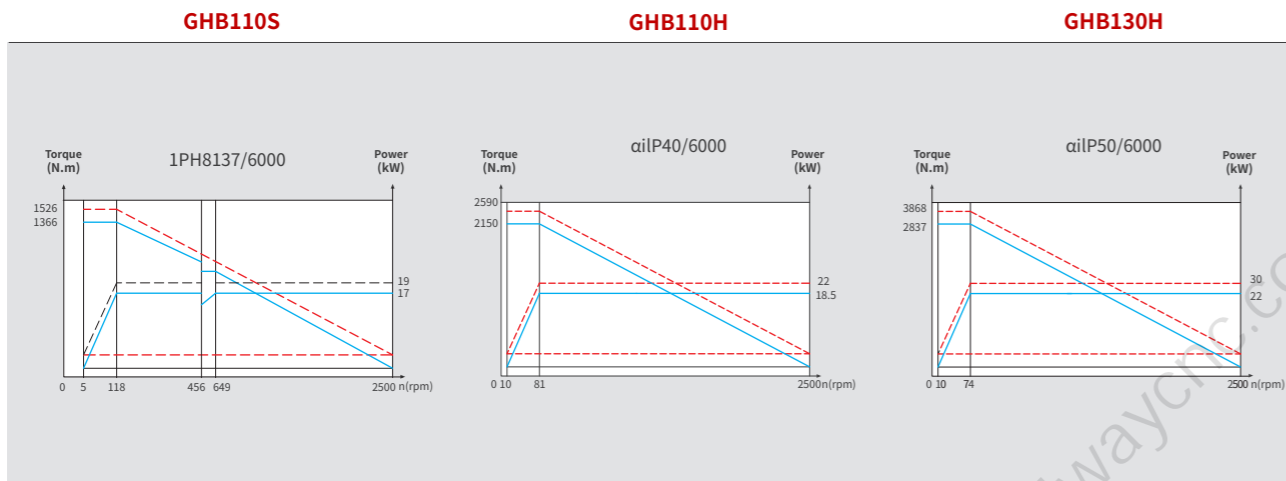
Linear axis adopts imported heavy loading roller linear guide way, greatly improved all axis travel speed and acceleration speed, realize excellent dynamic performance and higher cutting efficiency.

## Main Drive System

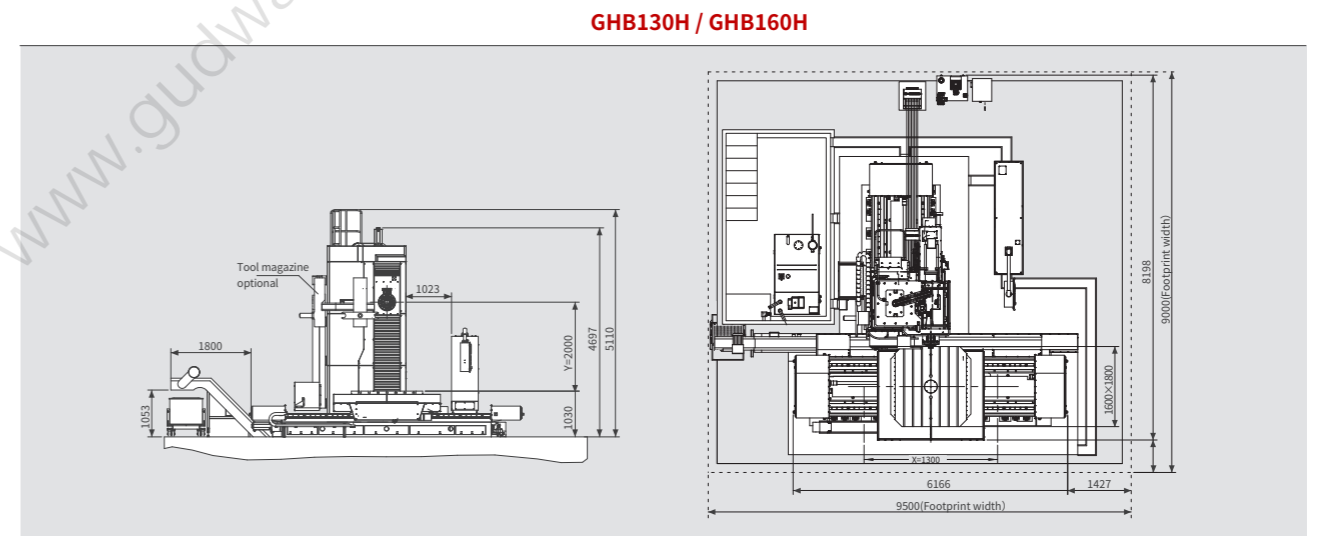
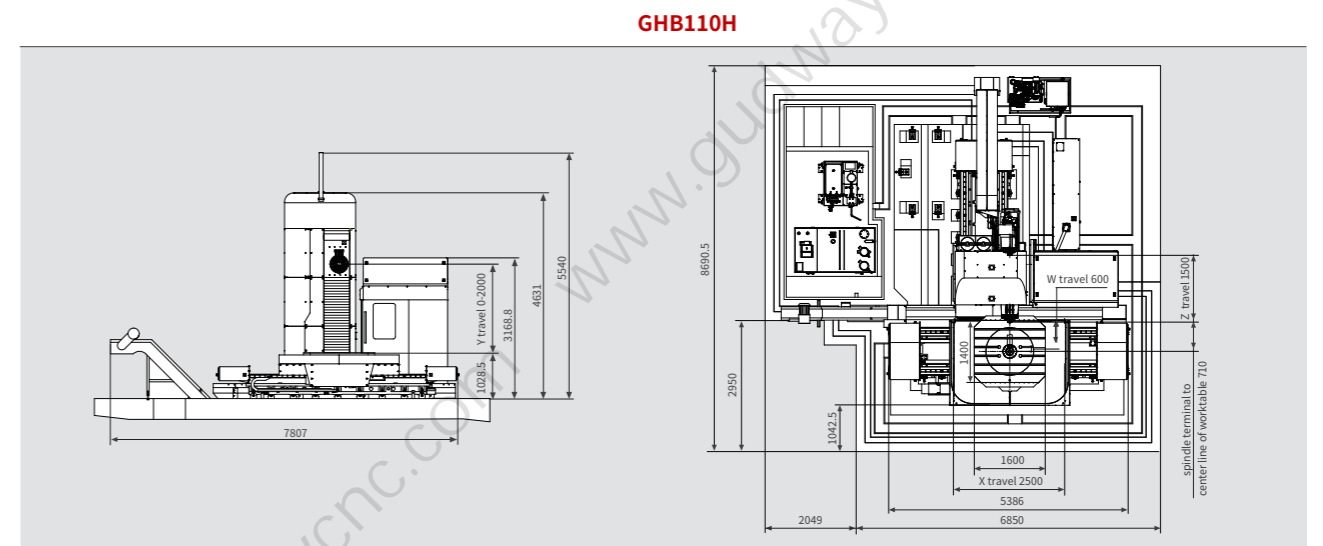
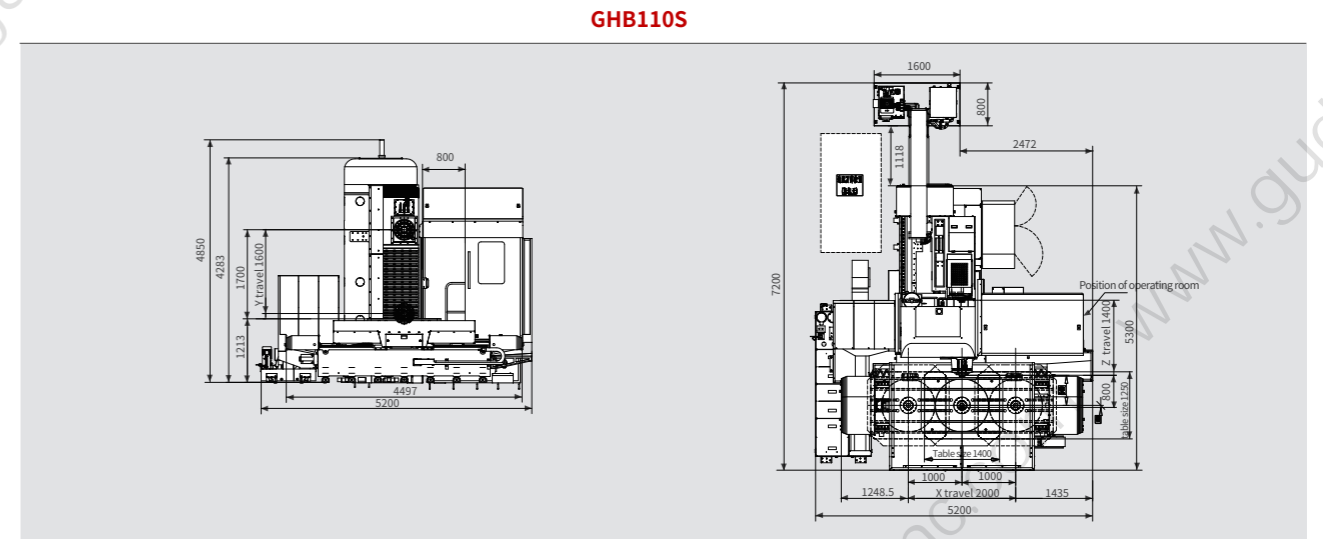
The main drive system adopts ZF two-stage gearbox with high stability and low noise. Maximum speed of PB130R spindle is 3000rpm; Maximum speed of GHB160R spindle is 2500rpm.



### Spindle Power Torque Diagram

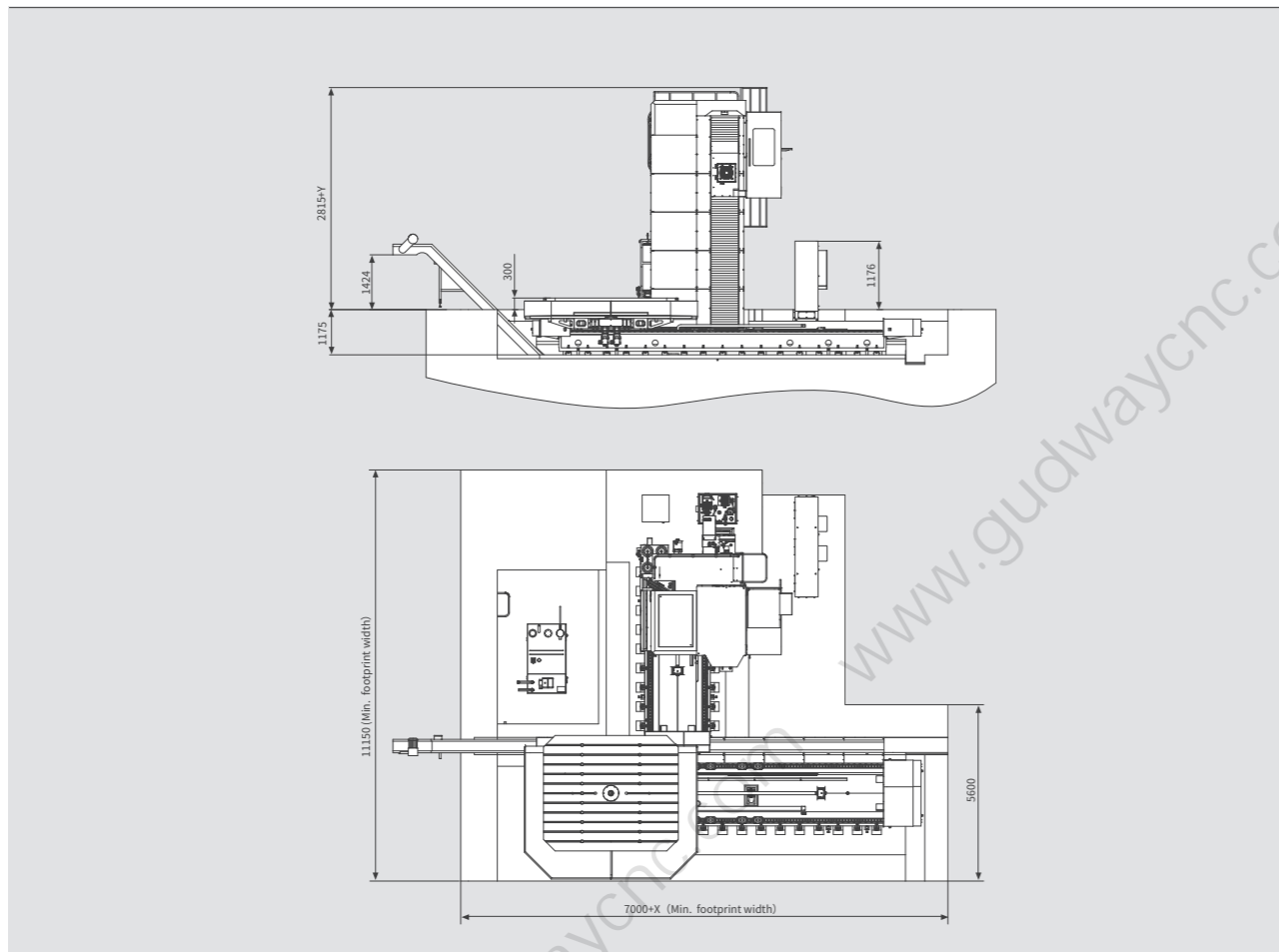


### External Dimensions

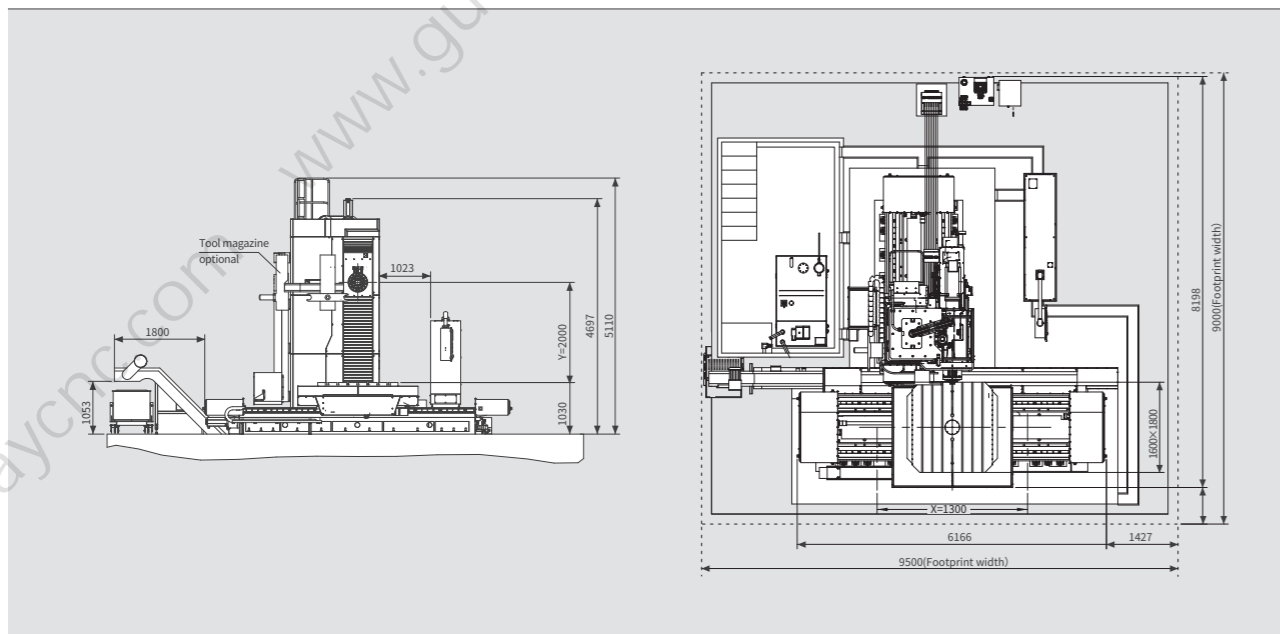


## External Dimensions

**GHB130R / GHB160R**



**GHB130U / GHB160U**



Item		Unit	GHB110S	GHB110H	GHB130H	GHB160H
Worktable	Worktable size	mm	1250×1400	1400×1600	1600×1800 [2000×2000] [2000×2500]	2000×2000 [2000×2500]
	Max. worktable loading	kg	5000	8000	15000 [25000]	15000 [25000]
	T slot width	mm	28	22/[28]	28	28
	Min. worktable indexing	-	0.001°	0.001°	0.001°	0.001°
	Max. worktable rotating speed	r/min	2	1.5	2	2
Working capacity	Worktable horizontal travel X	mm	2000	2500	3000 [4000]	3000 [4000]
	Spindle box vertical travel Y	mm	1600	2000	2000 [2500]	2000 [2500] [3000]
	Column longitudinal travel Z	mm	1400	1500	1600	1600
	Boring shaft axial travel W	mm	600	600	800	900
	Workable rotary travel B	°	360	360	360	360
Travel	Rapid travel speed (X/Y/Z/W)	m/min	9/9/9/6	10/10/10/4	10/10/10/4	10/10/10/4
	Max. cutting feed speed (X/Y/Z/W)	m/min	6/6/6/6	6/6/6/2	6/6/6/2	6/6/6/2
Spindle	Spindle center line to worktable	mm	100-1700	0-2000	0-2000	0-2000
	Spindle terminal to center line of worktable	mm	-40-2000	100-2200	-50-2350	-50-2350
	Boring shaft dia.	mm	Φ110	Φ110	Φ130	Φ160
	Milling spindle end dia.	mm	Φ221.44	Φ221.44	Φ221.44	Φ260
	Spindle taper	-	BT50	BT50	BT50	BT50
	Pull stud size	-	P50T-1	P50T-1	P50T-1	P50T-1
	Motor power	kW	15/18.5	18.5/22	22/30	30/37 [45/55]
	Spindle speed	rpm	10-2500	10-2500	10-2500	10-2000
	Max. milling spindle torque	N.m	1205/1487	2150/2590	2837/3868	2553/3063[3831/4597]
	Max. boring shaft tensile	N	15000	15000	25000	25000
Magazine	ATC (option)	-	[40(chian type)/60(chian type)]		40(chian type)]	
	Tool shank	-	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50
	Max tool dia./length/weight	mm/mm/kg	Φ125/400/25	Φ125/400/25	Φ125/400/25	Φ125/400/25
	Max tool diameter (empty neighbor cell)	mm	Φ250	Φ250	Φ250	Φ250
Machine accuracy	Min. setting unit	mm	0.001	0.001	0.001	0.001
	Positioning accuracy (X/Y/Z)	mm	0.02/0.02/0.02	0.025/0.02/0.02	0.025/0.02/0.02	0.025/0.02/0.02
	Positioning accuracy (W)	mm	0.02	0.025	0.025	0.025
	Positioning accuracy (B)	-	10"	10"	10"	10"
	Repositioning accuracy (X/Y/Z)	mm	0.01/0.01/0.01	0.017/0.015/0.015	0.017/0.015/0.015	0.017/0.015/0.015
	Repositioning accuracy (W)	mm	0.015	0.018	0.018	0.018
	Repositioning accuracy (B)	-	6"	6"	6"	6"
Other	CNC system	-	GUDWAY FANUC [SIEMENS]			
	CNC coordinate axis number	-	Total 5 axis, 4 axis interpolation			
	Auto chip conveyor (option)	-	Spiral chip eliminator+ chain type	Chain type		
	Machine power capacity	kVA	45	80	80	95[110]
	Air source/pressure	-	500L/min 6~8bar	500L/min 6~8bar	500L/min 6~8bar	500L/min 6~8bar
	Machine weight	kg	20000	30000	40000	42000

**Standard configuration:** X/Y/Z axis linear scales, B-axis circular grating, spindle oil cooling, external cooling device, accessory trolley, water tray, operation platform.

**Optional configuration:** Tool magazine, tool internal cooling device (ie, cooling through spindle), boring shaft support sleeve, right-angle milling head, universal milling head, facing head, tool measurement, etc.

Item		Unit	GHB130U	GHB160U
Worktable	Worktable size	mm	1600×1800 [2000×2000] [2000×2500]	2000×2000 [2000×2500]
	Max. worktable loading	kg	15000 [25000]	15000 [25000]
	T slot width	mm	28	28
	Min. worktable indexing	-	0.001°	0.001°
	Max. worktable rotating speed	r/min	2	2
Working capacity	Worktable horizontal travel X	mm	3000 [4000]	3000 [4000]
	Spindle box vertical travel Y	mm	2000 [2500]	2000 [2500] [3000]
	Column longitudinal travel Z	mm	1600	1600
	Boring shaft axial travel W	mm	800	900
	Facing head slide block radial movement U	mm	300 (±150)	300 (±150)
	Workable rotary travel B	°	360	360
Travel	Rapid travel speed (X/Y/Z/W/U)	m/min	10/10/10/4/2	10/10/10/4/2
	Max. cutting feed speed (X/Y/Z/W/U)	m/min	6/6/6/2/1	6/6/6/2/1
Spindle	Spindle center line to worktable	mm	30-2030	30-2030
	Spindle terminal to center line of worktable	mm	-50-2350	-150-2350
	Boring shaft dia.	mm	Φ130	Φ160
	Spindle taper	-	BT50	BT50
	Pull stud size	-	P50T-1	P50T-1
	Motor power	kW	22/30	30/37
	Spindle speed	rpm	10-1500	10-1500
	Max. milling spindle torque	N.m	2600/3120	2677/3302
	Max. boring shaft tensile	N	25000	25000
	Facing head	Facing head dia.	mm	φ800
Facing head speed		rpm	5-150	5-150
Max. Facing head torque		N.m	5000	5000
Machine accuracy	Min. setting unit	mm	0.001	0.001
	Positioning accuracy (X/Y/Z)	mm	0.025/0.02/0.02	0.025/0.02/0.02
	Positioning accuracy (W/U)	mm	0.025/0.03	0.025/0.03
	Positioning accuracy (B)	-	10"	10"
	Repositioning accuracy (X/Y/Z)	mm	0.017/0.015/0.015	0.017/0.015/0.015
	Repositioning accuracy (W/U)	mm	0.018/0.025	0.018/0.025
Other	Repositioning accuracy (B)	-	6"	6"
	CNC system	-	GUDWAY FANUC [SIEMENS]	GUDWAY FANUC [SIEMENS]
	CNC coordinate axis number	-	Total 6 axis, 4 axis interpolation	Total 6 axis, 4 axis interpolation
	Auto chip conveyor (option)	-	chain type	chain type
	Machine power capacity	kVA	80	95
	Air source/pressure	-	500L/min 6~8bar	500L/min 6~8bar
Machine weight	kg	40000	42000	

**Standard configuration:**

X/Y/Z axis linear scales, B-axis circular grating, spindle oil cooling, external cooling device, accessory trolley, water tray, operation platform, protection cover.

**Optional configuration:**

Tool internal cooling device (ie, cooling through spindle), tool measurement, etc.

Item		Unit	GHB130R	GHB160R
Worktable	Worktable size	mm	2000×2500	2500×3000[3000×3000]
	Max. worktable loading	kg	25000	40000
	T slot width	mm	28	28
	Min. worktable indexing	-	0.001°	0.001°
	Max. worktable rotating speed	r/min	1.5	1.25
Working capacity	Worktable horizontal travel X	mm	3000[4000]	3000[4000][5000][6000]
	Spindle box vertical travel Y	mm	2000[2500][3000]	3000[4000]
	Column longitudinal travel Z	mm	2000	2000
	Ram axial travel V	mm	1000	1000
	Boring shaft axial travel W	mm	800	800
	Workable rotary travel B	°	360 (any angle)	360 (any angle)
Travel	Rapid travel speed (X/Y/Z/V/W)	m/min	10/10/10/10/10	10/10/10/10/10
	Max. cutting feed speed (X/Y/Z/V/W)	m/min	8/8/8/8/8	8/8/8/8/8
Spindle	Boring shaft dia.	mm	130	160
	Milling spindle end dia.	mm	221.44	260
	Ram section size	mm	450×450	450×450
	Spindle taper	-	BT50	BT50
	Pull stud size	-	MAS403 BT50	MAS403 BT50
	Motor power	kW	31/37	44/51
	Spindle speed	rpm	10-3000	10-2500
	Max. milling spindle torque	Nm	2827/3322	3080/3572
	Max. boring shaft tensile	N	25000	25000
	Magazine	ATC (option)	-	[40(chain type)] [60(chain type)]
Tool shank		-	MAS403 BT50	MAS403 BT50
Max tool dia./length/weight		mm/mm/kg	Φ125/400/25	Φ125/400/25
Machine accuracy	Max tool diameter (empty neighbor cell)	mm	Φ250	Φ250
	Min. setting unit	mm	0.001	0.001
	Positioning accuracy (X/Y/Z/V/W)	mm	0.002/0.17/0.014/0.011/0.025	0.02/0.17/0.014/0.011/0.025
	Repositioning accuracy (X/Y/Z/V/W)	mm	0.0012/0.009/0.007/0.007/0.018	0.012/0.009/0.007/0.007/0.018
	Positioning accuracy (B)	"	10	10
	Repositioning accuracy (B)	"	6	6
Other	CNC system	-	SIEMENS	SIEMENS
	CNC coordinate axis number	-	Total 6 axis, 4 axis interpolation	Total 6 axis, 4 axis interpolation
	Auto chip conveyor (option)	-	chain type	chain type
	Machine power capacity	kVA	90	103
	Air source/pressure	-	500L/min 6~8bar	500L/min 6~8bar
	Machine weight	kg	55000	65000

**Standard configuration:**

X/Y/Z axis linear scales, B-axis circular grating, spindle oil cooling, external cooling device, accessory trolley, water tray, operation platform.

**Optional configuration:**

Tool magazine, tool internal cooling device (ie, cooling through spindle), boring shaft support sleeve, right-angle milling head, universal milling head, facing head, tool measurement, etc.

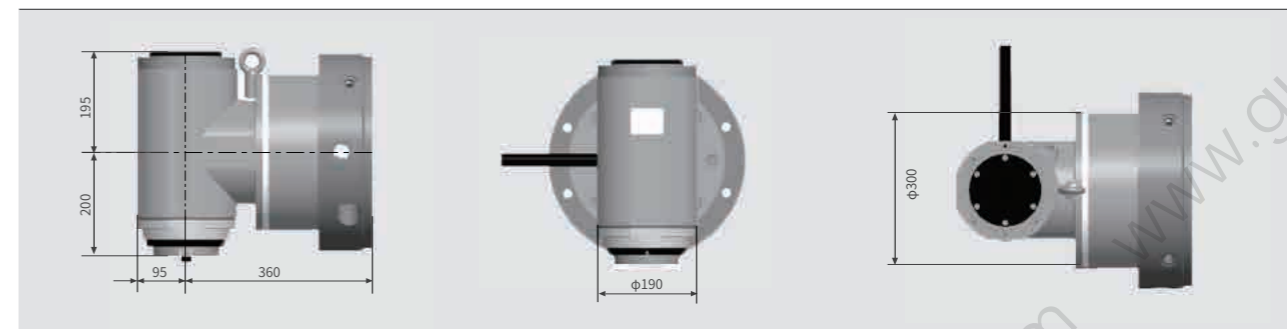
# Manufacturing and Inspection



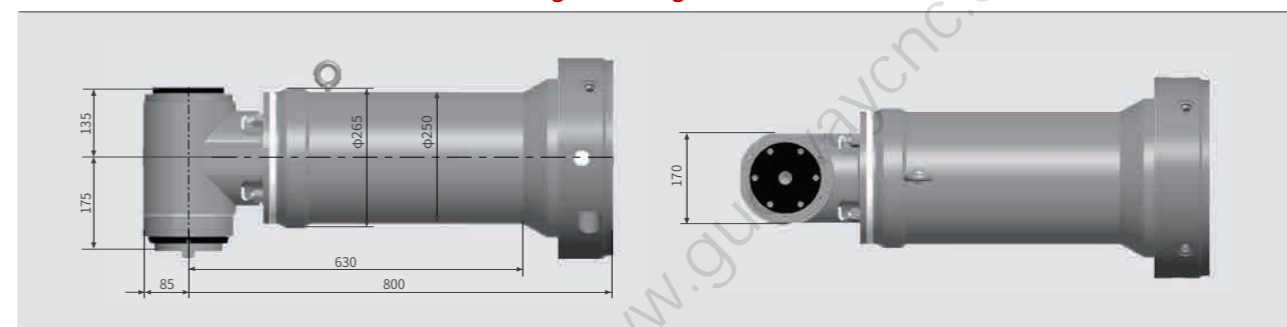
- 01 Geometric accuracy detection
- 02 Laser interferometer accuracy test
- 03 Parallelism detection
- 04 Three-coordinate detection
- 05 Precision cutting test
- 06 Scraping
- 07 Heavy cutting test
- 08 Precision hole machining test

# Milling Head(optional)

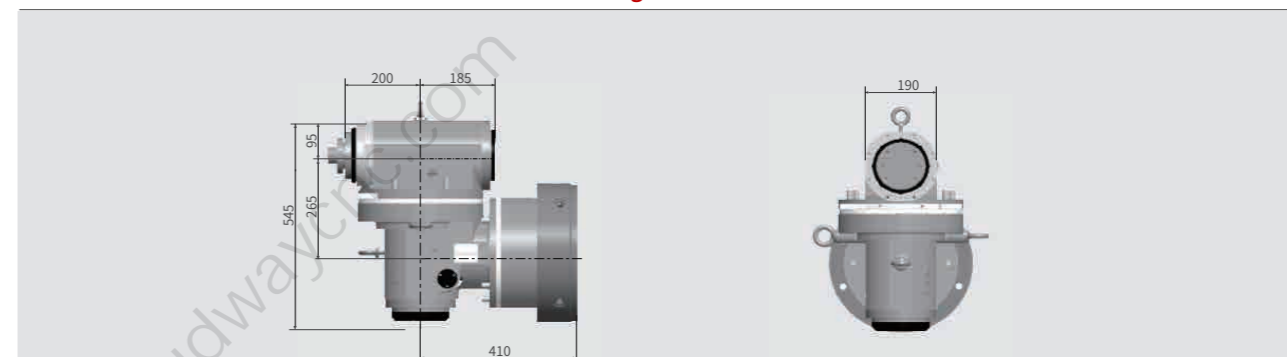
Right angle milling head NWM-ARM-100



Extention angular milling head NWM-AERM-50



Universal milling head NWM-AUM-100



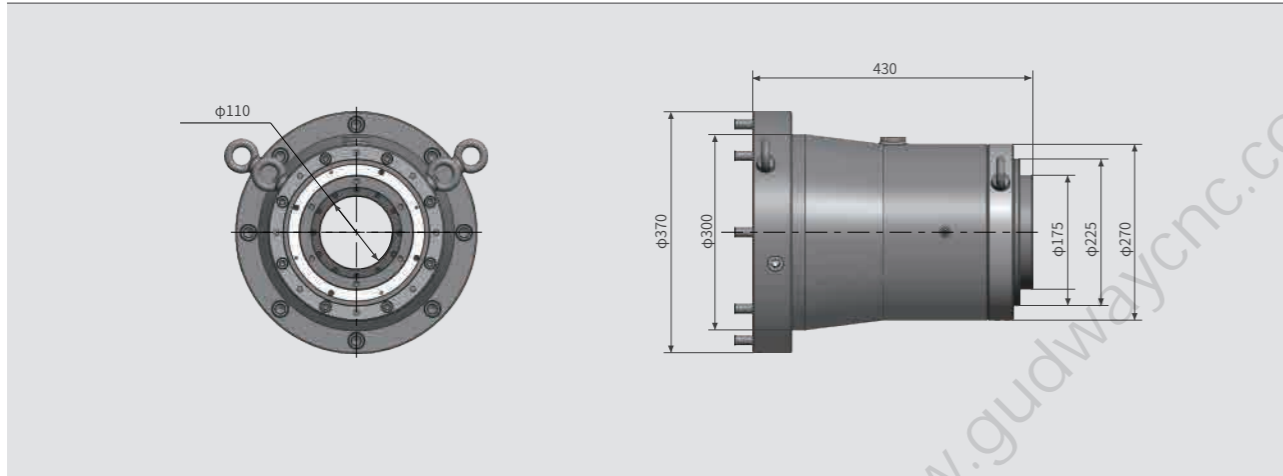
Milling head specification

Milling head model	NWM-ARM-100	NWM-AERM-50	NWM-AUM-100
Power (kW)	30	15	30
Torque (N.m)	1000	500	1000
Speed (rpm)	1500	1000	1000
Transmission ratio	1: 1	1: 1	1: 1
spindle taper	ISO50	ISO50	ISO50
Indexing way	manual	manual	manual
Tool clamping	manual	manual	manual
Installation	manual	manual	manual

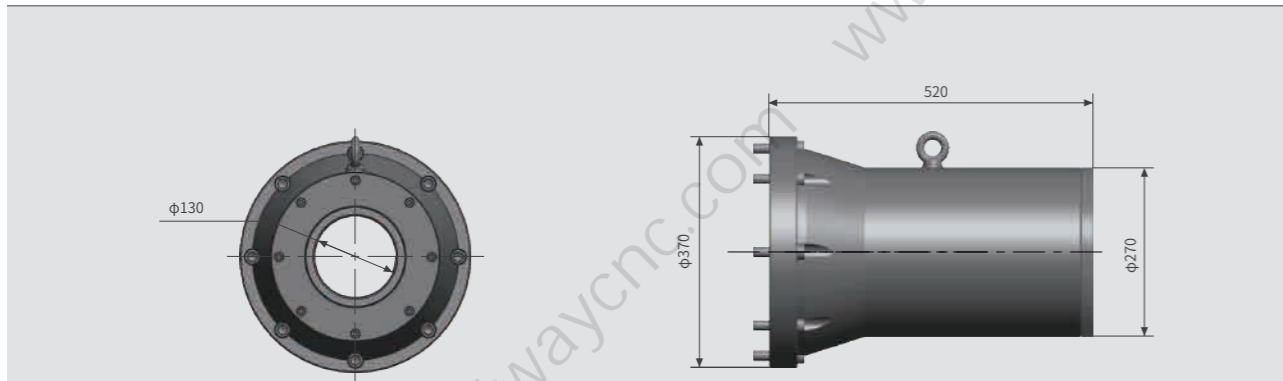
## Spindle Support Sleeve (optional)

## Facing Head (optional)

GHB110 5250



GHB130H 5250



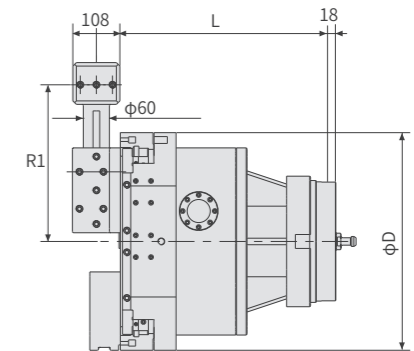
Spindle support sleeve specification		
Model	GHB110 5250	GHB130 5250
Boring shaft hole diameter (φ mm)	110	130
Support sleeve stroke length (mm)	400	490
Speed (rpm)	3000	2500
Spindle support sleeve installation	Manual	Manual
GHB110H	Option	-
GHB130H	-	Option
GHB110	Option	-
GHB110S	Option	-

### CNC Facing Head

GUDWAY's facing head selection configuration			
Model	NWM-FH50-01	NWM-FH63-01	Note
Diameter ΦD (mm)	500	630	-
Extension length L	531	531	Recommended
Turning tool radius R1	360	425	-
Transmission ratio of spindle stroke and block movement	1:2	1:2	-
Max. speed (rpm)	200	150	-
Block travel U axis (mm)	130	200	-
Feeding rate (mm/min)	1-400	1-400	-
Max. working dia (mm)	800	1000	-
Tool holder qty	2	2	-
Weight (kg)	272	305	-
GHB110H	Option	-	-
GHB130H	Option	Option	-
GHB110	Option	-	-



Facing head designed and made by GUDWAY



Originally imported CNC facing head, which can be used to clamp standard tools or special tools to complete single and composite processing.



Can be equipped with coolant system to extend tool life, improve cutting speed and ensure surface processing quality.



(1)  
(2)

Counter balance as option, self-balancing, can realize high-speed processing without obvious vibration.



## Tool Magazine (optional)

## Other Options



Floor-type chain magazine

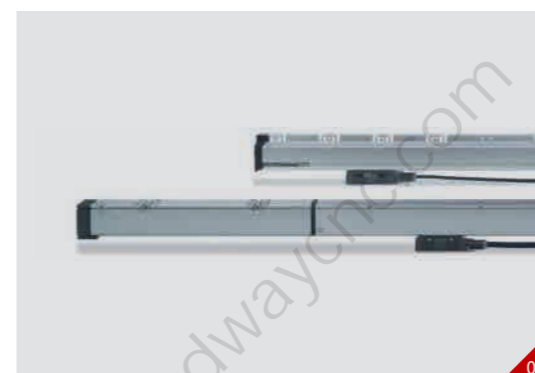
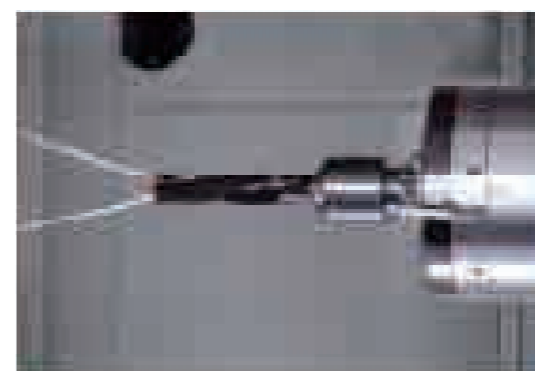
High class ATC with reliable quality and stable performance. The different tool magazines can be selected according to customers' needs.

ATC specification	Number of tools	24	40	60	80	120
	Tool holder type	MAS403 BT50				
	Pull stud type	MAS403 P50T-1				
	Max. tool diameter/length/weight	Φ125mm/400mm/25kg				
	Max. tool diameter (no adjacent tool)	Φ250mm				
Machine Model	GHB110H	Option	Option	Option	/	/
	GHB130H	/	Option	Option	Option	Option

ATC specification	Number of tools	24	40	60	80	120
	Tool holder type	MAS403 BT50				
	Pull stud type	MAS403 P50T-1				
	Max. tool diameter/length/weight	Φ125mm/400mm/25kg				
	Max. tool diameter (no adjacent tool)	Φ250mm				
Machine Model	GHB110	Option	Option	/	/	/
	GHB110U	Option	Option	/	/	/



Floor-type chain magazine



- 01 Deep hole boring bar
- 02 Tool breakage detection device
- 03 Cooling through spindle
- 04 Linear scale
- 05 Chip conveyor