

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**

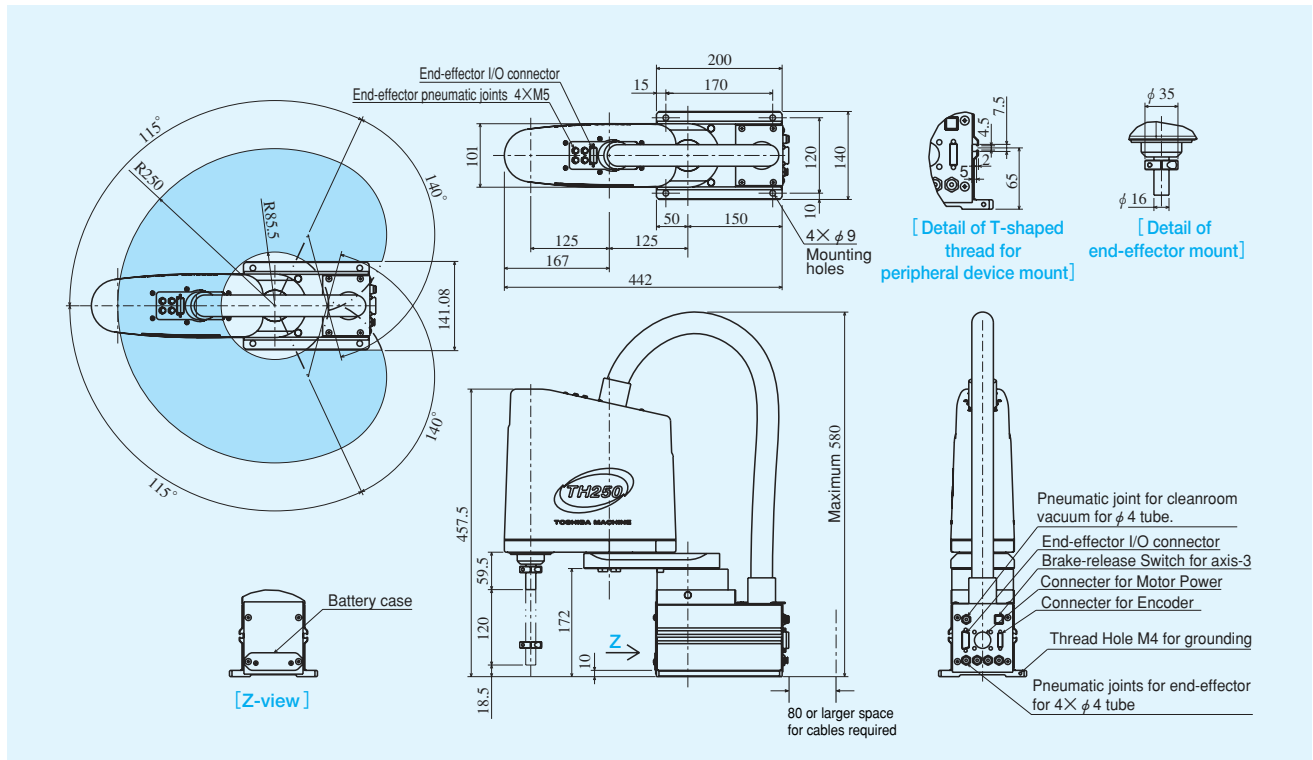
Model	TS1000
No. of axis	4
Types of Motions	PTP, CP (linear, circular), Short-cut, Arch motion
Storage Capacity	Total: 6400 points+12800 steps 1 program: 2000 point+3000 steps
No. of programs	Max. 256 (247 user files+9 system files)
Programming language	SCOL (proprietary, similar to BASIC)
Teaching unit (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.

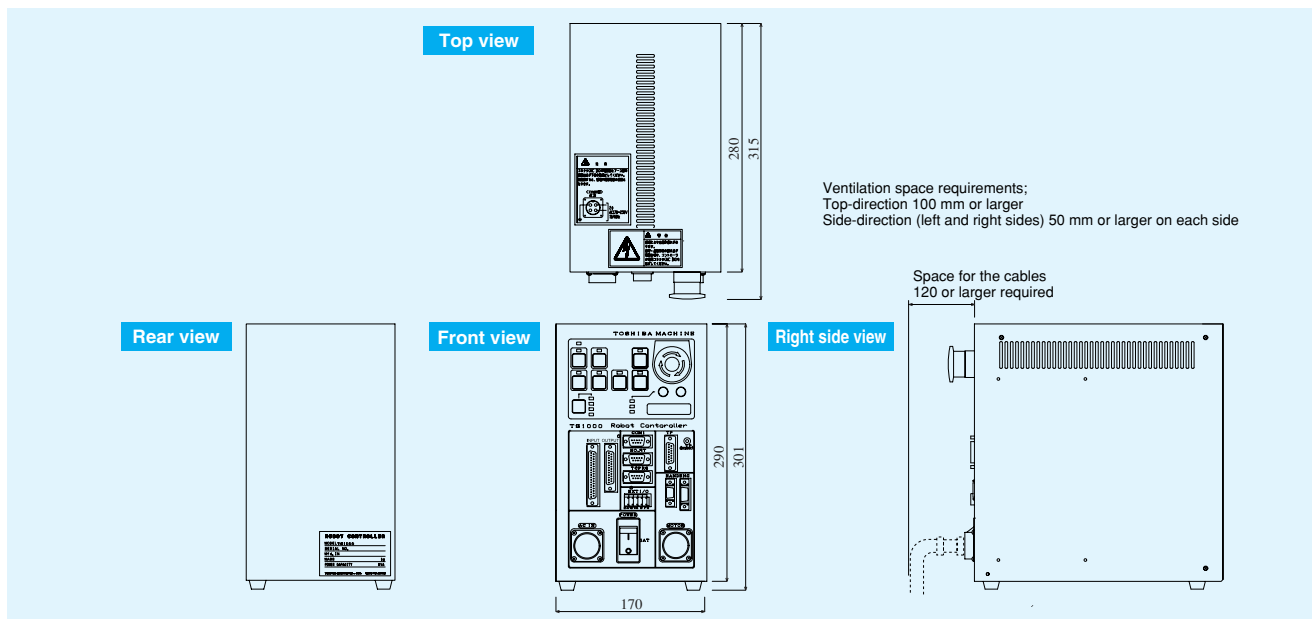
\*2 300 mm for horizontal direction and 25 mm for vertical direction, round-trip

\*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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