

TOSHIBA MACHINE

TOSHIBA MACHINE'S
SCARA Robots TH Series

TH1050A

- HIGH LOAD CAPACITY ·· Maximum 20kg
- HIGH SPEED ·· Cycle time 0.39s
(With 2kg payload)
- POSITIONING REPEATABILITY
·· X, Y ± 0.01 mm, Z ± 0.01 mm, C ± 0.004 deg
- HIGH RIGIDITY
- BUILT-IN PLC ·· Ready for Touch-Sensitive
Operation panel
- DUCT-LESS DESIGN

Robot specifications



| | | |
|---|----------------------------------|---------------------|
| Model | TH1050A | |
| Type | Horizontal Multi-joint | |
| Number of controlled axis | 4 | |
| Arm length | 1050mm (550mm+500mm) | |
| Working envelope | Axis 1 | $\pm 160^\circ$ |
| | Axis 2 | $\pm 145^\circ$ |
| | Axis 3(Z-axis) | 200mm(Option:400mm) |
| | Axis 4(Z-axis rotation) | $\pm 360^\circ$ |
| Maximum speed | Axis 1 | 300°/s |
| | Axis 2 | 420°/s |
| | Axis 3(Z-axis) | 2050mm/s |
| | Axis 4(Z-axis rotation) | 1200°/s |
| Composite | 9.15m/s | |
| Standard cycle time(with 2kg payload)*1 | 0.39s | |
| Maximum payload mass*2 | 20kg | |
| Allowable moment of inertia at end*2 | 0.2kgm ² | |
| Positioning repeatability*3 | X-Y(Plane) | ± 0.01 mm |
| | Z-axis (vertical) | ± 0.01 mm |
| | Axis 4(Z-axis rotation) | $\pm 0.004^\circ$ |
| Input/output signals for hand | 5 inputs / 4 outputs | |
| Air piping for hand | $\phi 6 \times 4$ pcs. | |
| Position detecting system | Absolute system | |
| Robot-controller cable | 5m (Optional length maximum 25m) | |
| Mass | 80kg | |

*1:Continuous operation of standard cycle motion pattern is not possible beyond the effective load ratio.

(Horizontal 300mm,vertical 25mm, round-trip, coarse positioning)

*2:Maximum speed rates and acceleration rates are limited depending on motion patterns, payload mass, and offset value.

*3:When the environment temperature is constant.

Controller specifications



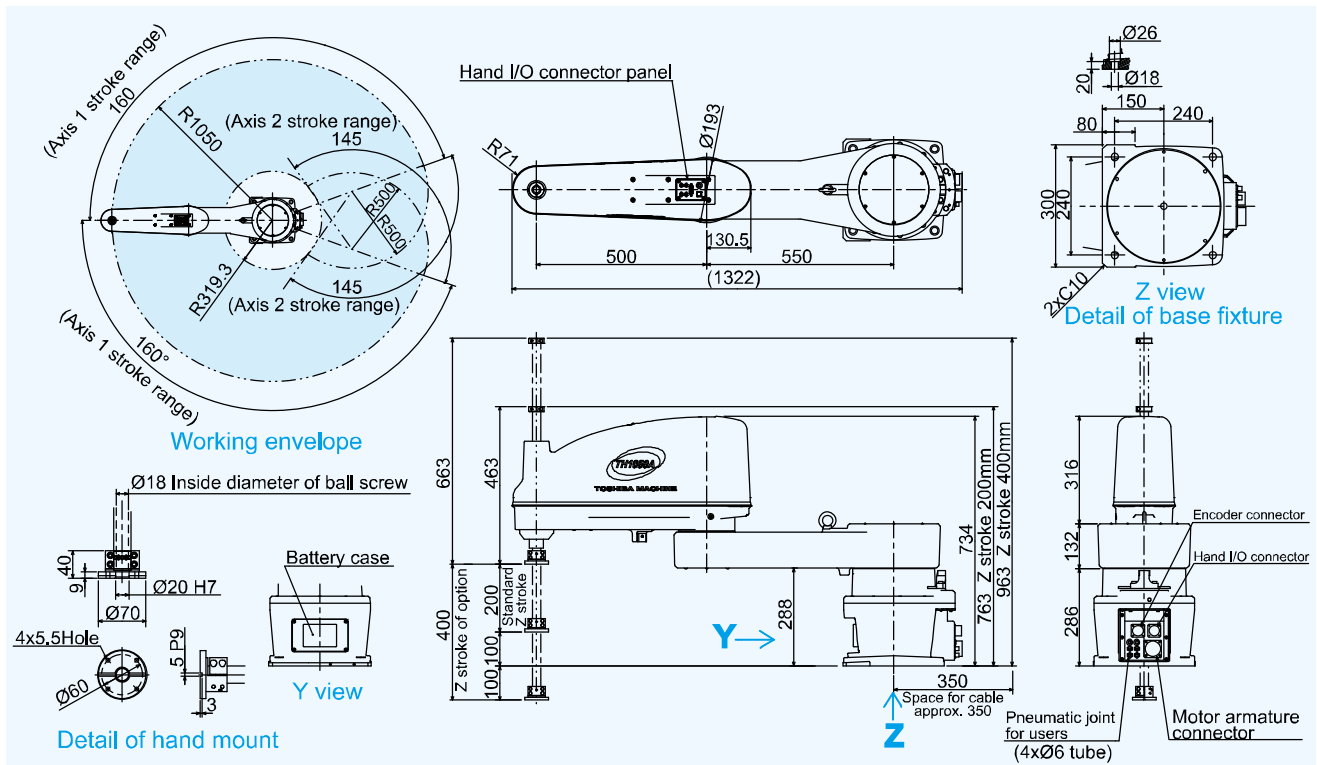
Controller
TS3100

| | | |
|--------------------------------------|---|--|
| Model | TS3100 | |
| No.of axis | No. of simultaneously controlled axes: 8 axes (2 additional axes under development) | |
| Operation mode | PTP,CP(Linear·Circular),Short-cut,Arch motion | |
| Storage capacity | Total: 12800 points + 25600 steps 1 program: 2000 points + 3000 steps | |
| No.of programs | Max.256(247 user files + 9 system files) | |
| Programming language | SCOL(proprietary,similar to BASIC) | |
| Teaching unit(option) | Teach pendant TP1000, with 5-meter cable (Program can be written on PC) | |
| External I/O | 32 inputs/32 outputs | |
| Hand control signals | 8 inputs/8 outputs | |
| External operation signal(exclusive) | Inputs:Program selection, start, stop, reset, etc Outputs:Servo-On status, emergency stop, ready for operation, malfunction alarm, etc | |
| Serial communication port | RS-232C: 2 ports, Ethernet: 1 port*4 | |
| Other functions | Torque control,Interruptive functions, self-diagnosis, I/O control and communications during motion, Coordinate calculations, Built-in PLC, etc | |
| Power supply | Single phase AC200V~240V 50/60Hz 4.4kVA | |
| Outer dimensions and mass | 420W×230H×298D(mm),17kg | |
| PC software(option) | TSPC:Program editor,Teaching,Remote operation,etc | |
| Options | I/O extension, I/O cables, Field Network(CC-Link,DeviceNet,Profibus)*4 | |
| External Memory | USB memory | |

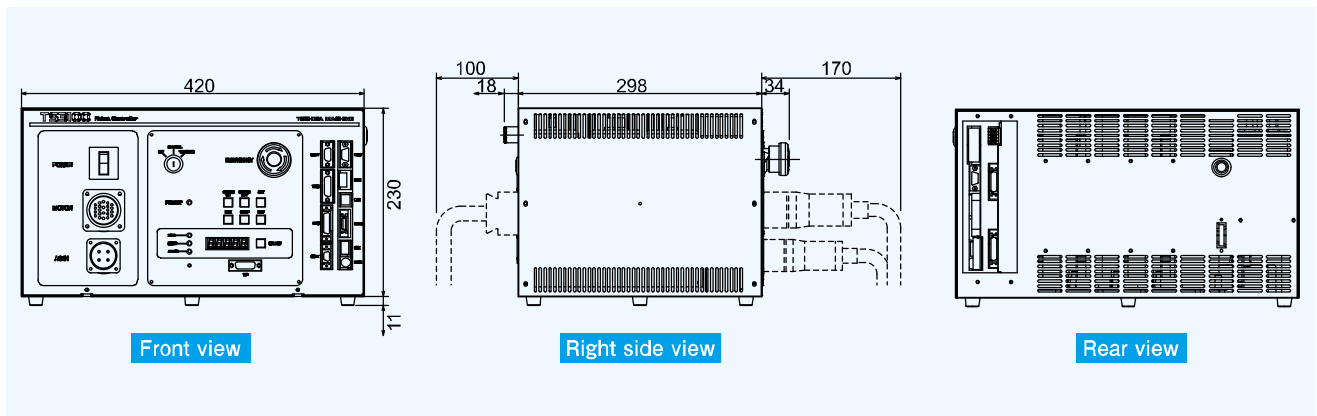
*4:Ethernet is a registered trademark of XEROX Corp. in the U.S.A.
CC-Link is a registered trademark of CC-Link Partner Association.
DeviceNet is a registered trademark of ODVA.
Profibus is a registered trademark of Profibus User Organization.

TEACH PENDANT(OPTION)

TH1050A External view



TS3100 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, EIK 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 Center, 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/english/product/sr_e/index.html
<http://www.toshiba-machine.com>
<http://www.tmrobotics.co.uk>



Caution

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.