

TOSHIBA MACHINE'S  
COMPACT AND HIGH-SPEED  
SCARA ROBOT

# TH250A

- **COMPACT**... Arm length 250 mm
- **HIGH LOAD CAPACITY**... Maximum 3 kg
- **HIGH SPEED**  
... Cycle time 0.41 s (1 kg Load)
- **CLEANROOM DESIGN**  
... Class 10 equivalent (0.1 μm) \*1
- **BUILT-IN PLC**  
... Ready for Touch-Sensitive Operation panel

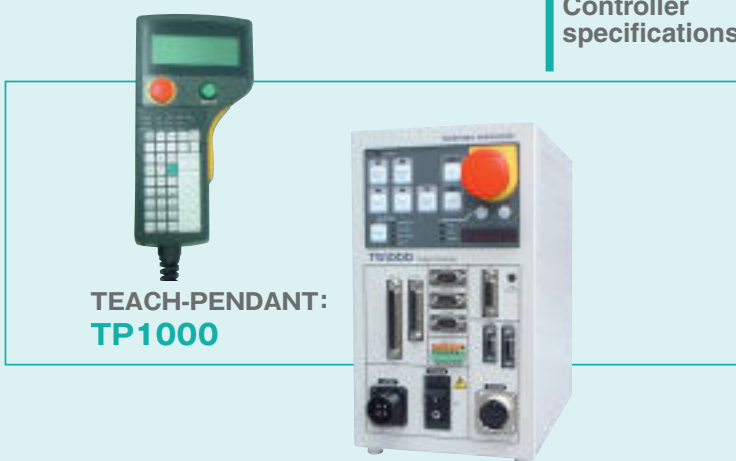
### Robot specifications



**ROBOT:**  
**TH250A**

Model		TH250
Type		Horizontal Multi-joint
Clean-ness		Class 10 (0.1 μm)*1
Number of controlled axis		4
Arm length		250 mm (125 mm+125 mm)
Working envelope	Axis 1	±115°
	Axis 2	±140°
	Axis 3 (Z-axis)	120 mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed	Axis 1	540°/s
	Axis 2	540°/s
	Axis 3 (Z-axis)	1120 mm/s
	Axis 4 (Z-axis rotation)	1143°/s
	Composite	3.53 m/s
Standard cycle time (with 1kg payload)		0.41 s*2
Maximum payload mass		3 kg
Allowable moment of inertia		0.017 kgm <sup>2</sup>
Positioning repeatability	X-Y (Plane)	±0.01 mm
	Axis 3 (Z-axis rotation)	±0.01 mm
	Axis 4 (Z-axis rotation)	±0.005°
Input/output signals for hand		5 inputs / 4 outputs
Pneumatic piping for hand		4 mm-dia.×4 pcs
Robot-controller cable		3 m (Optional 5 m available)
Mass		14 kg

### Controller specifications



**TEACH-PENDANT:**  
**TP1000**

**CONTROLLER:**  
**TS1000**

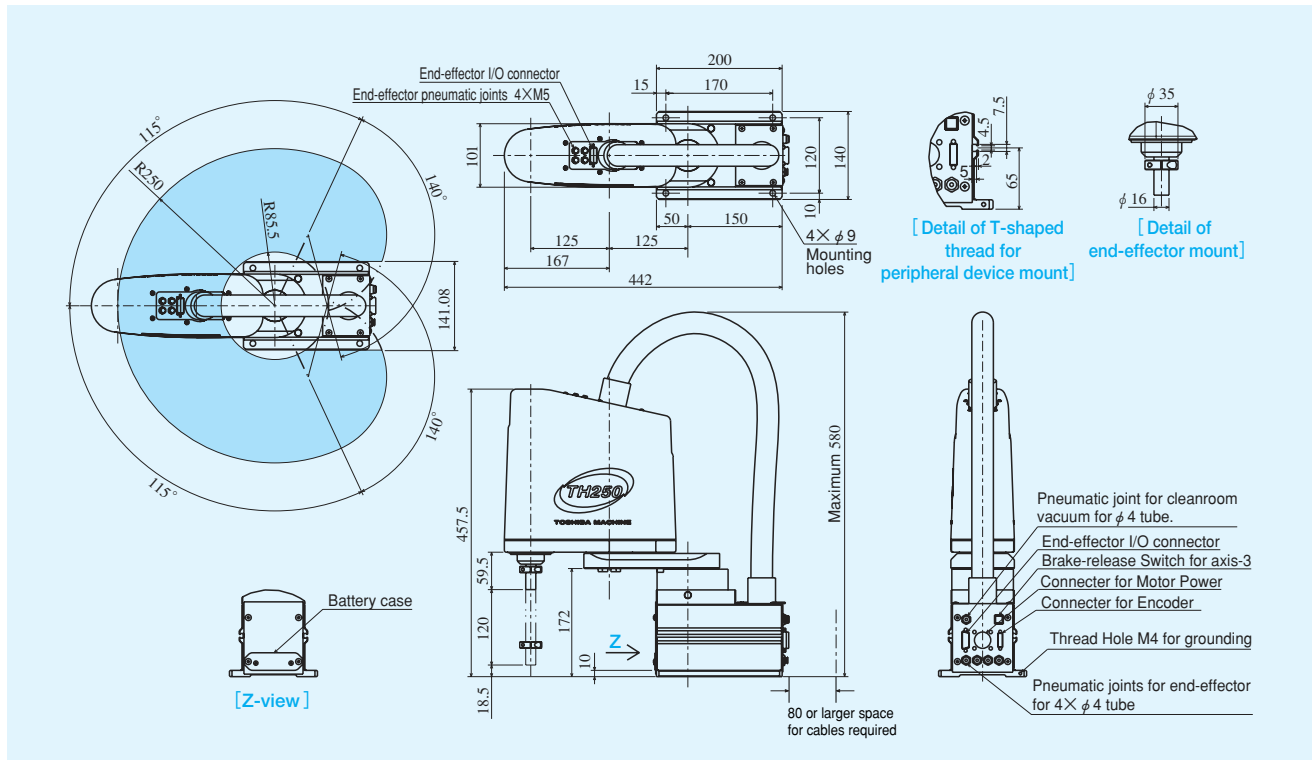
Model		TS1000
No. of axis		4
Types of Motions		PTP, CP (linear, circular), Short-cut, Arch motion
Storage Capacity		Total: 6400 points+12800 steps 1 program: 2000 point+3000 steps
No. of programs		Max. 256 (247 user files+9 system files)
Programming language		SCOL (proprietary, similar to BASIC)
Teaching unit (optional)		Teach pendant TP1000, with 5-meter cable (Program can be also written on PC)
External input/output signals		8+8 inputs / 8+8 outputs (8/8 can be switchable with system for external-mode operation)
Hand control signals		5 inputs / 4 outputs
External operation signals		Inputs: cycle operation start, stop, program reset, etc. Outputs: servo-on status, operation ready, malfunction alarm, etc.
Serial communication port		RS-232C: 2 ports
Other functions		Torque control, Interruptive functions, self-diagnosis, I/O control and communications during motion, Coordinate calculations, etc.
Power supply		Single-phase AC190~220 V 50/60 Hz
Power capacity		1.1 kVA
Dimensions and mass		170 W×290 H×280 D (mm), 10 kg
PC software (optional)		TSPC: Programming support, Teaching, Remote operation etc.
Options		I/O extension, I/O cables, Field network (CC-Link, DeviceNet, Profibus)*3

\*1 Applicable only around the hand area, in the downward airflow of speed 0.4 m/s or larger and the robot air-purged at 60 L/min.

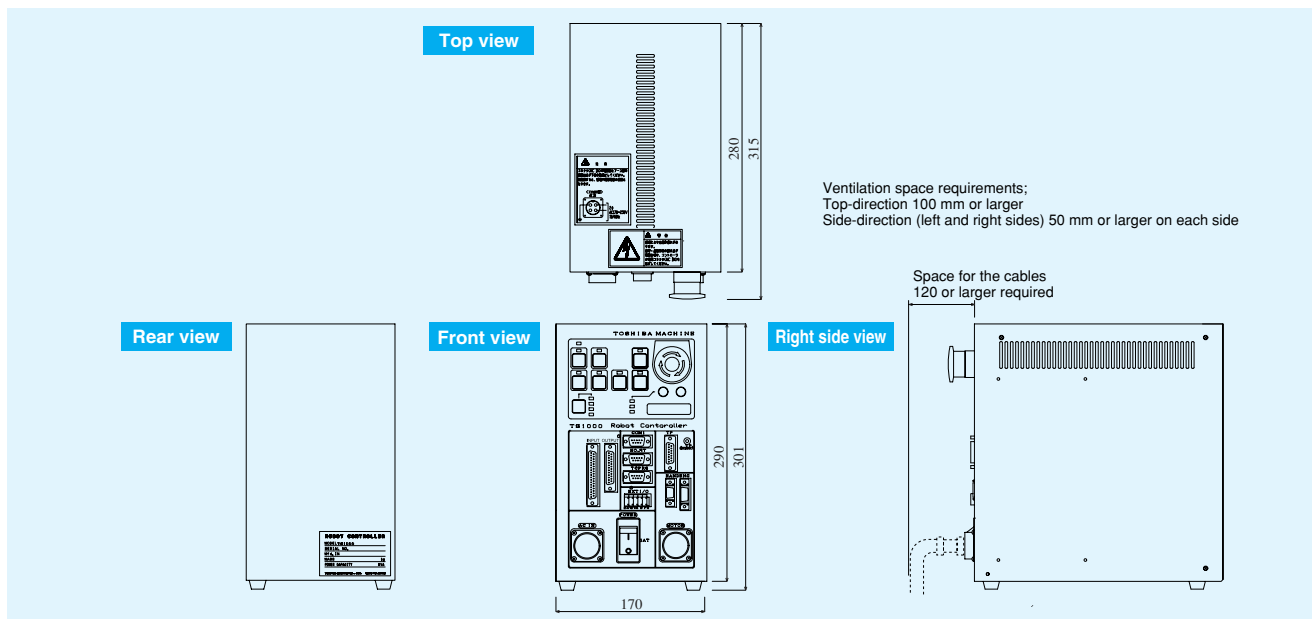
\*2 300 mm for horizontal direction and 25 mm for vertical direction, round-trip

\*3 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.

## TH250A External view



## TS1000 External view



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