

Boxway type Horizontal machining center

GBH SERIES

630H · 800H



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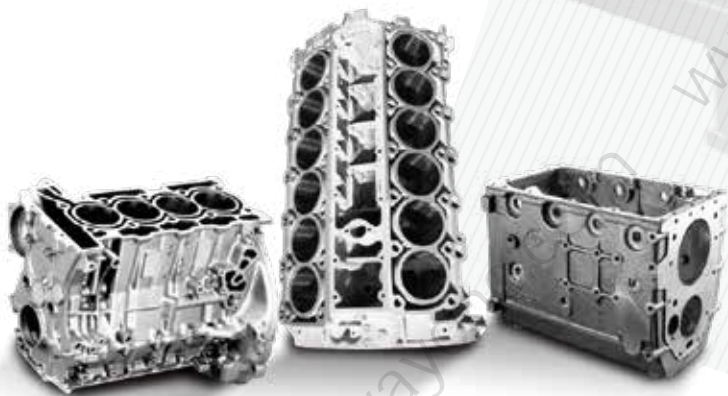
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#50 All hard rail heavy cutting high rigidity horizontal machining center

GBH SERIES

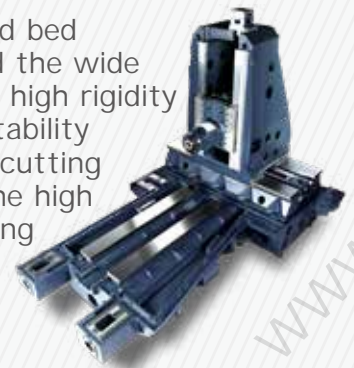
The GBH series provides high rigidity and strong cutting capability to meet the various needs of customers for heavy cutting. All-hard rail integrated bed for high-stability, powerful cutting of components. The servo tool changing structure and the table switching device greatly reduce the non-cutting time and achieve high productivity.





1 High rigidity structure

The integrated bed structure and the wide hard rail with high rigidity realize the stability during heavy cutting and ensure the high precision during machining.



2 Efficiency

The servo-driven ATC and pallet automatic exchange reduce non-cutting time while significantly increasing production efficiency.



3 Automated convenience

The standard FANUC system provides convenience for customers with efficient automated production lines, and can also be equipped with multiple pallet systems and linear pallet systems according to production needs and plant structure to achieve intelligent production needs.



High stability and high rigidity bed structure

The most stable one-piece bed structure bed

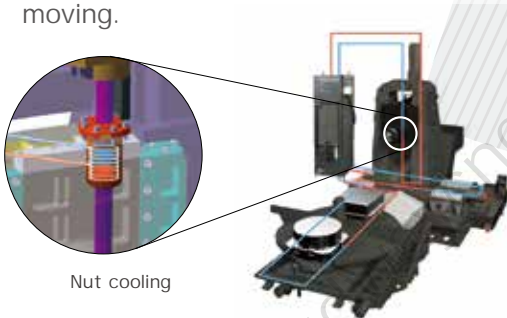
1 High stability of the bed structure

GBH series is analyzed by finite element method (FEM) to analyze the distribution of the force support points of the whole integrated bed, so that the whole bed can be stressed evenly during processing and improve the processing stability. After the analysis of the mechanical software, the bed structure of this series is divided into upper M-type and lower W-type structures with high stability.



2 High rigidity of travel shaft

The installation of wide hard rails on all axes optimizes the dynamic rigidity of the main sliding module, further improving the power cutting capability. Equipped with high rigidity ball screw, with 3 row bearing coupling, can maintain the high precision and rigidity of each shaft. The ball screw is equipped with nut cooling to ensure stability when moving.



X/Y/Z travel
1050/850/1000
mm

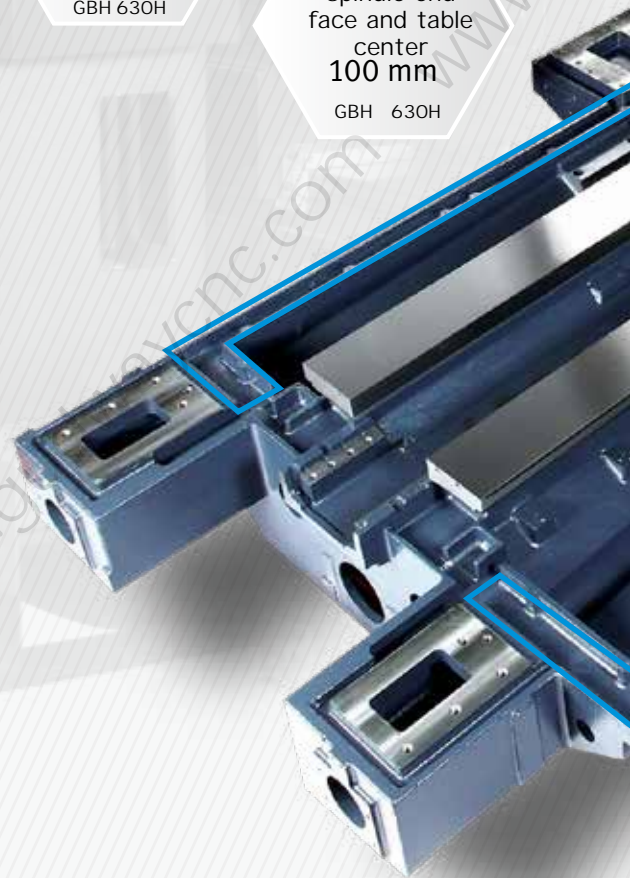
GBH 630H

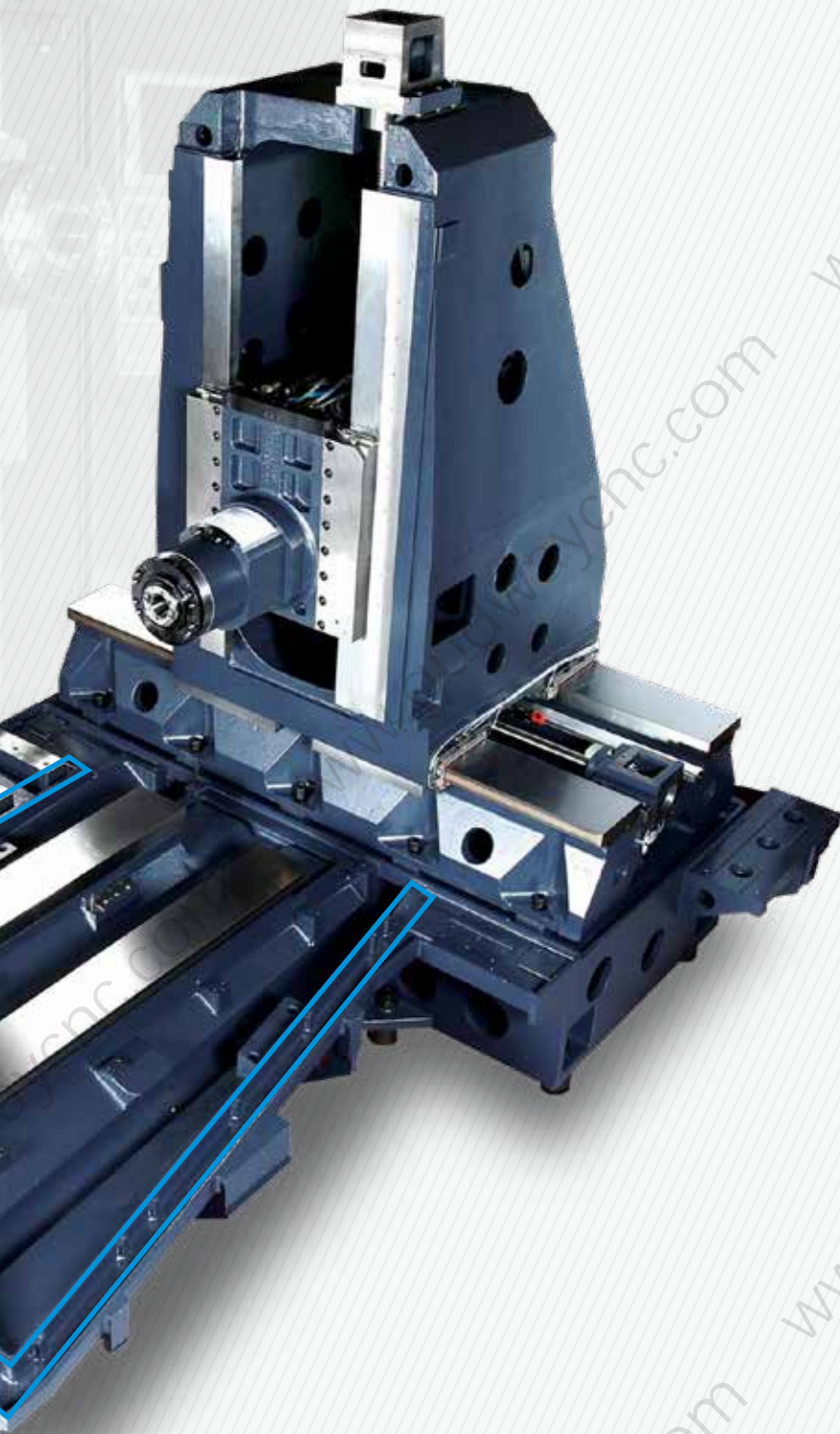
Max fast
feed speed
30/30/30
m/min

GBH 630H

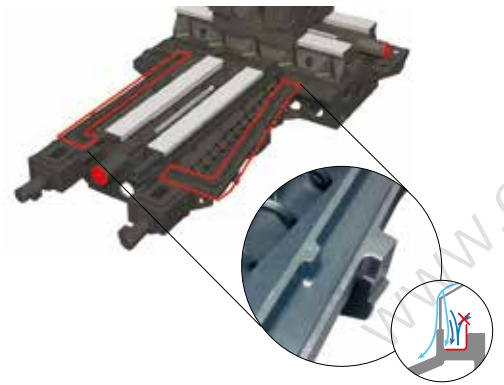
Distance
between
spindle end
face and table
center
100 mm

GBH 630H

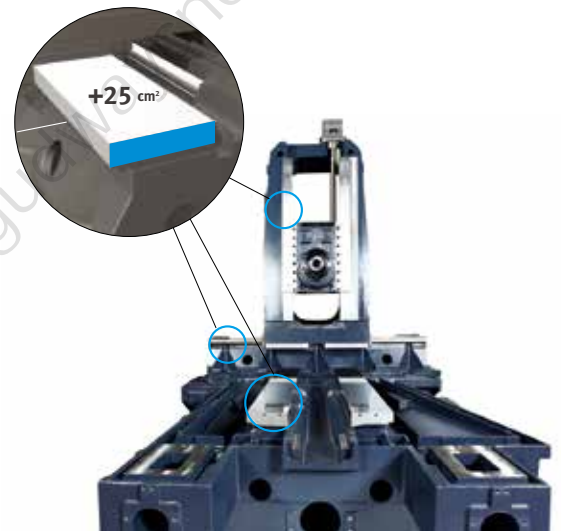




The integrated bed structure adopts double wall structure design on both sides, which effectively prevents the leakage of cutting oil during the machining process. The design also makes maintenance easier.



3 One-piece bed structure



4 Wide hard rail for more stable processing

Machining spindle suitable for heavy cutting

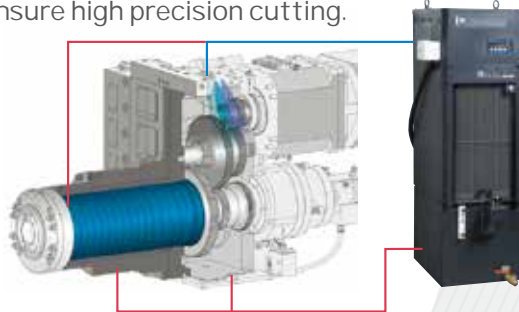
1 Geared main shaft

Gear driven spindle speed, rigid enough to meet the output requirements of large torque. The optimized geared spindle minimizes vibration and thermal errors while enabling faster acceleration and deceleration for superior machining performance.

	GBH 630H	GBH 800H
Max spindle speed (r/min)	6000	6000
Motor power (kW)	18.5/30	22/35
Max spindle torque (N·m)	1238	1444

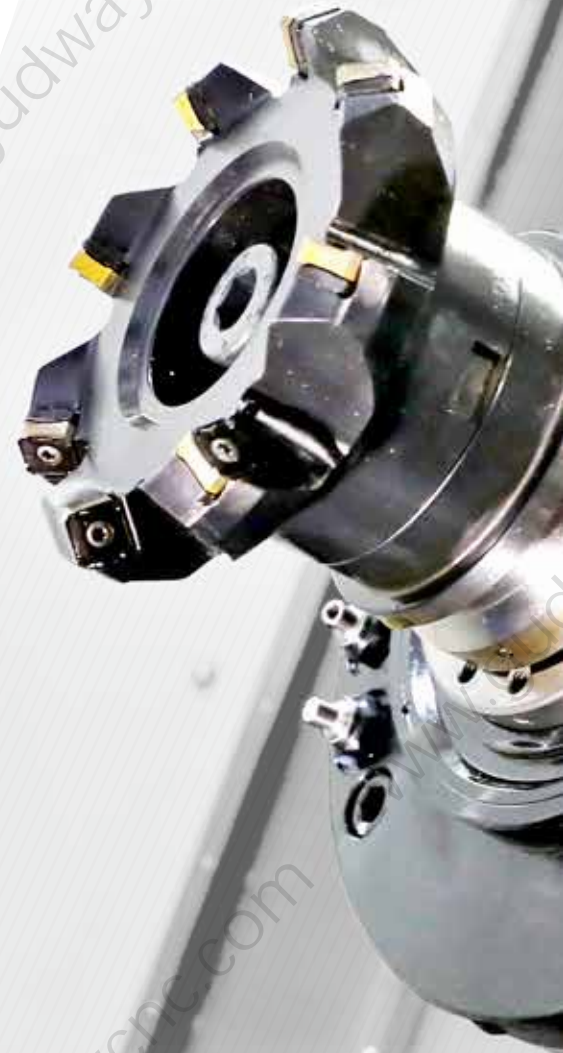
2 Spindle cooling system

ST configuration spindle oil cooling device, to ensure a long time of high-speed spindle continuous operation. The cooled oil is circulated to the main shaft bearing and the built-in motor to minimize thermal error and ensure high precision cutting.



3 Double-sided tool clamping system

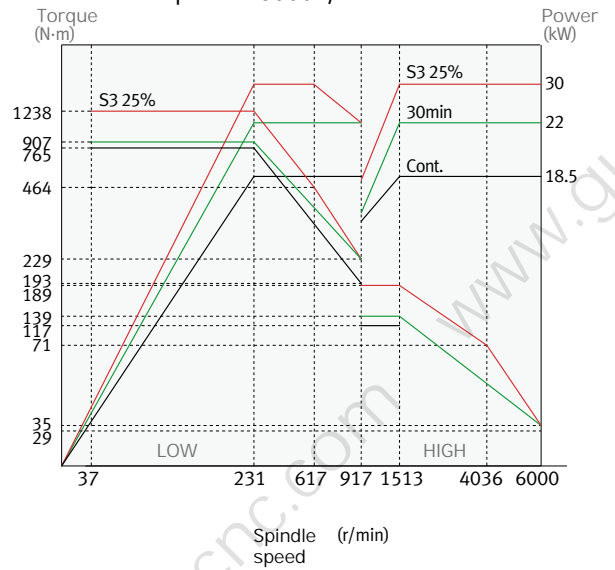
Tool rigidity is improved by clamping the spindle tightly, while tool life cycle and cutting surface roughness are improved by reducing vibration with double-sided locking.



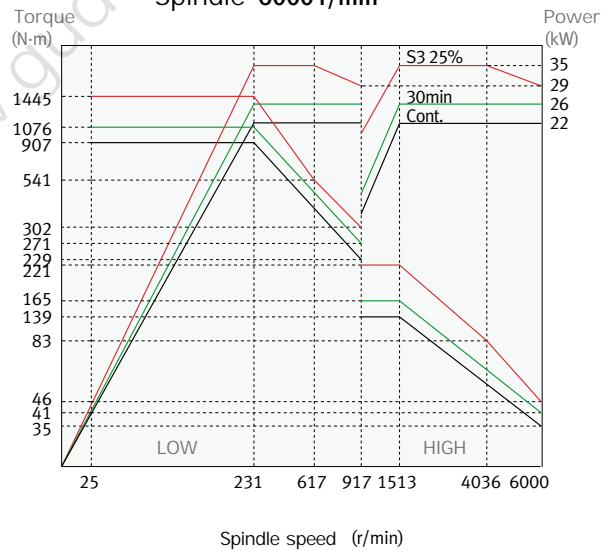


Spindle power-torque diagram

GBH 630H
Spindle 6000 r/min



GBH 800H
Spindle 6000 r/min



Spindle specification
ISO #50

Spindle torque
1991 N·m
(OP)

Tool magazine

1 High efficiency servo-driven ATC

Only one clamping, you can efficiently complete a variety of processes. A wide variety of tool libraries combined with servo-driven ATC greatly improves production efficiency.

Specifications (Tool Max diameter x tool Max length)

Model	GBH 630H	GBH 800H
BT/CT/DIN	320 x 630	320 x 630
HSK	320 x 700	320 x 700

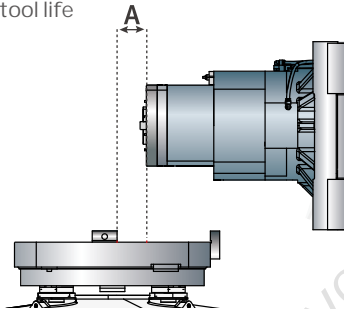
Tool change time (tool weight less than 12KG)

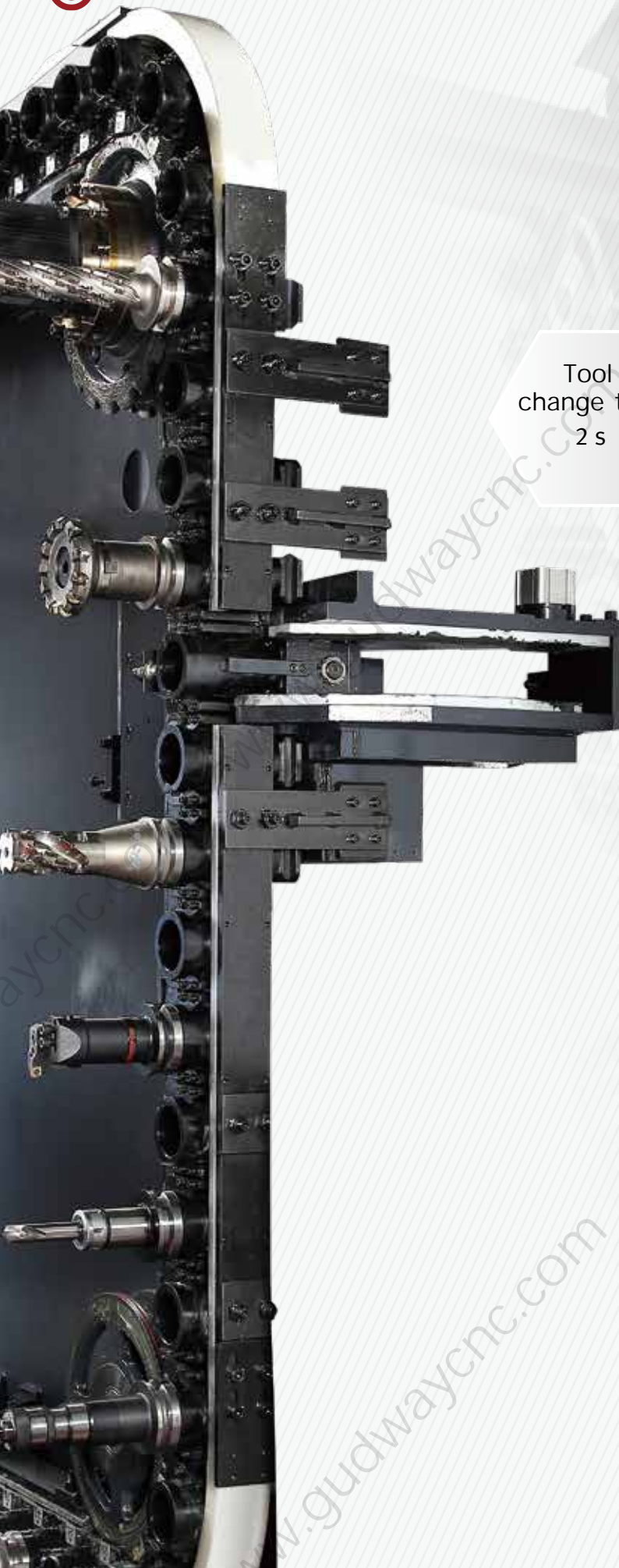
Model	GBH 630H	GBH 800H
Tool - Tool	2s	
Cutting - Cutting	8s	

2 More convenient short tool machining

The distance between spindle and the center of the pallet has been reduced to facilitate heavy cutting with shorter tools.

- Tool diameter increases, rigidity increases
- Innovative improvements in repeatability of ATC (Automatic Tool changer)
- Minimize Z-axis displacement at high speeds
- Extend tool life





TOOL
Ø 320x630 mm
(Max tool
dia X length)

Tool
change time
2 s

Tool capacity
40 ea

3 Full range of knives

GBH According to the different production needs of customers, the series can be prepared with single chain type and matrix type two types of knife library for customers to choose.

Chain type **OP**
tool magazine



40 tools **ST**
60/90/120/150 **OP**

Matrix **OP**
tool magazine



196/256/316/376 tools

Automatic pallet exchange device

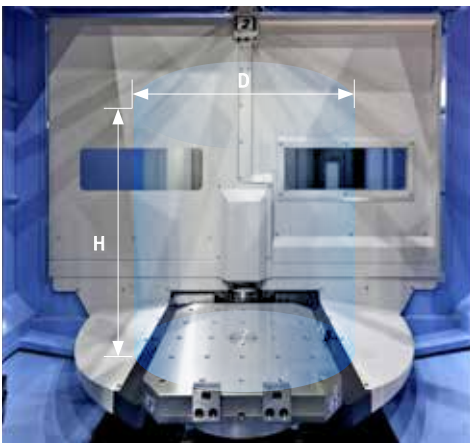
1 Servo drive APC

The APC (Automatic Pallet Exchange Unit) system increases productivity with fast and precise pallet exchange. In addition to superior reliability, the improved APC (Automatic Pallet Exchange Unit) offers greater scope for operator convenience.

	GBH 630H	GBH 800H
Exchange time	12 s	16 s

2 Max size

The GBH series has ample space to process heavier and larger parts.



Max size		
Parameter	GBH 630H	GBH 800H
D mm	Ø1050	Ø1450
H mm	1350	1550

Max size
 Ø1450x1550 mm
 (GBH 800H)

Max weight
 2000 kg
 (GBH 800H)

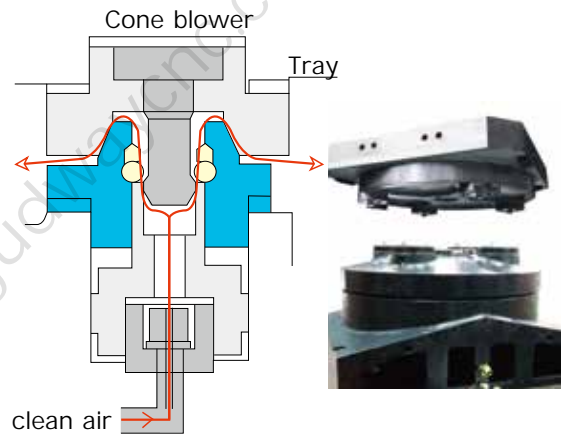
Exchange time
 16 s
 (GBH 800H)





Accurate pallet positioning

Designed as a mechanical device for precise and repeated positioning of pallets, the blower sprays high-pressure air into the positioning cone that connects the table to the pallet. This removes chips from the positioning surface and ensures accurate positioning of the pallet.

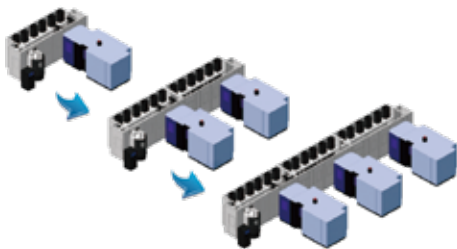


Pallet automation system

1 Linear Pallet System [LPSII]

The LPSII linear pallet system is designed and produced by GUDWAY to provide users with an optimized system that offers excellent flexibility, including system expansion and layout changes.

- Up to 7 devices
- Number of trays: up to 72 ea



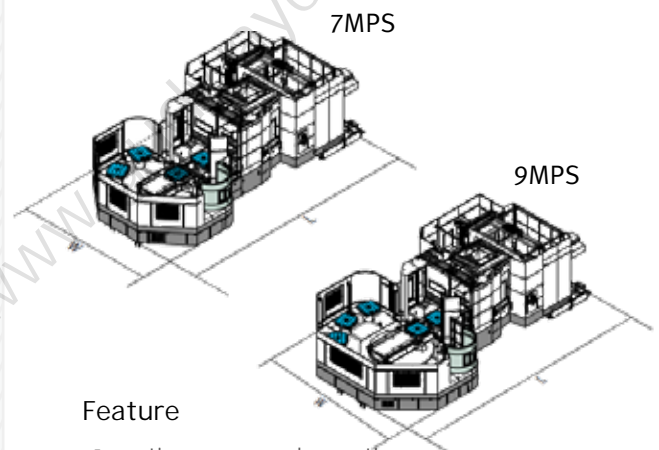
Feature

Facilitate the implementation of system expansion station equipment through modular storage racks
 Up to 7 machines and 72 pallets
 Efficient workpiece loading space
 - Automated operation control via PC-based OS
 Easy to retrofit into an old horizontal machining center

2 Multi-pallet Automation System (MPS)

In contrast to ST dual pallet machines, MPS uses the job scheduling function to enable long unmanned operation and flexible production of various workpieces. The system can be easily retrofitted to existing machines on site.

- Number of trays: 7&9 ea

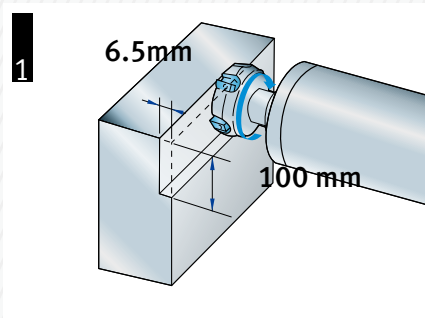


Feature

- Long time unmanned operation
- Bracket type servo drive, high reliability
- Simple installation and easy maintenance
- Convenient for field modification
- Priority of pallet and planned operation

Excellent processing performance

(Motor power: 45/25 kW)



GBH 630H

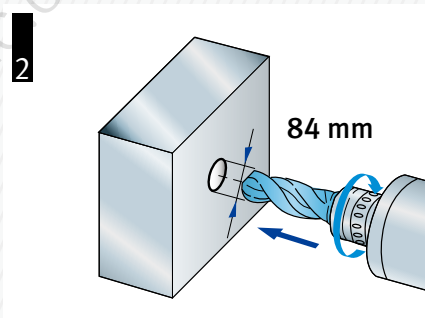
Surface Milling carbon steel (SM45C)

Tool	ø125mm face milling cutter (8Z)
Cutting per minute	880 cm ³ /min
Spindle speed	564 r/min
Feedrate	1354 mm/min

GBH 800H

Surface Milling carbon steel (SM45C)

Tool	ø125mm face milling cutter (8Z)
Cutting per minute	1173 cm ³ /min
Spindle speed	564 r/min
Feedrate	1805 mm/min



GBH 630H

Face milling carbon steel (SM45C)

Tool	ø84mm U-bit (2Z)
Cutting per minute	580 cm ³ /min
Spindle speed	674 r/min
Feedrate	105 mm/min

GBH 800H

Face milling carbon steel (SM45C)

Tool	ø84mm U-bit (2Z)
Cutting per minute	914 cm ³ /min
Spindle speed	674 r/min
Feedrate	165 mm/min

Ease of use

1 Easy to operate panel

To improve usability, the operation panel has been redesigned and integrated. Additional, custom function switches (OP) are available for maximum operator convenience.

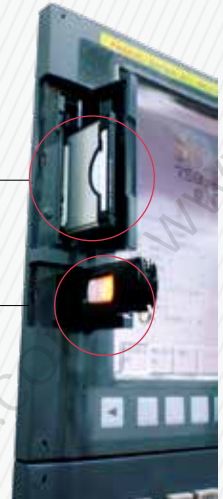


Clamp lock/release buttons, counters, timers and other special OP buttons can be installed.

Partition button to prevent misoperation

PCMCIA Card

USB Port



Rotary operating panel

The operation panel can be rotated 90° and displays various alarm information and controller errors for the machine, which is more convenient for the operator.



PCMCIA CARD

PCMCIA card can upload and download NC program, NC parameters, tool information and ladder program, in addition to support DNC operation.

USB PORT

Allows the use of USB drive to upload/download NC software programs, NC parameters, tool information and ladder programs, but does not support DNC operation.

PORTABLE MPG

The portable MPG makes it easier for users to set up workpieces.



Note: The appearance is subject to the actual design and specifications. subject to change without prior notice.

EOP FUNCTION

The Easy Operation Package (EOP) provides users with tool monitoring, management and help, operation and tray library.

Tool management



Tool management I OP

Tool magazine control
Display tool status
Fastems tool add/remove function

Tool management II OP

Tool magazine control
Tool life management
Tool life prediction
Tool magazine status control
Balluff tool ID function

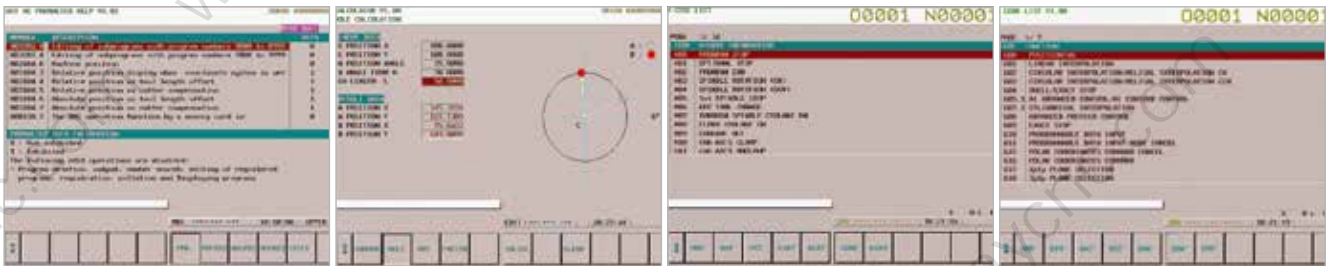
Tool load monitor OP

Tool damage detection
Anomaly detection during operation
No load blank cut detection

ATC/APC panel

- ATC manual
- APC manual

HELP



Simple NC parameters

Main parameter help
Display parameter Settings

Calculator

Calculator capabilities
4 arithmetic operations
Support for math functions

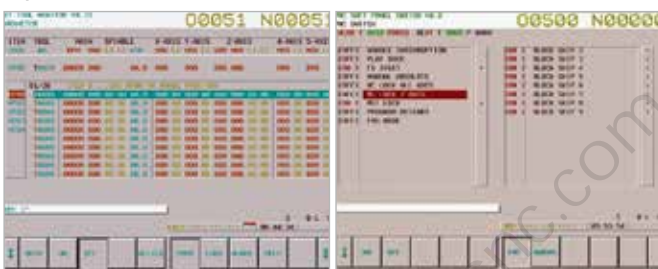
M code list

List of master M codes

G Code list

List of main G codes

Operations



Running speed

Measuring various machine speed
3 shift operations are supported
Calculate and store the operating speed for 30 days
Displays data for a specified date

PMC switch

Operation Panel function (OP)
Replacement switch
NC software OP

Pallet storage



Multi-tray station OP

Control MPS operation
Displays MPS PMG information
Set processing progress
Automatic call function
Manual operation and coordinate setting functions

APC Settings

- 2 tray APC operation screen

Fixture system

Select hydraulic and pneumatic fixtures according to customer requirements.

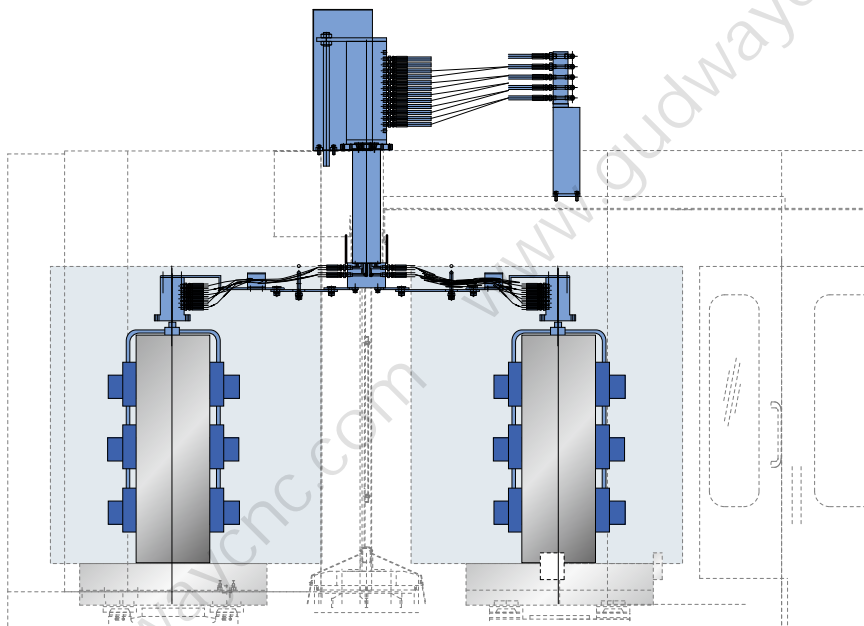
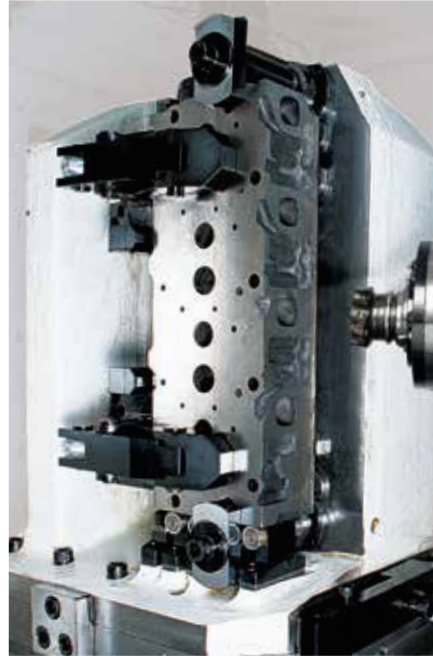
Workpiece holding fixture system
(hydraulic/pneumatic)
Hydraulic/pneumatic fixture sleeve

OP

- A/B wire: 2, 4, 6, 8 pairs (including solenoid valve)
- P/T wire: 2, 4, 6, 8 pairs (excluding solenoid valve)

Hydraulic motor for fixed fixture

- 2.2 kW / 7MPa
- 3.7 kW / 15MPa
- 5.5 kW / 21MPa



Chip enclosure



Drum filter **OP**



Chip handling system



Flush coolant



Coolant spray gun on top of spindle



Spray coolant **OP**



Cooling gun **OP**

Measuring system



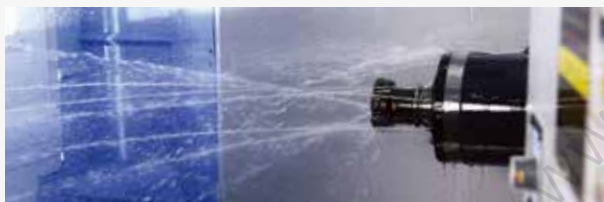
Auto tool breakage detection device I (BK9) **OP**



Auto tool breakage detection device II (OMRON) **OP**



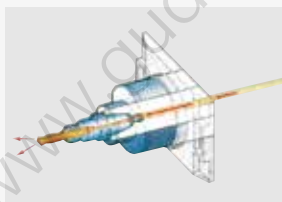
Automatic tool measuring device (TS 27R) **OP**



Mainshaft flush coolant



Spindle center discharge **OP**



MQL system oil mist device **OP**



Environmental protection device



Oil skimmer **ST**



Oil mist collector **OP**

Dimensions

GBH630H

UNIT: mm

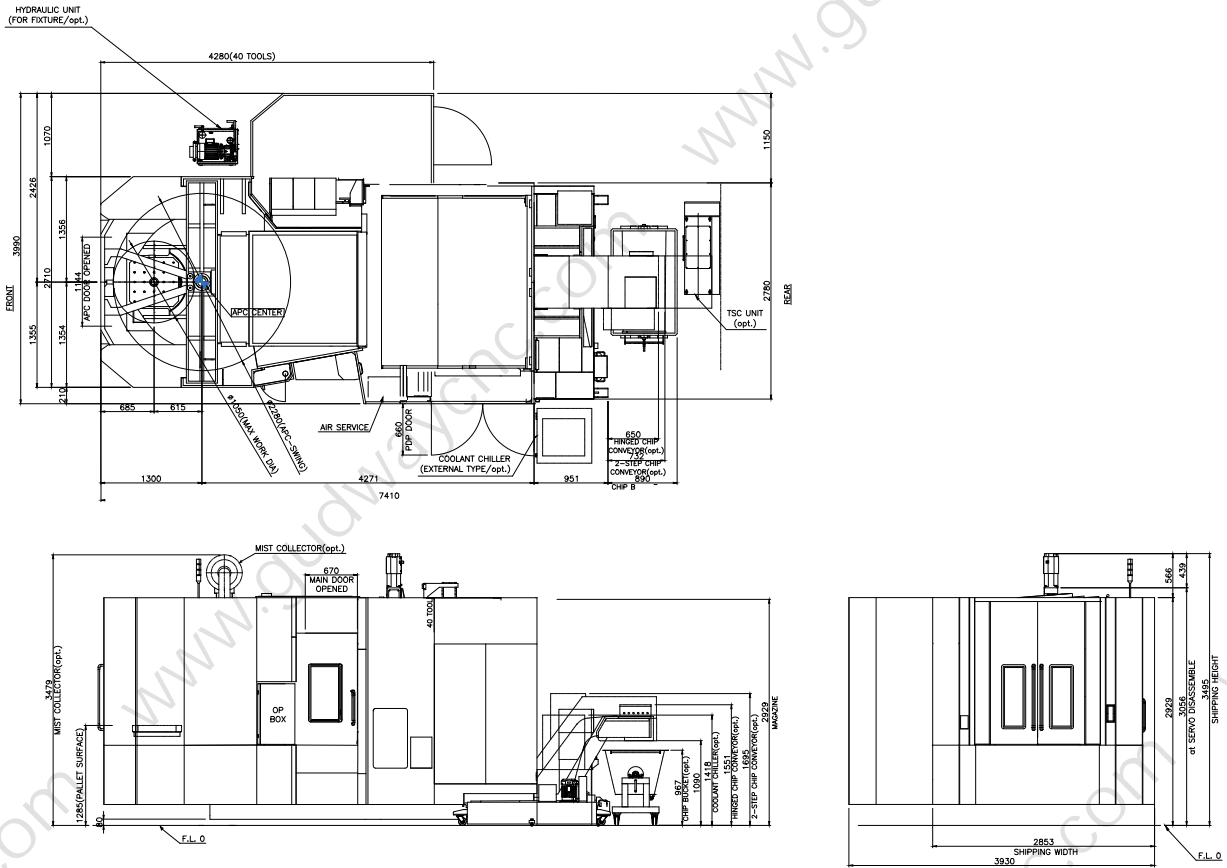
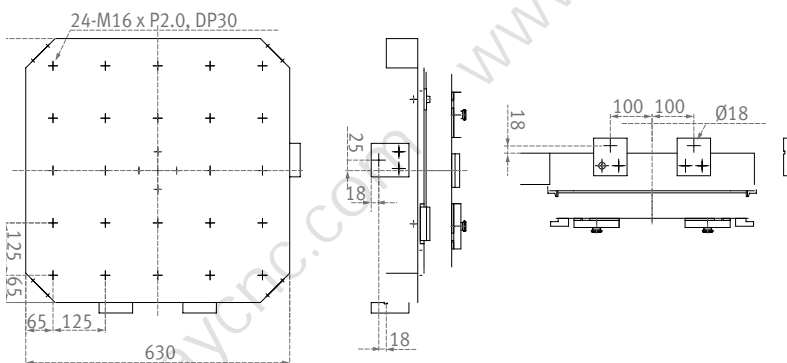


Table size

GBH 630H

UNIT: mm



PARAMETER

Item		UNIT	GBH 630H	GBH 800H
Processing capacity	Feed distance (X/Y/Z)	mm	1050/850/1000	1400/1050/1200
	Distance from spindle front to bench center	mm	100~1100	150~1350
	Distance from spindle center to table surface	mm	75~925	75~1125
Tray	Pallet type		24-M16×P2.0	24-M16×P2.0
	Indexing Angle	deg	1 {0.001}	1 {0.001}
	Maximum admissible load	kg	1200	2000
	Maximum dimensions of workpiece	mm	Ø1050x1350	Ø1450x1550
	Size of Rocking Plate	mm	2-630X630	2-800X800
Spindle	Maximum spindle speed	r/min	6000 {8000}	6000 {8000}
	Taper specification		ISO #50, 7/24 TAPER	ISO #50, 7/24 TAPER
	Maximum spindle torque	N·m	1238 {1444/1732/1991}	1444 {1444/1732/1991}
Feedrate	Fast moving speed (X/Y/Z)	m/min	30/30/30	24/24/24
	Cutting feed speed	mm/min	1~15000	1~12000
Auto pallet exchange device	Pallet quantity	ea.	2	2
	Pallet exchange time	s	12	16
	APC rotary indexing Angle	deg	90	90
Auto tool changer	Shank type		BT50 {CAT50/DIN50/HSK-A100}	
	Tool storage capacity	ea	40 {60/90/120/150/196/256/316/367}	
	Maximum tool diameter	mm	320 (CONTINUOUS.), 100 (ADJACENT POTS EMPTY)	
	Maximum tool length	mm	630 (24.8) (BT / CAT / DIN), 700 (HSK)	
	Maximum tool weight	kg	30	
	Tool change time (tool-tool, less than 8kg)	s	2	
	Tool change time (cut-cut, less than 8kg)	s	8	
Motor	Maximum spindle motor power	kW	18.5/30	22/35
	Power supplies	kVA	70	
	Air pressure	MPa	0.54	
Box capacity	Cooling tank capacity	L	925	
	Lubricating oil pot capacity	L	7.2	
Size	Height	mm	3495	3760
	Machine area (L X W)	mm	6410 x 3990	7376 x 4360
	Weight	kg	20500	27000

• {}OP

Standard

Fully enclosed splash proof sheet metal
Coolant tank&ST Cooling System&Skimmer
Working light (fluorescent)
Spiral chip extractor
Condition light (red, yellow, green)
Install parts
Spare parts
Install & debug tools

Optional

Chip-conveyor
Chip pickup truck
Spindle center water
Prepare spindle center water outlet
Test bar
Automatic Power Off
Hydraulic pipeline preparation (for hydraulic jig)
Spray cooling system
Automate Scanning
Auto tool length measurement
Water gun system

GBH SERIES


Item	UNIT	GBH 630H	GBH 800H
Fast moving speed (X/Y/Z)	m/min	30/30/30	24/24/24
Travel (X/Y/Z)	mm	1050/850/1000	1400/1050/1200
Pallet dimension	mm	2-630 x 630	2-800 x 800
Max spindle speed	r/min	6000 {8000}	6000 {8000}
Max spindle motor power	kW	18.5/30	22/35
Max spindle torque	N·m	1238 {1444/1732/1991}	1444 {1444/1732/1991}
Pallet quantity	ea.	2	2
Tool magazine capacity	ea.	40 {60/90/120/150/196/256/316/367}	
Shank type		BT50 {CAT50/DIN50/HSK-A100}	