

TOSHIBA MACHINE'S
COMPACT AND HIGH-SPEED
SCARA ROBOT

TH350A

- **COMPACT**... Arm length 350 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:
TH350A

Model	TH350A	
Type	Horizontal Multi-joint	
Clean-ness	Class 10 (0.1 μm) *1	
Number of controlled axis	4	
Arm length	350 mm (225 mm+125 mm)	
Working envelope	Axis 1	±115°
	Axis 2	±145°
	Axis 3 (Z-axis)	120 mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed	Axis 1	337.5°/s
	Axis 2	540°/s
	Axis 3 (Z-axis)	1120 mm/s
	Axis 4 (Z-axis rotation)	1143°/s
	Composite	3.24 m/s
Standard cycle time (with 1kg payload)	0.41 s *2	
Maximum payload mass	3 kg	
Allowable moment of inertia	0.017 kgm ²	
Positioning repeatability	X-Y (Plane)	±0.01 mm
	Axis 3 (Z-axis)	±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 of robot body	14 kg	

Controller specifications



TEACH-PENDANT:
TP1000

CONTROLLER:
TS1000

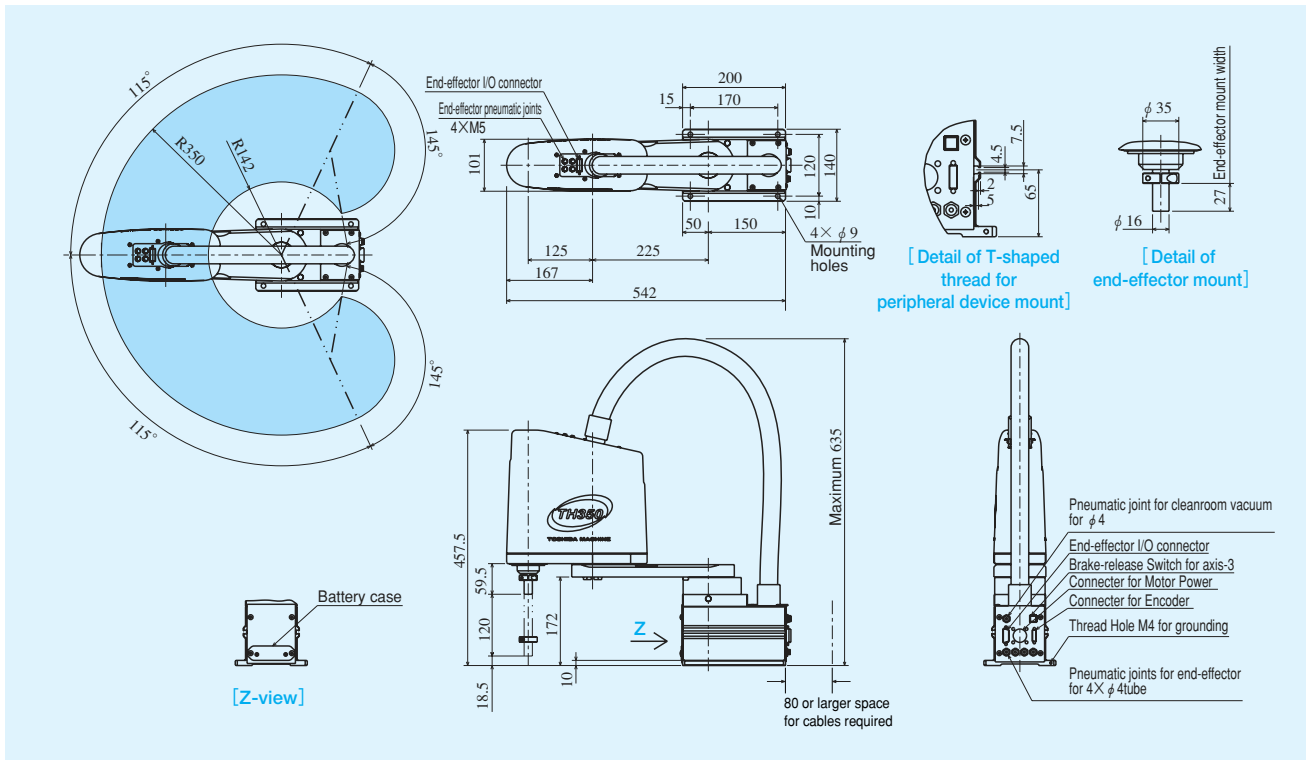
Model	TS1000	
No. of axis	4	
Types of Motions	PTP, CP (linear, circular), Short-cut, Arch motion	
Storage capacity	Total: 6400 points+12800 steps 1 program: 2000 points+3000 steps	
No. of programs	Max. 256 (247 User files + 9 System files)	
Program language	SCOL (proprietary, similar to BASIC)	
Teaching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

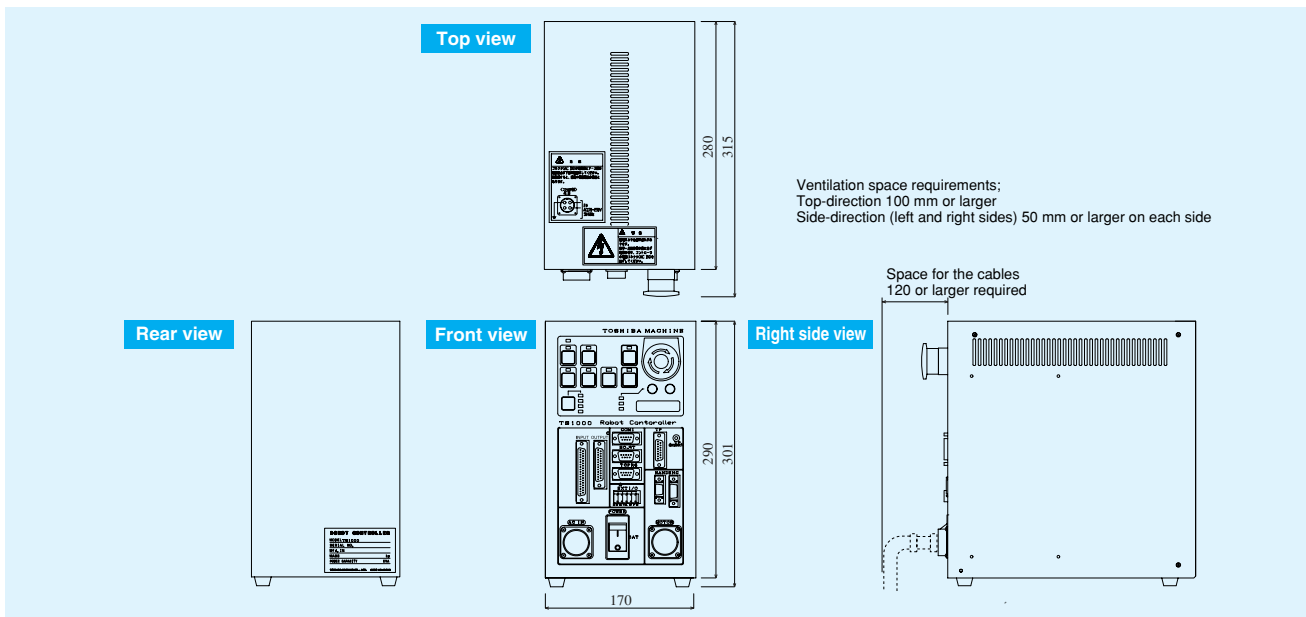
*2 300 mm for horizontal direction and 25 mm for vertical direction, round-trip.

*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.

TH350A External view



TS1000 External view



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