

# US WHEELER

Industrial Robot + CNC Machinetools + Intelligent Factory

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HANGZHOU WHEELER GENERAL MACHINERY INCORPORATED CO.,LTD

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**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)



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**HL-DT02309-02-1000**

# DT Series

HIGH SPEED DRILLING CENTER

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## US WHEELER

INDUSTRIAL ROBOT/  
CNC MACHITOLS/  
SMART FACTORY

# ABOUT US

Hangzhou Wheeler Intelligent General Machinery Incorporated Co.,Ltd is a national high-tech enterprise focusing on CNC machining equipment, machine tool loading and unloading automation, digital factories, and non-standard fixture design and manufacturing. The company was established in January 2015, and its operation center is located in Linping Economic Development Zone, Hangzhou. The company currently has more than 300 employees and an efficient professional technical R&D team, including more than 60 professional and technical personnel with various intermediate and senior technical titles (engineers). The company has a 5,000 square meter R&D center and a 43,000 square meter production and debugging base, and owns more than 50 patent technologies. It has offices and after-sales service outlets in Shanghai, Jiangsu, Anhui, Shandong, Henan, Jilin, Chongqing, Ningbo, Taizhou, Wuhan, Xi'an, Zhengzhou, etc. The company's products are exported to Turkey, Egypt, South Africa, Brazil, Australia, Singapore, Malaysia, Thailand and other countries.



## Our Certification



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 Germany's KUKA and Switzerland's ABB. It provides customers with mechanical processing automation technology solutions, a full set of automation equipment, technical consulting, and comprehensive after-sales and technical services. The products are widely used in mass production industries such as automotive parts processing and engineering machinery.



# PRODUCT INTRODUCTION

High speed、High efficiency Drilling and Tapping Center

## DT high speed high efficiency vertical drill and tap center

The design and development of DT series meet the demands of users for high-speed/high-production efficiency vertical drilling and tapping centers.

The overall layout of the DT series drilling and tapping center is a vertical frame structure which is compact. The column is a herringbone structure with high rigidity, solid saddle, and a wide and solid base. It can withstand heavy loads during processing and maintain no vibration or deformation during high-speed displacement. It is suitable for processing automotive, motorcycle parts, and small generator parts.



### High output spindle motor

#### Standard specifications

**28.7Nm**

Maximum torque (instantaneous)

**9kW**

Maximum output power

#### High torque specifications

**82.8Nm**

Maximum torque (instantaneous)

**13kW**

Maximum output power





## Processing Scope

The DT series is a high-speed and high productivity vertical drilling and tapping center that can complete various tapping operations, and cooperate with different specifications of taps to complete various thread during tapping operations. Suitable for using in 5G, processing automotive & motorcycle parts, small generator parts, clocks, and various communication electronics industries.



# MECHANICAL STRUCTURE

## +High Rigidity Mechanical Structure

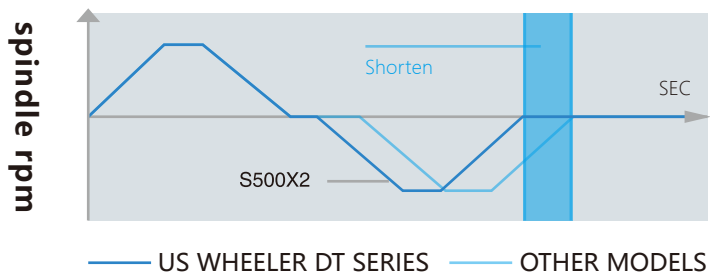
Using IT300 advanced resin sand molding castings, the large contact herringbone column is formed into a extra wide base, enhancing the overall rigidity of the machine.

## +High Response Servo System

The servo motor has a fast response, delay close to " zero "

The pursuit of cutting ability by servo motors is reflected in the adoption of high rigidity mechanical structures and high-power spindle motors, greatly expanding the cutting capacity range of high-efficiency structures and heavy cutting machining.

## +Schematic Diagram Of Tapping Processing Cycle



## +High Speed Spindle

**20000 rpm**

Maximum Spindle speed

The maximum spindle speed can reach 20000rpm, with characteristics such as low power loss, low vibration, low noise, and low temperature rise, ensuring high-precision machining and high-quality rigid tapping.

The spindle can achieve infinite speed regulation within its speed range, ensuring the safety and reliability during spindle tool clamping & unclamping. The spindle is equipped with a contactless switch feedback, which can achieve automatic detection of tool clamping and unclamping.

## +ATC

# High speed, High efficiency ATC

Adopting BBT30 spindle and efficient servo tool magazine achieving high-speed action and optimal tool exchange.

The standard tool holder type ATC that can install 21 tools effectively expands the selection range of machining tools, especially the Twin Arm type, the tool to tool change time is 1.4 seconds and the cutting to cutting time is 1.9 seconds, allowing for quick tool replacement, reducing tool replacement time significantly.

**1.4 SEC**

tool to tool change time

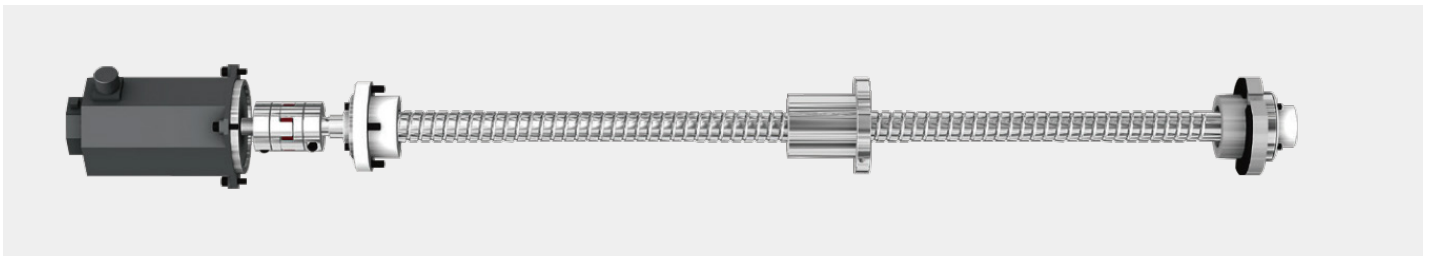
**1.9 SEC**

cutting to cutting time

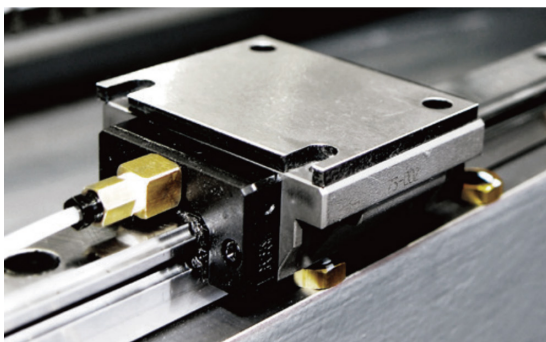


## +Ball Screw

When the ball screw is moving, in order to reduce the impact of expansion and axial clearance caused by temperature rise, precision angular contact thrust bearings are used to fix both ends and apply preload. In addition, it can be directly connected to servo motors to achieve precise shaft moving.



## +Full axis applicability, ball type linear guide-way



The entire axis adopts ball guides rail way with excellent performance, significantly reducing the noise caused during movement. In addition, it has excellent moving speed and shortens non cutting time.

Especially minimizing the degree of wear on the slider and guide surface can maintain accuracy even after long-term use.

# OPERATION SYSTEM



## +FANUC 0iMF PLUS

0i CNC is a comprehensive system that combines cutting-edge hard drives with various customer requirements, and exists through simpler operations. It has a stronger style than any other CNC system and its proud of it.

The design method of the 0i CNC series is convenient for use in almost all machining fields, whether in milling, drilling, or grinding.



## +Mitsubishi

Improve machining accuracy and shorten single piece working hours to achieve high-precision smooth mechanical processing. Improve computational speed and shorten cycle time.

Comfortable and advanced operational loading that reduces installation time without feeling a layered pop up window, as well as guidance functions for operations, programs, and alarms.

# STANDRAD CONFIGURATION

- Control System
- Water Tank Cooling Device
- Automatic Lubrication Device
- Shield Protection
- Spindle Hole Blowing Device
- Automatic Tool Change Device
- Transformer
- Manual Pulse Generator
- Work Light
- Tri-color warning light
- LCD
- Spindle Power System
- Three axis Transmission System
- Pneumatic Components



## FANUC Control System

Simple operation, High accuracy control system.



## Automatic Tool Change System

Efficient, Fast, and Accurate changing tools, saving processing time.



## Spindle

12000/20000RPM, Efficient and high-precision machining.



## Ball Screw

The Ball screw is precisely preloaded to provide better rigidity and effectively reduce the impact of thermal expansion and contraction during use, improving its service life and accuracy retention.

# OPTIONAL CONFIGURATION

- Heat Exchanger
- Spindle Oil Cooling Device
- Coolant Through Spindle System
- Oil Water Separator
- Automatic Tool Length Measurement System
- Water Gun
- CNC Rotary Table (Forth Axis)



## Oil Cooler

Maintain a constant temperature to ensure the machining accuracy of the spindle, synchronous mode of constant temperature and room temperature could be chosen.



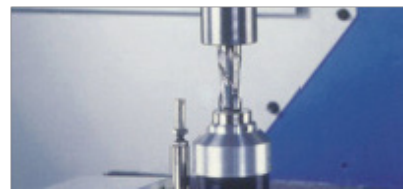
## Oil Water Separator

Effectively remove floating oil from cutting fluid, maintain cutting fluid performance, and extend the service life of cutting fluid.



## Forth Axis Control

A single fixture can achieve multi sided processing.

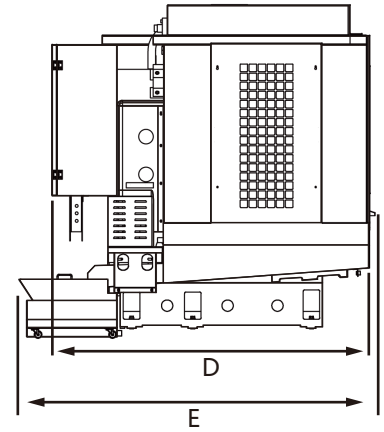
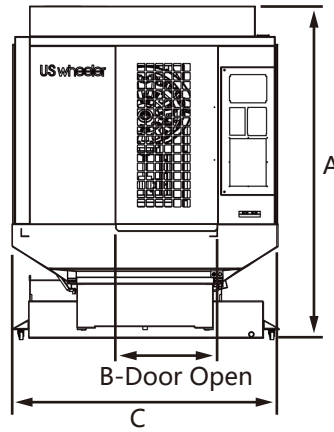


## Automatic Tool Length Measurement System

Improve work efficiency, ensure machining accuracy.

# MACHINE DIMENSION

## Single Door

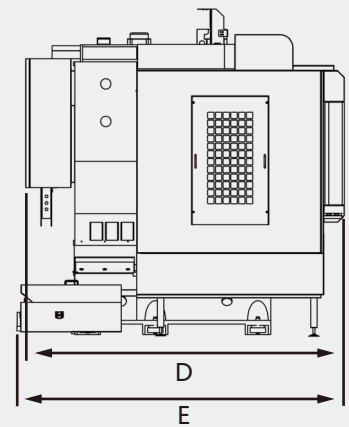
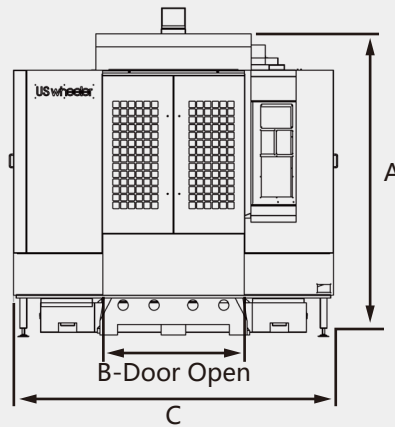


Machine Weight:  
W (kg)

Unit: mm

Model	A	B	C	D	E	W
DT 600	2240	520	1760	2125	2385	2900
DT 700	2450	520	1980	2155	2540	3500

## Double Door



Machine Weight:  
W (kg)

Unit: mm

Model	A	B	C	D	E	W
DT 800	2440	920	2480	2475	2540	4300
DT 1000	2440	1100	2750	2240	2540	4700

# DETAILED PARAMETERS

			DT600	DT700	DT800	DT1000
<b>Spindle</b>	Drive Motor		Direct -Drive	Direct -Drive	Direct -Drive	Direct -Drive
	Spindle Rpm	rpm	50-20000	50-20000	50-20000	50-20000
	Spindle Spec		BBT30	BBT30	BBT30	BBT30
	Main Motor Power	kW	3.7/5.5	3.7/5.5	3.7/5.5	3.7/5.5
	Main Motor Torque	N-m	11.8/28.7	11.8/28.7	11.8/28.7	11.8/28.7
<b>Work table</b>	Work Table Size	mm	700*420	800*420	1000*500	1100*500
	Work Table Load	kg	250	250	350	350
	Table (T-solt quantity-width-gap)	mm	3-14-125	3-14-125	5-18-100	5-18-100
<b>Traverse</b>	X direction	mm	600	700	800	1000
	Y direction	mm	400	450	500	500
	Z direction	mm	330	330	330	330
	Distance from spindle end face to worktable	mm	150-480	150-480	160-490	155-485
	Distance from spindle center to column rail surface	mm	464	464	546	546
<b>Servo Axis</b>	Servo Motor Drive Mode		Direct -Drive	Direct -Drive	Direct -Drive	Direct -Drive
	Feed Rate	mm/min	1-10000	1-10000	1-10000	1-10000
	Minimum Feed Rate	mm	0.001	0.001	0.001	0.001
<b>Linear Guide</b>	X/Y/Z (Width * Quantity)	mm	30*4/30*4/30*4	30*4/30*4/30*4	35*4/35*4/35*4	35*4/35*4/35*4
<b>Fast moving</b>	Fast moving speedX/Y/Z	mm/min	48/48/48	48/48/48	48/48/48	48/48/48
<b>ATC</b>	ATC Form		Flip Over Servo ATC	Flip Over Servo ATC	Flip Over Servo ATC	Flip Over Servo ATC
	ATC Capacity		21	21	21 {26}	21
	Max. Tool Weight	kg	3	3	3	3
	Pull Studs		BBT-30 45°	BBT-30 45°	BBT-30 45°	BBT-30 45°
	Max.Tool Length	mm	200	200	200	200
	Tool Change Time	T-T	1.7	1.7	1.7	1.7
<b>Others</b>	Power Capacity	kVA	15	15	15	15
	Lubricant Capacity	L	3	3	3	3
	Cutting Fluid Capacity	L	200	200	200	200
	Air Pressure	bar	6-8	6-8	6-8	6-8
	Size	m	1760*2320*2240	1980*2540*2450	2480*2540*2440	2750*2540*2440
	Machine Weight	kg	2900	3500	4300	4700
	CNC Control System		FANUC/MITSUBISHI			

(Our company's products are constantly improving. The above information is subject to change without prior notice.)