



GUDWAY

GLH SERIES

Linear rail type Horizontal machining center

550 · 630 · 800



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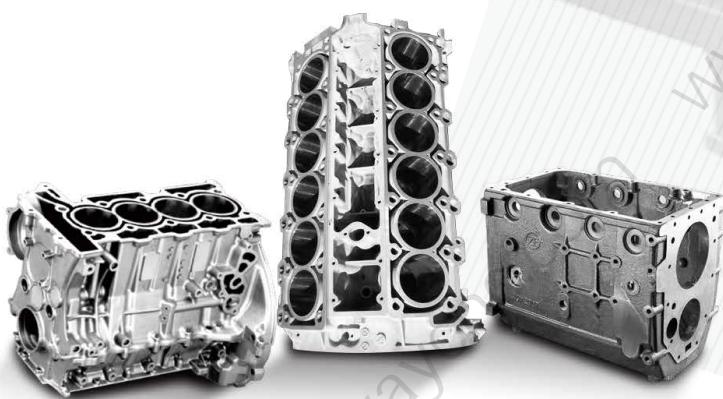
Web : <http://www.gudwaycnc.com>

GLH 550

GLH 630

GLH 800

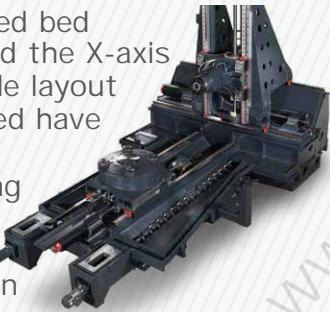
GLH550/630/800 series with BT 50 tool holder, high speed and high rigidity design, can achieve high productivity while carrying out heavy cutting, and offers GLH550 and GLH800 single pallet models, coupled with a wide range of optional configurations, to meet the diverse needs of users.





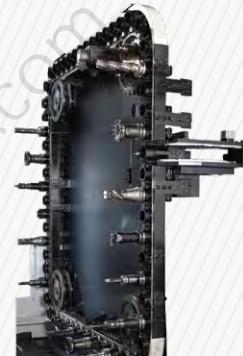
1 High rigidity structure

The integrated bed structure and the X-axis stepped guide layout make the bed have good rigidity corresponding to heavy cutting and high-precision processing.



2 Efficiency

Servo driven ATC, good high-speed transfer shaft acceleration/deceleration performance, improve productivity.



3 Automated convenience

Multi-pallet system or linear pallet system can be configured according to production requirements to achieve automation and intelligence. Among them, the single pallet model uses the lower row of pipes, which is easier to realize automatic connection.



High rigidity structure

The stepped rail layout and the one-piece bed provide the overall structure with high rigidity.

1 Step guide rail

The stepped rail bed structure can support the column stably and achieve high rigidity.

2 Stable and fast axial feed structure

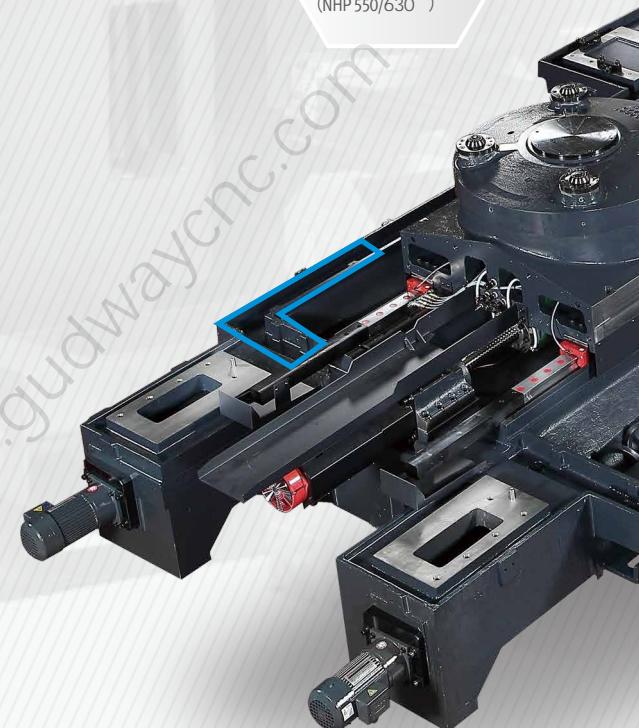
All shafts are equipped with roller linear guides and 3 rows of angular contact thrust bearings at both ends to improve the overall reliability of the equipment. Low noise, high precision ball screw support high precision shaft feed.

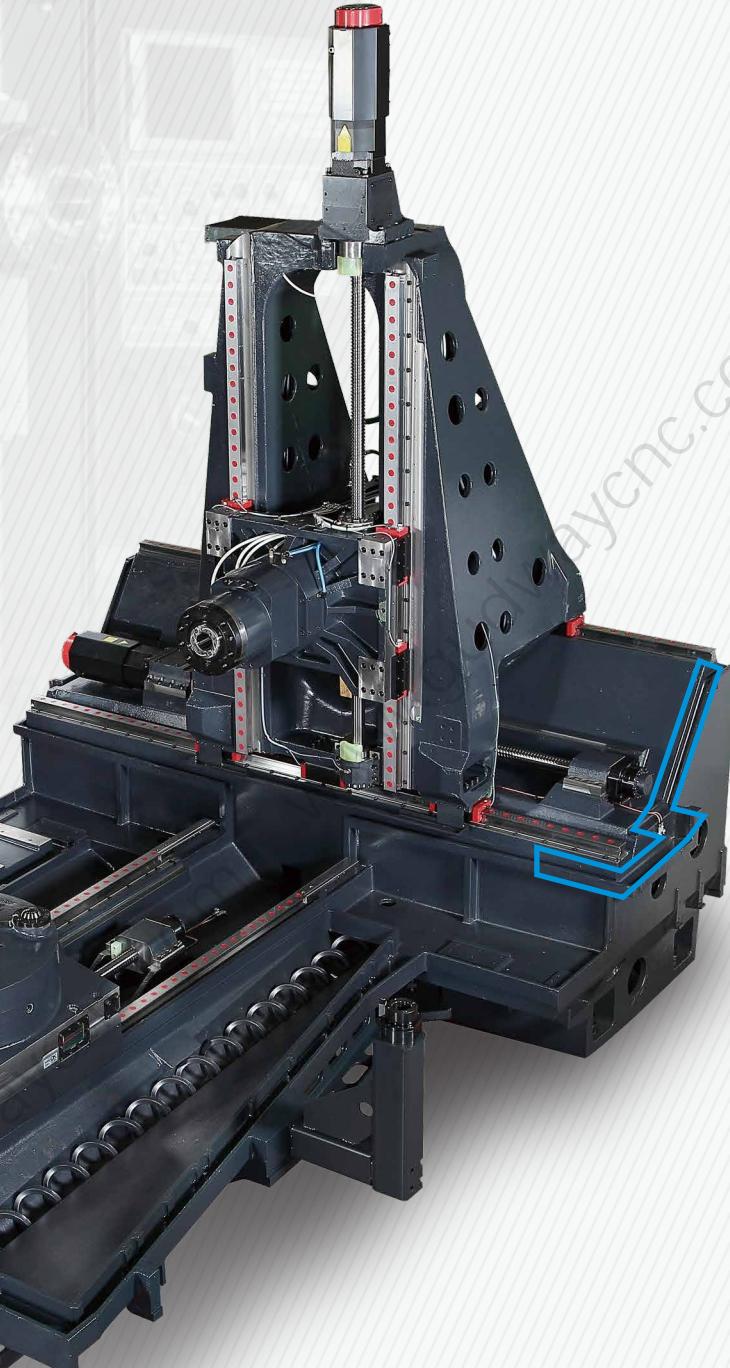
	UNIT	GLH 550	GLH 630	GLH 800
Travel (X/Y/Z)	mm	800/750/850	1050/900/1000	1400/1200/1370
Fast feed (X/Y/Z)	m/min	60/60/60	60/60/60	50/50/50

X,Y,Z travel
1400/1200/1370
mm
(GLH 800)

Fastfeed
60/60/60
m/min
(NHP 550/630)

Distance
between
spindle end face and
center of table
100mm
(NHP 550/630)

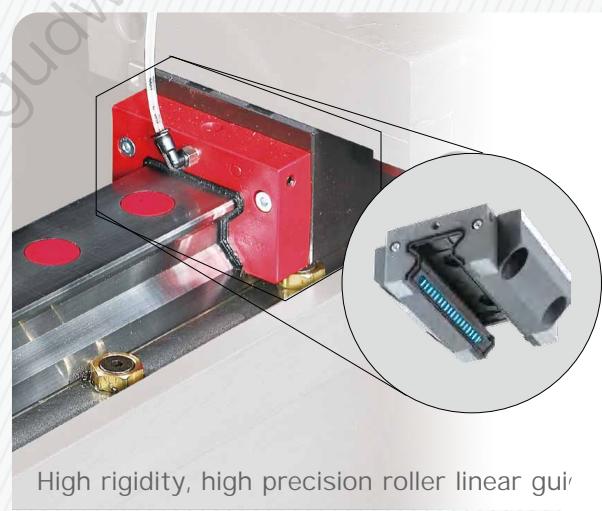




One-piece bed structure



One-piece bed structure



High rigidity, high precision roller linear gu

Powerful spindle with excellent performance

1 High speed, high performance spindle

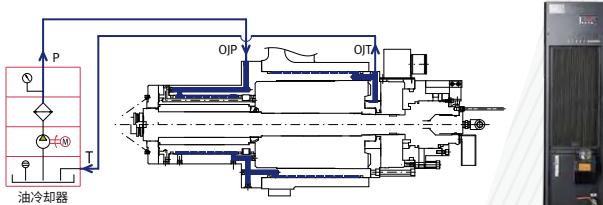
Equipped with a high-performance spindle, effectively reduce the vibration and thermal errors generated during high-speed machining of the spindle, and provide excellent acceleration and deceleration performance. High-torque built-in motorized spindles provide the machining capacity required for high-force cutting.

	ST	OP	OP
Speed (r/min)	10000	6000	15000
Power (kW)	45/25	37/25	37/30
Torque (N·m)	600	809	398
holder type	ISO #50		



2 Spindle cooling system

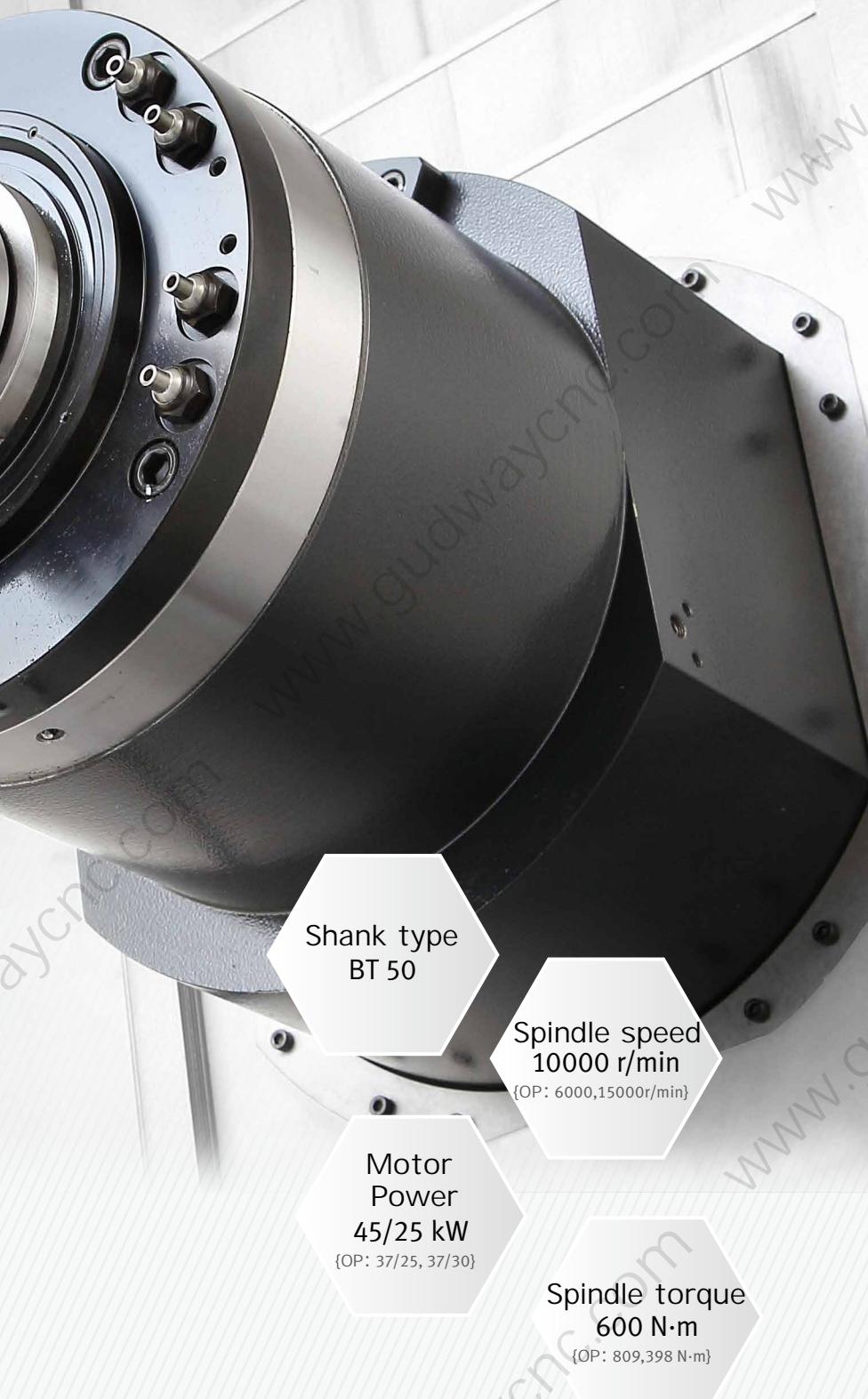
The standard spindle oil cooling device can reduce the thermal error caused by vibration and heating in the case of long processing time, and maintain good processing accuracy.



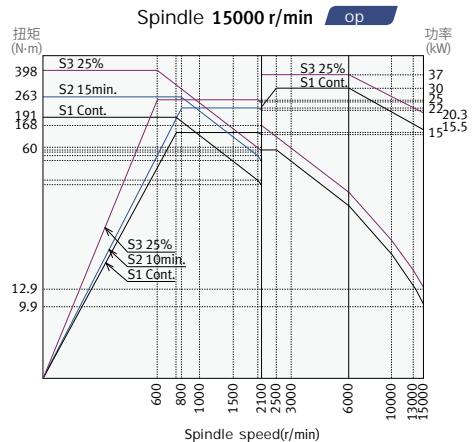
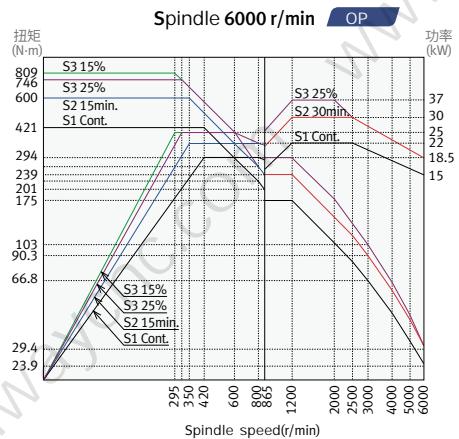
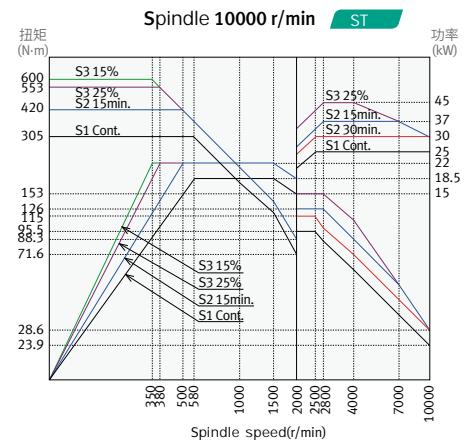
3 Double-sided tool clamping system

The double-sided tool clamping system improves the tool clamping stability, reduces the impact of vibration, and improves the tool service life and the surface roughness of the workpiece.





Spindle power-torque



High reliability

1 Servo drive ATC (Automatic Tool changer)

The servo-driven ATC, which can be equipped with up to 30kg of tools, can change the tool in 2 seconds, thereby reducing the non-cutting time and enabling fast tool change through tool positioning and spindle positioning.

Specifications (Tool Max diameter x tool Max length)

		GLH 550
ST (mm)	BT/CT/DIN	320 x 530
	HSK	320 x 630
OP		-
OP	BT/CT/DIN	
	HSK	

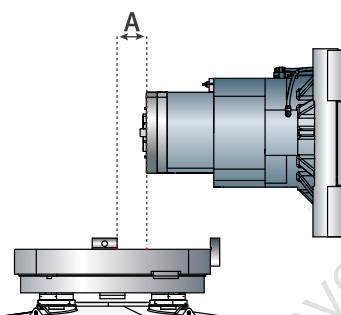
Tool change time (tool weight less than 12KG)

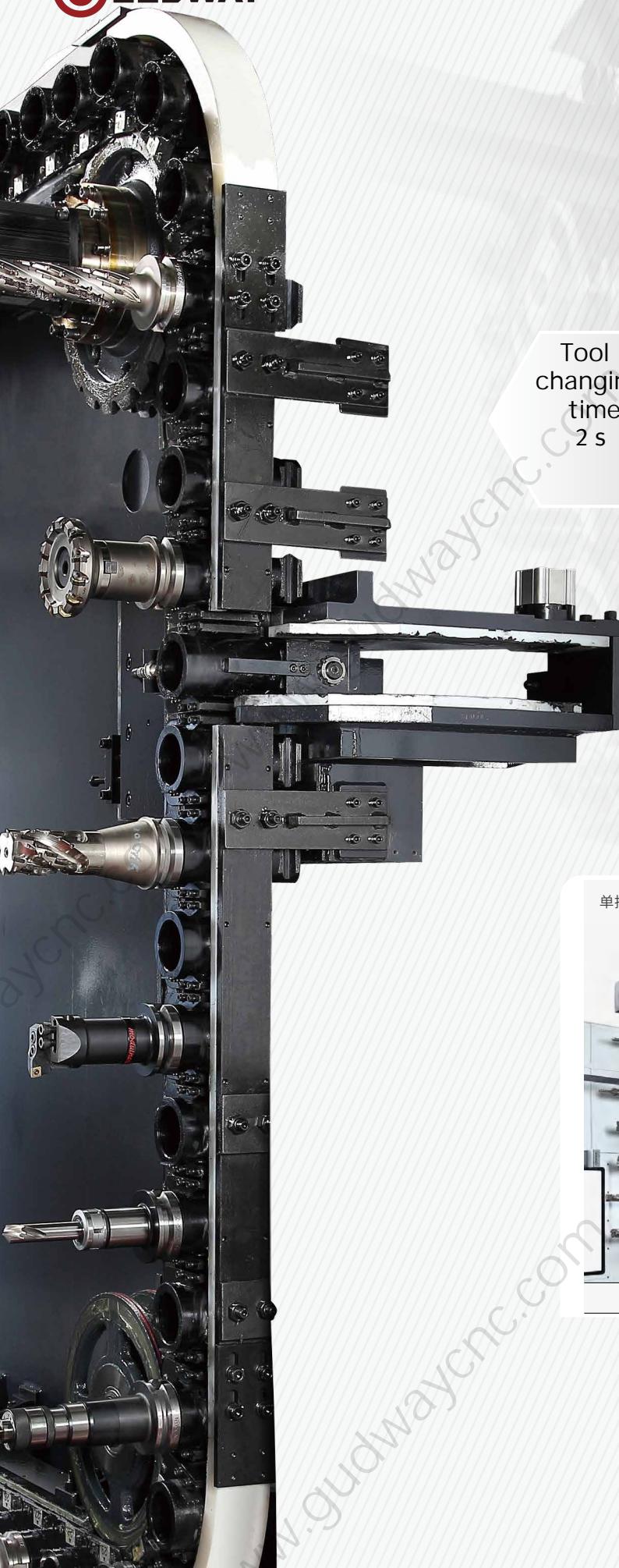
	GLH 550	GLH 630	GLH 800
Tool-tool		2s	
Cutting-cutting	5s	5.4s	6s

2 More convenient short tool machining

The distance between the spindle and the center of the tray is reduced, allowing for heavy cutting with shorter tools.

- Tool diameter increases, rigidity increases
- Reduce Z-axis displacement at high speeds
- Extend tool life





Tool
changing
time
2 s

Tool
specification
 $\varnothing 320 \times 630$ mm
(Max tool
dia X length)
(GLH 8005)

Tool capacity
40
{OP: 60 }

3 多种可选的刀库

用户可根据自身需求, 选配链条式或矩阵式刀库,
且提供若干种容量配置可供选择。

单排链式刀库



链条式刀库 可选



矩阵式刀库 可选



40/60 tool OP

90/120/150 TOOL

196/256/316/376 TOOL

Automatic pallet exchange device

(Only for two pallet models)

1 Servo drive APC

The APC (Automatic Pallet Exchange Unit) system exchanges pallets quickly and accurately, helping to improve production efficiency. The APC structure is designed with operator maintenance convenience in mind.

	GLH 550	GLH 630	GLH 800
Pallet exchange time	8.5 s	12 s	16 s

2 Accurate pallet positioning

The positioning hole of the pallet nail can be controlled according to the program to spray compressed air, which can effectively remove the chip on the positioning surface to prevent the influence of residual chip on the positioning accuracy of the pallet.

3 Maximum workpiece size

The wide processing area provides convenience for processing medium and large parts

	GLH 550	GLH 630	GLH 800
Max size (D x H)	Ø850 x 1100 mm	Ø1050 x 1350 mm	Ø1450 x 1550 mm

	GLH 550	GLH 630	GLH 800
Max weight (W)	800kg	1500kg	2000kg

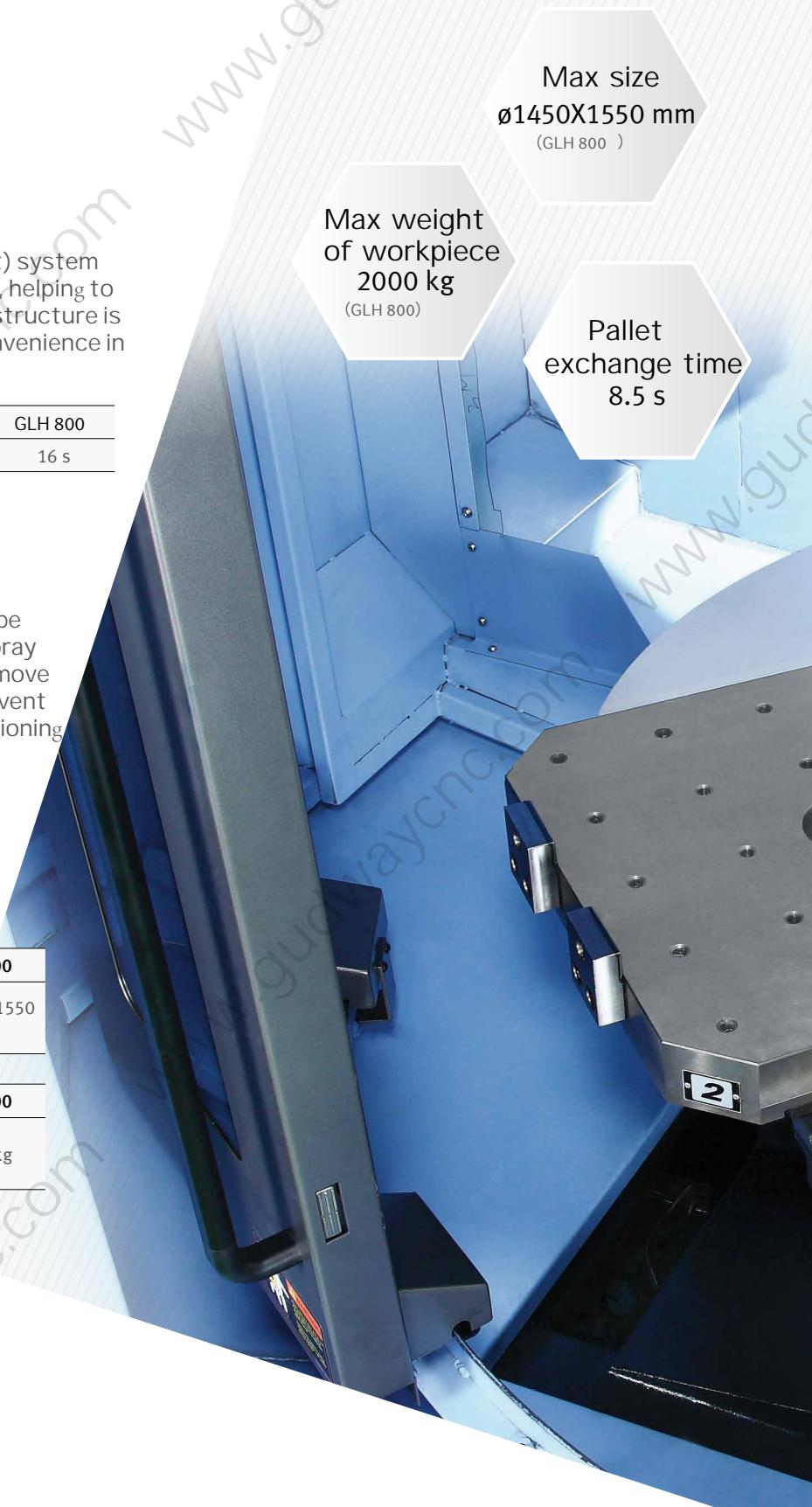
4 Fixture system OP

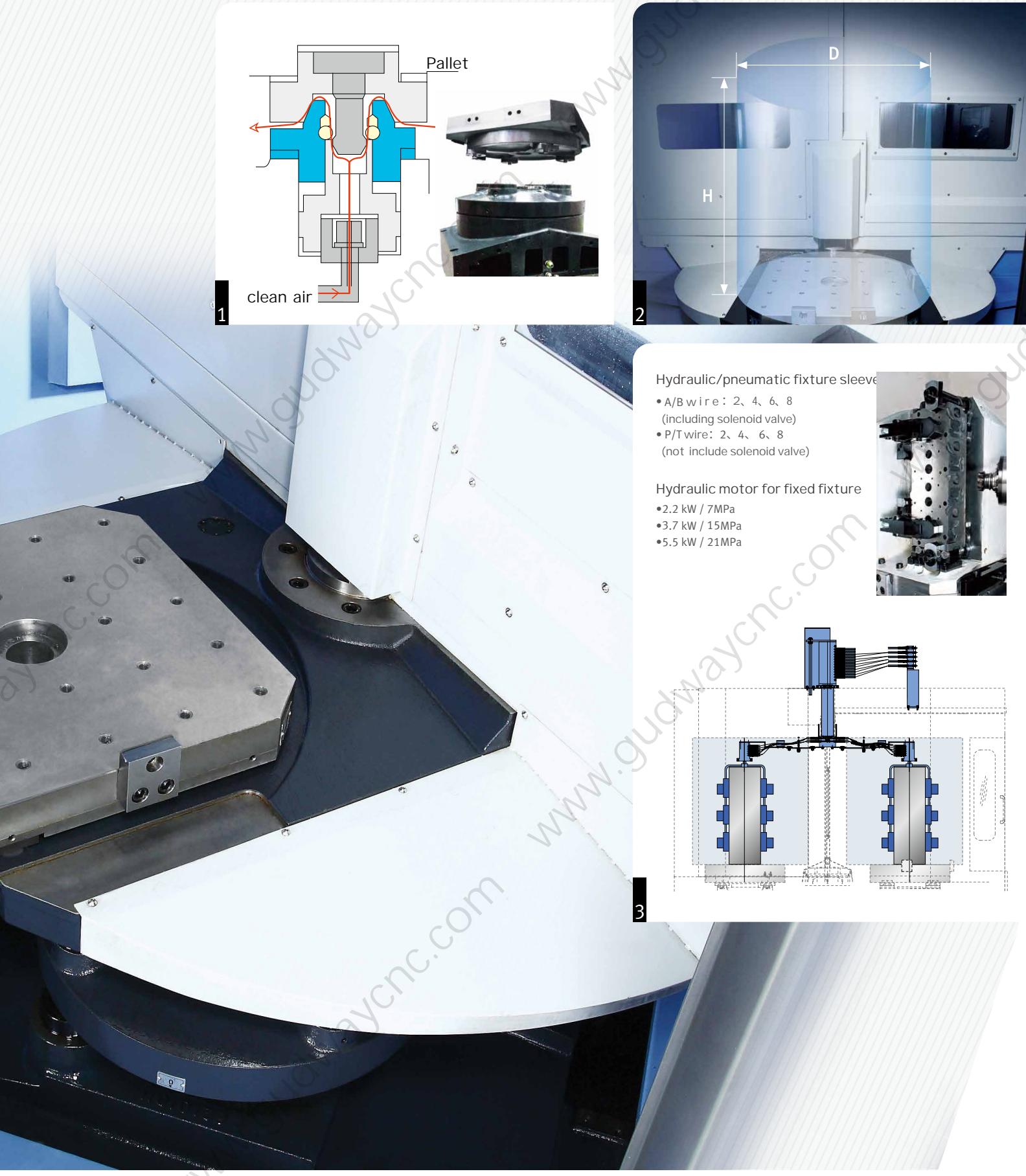
Select hydraulic and pneumatic fixtures according to user requirements.

Max size
Ø1450X1550 mm
(GLH 800)

Max weight
of workpiece
2000 kg
(GLH 800)

Pallet
exchange time
8.5 s

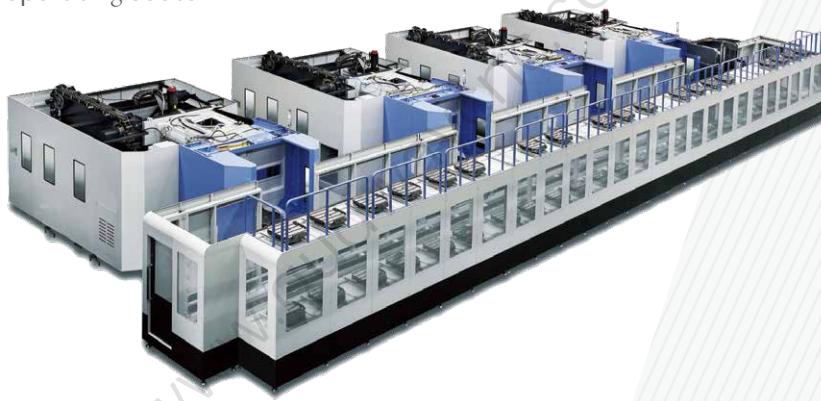




Pallet automation system OP

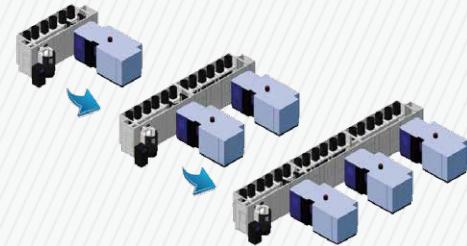
1 Linear Pallet System [LPSII]

The LPSII linear pallet system is designed to provide users with a convenient automation system while reducing operating costs.



LPS II MODEL	LPS 500 II	LPS 630 II	LPS 800 II
MODEL	GLH 550	GLH 630	GLH 800
Bifurcated type	双叉型		
Equipment number	1 ~ 7		
Number of tooling stations	1 ~ 4		
Pallet quantity	12 ~ 70	10 ~ 70	8 ~ 70
Dimensions (L x W)	7824 x 2400 mm	7904 x 2785 mm	8952 x 3500 mm

Increasing productivity



Increase automation uptime



Feature

- Easy to expand
- Ample work space
- The system runs stably and efficiently
- Quick installation and commissioning
- Suitable for all HMC series machines
- Good maintainability

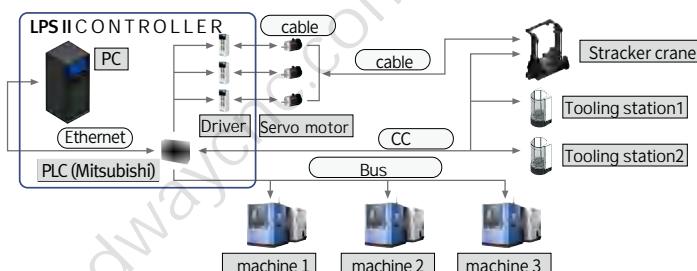
LPS Controlling software

- Easy storage of basic information
- platform management software for fast, flexible production

Production Management System (DPMS)

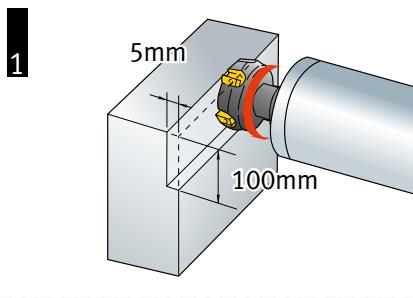
DPMS is LPS's production management system, which allows real-time management of production conditions and quick and easy adjustment of production schedules through software.

System diagram



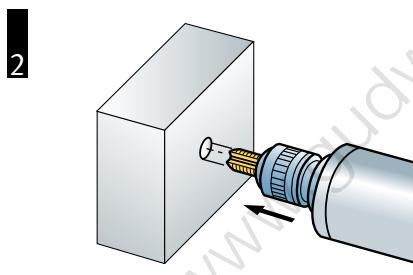
Machinability

(Motor power : 45/25 kW)



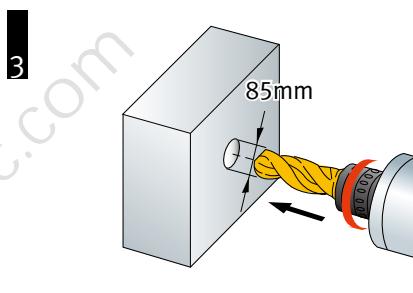
Carbon steel face milling (SM45C)

Tool	ø125mm Face cutter(8Z)
Cutting per minute	700 cm ³ /min
Spindle speed	500 r/min
Speed of feed	1400 mm/min



Carbon steel tapping (SM45C)

Tool	M42×P4.5
Spindle speed	150 r/min
Speed of feed	675 mm/min



Carbon steel drilling (SM45C)

Tool	ø85mm U型钻头 (2Z)
Cutting per minute	567 cm ³ /min
Spindle speed	600 r/min
Speed of feed	100 mm/min

Productivity

The improved cutting performance is more than 8% higher than the previous model

- Workpiece: diesel engine cylinder block
- Material: Cast iron
- Number of knives used: 20 knives

Machining time

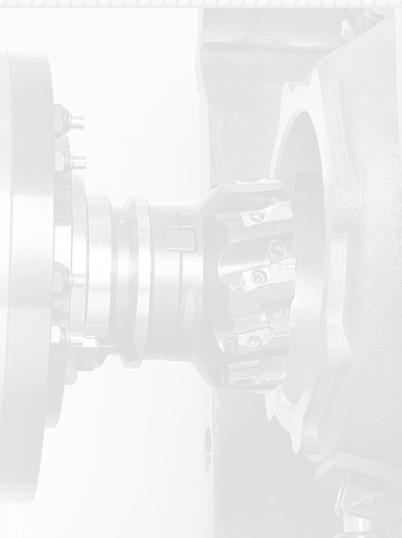
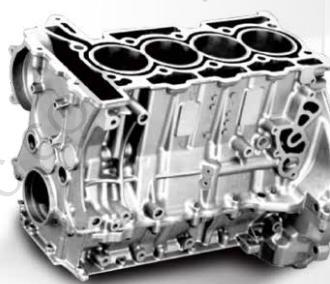
 reduce by
8 %

Before

977 s

GLH SERIES

900 s ↓ 77 s



OPTIONAL

1 Chip conveyor

The disposal of debris is very important from the point of view of production efficiency and environmental protection. GLH models are equipped with a scour device as standard, and equipped with a large diameter spiral debris conveyor, which provides a guarantee for efficient debris removal.

Model	GLH 550	GLH 630	GLH 800
Coolant	825 L	925 L	925 L



Drag type



Drum filter



Hinge type

2 Measuring equipment



Automatic tool breakage  detection device I



Automatic tool breakage  detection device II



Automatic tool  measuring device

3 Environmental protection equipment



Oil skimmer



Oil mist  collector

5 Chip handling system



Rinse coolant



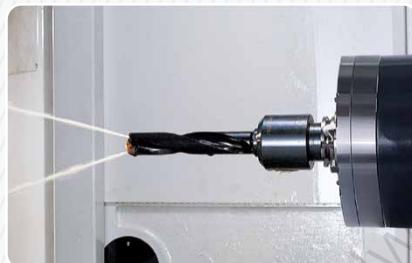
Standard cooling



Spindle top wash



Spiral chip extractor

Spray coolant OPCooling gun OPSpindle center OP dischargeMicro-lubrication system oil mist device OP

Ease of use

1 Easy to operate



Clamp lock/release buttons, counters, timers and other special optional 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.

PORATABLE MPG

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



EOP

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

Tool Manager



Tool Manager I

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



Tool Manager II

- Tool magazine control
- Tool life management
- Tool life prediction
- Display tool status
- Balluff TOOL ID function



Tool load monitor

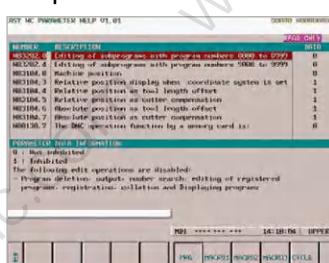
- Tool damage detection
- Anomaly detection during operation
- No load blank cut detection



ATC/APC PANEL

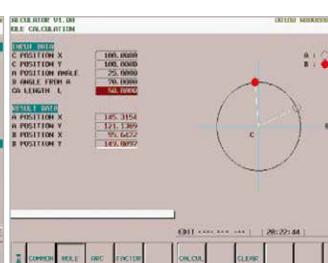
- ATC Manual
- APC Manual

Help



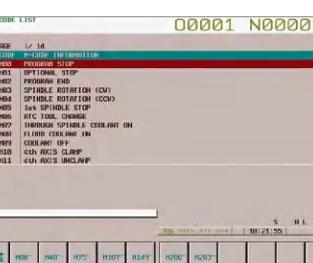
Simple NC parameters

- Main parameter help
- Display parameter Settings



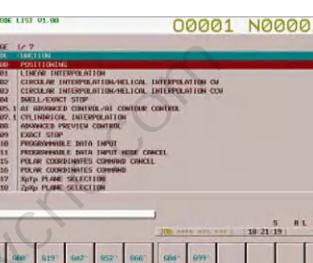
Calculator

- Calculator capabilities
- 4 kinds of arithmetic operations
- Support for math functions



M code list

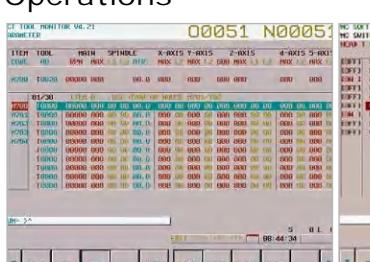
- List of main M codes



G code list

- List of main G codes

Operations



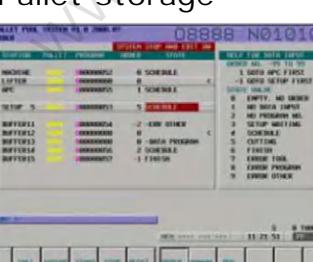
Running speed

- Measure speed of various machine
- Supports 3 shift operations
- Calculate and store speed 30 days
- Displays data for a specified date



PMC switch

- Operation panel function (op)
- Replacement switch
- NC software is optional



Multi-tray station

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

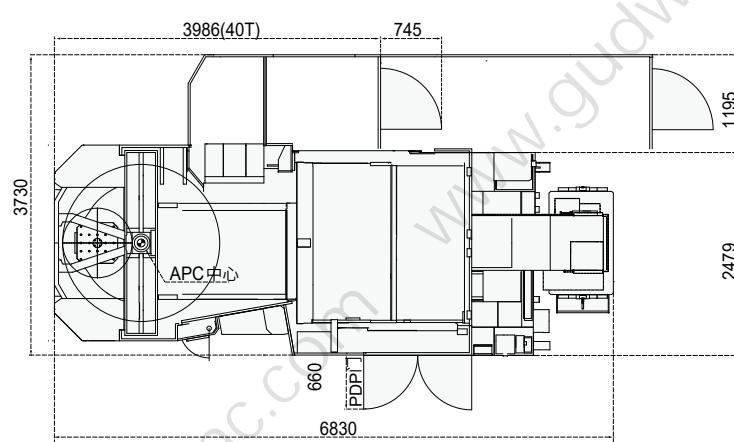


APC setting

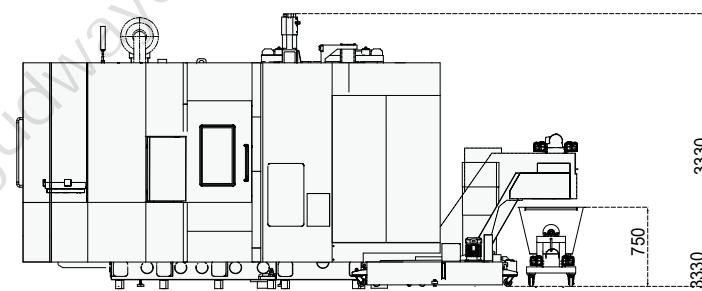
- 2 tray APC operation screen

Size

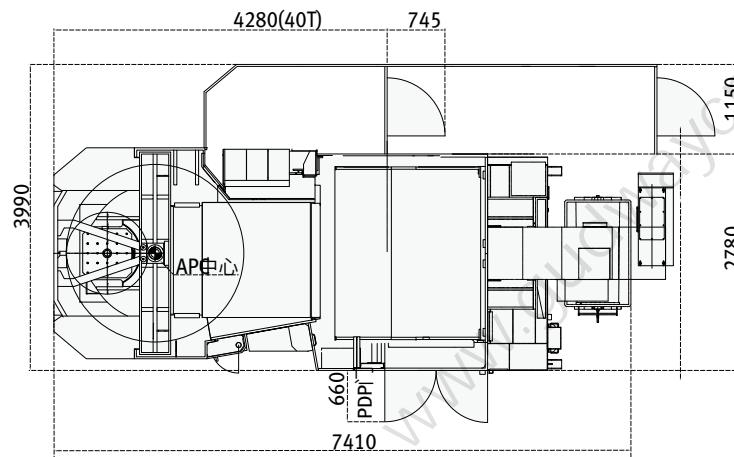
GLH550



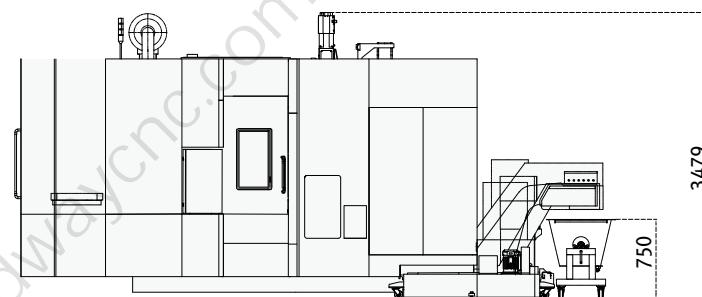
UNIT: mm



GLH630



UNIT: mm



GLH 800

UNIT: mm

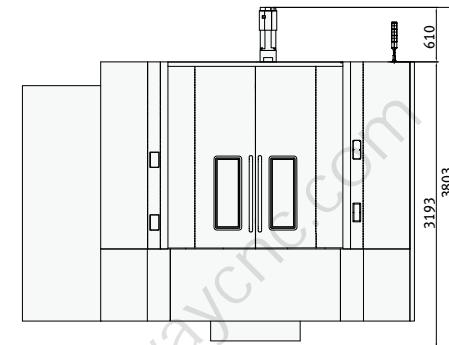
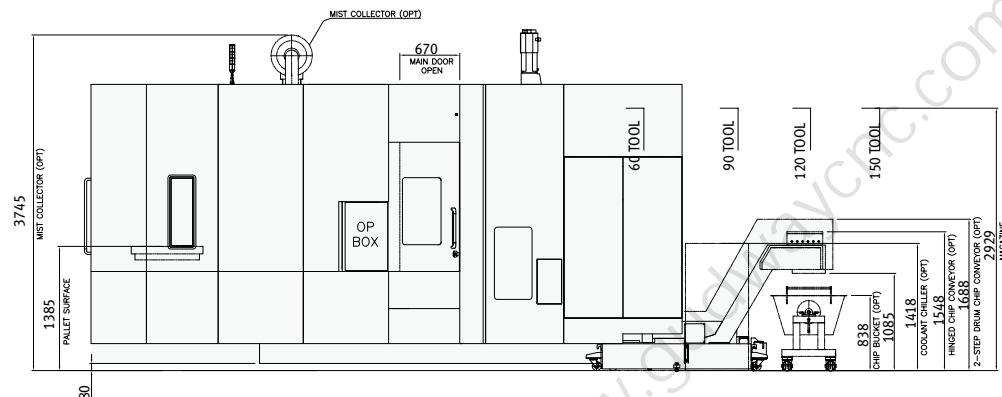
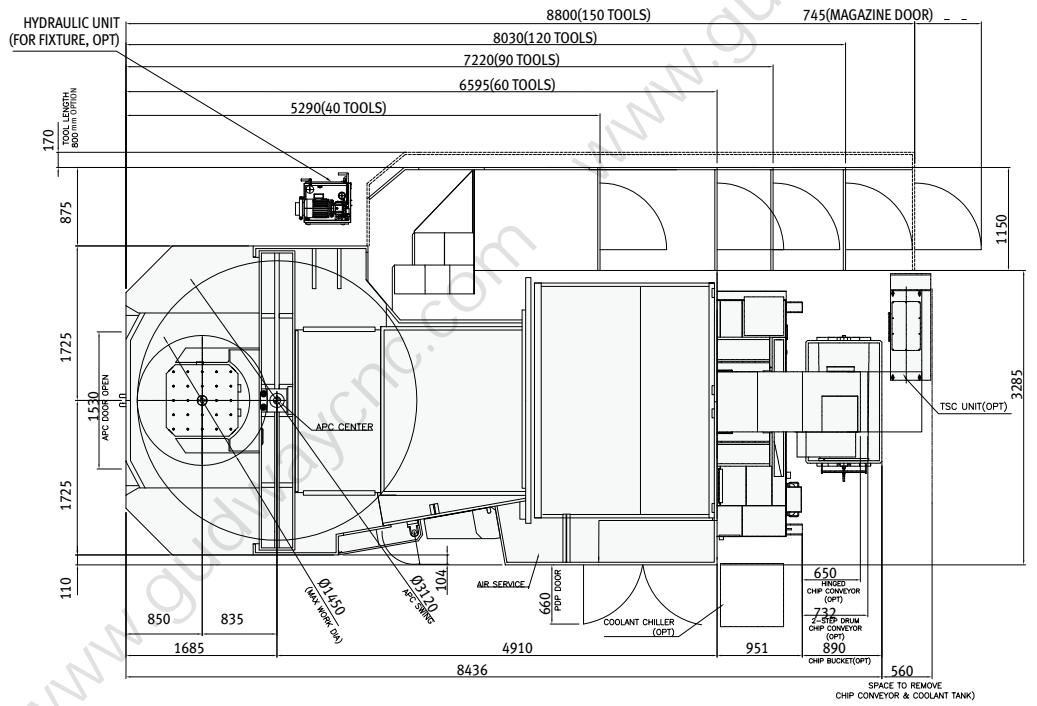
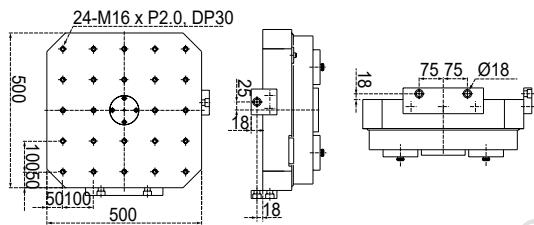


Table size

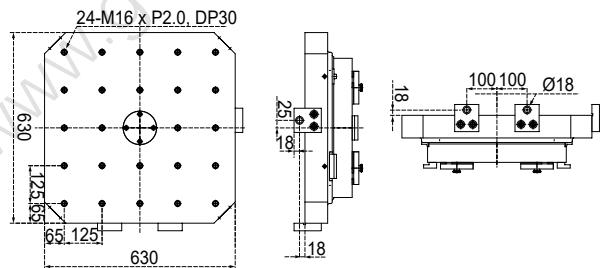
GLH 550

Standard (500x500)



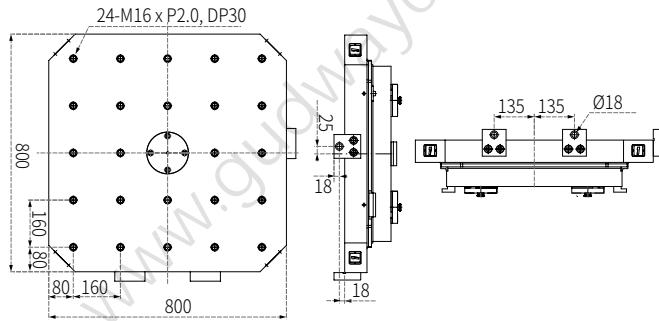
GLH 630

Standard (630x630)



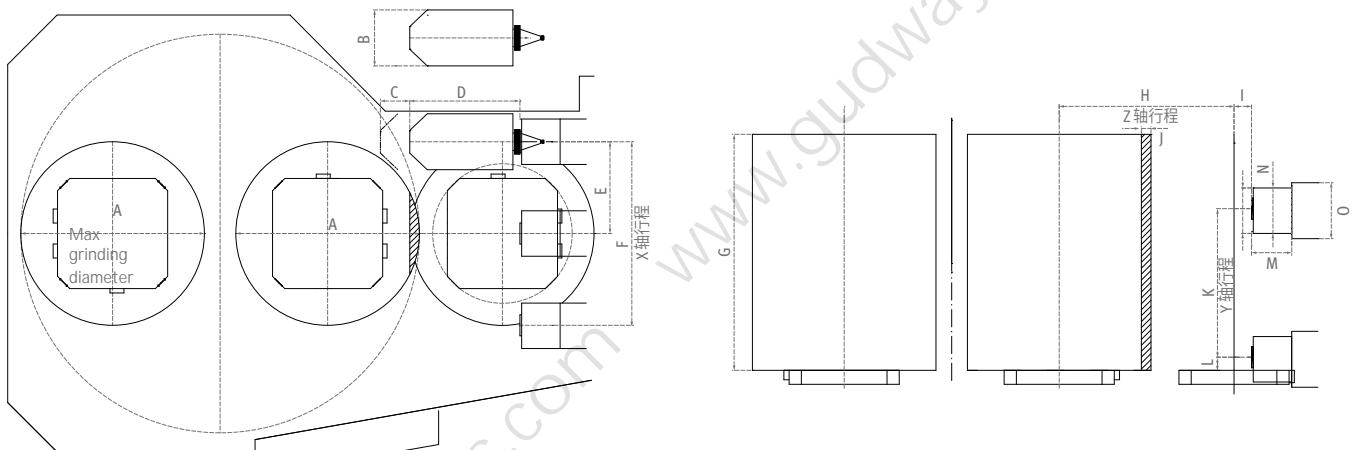
GLH 800

Standard (800x800)



UNIT: mm

Machining range



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
GLH550	Ø850	Ø320	168	530	400	800	1100	850	100	5	750	75	230	Ø260	Ø320
GLH630	Ø1050	Ø320	168	630	525	1050	1350	1000	100	55	900	75	230	Ø260	Ø320
GLH800	Ø1450	Ø320	168	630	700	1400	1550	1370	150	5	1200	75	230	Ø260	Ø320

Parameter

	ITEM	UNIT	GLH 550	GLH 630	GLH 800
	Feed distance (X/Y/Z)	mm	800/750/850	1050/900/1000	1400/1200/1370
Machining capacity	Distance from spindle front to bench center	mm	100 - 950	100 - 1100	150 - 1520
	Distance from spindle center to table surface	mm	75 - 825	75 - 975	75 - 1275
	Type		24-M16 x P2.0		
Pallet	Indexing Angle	deg		1 {0.001}	
	Max load	kg	800	1500	2000
	Max workpiece size	mm	850 x 1100	1050 x 1350	1450 x 1550
	Size	mm	2-500 x 500/ 1-500 x 500	2-630 x 630	2-800 x 800/ 1-800 x 800
Spindle	Max speed	r/min		10000 {6000, 15000}	
	Taper specification			ISO #50, 7/24 TAPER	
Feedrate	Max Torque	N·m		600 {809, 398}	
	Fast feed (X/Y/Z)	m/min		60/60/60	50/50/50
	Cutting feed speed	mm/min		30000	25000
Auto pallet exchange device	Pallet quantity	ea.	2/1	2	2/1
	Pallet switching system			Rotary shuttles	
	Pallet exchange time	s	8.5	12	16
	APC rotary indexing Angle	deg		90	
	Shank type			BT50 {CAT50/DIN50/HSK-A100}	
Tool magazine capacity	Single chain knife library	ea		40 {60}	
	chain tool magazine	ea		{90/120/150}	
	Matrix tool library	ea		{196/256/316/376}	
Auto tool changing device	Max tool diameter	mm	40/60 tool 90~376 tool	125 (continous.) (40/60 tools), 130 (continuous.) (90-376 tools) 320 (12.6) (相邻刀位空着时)	
	Maximum tool length	mm		530 (BT/CAT/DIN), 600 (HSK)	630 (BT/CAT/DIN), 700 (HSK)
	Maximum tool weight	kg		25 (40/60 tools), 30 (90-376 tools)	
Motor	Tool change time (tool to tool, < 12kg)	s		2	
	Tool change time (cut to cut, < 12kg)	s	5	5.4	6
	Spindle motor power	kW		45/25 {37/25, 37/30}	
	Coolant pump motor power	kW	1.8	1.8	1.8
Power	Power supply	kVA	79	79	79
	Air pressure	MPa	0.54	0.54	0.54
Box capacity	Cooling tank capacity	L	825	925	925
	Lubricating oil pot capacity	L		4	
Size	Height	mm	3270	3420	3760
	Machine area (L X W)	mm	6035 x 3730	7300 x 3990	7376 x 4360
	Weight	kg	16800/15700	18000	27000/24000

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Standard

- Spiral chip extractor
- Oil skimmer
- Working light
- Condition light
- Spindle head cooling system
- Coolant tank and debris fan
- Install parts
- ST FANUC 31i

Optional

- 5th axis preparation
- Linear grating ruler
- Air gun
- Auto workpiece measuring device
- Automatic power cut-off device
- Auto tool length measuring device
- Water gun
- Chip extractor/chip truck
- Text rod
- Spray cooling
- Hydraulic clamp interface
- Spindle center water

**NC
Specification**
**FANUC 31i
Series (ST)**

Shaft control	Select Stop	M01
Number of control axes 4(X,Y,Z,B)	Program file name	32 characters
Control the number of axes at the same time 4 axes	Serial number	N 8-digit
Positioning (G00)/ Linear Interpolation (G01):3 axes	Program protection	
Arc interpolation (G02,G03):2 axes	Program stop/end	M00 /M02,M30
Reverse clearance compensation	Programmable data entry	Tool offset with workpiece offset by
Emergency stop/overshoot	Subroutine call	10 layers of nesting
Location tracking	Paper tape code	ISO/EIA automatic identification
Increment system 0.001mm/0.0001"		G54-G59
Min input increment 0.001mm/0.0001"	Additional workpiece coordinate	3 P1 pairs
The machine locks all axes/z-axes	Rotate the coordinate system	G68,G69
Mirror each axis	Extend part program editing	
(Set screen and M function)	Optional chamfer Angle R	
Storage type pitch error compensation Each axis pitch error	Macro actuator	
Storage trip Check 1 Overtrip is controlled by software	Rigid tapping diamond acceleration and deceleration (GLH series)	
Interpolation and feed function	Other functions (operations, Option Specifications	Information displayed when
Positioning	3D coordinate conversion	
Linear interpolation	3D tool compensation	
Arc interpolation	Additional tool life management tool	1024 pairs
Feed pause	logarithm	
Exact way to stop	Attached control shaft	Up to 6 axes per
Skip	Additional workpiece coordinate system	G54.1 P1300(300 pairs)
Return to reference point to check	AI Contour Control I	Preread 600 paragraphs
Return to reference point check	Automatic corner multiplier	Read 1000 paragraphs in advance
Return to the second reference point	Cutting function	
Return to the third/fourth reference point (HM1000/1250	Cylindrical interpolation	Machining
Feed per minute	Data server	Outline display
Fast feed multiplier	=> The dynamic graphic display function cannot be installed when	
JOG (10%)	EZ Guidei(Interactive Program Scheme)	
Magnification cancellation	FS15 tape format	
Manual feed per turn	Incremental System 1/10	
Hand wheel feed multiplier	Graphic Copy	G? 172.2
Automatic acceleration/deceleration	Manual hand wheel feed 2/3 unit	
Screw interpolation	High speed jump function	
AI Profile Control II	Involute interpolation	G022, G03.2
Machine tool state selection function	Spiral interpolation	
Thread cutting, synchronous cutting	Third/fourth reference point return	
Program restart	Processing time identification function	
Automatic corner deceleration (specify AI contour Control 1)	Number of registered programs	1000 ea
Arc acceleration magnification fixed	Amount of tool compensation	400/499199912000 ea
Linear acceleration and deceleration before interpolation (specify AI contour control 10)	Program storage capacity	2~9 blocks kb(1280m)kbyte
Linear acceleration and deceleration before interpolation (specify AI contour control ID)		1 MB (2560 m) / 2 MB (5120 m) / 8 MB
Control axis separation	Rewind function	
Diamond fast feed acceleration and deceleration	Polar command	G15/G16
Smooth clearance compensation	Polar coordinate	
Spindle and M code function	interpolation	G12.1 / G13.1
M code function	Programmable image	G50.1 / G51.1
Spindle orientation	Scale to zoom	G50,G51
Spindle serial output	Single phase positioning	G60
Spindle speed function	Storage type stroke detection 213	
Spindle speed multiplier	Tool position offset	G45-G48
Spindle output conversion	Position switch	
Rigid tap backout	Tool center point control	G43.4
Rigid Tapping	Turntable dynamic	
Tool function	fixture compensation	
Tool tip radius compensation	Small indicates need to be negotiated in advance	
Number of tool offset		
Tool length compensation		

NC Specification

FANUC i Plus
Series (OP)

Shaft control		
- Number of control axes 4(X,Y,Z,B)		
- Control the number of axes simultaneously		
Positioning (G00)/ Linear Interpolation (G01):4 axes		
Arc interpolation (G02,G03):2 axes		
- Control shaft removed		
- Reverse clearance compensation		
- Emergency stop/overshoot		
- RV control HRV?		
Position tracking		
Increment system 0.001/0.0001 mm/inch		
. . . the minimum input increment is 0.001/0.0001 mm/inch		
Delta system C XC		
The machine locks all axes /Z axes		
Mirror each axis		
- Storage type pitch error compensation		
- Storage stroke check 1 close.		
- Absolute pulse encoder		
Interpolation and feed function		
- This second reference point G30		
- Return to reference point 3/4		
Member Research Kuchi G02,G03		
- Nanointerpolation		
Inverse time feed		
Member post: interpolation)? 1		
Label interpolation 16		
Feed Zhe Ting G04		
Exact stopping mode	G09. .61	
b		
e		
a	0-2009%	
r		
c		
Spiral interpolation		
Read the pre-interpolation bell acceleration and deceleration		
Smooth reverse clearance compensation		
JOG magnification (10% units))~J(0)m	
Automatic corner multiplier	G	
Self-actuating corner deceleration		
- Cutting feed speed clamp		
- Fast bell type acceleration and deceleration		
Linear interpolation	01	
Turn in		
Ten round feed multiplier	0170.01/0.001 m	
Magnification cancel	M 49	
Hand controlled handwheel break		
Positioning	UNLY NHM	
Fast feed multiplier	F0(fine feed),25/50/100%	
Reference point this time	G27,G28,G29	
- Skip	G31	
- Feed per minute	mm/min	
-AICC	200BLOCK	
Selection of processing conditions		
High speed and high precision processing package		
Interpolation type pitch error compensation		
- Nano smoothing		
Add speed control		
Spindle and M code function		
- M code function M3 digits		
Spindle orientation		
Shaft serial output		
Spindle speed function S5 digits		
- Spindle output toggle		
- Rigid tapping returns		
Just tapped G84,G74		
Spindle speed multiplier 50-150%		
Tool function		
- Tool radius compensation C G40,G41,G42		
- Tool tip radius compensation C G40,G41,G42		
- Number of tool	400 pairs	
- Tool life management extension		
- Tool life management		
- Tool length compensation	G43,G44,G49	
- Tool length measurement		
- Tool function	T8 digits	
- Tool length compensation		
- Tool compensation	G45XG48	
- Tool function		
- Tool life management		
- Tool compensation storage C H/D code.Geometry /Wear memory		
Tool length measurement		
Programming and editing functions		
- Absolute/Incremental programming G90/G91		
- Automatic coordinate system setting		
Editing (background editing)		
- Processing recycle G73,G74,G76,G80-G89,G99		
-R programming arc interpolation		
- User macros		
- User macro public variables append #100-#199,#500-#999		
- 10x input units		
- Multiple jumps		
- Macro actuator		
- User software package 6M		
Extension program editing		

GLH BT50 SERIES



Item	Unit	GLH 550	GLH 630	GLH 800
Travel (X/Y/Z)	mm	800/750/850	1050/900/1000	1400/1200/1370
Worktable size	mm	2-500 x 500/ 1-500 x 500	2-630 x 630	2-800 x 800/ 1-800 x 800
Max load of table	kg	800	1500	2000
Max spindle power	kW		45/25 {37/25, 37/30}	
Max spindle speed	r/min		10000{6000,15000}	
Max spindle torque	N·m		600 {809,398}	
Tool storage capacity	ea.		40 {60, 90, 120,150}	
Shank type	-		BT50 {CAT50/DIN50/HSK-A100}	
Fastfeed speed(X/Y/Z)	m/min	60 / 60 / 60	60 / 60 / 60	50 / 50 / 50

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