

# US WHEELER

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HANGZHOU WHEELER GENERAL MACHINERY INCORPORATED CO.,LTD

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## LT Series

### FULL FUNCTIONAL CNC LATHE

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400 780 1898

24/7 Service Hotline.

**Machine Tool Lifetime Service**

We provide on-call service 24/7. If you encounter any equipment maintenance and repair problems, please contact us. If you have any suggestions, please log in to the company's official website to leave a message.

[www.wheeler-us.com](http://www.wheeler-us.com)

Thank you for your reference !



Sample parameters and information are subject to change without prior notice, and the final data is subject to the technical agreement.

HL-LT02209-01-4000



For more information  
please follow the  
Official WeChat account

# US WHEELER

INDUSTRIAL ROBOT/  
CNC MACHINETOOLS/  
SMART FACTORY

# ABOUT US

HANGZHOU WHEELER GENERAL MACHINERY INCORPORATED CO., LTD is a national high-tech enterprise specializing in CNC machining equipment, machine tool loading and unloading automation lines, digital factory, and non-standard fixture design and manufacturing. The company was established in January 2015, with its operation center located in Linping Economic Development region, Hangzhou City. The company currently has over 300 employees and an efficient professional technical research and development team, including more than 60 professional technical personnel with various intermediate and senior technical titles (engineers). The company has an R&D center of 5000 square meters and a production and debugging base of 43000 square meters, with more than 50 patented technologies. It has offices and after-sales service outlets in Shanghai, Jiangsu, Anhui, Shandong, Henan, Jilin, Chongqing, Ningbo, Taizhou, Wuhan, Xi'an, Zhengzhou and other places. Our products have been exported to Turkey, Russia, Egypt, South Africa, Brazil, Australia, Singapore, Malaysia, Thailand and other countries.

The certification system we have passed



The company's main products include machining equipment, machine tool loading and unloading robots, machine tool fixtures, peripheral automated logistics equipment, and robot integration systems. It is a strategic partner of robot companies such as KUKA from Germany and ABB from Switzerland. Provide customers with mechanical processing automation technology solutions, a complete set of automation equipment, technical consulting, and comprehensive after-sales and technical services. The product is widely used in mass production industries such as automotive spare parts processing and engineering machinery.



## LT SERIES LATHE FULL FUNCTIONAL CNC LATHE

LT series CNC lathe is a high precision, high efficiency product, with multi position turret, capable of various machining processing performance.



### + Basic configuration



#### + Turret

Standard imported 12 station servo turret with hydraulic locking. Optional power turret and hydraulic turret.



#### + Hydraulic Chuck

All models are equipped with hollow hydraulic chucks.



#### + Chip conveyor

All models are equipped with hollow hydraulic chucks. The chain chop conveyor is suitable for small iron filings generated during casting processing; Various roll shaped, ball shaped, and strip shaped chips generated during the processing of steel parts.



#### + Lathe Bed

Adopting unibody slant bed design, with good rigidity and reasonable structure, it is conducive to chip removal and cooling during processing.

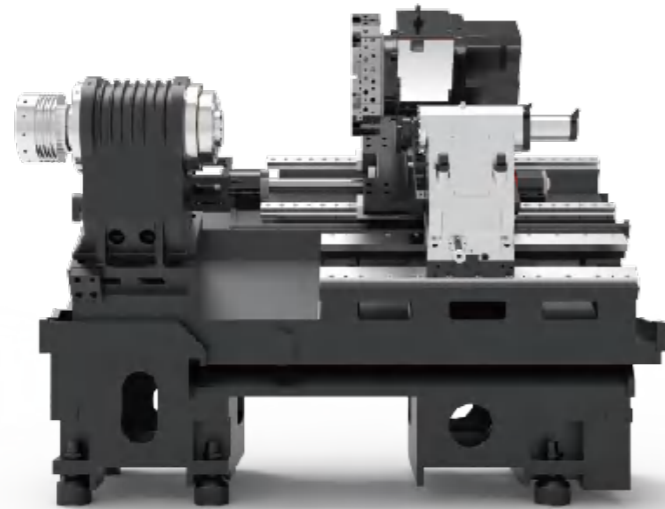
### + Range of application

The LT series machine tools are mainly used for processing various shaft and disc parts, and can turn various threads, arcs, cones, and inner and outer surfaces of rotating bodies, meeting the speed requirements of high-speed cutting of black and non-ferrous metal materials. Suitable for processing parts in industries such as plumbing equipment, valves, appliances, instruments, automobiles, motorcycles, bearings, etc. It has advantages such as high speed, efficiency, high reliability, good consistency in part processing, and minimal influence from human factors. The machining accuracy can reach IT6-IT7 levels.



# BASIC STRUCTURE

The overall body components of the LT series lathe are cast with HT300 gray iron, and the material is heat treated to eliminate stress, resulting in high rigidity and accuracy. At the same time, the machine tool is equipped with a 30 degree rear chip removal equipment, which reduces the footprint and is easier to remove chips. The full range of large diameter and large-sized screw guide rails allows the lathe to withstand greater loads and meet more customer requirements. Integrating multiple functions such as turning, milling, drilling, and tapping, complex parts can be processed in one go to ensure higher accuracy.



The LT hard rail series lathe bed adopts mature Taiwanese manufacturing and assembly technology, and all castings are optimized through finite element analysis to ensure high precision and stability of the machine tool; The bed body is a 45 ° integral casting structure, and the guide rails have undergone hardening treatment and precision grinding.

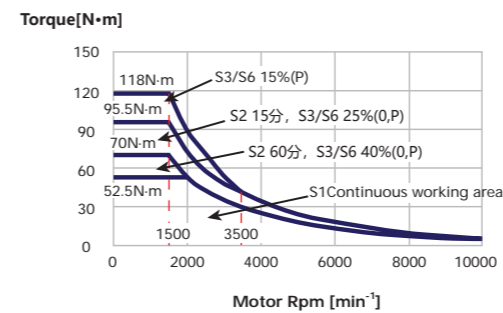


Various automation functions such as tool aligners, feeders, and automatic doors can be selected according to needs, and suitable automation lines can be designed for different parts, making assembly line processing possible.

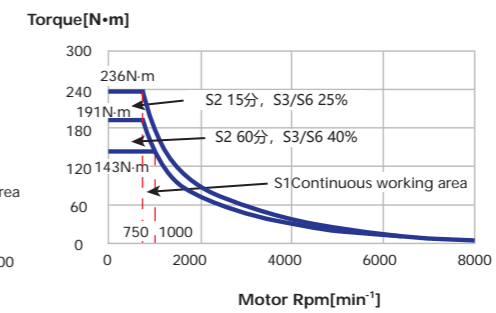
# MAIN AXIS

Use high rigidity spindle, it has the characteristics of high precision, high speed, high torque, and strong compatibility, providing strong assistance for equipment processing. Make heavy cutting of CNC lathes possible, thereby improving productivity efficiency.

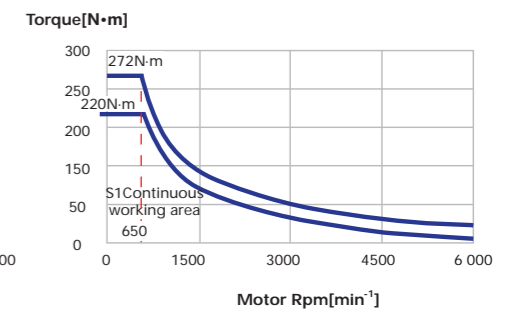
## + Main Spindle Motor Torque Diagram



Characteristic curve of LT-210 spindle motor



Characteristic curve of LT-300 spindle motor



Characteristic curve of LT-400 spindle motor

## + Fast Moving

The use of high-precision linear roller guides ensures high movement speed and high rigidity and precision, greatly reducing non cutting time. Each axis is driven directly by a maintenance free high torque AC servo motor and high-precision ball screw, with fast response speed, small reverse clearance, and low noise.



Fast Moving Speed

LT-210

X axis 30m/min Z axis 24m/min

LT-300

X axis 30m/min Z axis 24m/min

# BASIC CONFIGURATION

## LT-210 / LT-300 Equipped with servo turret

Design of a specialized planetary reducer in conjunction with a servo motor and a rotating cutter head  
 High torque, strong rigidity, and low noise  
 Fast knife changing speed and no messy knives

## LT-210M / LT-300M Equipped with power turret

The turning milling composite can be equipped with Schott power turrets, which have excellent design structure, excellent rigidity, and extremely fast tool changing speed, making it easy to handle even heavy cutting.

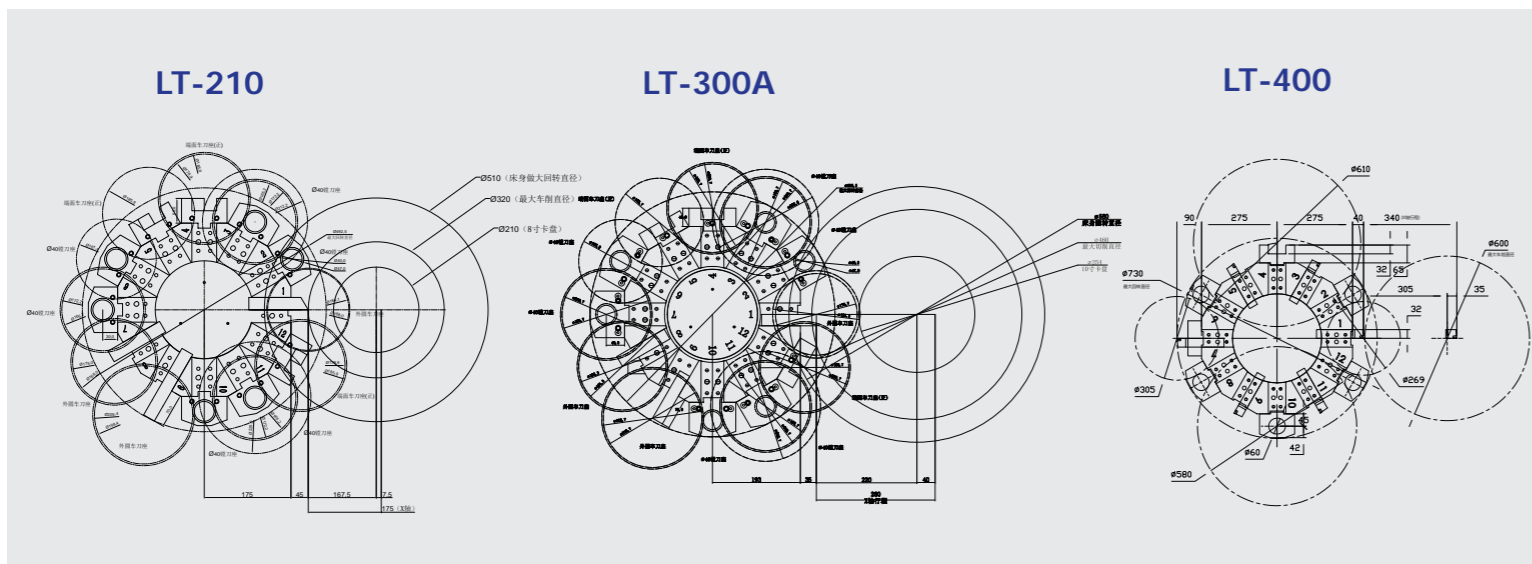


Equipped with a 12 station heavy-duty servo turret and hydraulic locking, while ensuring rigidity and cutting ability. Ensure high precision and surface smoothness of cutting products, and improve the service life of cutting tools.

No. of tools **12 position**

Tool changer time **0.15 s (adjacent)**

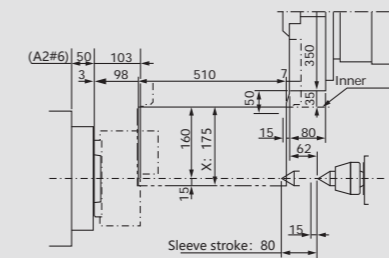
## Tool interference diagram



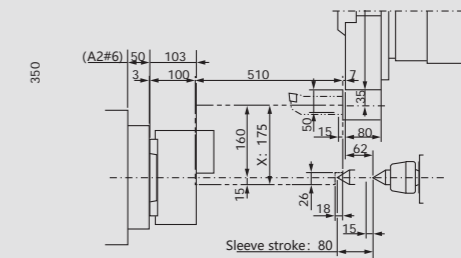
## + Processing Scope

### LT-210

Outer circular tool holder

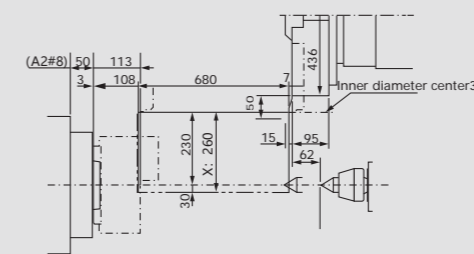


Inner circular tool holder

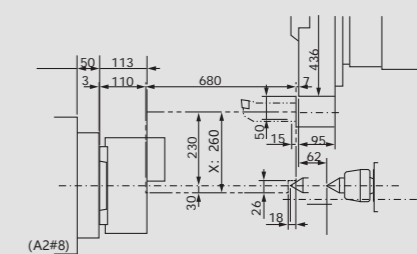


### LT-300A

Outer circular tool holder

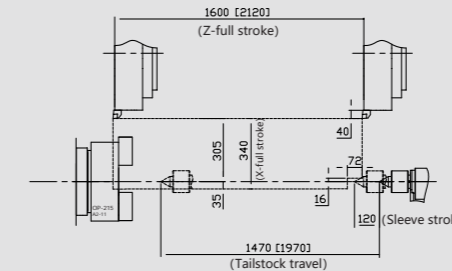


Inner circular tool holder

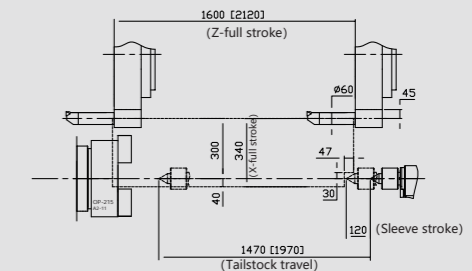


### LT-400(LT-400L)

Outer circular tool holder



Inner circular tool holder



## Processing capacity (rail)

### Outer diameter turning

Project	Data
Cutting speed	212 m/min
Feed rate	0.18 mm/r
Spindle rpm	1500 r/min
Cutting depth	4.5 mm

### U-shaped drill

Project	Data
Cutting speed	151 m/min
Feed rate	0.22 mm/r
Spindle rpm	1500 r/min
Drilling diameter	32 mm

### Grooving

Project	Date
Cutting speed	151 m/min
Feed rate	0.22 mm/r
Spindle rpm	600 r/min
Groove width	8 mm

## Processing capability (hard rail)

### Outer diameter turning

Project	Data
Cutting speed	200 m/min
Feed rate	0.3 mm/r
Spindle rpm	270 r/min
Cutting depth	7 mm

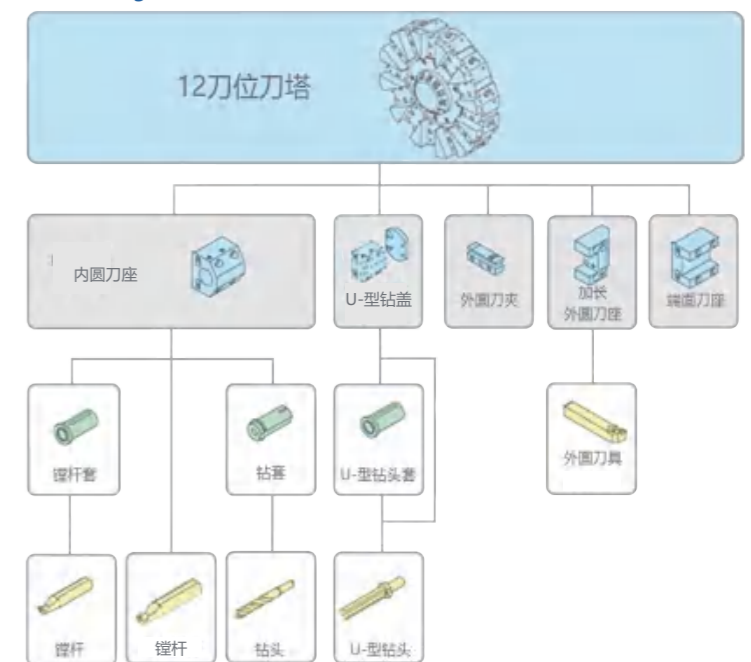
### U-shaped drill

Project	Data
Cutting speed	125 m/min
Feed rate	0.2 mm/r
Spindle rpm	796 rpm
Drilling diameter	φ50 mm

### Inner diameter cutting

Project	Date
Cutting speed	210 m/min
Feed rate	0.3 mm/r
Cutting depth	5 mm
Tool diameter doubling	3

## Tool System



# OPERATION SYSTEM



## FANUC System

### Brand new operate experience

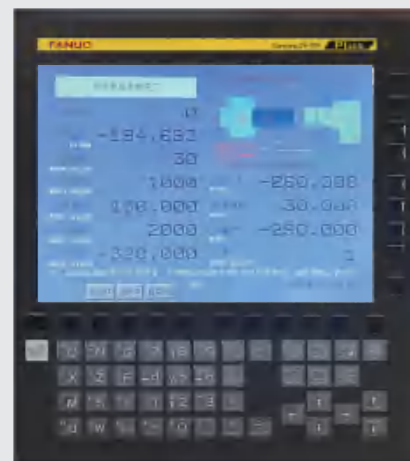
- Equipped with HMI(Type0)
- Max. 21.5" PANEL H Pro
- Standard with personalized function, unique design according to customer's need

### Higher operation efficiency

- System equipped with servo selection software Servo sizer
- Insulation deterioration detection function
- Preventing machine damage from power outages
- Fault monitoring-diagnostic function provide quick troubleshooting

### Stronger performance

- Intelligent servo control
- High efficiency processing technology
- Surface detail processing technology, provides high quality machining



## Operational Procedure

- Simplify the operation process, provide clear selection of machining results, and automatically generate machining plans by inputting the final data, making the system's operation more convenient and fast, and facilitating faster hands-on operation. At the same time, the system will display the cutting path through dynamic demonstrations, making the machining plan more clear.

# AUTOMATIC MANUFACTURE

WHEELER supports the full range of automation solutions for LT, providing a complete set of solutions including bar material transportation systems, automatic loading and unloading systems, and robot systems, providing customers with turnkey solutions for building production lines in a short period of time.



## + Production features

- 1) Adopting a built-in truss, the structure is compact and lightweight, installed inside the machine tool, and compatible with CNC;
- 2) Suitable for single CNC machine tool processing of single process parts, mass unmanned production;
- 3) Adopting brand absolute value bus servo, the wiring is simple and easy to maintain.
- 4) Customized silos can be paired with silo systems suitable for various products.



# STANDARD CONFIGURATION

- FANUC control system
- 10.4 inch colored LCD screen
- Electric cabinet heat exchanger
- Automatic lubrication device
- Panel protection
- Electric cabinet dust proof device
- Warning light
- Cutting fluid cooling device
- Working light
- Tri-colored warning light
- Foundation block
- Transformer
- Hydraulic station



**FANUC control system**  
Easy operation, high precision control system



**Turret**  
Multi-position turret to satisfy various machining & production needs



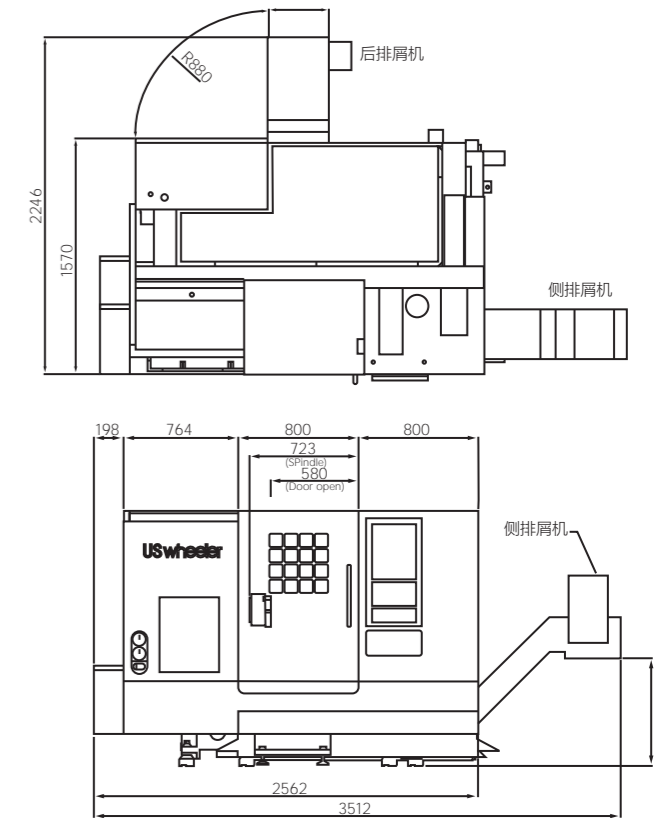
**Spindle**  
High performance spindle, realize high efficiency, high accuracy machining



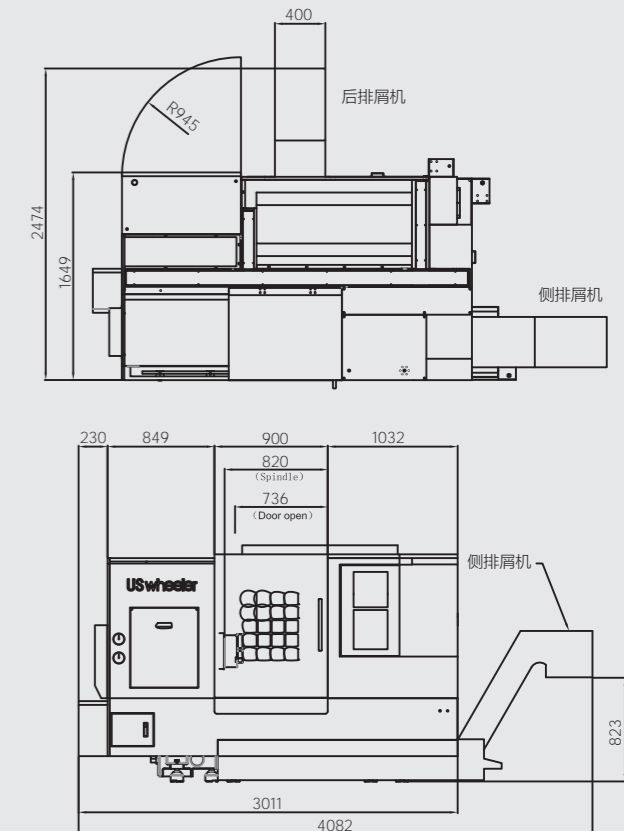
**Ball screw**  
The ball screw is precisely pre-stretched to make it capable of higher rigidity and good performance during thermal elongation, increases its service life and precision effectively.

# DIAMETER

## + LT-210/LT-210M



## + LT-300/LT-300M



# OPTIONAL CONFIGURATION

- Fixture external air-blow
- Fixture flushing
- Automatic top door
- Chuck clamping & unclamping in position detection
- Water gun
- Tool setter
- High pressure water flushing



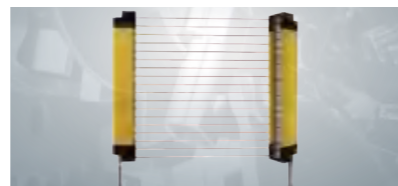
**Tool setter**  
Measuring instrument for measuring and/or adjusting the radial and axial dimensions of the cutting edge of CNC lathe tools during in-machine presetting



**Oil-water skimmer**  
Effectively removes floating oil from chip fluid, maintains chip fluid performance, and extends service life.



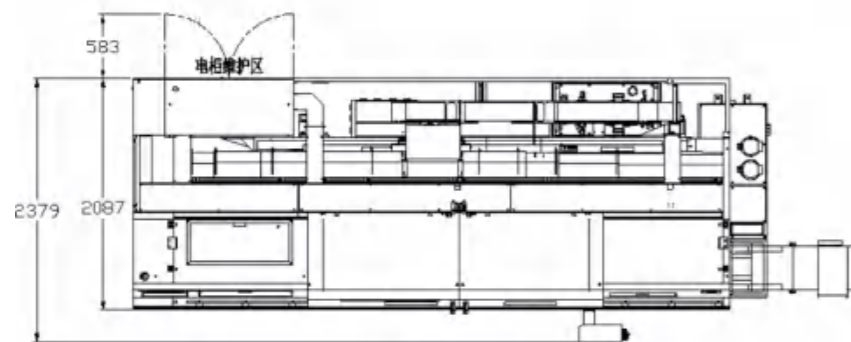
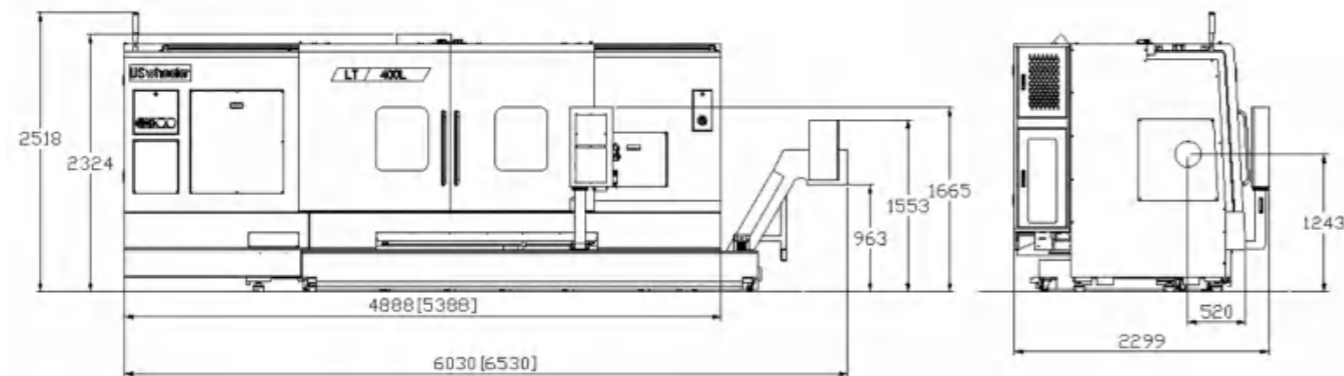
**Oil mist collector**  
Using the multi-stage and multi-layer filtration principle, it can efficiently filter the oil mist generated during processing.



**Optical safety fencing**  
Ensure the safety of operators and the normal and safe operation of equipment

# DETAILED INFORMATION

## + LT-400/LT-400L



		LT-210	LT-210M	
<b>Processing capacity</b>	Machine bed max. turning diameter	mm	510	510
	Max. turning diameter	mm	320	235
	Recommended turning diameter	mm	210	210
	Bar type work piece diameter	mm	51	51
	Max. turning length	mm	500	450
	Distance from spindle center to ground	mm	1050	1050
<b>(Electric) Spindle</b>	Standard chuck size	inch	8	8
	Spindle interface specifications		A2-6	A2-6
	Spindle Rpm	rpm	4500	4500
	Main motor power	Kw	11	11
	spindle torque	Nm	177	177
	Spindle bearing diameter (front/rear)	mm	100	100
	spindle hole diameter	mm	66	66
<b>Servo Axis</b>	X/Z	mm	175/510	175/510
	X/Z fast moving speed	m/min	30/24	30/24
	X/Z servo motor torque	Nm	12/12	12/12
	X/Z servo motor rpm	rpm	3000/3000	3000/3000
	X/Z lead screw diameter	mm	Φ28/Φ32	Φ28/Φ32
	X/Z lead screw pitch	mm	10/12	10/12
	feed rate	mm/min	1-10000	1-10000
	min. feed rate	mm	0.001	0.001
<b>(Power) turret</b>	Turret Capacity	No.	12	12
	Turret Form		Servo turret+hydraulic locking	Power turret+hydraulic locking
	Power Turret specifications		-	BMT45-ER25, MaxΦ16mm
	Power Turret motor parameters		-	4000rpm/2.7Kw/12Nm
	Outer diameter tool size	mm	25*25	20*20
	Maximum diameter of boring bar	mm	40	Φ25
<b>Tailstock (optional)</b>	Tailstock form		Manual/hydraulic tailstock	Manual/hydraulic tailstock
	Tailstock inner hole taper		MT #4	MT #5
	Tailstock position		80	Distance from chuck,70-550mm
<b>Main Accuracy</b>	Positioning accuracy	mm	0.008	0.008
	Repeatability positioning accuracy	mm	0.004	0.004
<b>Others</b>	Machine weight	Kg	3200	3500
	Cover an area	mm	2570*2300 (标配后排)	2570* 2300
	Machine Height	mm	1750	1750
	Power capacity	KVA	25	25
	Lubricant capacity	L	3	3
<b>CNC system</b>	<b>*() is optional</b>			FANUC (SIEMENS)



		LT-300A		LT-300M	
<b>Processing capacity</b>	Machine bed max. turning diameter	mm	560	560	
	Max. turning diameter	mm	460	400	
	Recommended turning diameter	mm	260	260	
	Bar type work piece diameter	mm	74	74	
	Max. turning length	mm	640	550	
	Distance from spindle center to ground	mm	1050	1050	
<b>(Electric) Spindle</b>	Standard chuck size	inch	10	10	
	Spindle interface specifications		A2-8	A2-8	
	Spindle Rpm	rpm	3000	3000	
	Main motor power	Kw	15/18.5	15/18.5	
	spindle torque	Nm	382	382	
	Spindle bearing diameter	mm	130	130	
	spindle hole diameter	mm	87	87	
<b>Servo Axis</b>	X/Z	mm	260/680	220/600	
	X/Z Fast moving speed	m/min	30/24	30/24	
	X/Z servo motor torque	Nm	12/22	12/22	
	X/Z servo motor rpm	rpm	3000/3000	3000/3000	
	X/Z lead screw diameter	mm	Φ32/Φ40	Φ32/Φ40	
	X/Z lead screw pitch	mm	10/10	10/10	
	feed rate	mm/min	1-10000	1-10000	
	min. feed rate	mm	0.001	0.001	
<b>(Power) turret</b>	Turret Capacity	No.	12	12	
	Turret Form		Servo turret+hydraulic locking	Power turret+hydraulic locking	
	Power Turret specifications		-	BMT55-ER32, MaxΦ20mm	
	Power Turret motor parameters		-	4000rpm/2.7Kw/12Nm	
	Outer diameter tool size	mm	32*32	25*25	
	Maximum diameter of boring bar	mm	50	32	
<b>Tailstock (optional)</b>	Tailstock form		Servo tailstock	Servo tailstock	
	Tailstock position	mm	distance from chuck, 80-670mm	distance from chuck, 80-670mm	
<b>Main Accuracy</b>	Positioning accuracy	mm	0.008	0.008	
	Repeatability positioning accuramcym	mm	0.004	0.004	
<b>Others</b>	Machine weight	Kg	3900	3900	
	Cover an area	mm	3010*2500 (rear exit as standard)	3010 * 2500 (rear exit as standard)	
	Machine Height	mm	1900	1900	
	Power capacity	KVA	30	32	
	Lubricant capacity	L	3	3	
	Cutting fluid capacity	L	180	180	
<b>CNC system</b>	<b>*0 is optional</b>		FANUC (SIEMENS)	FANUC (SIEMENS)	

		LT-210		LT-300	
<b>Tailstock (optional)</b>	Tailstock Form		Programmable servo tailstock	Programmable servo tailstock	
	Tailstock inner hole taper		MT #5	MT #5	
	Fast moving speed	m/min	10	10	
	T Axis lead screw diameter	mm	32	32	
	T Axis lead screw pitch	mm	5	10	
	T Axis linear rail	mm	25	35	
	Tailstock travel	mm	480	590	

		LT-400		LT-400L	
<b>Processing capacity</b>	Machine bed max. turning diameter	mm	790	790	
	Max. turning diameter	mm	600	600	
	Recommended turning diameter	mm	380	380	
	Bar type work piece diameter	mm	115	115	
	Max. turning length	mm	1500	2000	
		Distance from spindle center to ground	mm	1245	1245
<b>(Electric) Spindle</b>	Standard chuck size	inch	15	15	
	Spindle interface specifications		A2-11	A2-11	
	Spindle Rpm	rpm	2000	2000	
	Main motor power	Kw	15/18.5	15/18.5	
	spindle torque	Nm	816	816	
	Spindle bearing diameter (front/rear)	mm	Φ160	Φ160	
	spindle hole diameter	mm	Φ127	Φ127	
<b>Servo Axis</b>	X/Z	mm	340/1600	340/2100	
	X/Z Fast moving speed	m/min	12/12	12/12	
	X/Z servo motor torque	Nm	40	40	
	X/Z servo motor rpm	rpm	2000	2000	
	X/Z lead screw diameter	mm	Φ36/Φ50	Φ36/Φ50	
	X/Z lead screw pitch	mm	10/10	10/12/5	
	feed rate	mm/min	1-10000	1-10000	
	min. feed rate	mm	0.001	0.001	
<b>(Power) turret</b>	Turret Capacity	No.	12	12	
	Turret Form		Hydraulic turret+hydraulic locking	Hydraulic turret+hydraulic locking	
	Power Turret specifications		-	-	
	Power Turret motor parameters		-	-	
	Outer diameter tool size	mm	32*32	32*32	
	Maximum diameter of boring bar	mm	60	60	
<b>Tailstock</b>	Tailstock form		Programmable hydraulic tailstock	Programmable hydraulic tailstock	
	Tailstock inner hole taper		MT #6	MT #6	
	Tailstock position	mm	137-2100	137-1600	
<b>Main Accuracy</b>	Positioning accuracy	mm	0.01/0.015	0.01/0.015	
	Repeatability positioning accuramcym	mm	0.006/0.01	0.006/0.01	
<b>Others</b>	Machine weight	Kg	11000	12000	
	Cover an area	mm	6050*2300	6550* 2300	
	Machine Height	mm	2520	2520	
	Power capacity	KVA	30	30	
	Lubricant capacity	L	8	8	
	Cutting fluid capacity	L	350	400	
<b>CNC system</b>	<b>*0 is optional</b>		FANUC (SIEMENS)	FANUC (SIEMENS)	