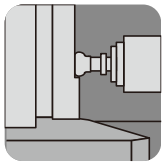
PCI | TT GROUP FRANCE



5-axis Horizontal Machining Center

HTH-800 Series



TAIWAN EXCELLENCE 2017

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Tongtai

HTH-800 Series



- Double-wall and symmetrical structure design: Excellent rigidity and strength
  The structure adopts double-wall and symmetrical structure. Furthermore, box-way has suitable heat treatment and precise grinding for excellent precision.

- B axis adopts roller gear cam driving and positioning pin design: Precision and stability improvement
  Roller gear cam and positioning pin designs are able to enhance the anti-reverse capacity. In addition, full-circle hydraulic braking system provides outstanding rigidity and stabilization during machining.

- Machine efficiency improvement
  Equipped with high power and high torque spindle to improve the removing rate of chips and decrease the cycle time. The latest generation of horizontal 5-axis machining center, HTH-800, has already achieved a 20% improvement in processing efficiency on nickel-base alloys machining.

CONTENTS

03 Basic structure
07 Interference diagram and machine size
09 Standard / optional accessories
10 Specifications

Main specification

Note: S means single pallet

Item	HTH-800 (HTH-800S)
Spindle	6,000 rpm (Opt. 8,000 rpm)
Three axis	rapid traverse 10 m/min
	X/Y/Z axis travel 1,550/1,500/1,250(1,600) mm
	X/Y/Z axis adopts high rigid box-way
	X/Y/Z axis Ø50/Ø50/Ø63 mm high precision ballscrew
A axis	Swivel degree +60° ~ -105°
	Min. index positioning 0.001°
	Rapid traverse 10 rpm
B axis	Rotary degree 360°
	Min. index positioning 0.001°
	Rapid traverse 5 rpm
ATC	Tool capacity 60 tools (opt. 90/120 tools)



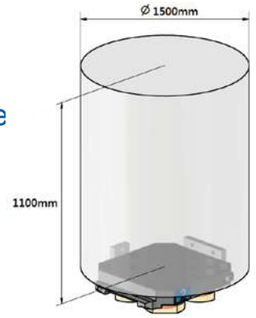
Basic structure

High rigid box-way structure

Travel
X/Y/Z axis 1,550/1,500/1,250(1,600) mm

Rapid traverse
X/Y/Z axis 10 m/min

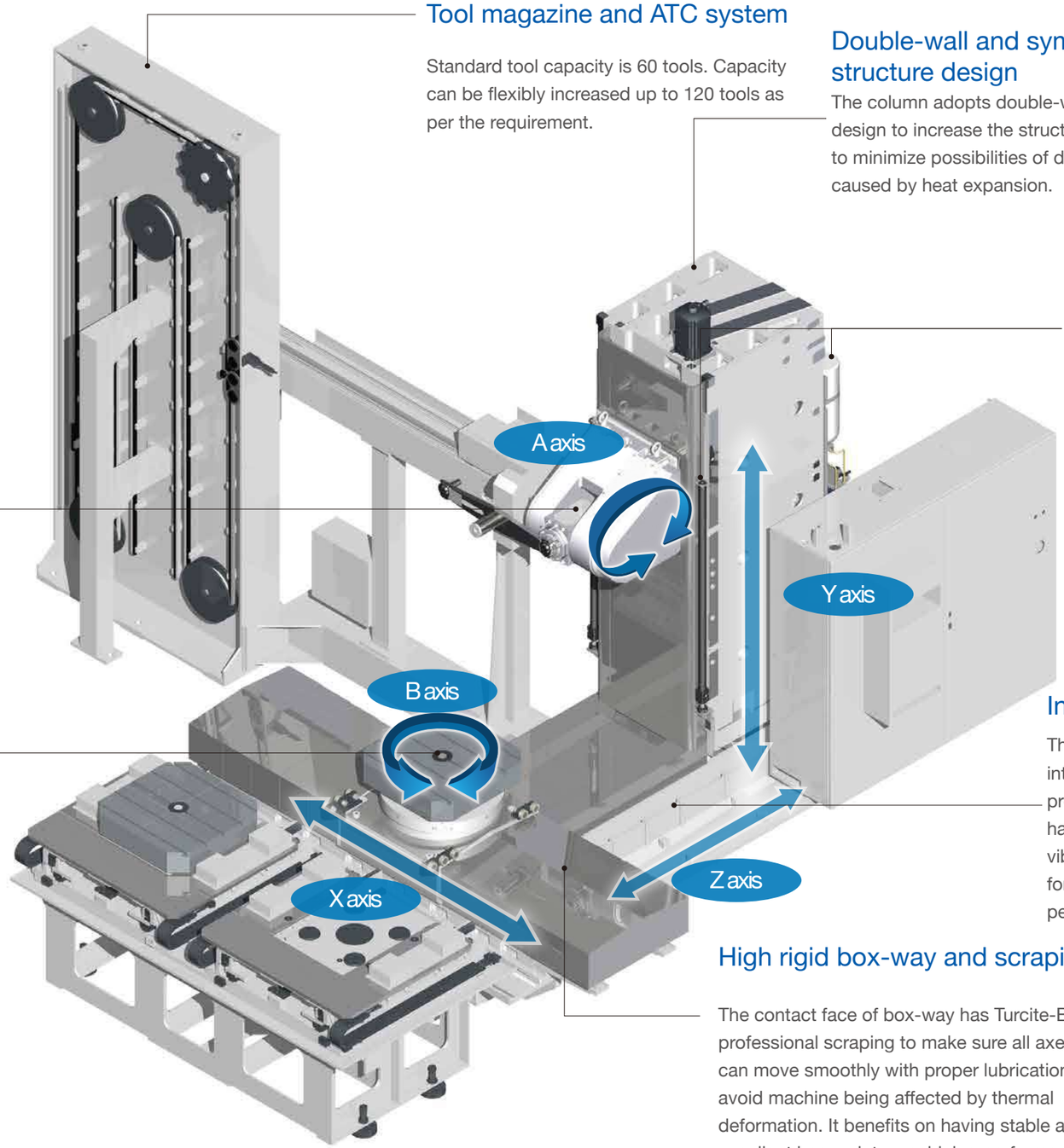
Max. workpiece
Ø1,500 x H1,100



Tilting spindle(oil-air lubrication)
The maximum output torque of spindle is 1,084Nm. Furthermore, equipping with a gear transmission system to process precise machining in hard cutting materials and a spindle cooling system to avoid the thermal accumulation during machining.
Patent number: M520957

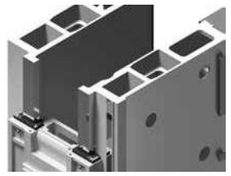
Roller gear cam type rotary table
B axis adopts roller gear cam and positioning pins to provide high precision and high rigidity clamping force.

Clamping torque：16,500 N m
Driving torque：8,550 N m



Tool magazine and ATC system
Standard tool capacity is 60 tools. Capacity can be flexibly increased up to 120 tools as per the requirement.

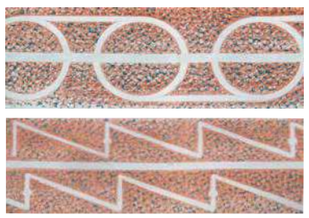
Double-wall and symmetrical structure design
The column adopts double-wall structure design to increase the structure rigidity and to minimize possibilities of deformation caused by heat expansion.



Balancing system(General air)
Due to the spindle motion will generate gravitation, acceleration, and inertia, all of these will influence the positioning and repetition accuracy. The spindle balancing system is able to eliminate these phenomenon and increase machining precision and speed.

Integrated machine bed design
The machine bed is designed with integrated high rigidity structure. By the processing of FEA (finite element analyze), it has the features of high rigidity, excellent vibration-absorbing, and hardly deformation for assuring high precision machining performances.

High rigid box-way and scraping
The contact face of box-way has Turcite-B with professional scraping to make sure all axes can move smoothly with proper lubrication and avoid machine being affected by thermal deformation. It benefits on having stable and excellent heavy duty machining performances.



Basic structure

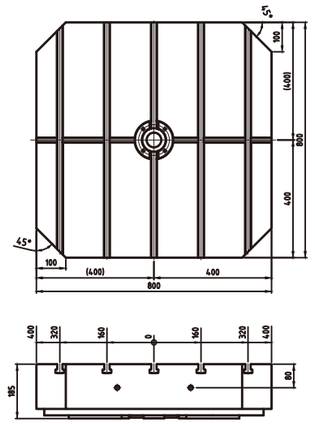
Tilting head and high torque spindle motor

Spindle taper	CAT-50 (Opt. HSK-A100、BBT50、DIN50)
Max. spindle speed	6,000 rpm (Opt. 8,000 rpm)
Spindle output	30/36 kw
Spindle torque	774/1,084 N m
Swivel speed	10 rpm
Swivel driving torque	3,200 N m
Swivel degree	+60° ~ -105°



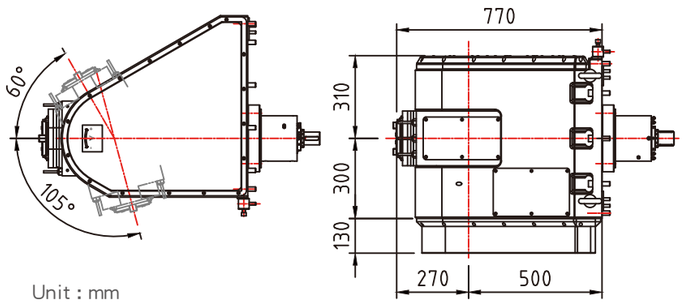
Table / working area

Pallet size	800 x 800 mm
Max. workpiece height	1,100 mm
Max. pallet load	2,400 kg
Max. workpiece diameter	Ø1,500 mm



Tilting head size

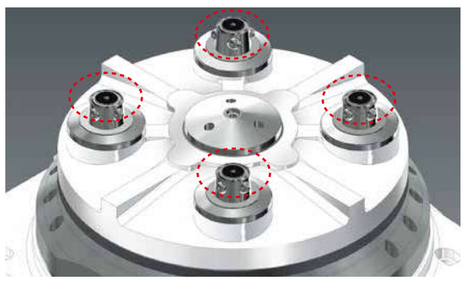
Max width of head is 740 mm and the tilting radius is 270 mm, which is able to process inner holes machining.



Unit : mm

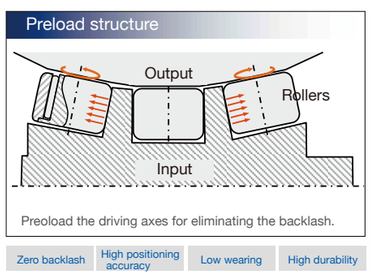
Taper positioning cylinder

Hydraulic pallet clamping provides excellent clamping force and positioning accuracy
Clamping force: 34,640 kg/four in a set



B-axis rotary pallet

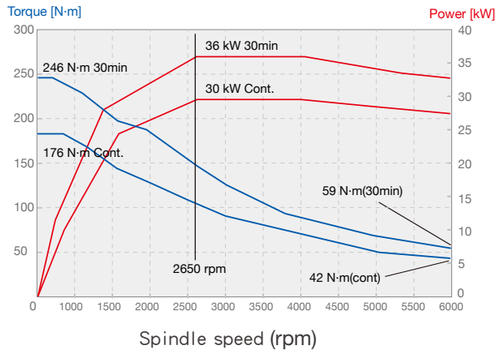
Because B-axis rotary pallet is driven by a roller gear cam with rolling contact between roller and cam, it can start at a lower torque. It is suitable for high speed rotation and high accuracy is guaranteed under long-term heavy duty cutting.



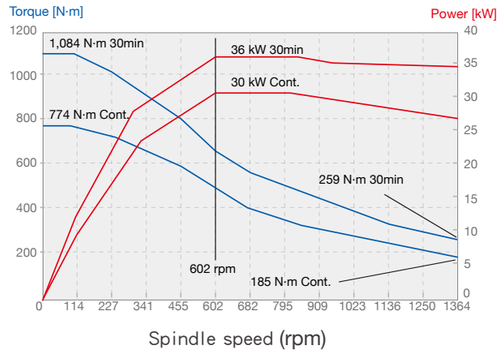


Spindle output and torque chart- 6,000 rpm

High speed (1:1)

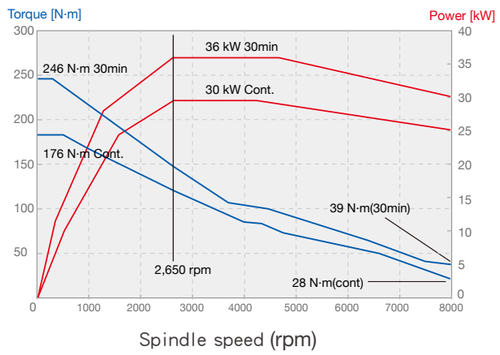


Low speed (4.4:1)

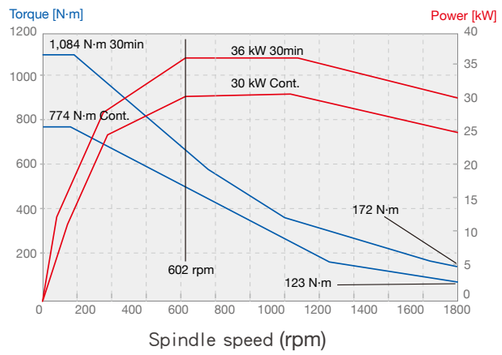


Spindle output and torque chart- 8,000 rpm (Opt.)

High speed (1:1)



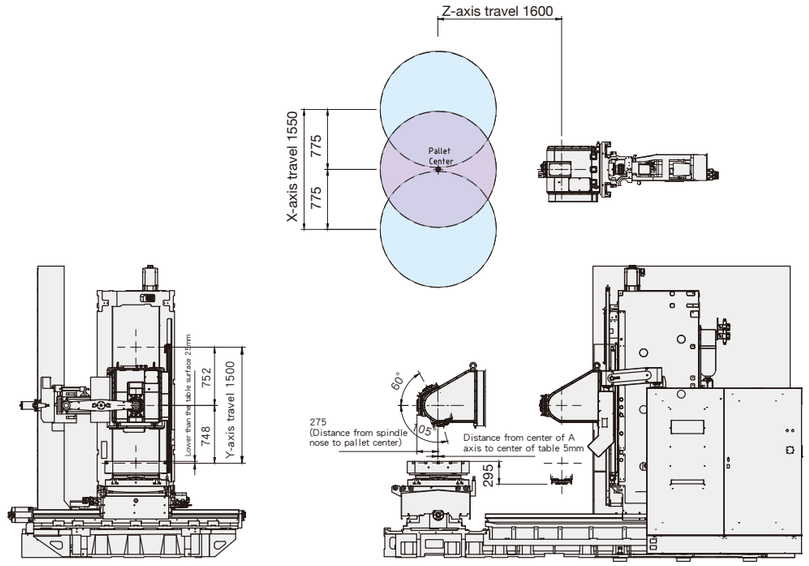
Low speed (4.4:1)



Interference diagram and machine size

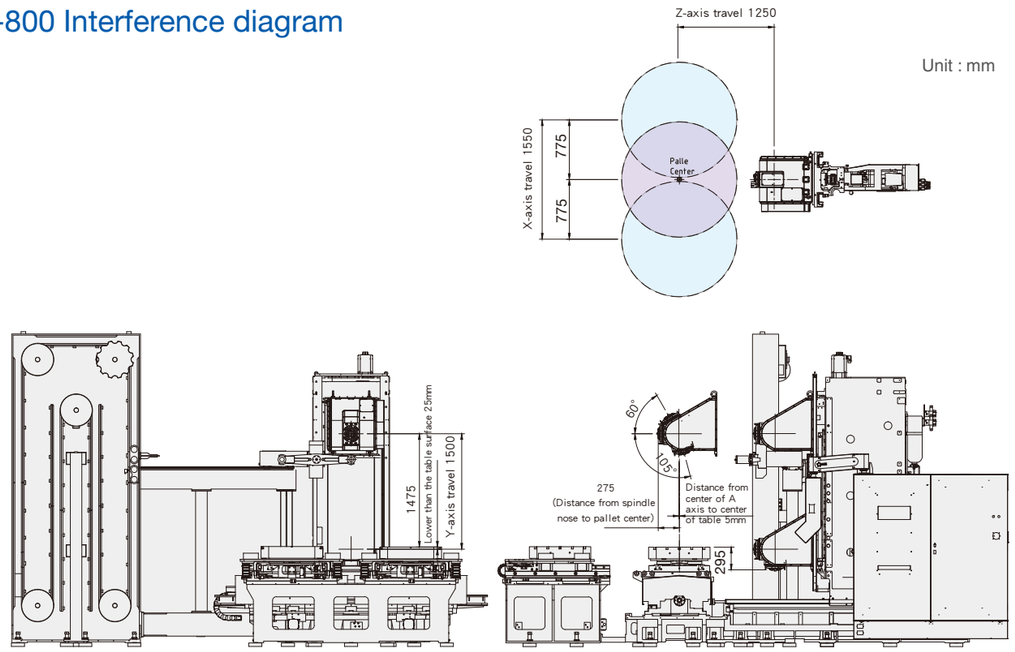
HTH-800S Interference diagram (Single pallet)

Unit : mm



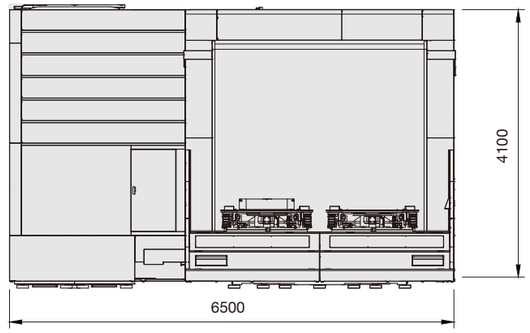
HTH-800 Interference diagram

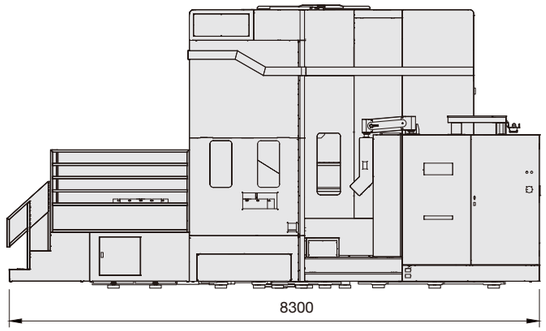
Unit : mm



Machine size (HTH-800)

Unit : mm





Accessories

Tool measurement system (opt.)



Auto. 5-axis precision measurement (opt.)



Chip compactor (opt.)



Energy-saving oil-mist collector (opt.)



Workpiece measurement system(opt.)



Standard / optional accessories

Standard/ optional accessories

		Standard	optional
Spindle	6,000 rpm Tilting spindle	●	
	8,000 rpm Tilting spindle		○
A-axis	0.001° Indexing (with linear scale)	●	
B-axis	0.001° Indexing (with linear scale)	●	
Tool holder	CAT50	●	
	HSK-A100		○
	BBT50		○
	DIN50		○
C.T.S. pump	20bar	●	
	40bar		○
	70bar		○
Cooling system	Spindle cooling system	●	
	Oil temperature controlling system		○
	Coolant temperature controlling system		○
	Deceleration device cooling system	●	
Tool magazine	60T	●	
	90T		○
	120T		○
APC system	Single pallet (HTH-800S)	●	
	Two pallets (HTH-800)		○
Linear scale	Heidenhain level-5μ	●	
	Heidenhain level-3μ		○
Chip conveyor	Scarper type conveyor	●	
	magnetic scarper type conveyor		○
	Hinge type conveyor		○
	Integrated conveyor		○
Warming light	Tri-color light	●	
Others	Renishaw RMP60 workpiece measurement system		○
	BLUM tool detecting system		○
	Air-blow	●	
	Air gun	●	
	Coolant gun		○
	Auto. power-off system		○
	Oil-mist collector		○
	Oil skimmer		○
	Automatic 5 axes precision measurement & calibration		○
	Chip compactor		○

Specifications

Item	Specification	Unit	HTH-800 (two pallets)	HTH-800S (single pallet)
Travel	X/Y/Z axis travel	mm	1,550 / 1,500 / 1,250	1,550 / 1,500 / 1,600
	Distance from spindle center to pallet surface	mm	-25~1,475	
	Distance from spindle nose to pallet surface(A=90°)	mm	-295~1,205	
	Distance from spindle center to pallet center(A=0°)	mm	-5~1,245	-5~1,595
	Distance from pallet to floor	mm	1,290	
Pallet	Pallet size (L×W)	mm	800 x 800	
	Max. size of jig & fixture (diameter X height)	mm	Ø1,500 x H1,100	
	Max. load of pallet	kg	2,400 x 2	2,400
	T-slot (size x amounts)	mm	18 x 5	
A-axis	Swivel degree	deg	+60° ~ -105°	
	Speed	rpm	10	
	Min. index degree	deg	0.001°	
B-axis	Spindle taper	deg	360	
	Speed	rpm	5	
	Min. index degree	deg	0.001	
Spindle	Spindle taper		7/24 Taper No.50	
	Spindle speed	rpm	6,000 (Opt. 8,000)	
	Bearing lubrication method		Oil-air lubrication	
	Motor power	kW	36/30	
Feeding	Rapid traverse	m/min	10	
	Cutting feedrate	mm/min	1~5,000	
ATC	Tool shank		CAT-50	
	Amounts of tool magazine	pc	60 (Opt. 90/120)	
	Max tool diameter	mm	Ø120	
	Max. tool diameter (w/o adjacent tool)	mm	Ø250	
	Max. tool length	mm	610	
	Max. tool weight	kg	25	
	Tool selection method		fixed	
APC	APC method		motion type	
	Pallet amounts		2	
Machine size	Width x Depth x Height	mm	6,500 x 8,300 x 4,100	5,500x8,200x4,100
	Machine weight	kg	30,000	25,000
Controller			SIEMENS 840Dsl	

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PCI-TTGroup France est la **filiale française du groupe taïwanais TTGroup,** emmené par TONGTAI, le plus grand constructeur de machines-outils de Taïwan, reconnu mondialement dans l'ensemble des secteurs industriels.

Nous proposons en France une **offre complète de machines et de solutions de production** au travers des marques du groupe :

- **TONGTAI** : centres verticaux, horizontaux, 5 axes et tours horizontaux
- **APEC** : centres à portique 5 axes à table fixe et mobile, centres 5 axes verticaux et horizontaux
- **HONOR Seiki** : tours verticaux à changeur d'outils ou à tourelle
- **PCI** : centres horizontaux bi-broches

Au-delà de la machine, PCI-TTGroup France accompagne les industriels sur des projets **stand-alone** comme sur des **solutions clés en main**, intégrant selon les besoins le process, les montages, l'automatisation et les périphériques.

Nous intervenons également sur les équipements existants via des prestations de **retrofit et retooling**, pour sécuriser la performance et prolonger la durée de vie des moyens de production.

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