

TOSHIBA MACHINE'S  
COMPACT AND HIGH-SPEED  
SCARA ROBOT

# TH350A

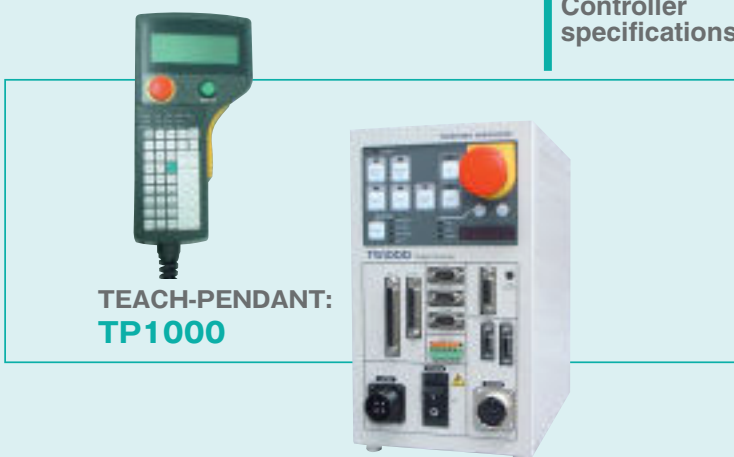
- **COMPACT**... Arm length 350 mm
- **HIGH LOAD CAPACITY**... Maximum 3 kg
- **HIGH SPEED**  
... Cycle time 0.41 s (1 kg Load)
- **CLEANROOM DESIGN**  
... Class 10 equivalent (0.1 μm) \*1
- **BUILT-IN PLC**  
... Ready for Touch-Sensitive Operation panel

### Robot specifications



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 <sup>2</sup>	
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



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	

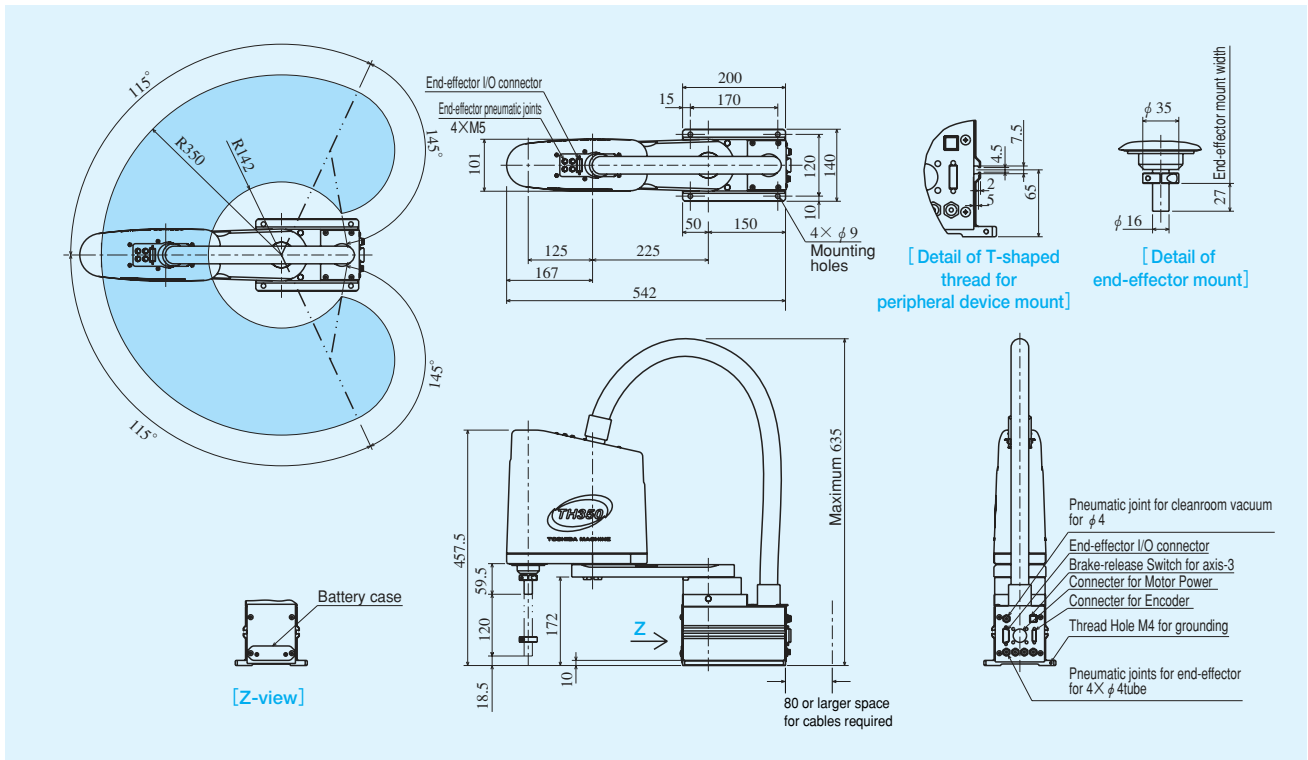
\*1 Applicable only around the hand area, in the downward airflow of speed 0.4 m/s or larger and the robot air-purged at 60 L/min.

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

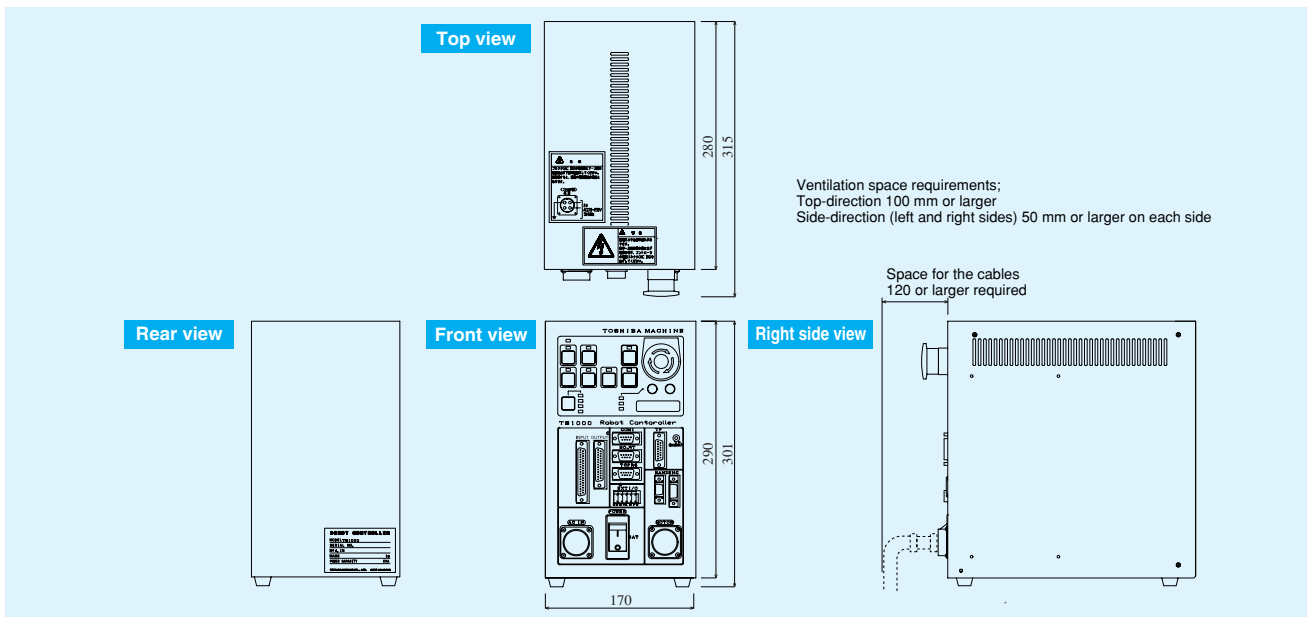
\*3 CC-Link is a registered trademark of CC-Link Partner Association.

DeviceNet is a registered trademark of ODVA.  
Profibus is a registered trademark of Profibus User Organization.

## TH350A External view



## TS1000 External view



### TOSHIBA MACHINE CO.,LTD.

Robot Sales Group, 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  
URL <http://www.toshiba-machine.co.jp/seiji/prod/sr>  
E-MAIL [robot@toshiba-machine.co.jp](mailto:robot@toshiba-machine.co.jp)

### 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  
URL [http://www.toshiba-machine.com/robotics/SR\\_homepagef.htm](http://www.toshiba-machine.com/robotics/SR_homepagef.htm)  
E-MAIL [salesleads@toshiba-machine.com](mailto:salesleads@toshiba-machine.com)

### TM ROBOTICS(EUROPE) LTD.

Unit 15, The Weltech Centre,  
Ridgeway Welwyn Garden City, Herts AL7 2AA UK  
TEL:[44]-(0)1707-871535 FAX:[44]-(0)1707-393959  
URL <http://www.tmrobotics.co.uk>  
E-MAIL [info@tmrobotics.co.uk](mailto:info@tmrobotics.co.uk)

URL <http://www.toshiba-machine.co.jp/>