

# TOSHIBA MACHINE

TOSHIBA MACHINE SCARA robot series  
NEW LITE models THL Series

# THL 500

- **Low cost**  
Excellent performance at affordable prices.
- **Light weight**  
Up to 50% lighter than our previous models.  
Capable of reducing environmental impact.
- **Energy-efficient**  
Up to 50% reduction in required power-supply capacity compared with our previous models.  
Low-power consumption robots ideal for energy conservation era.

## Robot Specifications



Model	THL500	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	500mm (300mm+200mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z-axis)	0~150mm [Option:300mm]
	Axis 4 (Z-axis rotation)	±360°
Maximum speed	Axis 1	450°/s
	Axis 2	450°/s
	Axis 3 (Z-axis)	2000mm/s
	Axis 4 (Z-axis rotation)	1700°/s
	Composite	6.3m/s
Cycle time (with 2kg load) *2	0.45s	
Maximum payload mass	10kg [Ratings:2kg]	
Allowable moment of inertia	0.2kg·m <sup>2</sup>	
Positioning repeatability *3	X-Y	±0.01mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs/8 outputs	
Hand pneumatic joints *4	φ6 ×3 pcs	
Position detection	Absolute	
Robot controller cable	3.5m	
Mass	22kg	

\*1 : Acceleration/deceleration rates may be limited according to the motion pattern, load mass and amount of offset.

\*2 : When the environment temperature is constant 20°C, Positioning repeatability accuracy in one-direction movement. Not absolute positioning accuracy.

\*3 : Horizontal 300mm, vertical 25mm, round-trip. Continuous operation is not possible beyond the effective load ratio.

\*4 : Pneumatic joints are provided on the base. Please refer to the drawings for the details of the pneumatic joints. Pipes to be provided by the customers.

## Controller Specifications



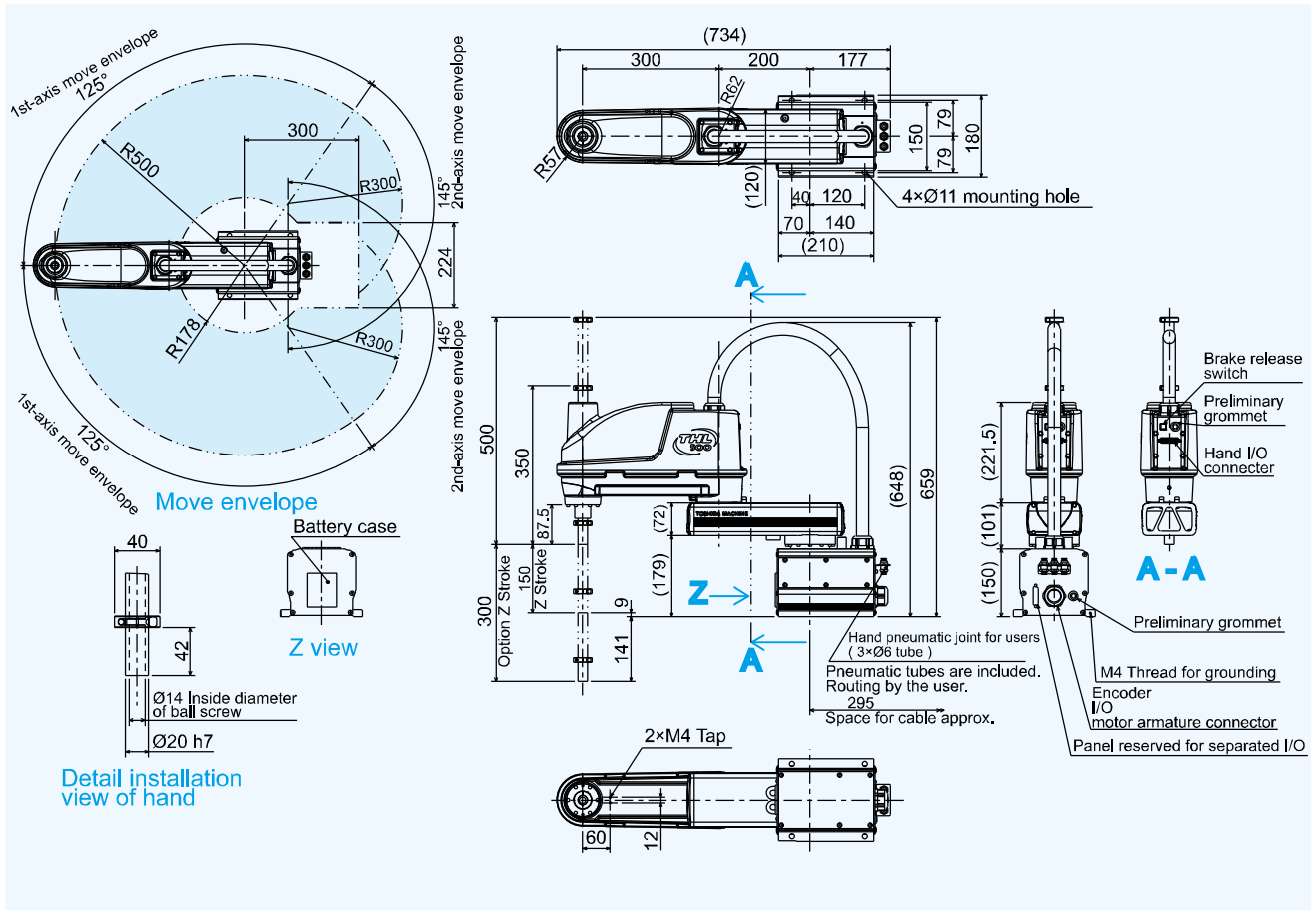
Controller  
TS3000

Model	TS3000	
Number of axis	Standard 4 axis (Maximum 5 axis)	
Operation mode	PTP, CP (Linear, Circular), Short-cut, Arch motion	
Storage capacity	Approx. Total:12800points+25600steps	
	1 program:2000points+3000steps	
Number of programs	Maximum 256 (247 user files+9 system files)	
Programming language	SCOL (similar to BASIC)	
Teaching unit	Teach pendant TP1000:Cable length 5m (Programming support PC software TSPC also available)	
External I/O signals	32 inputs/32 outputs	
Hand control signals	8/8 can be assigned to system signals.	
External operation signal	Input:cycle operation mode, start, stop, program reset, etc Output:Servo ON, operation ready, fault, etc	
Serial communication port	RS232C:2ports (HOST, COM1), Ethernet 1port *5	
Other functions	Torque control, interrupt function, self diagnosis, I/O control, communication during motion, coordinate calculations, built-in PLC, conveyor synchronisation etc.	
Power supply	Single phase, AC200V~240V 50/60Hz	
Power capacity	1.4kVA	
Outer Dimensions and Mass	290 (W)×230 (H)×298 (D) [mm], 1.3kg	
PC Software for Programming Support (Option)	TSPC:Program editor, teaching, remote operation TCPRGOS:PLC sequence program creation	
Options	I/Oextension, I/Ocables, Field-Network (CC-Link, DeviceNet, Profibus) *5	
External memory	USB memory stick	

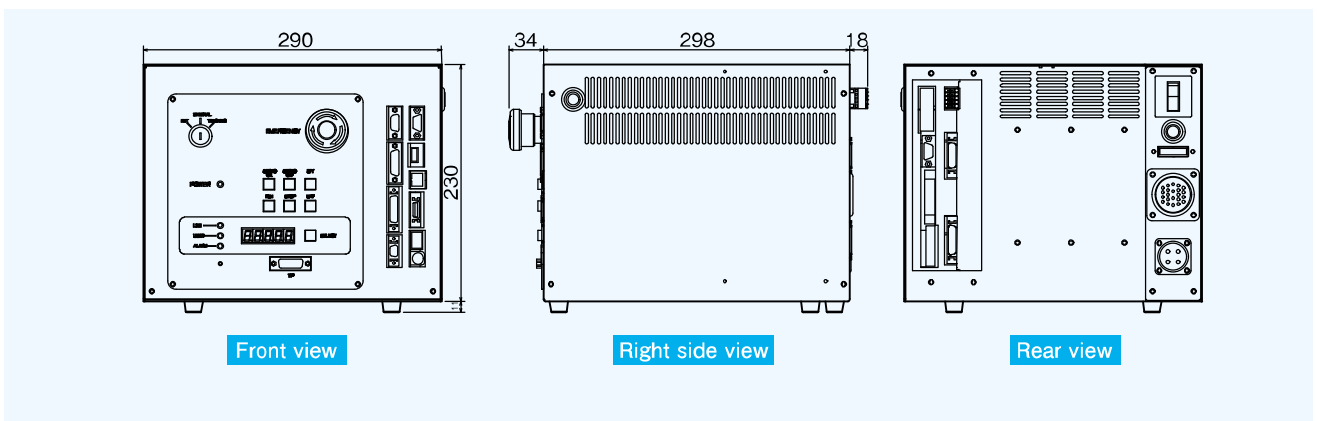
TEACH PENDANT(OPTION)

\*5:Ethernet is a registered trademark of XEROX Corp. in the U.S.A.  
CC-Link is a registered trademark of CC-Link Partner Association.  
DeviceNet is a registered trademark of ODVA.  
Profibus is a registered trademark of Profibus User Organization.

## THL500 [External View]



## TS3000 [External View]



**TOSHIBA MACHINE CO.,LTD.** HEAD OFFICE  
Control Systems Sales Department, Control Systems Division  
2068-3, Ooka, Numazu-shi, Shizuoka-ken 410-8510, Japan  
TEL:[81]-(0)55-926-5032 FAX:[81]-(0)55-925-6527

**TOSHIBA MACHINE CO.,AMERICA.**  
755 Greenleaf Avenue, Elk Grove Village, IL 60007, U.S.A.  
TEL:[1]-847-593-1616 FAX:[1]-847-593-0897

**TM ROBOTICS (EUROPE) LTD.**  
Unit 2, Bridge Gate Centre, Martinfield,  
Welwyn Garden City, Herts AL7 1JG, UK  
TEL [44]-(0)1707-290370 FAX [44]-(0)1707-376662

URL:<http://www.toshiba-machine.co.jp/en/product/robot/index.html>  
<http://www.toshiba-machine.com>  
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Before operating the industrial robot, read through and completely understand the instruction manuals.

■ The contents included in this catalog are subject to change without prior notice to reflect improvements.