

SCARA ROBOT THL SERIES



Safety warnings

- Before using, read through and completely understand the appropriate instruction manuals.
- The contents of this catalog may be subject to change without prior notice.

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Distributor

WALTON



Controller
TSL3000
TSL3000E

Achieving Reliable Quality and Superior Performance

SCARA ROBOT THL Series



Low cost
Impressive performance at affordable prices.



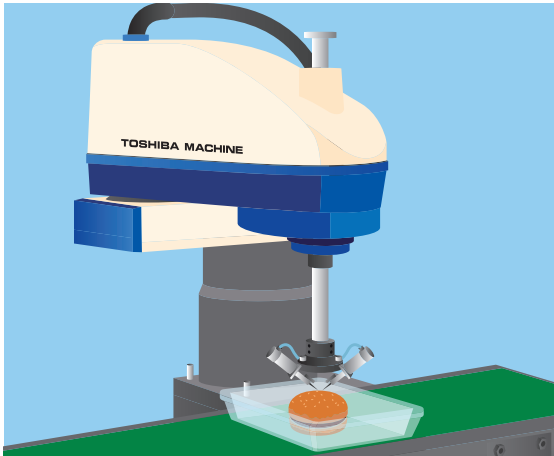
Light-weight
Maximum weight reduction of about 60% has been achieved in comparison with our current. Models Capable of reducing environmental impact.



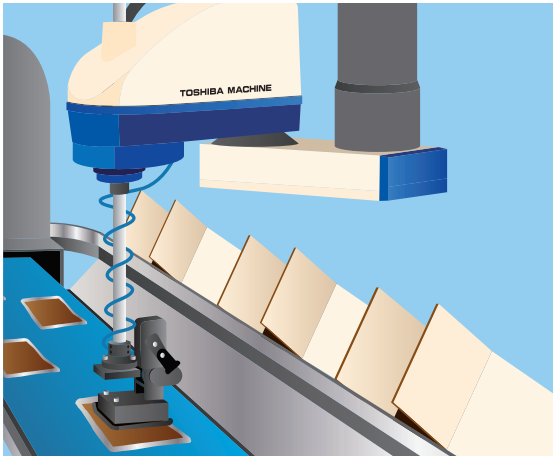
Energy-efficient
Maximum power consumption reduction of about 70% has been achieved in comparison with our current models. Low-power consumption robots ideal for energy conservation era.

WALTON

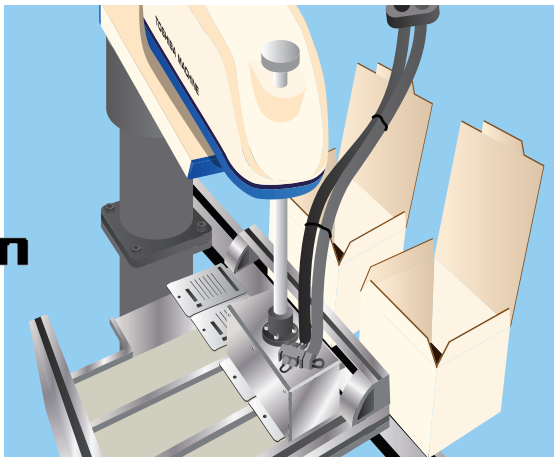
Examples of Application and Adoption



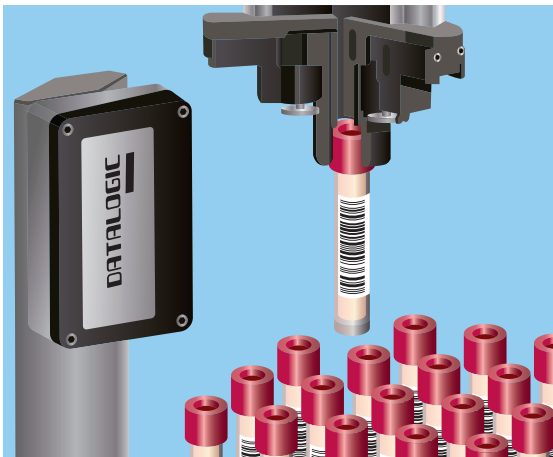
Food Manufacturing
Used for food manufacturing lines to prepare and transport food.



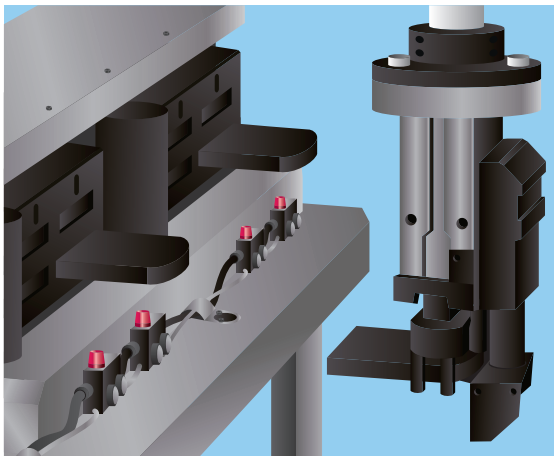
Food
Used for food boxing lines to automatically box ready-packed food being transported on the belt conveyor into boxes.



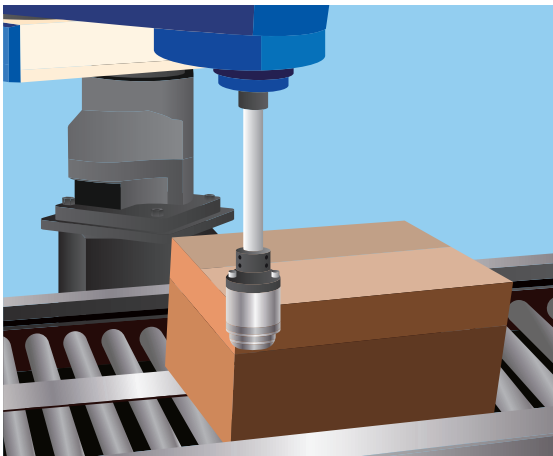
Pharmaceutical and Medical
Used for boxing lines of pharmaceutical and medical products to automatically box finished products being transported on the belt conveyor into boxes.



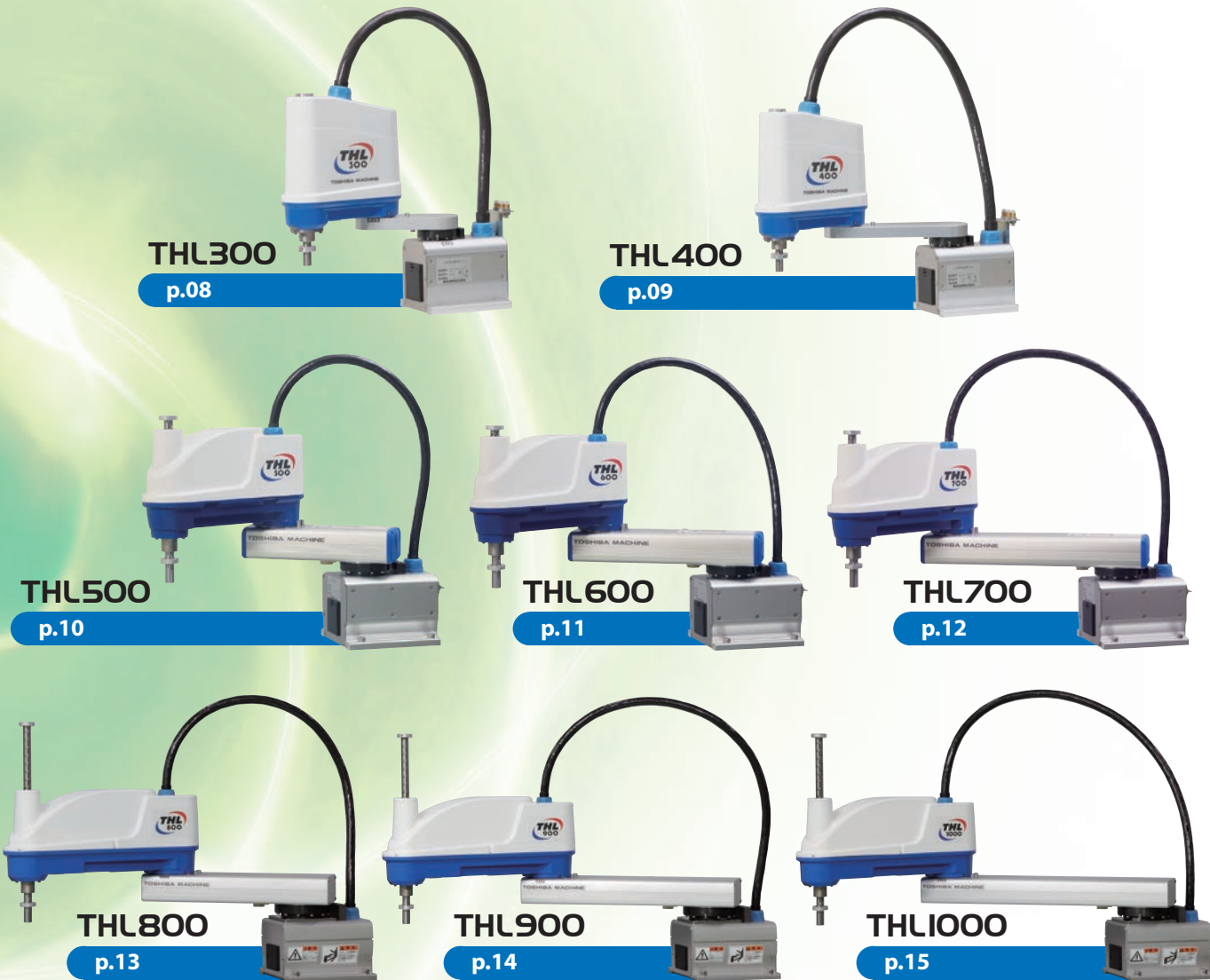
Medical Examination
Used to automate the processing of a large quantity of specimen samples at medical institutions. Test tubes picked up by the SCARA robot are read by a barcode reader, allowing uniform work and secure repeatability.



Assembling and Inspection
Used to assemble and inspect electronic devices. The SCARA robot has been adopted for manufacturing of precision machines.



Cutting
Used as a cutting device. Cardboard boxes being transported by the conveyor are cut by the cutter attached to the SCARA robot.



WALTON

Model	THL300	THL400
Type	Horizontal multi-joint	Horizontal multi-joint
No. of controlled axes	4	4
Arm length	300mm (125mm+175mm)	400mm (225mm+175mm)
Working envelope	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)
Maximum speed*1	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite
Standard cycle time (with 2 kg load)*2	0.48s	0.47s
Maximum payload mass	5kg (rated: 2 kg)	5kg (rated: 2 kg)
Allowable moment of inertia	0.05kg·m ²	0.05kg·m ²
Positioning repeatability*3	X-Y Z (Axis 3) Axis θ (Z-axis rotation)	X-Y Z (Axis 3) Axis θ (Z-axis rotation)
Hand wiring	8 inputs / 8 outputs	8 inputs / 8 outputs
Hand pneumatic joints*4	φ 4 x 3 pcs.	φ 4 x 3 pcs.
Position detection	Absolute	Absolute
Robot controller cable	3.5m	3.5m
Power capacity	0.7kVA	0.7 k VA
Mass	12kg	13kg

Order model code

THL400-Z-C-E-S

Arm length	Special design	With cap	: C	Simple Cleanroom	: CS
Z-axis long stroke	Optional specifications	With protective bellows	: B	Dust-proof	: IP6X
CE Specifications		Ceiling-mount type	: T	Low height	: LH

Model	THL500	THL600	THL700
Type	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
No. of controlled axes	4	4	4
Arm length	500mm (200mm+300mm)	600mm (300mm+300mm)	700mm (400mm+300mm)
Working envelope	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)
Maximum speed*1	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite
Standard cycle time (with 2 kg load)*2	0.45s	0.45s	0.50s
Maximum payload mass	10 kg (rated: 2 kg)	10kg (rated: 2 kg)	10kg (rated: 2 kg)
Allowable moment of inertia	0.2kg·m ²	0.2kg·m ²	0.2kg·m ²
Positioning repeatability*3	X-Y Z (Axis 3) Axis θ (Z-axis rotation)	X-Y Z (Axis 3) Axis θ (Z-axis rotation)	X-Y Z (Axis 3) Axis θ (Z-axis rotation)
Hand wiring	8 inputs / 8 outputs	8 inputs / 8 outputs	8 inputs / 8 outputs
Hand pneumatic joints*4	φ 6 x 3 pcs.	φ 6 x 3 pcs.	φ 6 x 3 pcs.
Position detection	Absolute	Absolute	Absolute
Robot controller cable	3.5m	3.5m	3.5m
Power capacity	1.4kVA	1.4kVA	1.4kVA
Mass	22kg	23kg	24kg

Model	THL800	THL900	THL1000
Type	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
No. of controlled axes	4	4	4
Arm length	800mm (350mm+450mm)	900mm (450mm+450mm)	1000mm (550mm+450mm)
Working envelope	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation)
Maximum speed*1	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite	Axis 1 Axis 2 Axis 3 (Z axis) Axis 4 (Z-axis rotation) Composite
Standard cycle time (with 2 kg load)*2	0.47s	0.48s	0.48s
Maximum payload mass	10kg (rated: 2 kg)	10kg (rated: 2 kg)	10kg (rated: 2 kg)
Allowable moment of inertia	0.2kg·m ²	0.2kg·m ²	0.2kg·m ²
Positioning repeatability*3	X-Y Z (Axis 3) Axis θ (Z-axis rotation)	X-Y Z (Axis 3) Axis θ (Z-axis rotation)	X-Y Z (Axis 3) Axis θ (Z-axis rotation)
Hand wiring	8 inputs / 8 outputs	8 inputs / 8 outputs	8 inputs / 8 outputs
Hand pneumatic joints*4	φ 6 x 3 pcs.	φ 6 x 3 pcs.	φ 6 x 3 pcs.
Position detection	Absolute	Absolute	Absolute
Robot controller cable	3.5m	3.5m	3.5m
Power capacity	1.4kVA	1.4kVA	1.4kVA
Mass	33kg	35kg	37kg

*1: Acceleration/deceleration rates may be limited according to the motion pattern, load mass and amount of offset.
*2: Horizontal 300 mm, vertical 25 mm, round-trip with coarse positioning. Continuous operation is not possible beyond the effective load ratio.
*3: Positioning repeatability accuracy in one-direction movement, when the environmental temperature is constant 20°C. Not absolute positioning accuracy. Positioning repeatability for X-Y and C are for when Z-axis is at the upper-most position. Trajectory accuracy is not ensured.
*4: Pneumatic joints for hand are provided on the base. Pipes are to be provided by the customers.



Controller
TSL3000

Controller
TSL3000E

Teach Pendant
(Optional)



TPI000



TP3000

Controller Specifications

Model	TSL3000
No. of Controlled Axes	4
Motion Mode	PTP (point-to-point), CP (continuous path; Linear, Circular), Short-Cut, Arch Motion
Storage capacity	Total: Approx. 6,400 points + 12,800 steps 1 program: Approx. 2,000 points + 3,000 steps
No. of registrable Programs	Max. 256 (247 User files, 9 System files)
Teaching Unit (Optional)	Teach Pendant TP1000, TP3000 Programming by PC Software TSAssist and TSPC
External input/output signals	8 inputs and 8 outputs
Hand control signal	8 inputs and 8 outputs
External operation signals	Input: Program selection, start, stop, program reset, etc. Output: Servo ON, operation ready, fault, cycle stop, etc.
Communication port	RS232C 1 port (HOST or TCP/PRG) RS232C 1 port (General-purpose "COM1") RS4285 1 port (for I/O expansion) RS422 1 port (for TP1000) Ethernet
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, 190 to 240V AC, 50/60 Hz
Outer dimensions and mass *1	150(W)×266(H)×304(D) cm, 7(kg)
PC Software (Optional)	TSAssist: Robot Programming assist tool High-performance 3D simulation, program editor, teaching function, etc., TSPC TCP/PRGOS: PLC programming
Optional specifications *2	I/O signal polarity ("N-type" or "P-type"), I/O extension, Field network (PROFIBUS, DeviceNet, CC-Link, EtherNet/IP, EtherCAT)

Optional Controller Specifications

Model	TSL3000E
Storage capacity	Total: Approx. 12, 800 points + 25,600 steps 1 program: Approx. 2,000 points + 3,000 steps
Outer dimensions and mass *1	320(W)×266(H)×304(D) cm, 13 (kg)
Optional specifications for TSL3000E	High-speed input signal, conveyor synchronization, CE compliance

*1: Height values include rubber feet. Space clearance is required for cable routing etc. Please contact us about the full details of dimensions.
*2: 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 and EtherNet/IP are registered trademarks of ODVA. Profibus is a registered trademark of PROFIBUS User Organization. EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.



High-performance Teach Pendant TP3000 (Optional)



New sensation!
Equipped with graphic operation keys!
The teach pendant TP3000 is easy to see and operate!

Adoption of an easy-to-view vivid color screen

Compared to our conventional teaching pendant TP1000, the TP3000 has significantly improved expression capability with the adoption of an LCD color screen.

Equipped with language association function

Language input candidates are displayed according to character input. Compared to the conventional teaching pendant TP1000, the TP3000 makes it easier to input commands more quickly.

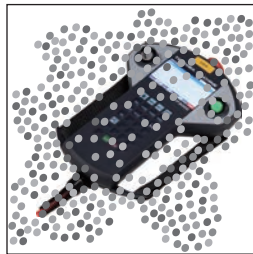
Equipped with graphic operation keys

The keyboard display changes dynamically according to the operation. Required keys can be displayed whenever they are necessary.

Outline function

The main program, subprograms and labels in the SCOL program can be displayed hierarchically so that the program structure can be viewed quickly.

Support for IP65



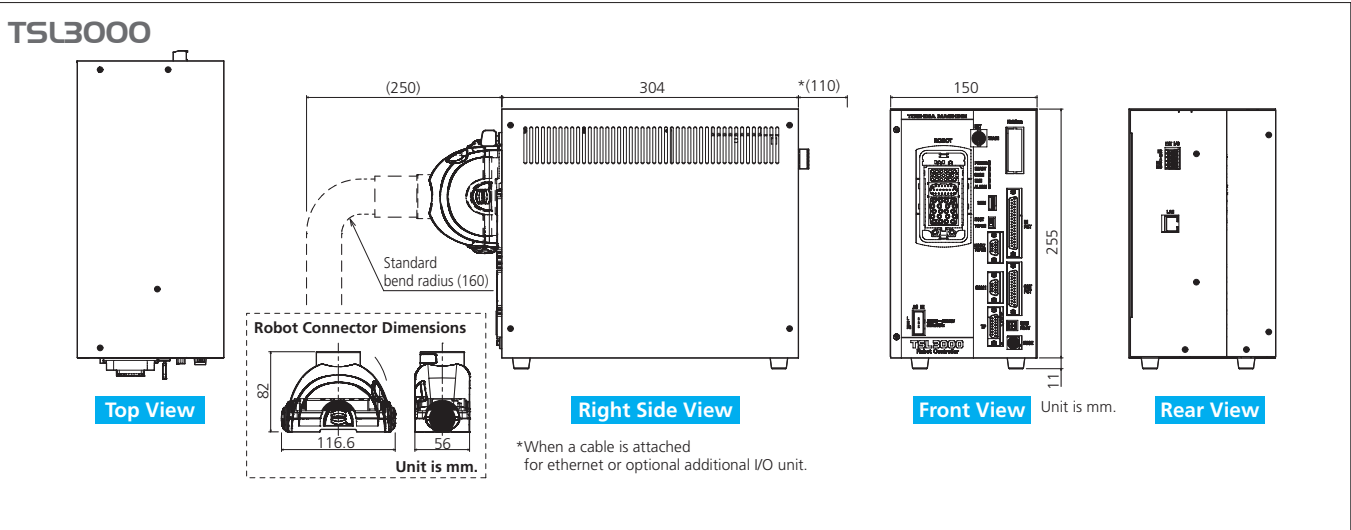
*The images shown are illustration only
Note: The controller's main body and the parts around the connector do not support the IP.

What is IP65?

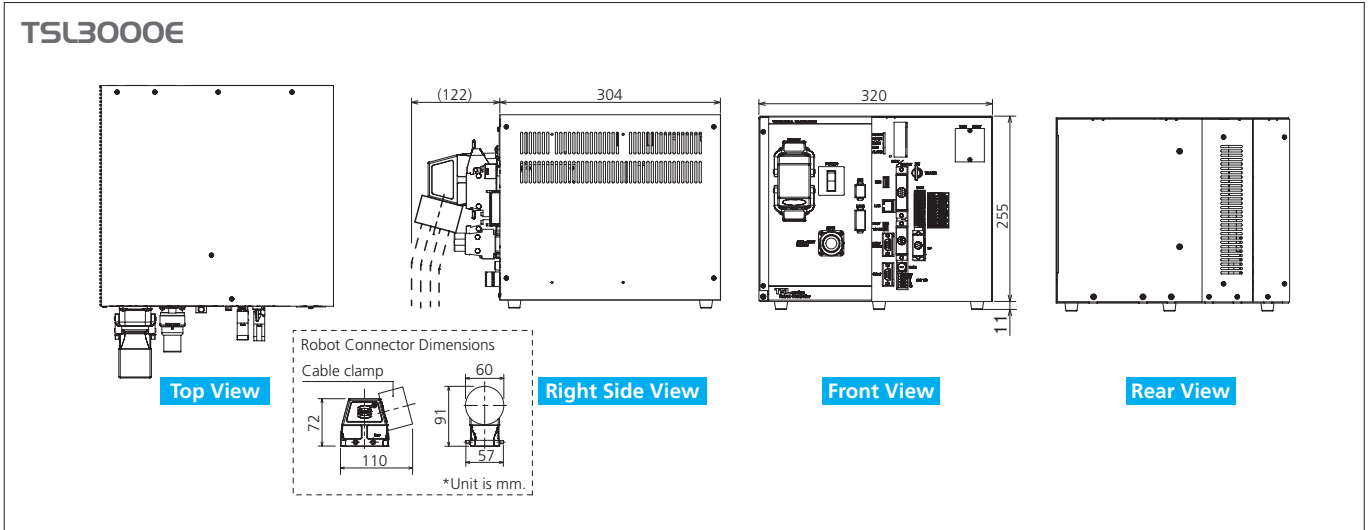
IP (International Protection) rating classifies and rates the degree of protection provided against the ingress of solid foreign objects (including particles and dust) and water in mechanical casings and with electrical enclosures.
The first characteristic numeral indicates the level of protection that the enclosure provides against the ingress of solid foreign objects (including particles and dust). "6" means "totally dust tight" so that "the enclosure provides against the ingress of solid particles and dust".
The second characteristic numeral indicates the level of protection that the enclosure provides against the ingress of water. "5" means "protection against water jets" so that "water directly projected by a nozzle against the enclosure from any direction shall have no harmful effects".

Note: Be sure to turn off the main power before attaching or detaching the cable.

External view



External view



SCARA ROBOT THL300

SCARA ROBOT THL400

WALTON



Model	THL300	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	300mm (125mm+175mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~160mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	660°/s
	Axis 2	660°/s
	Axis 3 (Z axis)	1120mm/s
	Axis 4 (Z-axis rotation)	1500°/s
	Composite	5.1m/s
Standard cycle time (with 2 kg load)*2	0.48s	
Maximum payload mass	5kg (rated: 2kg)	
Allowable moment of inertia	0.05kg·m ²	
Positioning repeatability*3	X-Y	±0.01mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ4 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	0.7kVA	
Mass	12kg	

■For *1 to *4, please see page 5.

WALTON

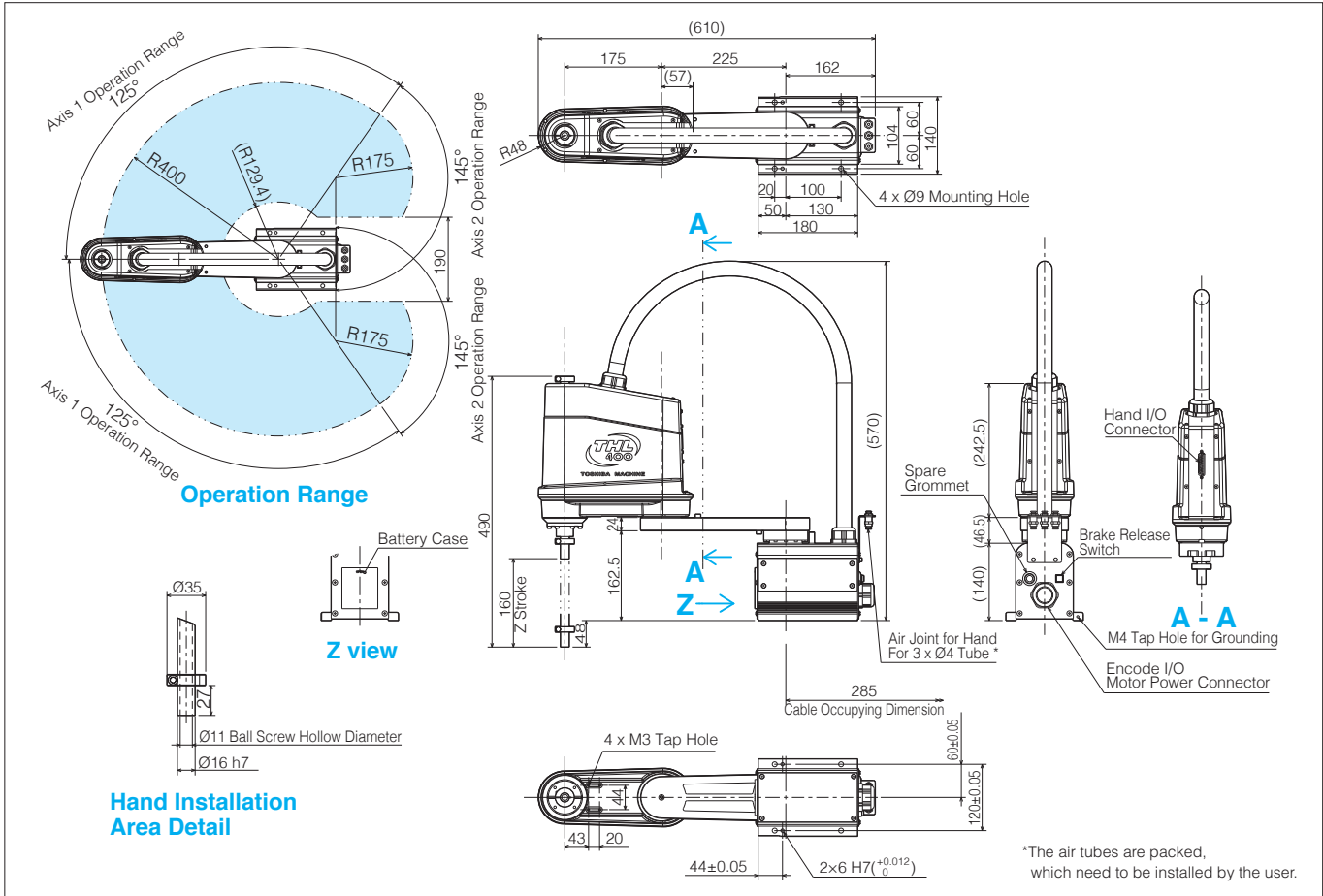
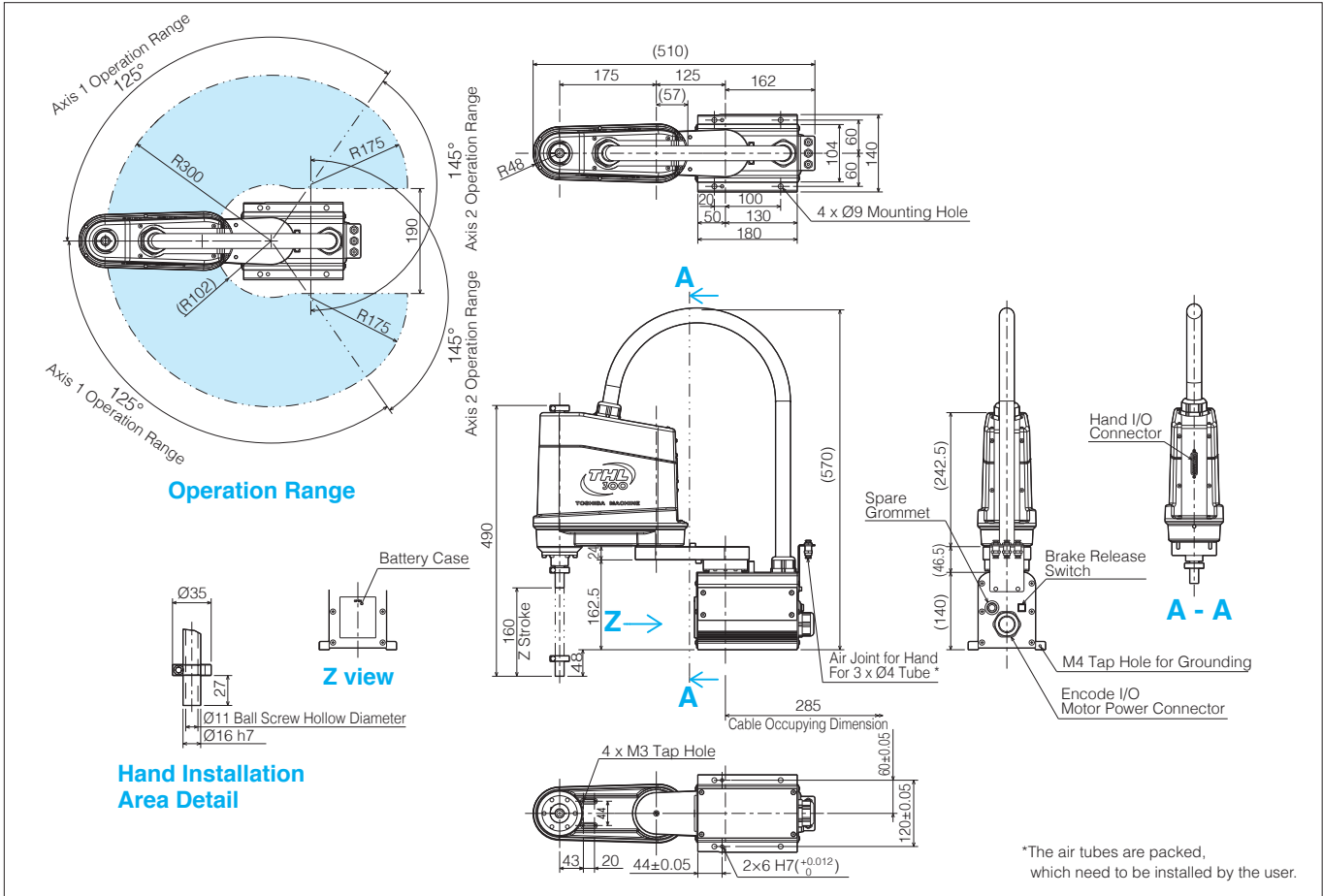


Model	THL400	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	400mm (225mm+175mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~160mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	660°/s
	Axis 2	660°/s
	Axis 3 (Z axis)	1120mm/s
	Axis 4 (Z-axis rotation)	1500°/s
	Composite	6.3m/s
Standard cycle time (with 2 kg load)*2	0.47s	
Maximum payload mass	5kg (rated: 2kg)	
Allowable moment of inertia	0.05kg·m ²	
Positioning repeatability*3	X-Y	±0.01mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ4 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	0.7kVA	
Mass	13kg	

■For *1 to *4, please see page 5.

External view

External view



SCARA ROBOT THL500

SCARA ROBOT THL600

WALTON



Model	THL500	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	500mm (200mm+300mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~150mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	450°/s
	Axis 2	450°/s
	Axis 3 (Z axis)	2000mm/s
	Axis 4 (Z-axis rotation)	1700°/s
	Composite	6.3m/s
Standard cycle time (with 2 kg load)*2	0.45s	
Maximum payload mass	10kg (rated: 2kg)	
Allowable moment of inertia	0.2kg·m ²	
Positioning repeatability*3	X-Y	±0.01mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ 6 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	1.4kVA	
Mass	22kg	

■For *1 to *4, please see page 5.

WALTON

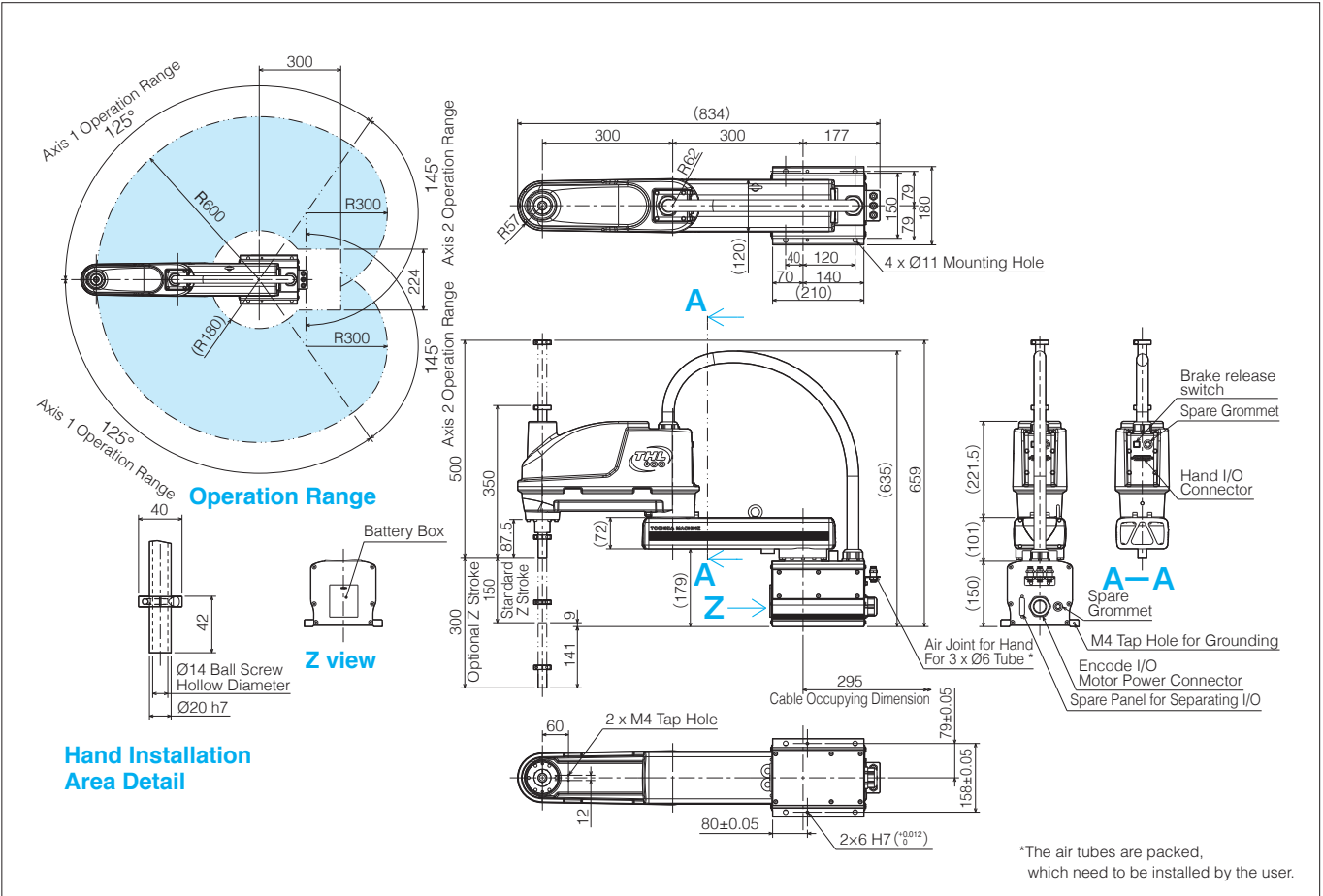
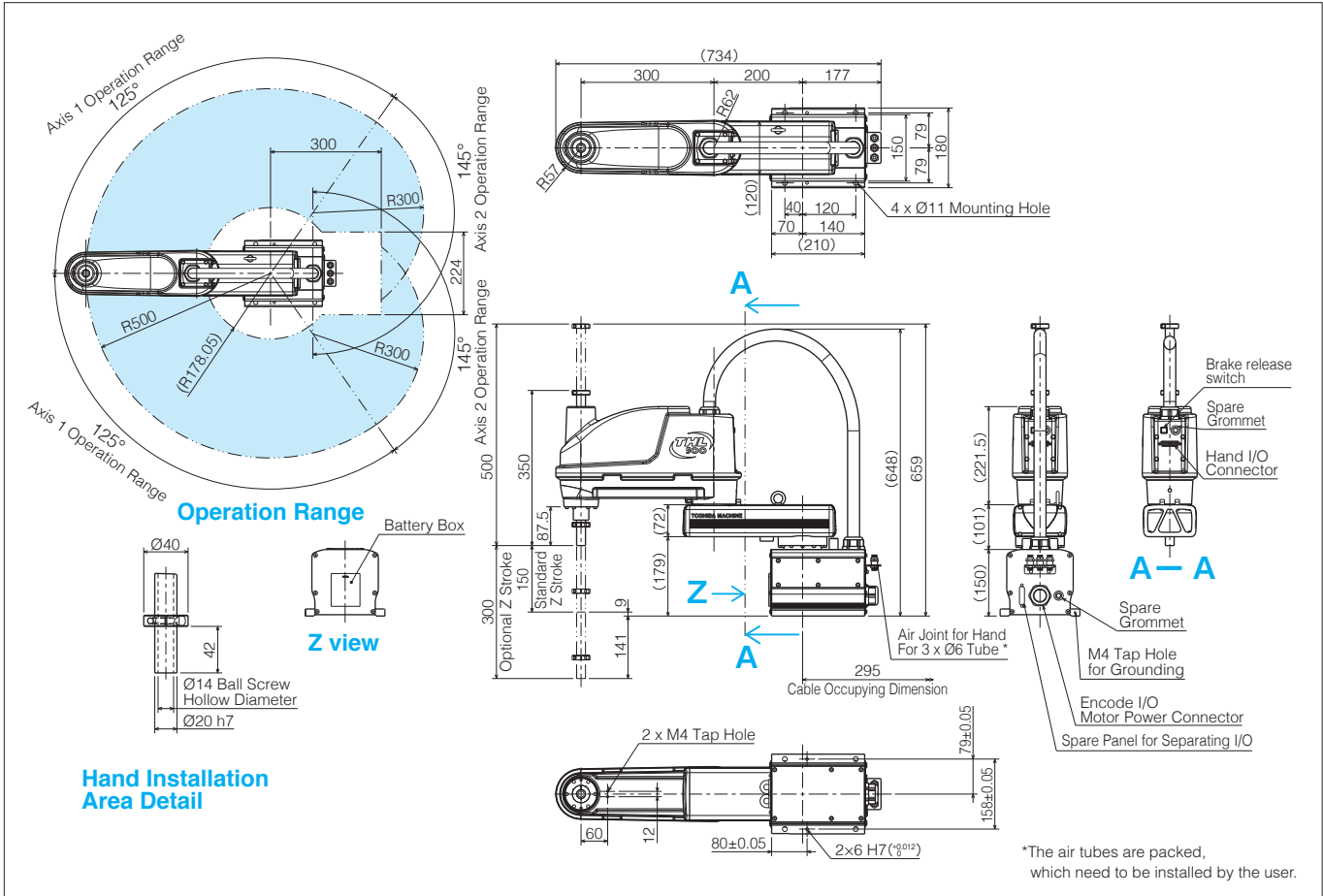


Model	THL600	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	600mm (300mm+300mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~150mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	450°/s
	Axis 2	450°/s
	Axis 3 (Z axis)	2000mm/s
	Axis 4 (Z-axis rotation)	1700°/s
	Composite	7.1m/s
Standard cycle time (with 2 kg load)*2	0.45s	
Maximum payload mass	10kg (rated: 2kg)	
Allowable moment of inertia	0.2kg·m ²	
Positioning repeatability*3	X-Y	±0.01mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ 6 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	1.4kVA	
Mass	23kg	

■For *1 to *4, please see page 5.

External view

External view





Model	THL700
Type	Horizontal multi-joint
No. of controlled axes	4
Arm length	700mm (400mm+300mm)
Working envelope	<div>Axis 1</div> <div>Axis 2</div> <div>Axis 3 (Z axis)</div> <div>Axis 4 (Z-axis rotation)</div>
	<div>$\pm 125^{\circ}$</div> <div>$\pm 145^{\circ}$</div> <div>0~150mm</div> <div>$\pm 360^{\circ}$</div>
Maximum speed*1	<div>Axis 1</div> <div>Axis 2</div> <div>Axis 3 (Z axis)</div> <div>Axis 4 (Z-axis rotation)</div> <div>Composite</div>
	<div>450%/s</div> <div>450%/s</div> <div>2000mm/s</div> <div>1700%/s</div> <div>7.9m/s</div>
Standard cycle time (with 2 kg load)*2	0.50s
Maximum payload mass	10kg (rated: 2kg)
Allowable moment of inertia	$0.2\text{kg}\cdot\text{m}^2$
Positioning repeatability*3	<div>X-Y</div> <div>Z (Axis 3)</div> <div>Axis θ (Z-axis rotation)</div>
	<div>$\pm 0.01\text{mm}$</div> <div>$\pm 0.015\text{mm}$</div> <div>$\pm 0.007^{\circ}$</div>
Hand wiring	8 inputs / 8 outputs
Hand pneumatic joints*4	$\phi 6 \times 3$ pcs.
Position detection	Absolute
Robot controller cable	3.5m
Power capacity	1.4kVA
Mass	24kg

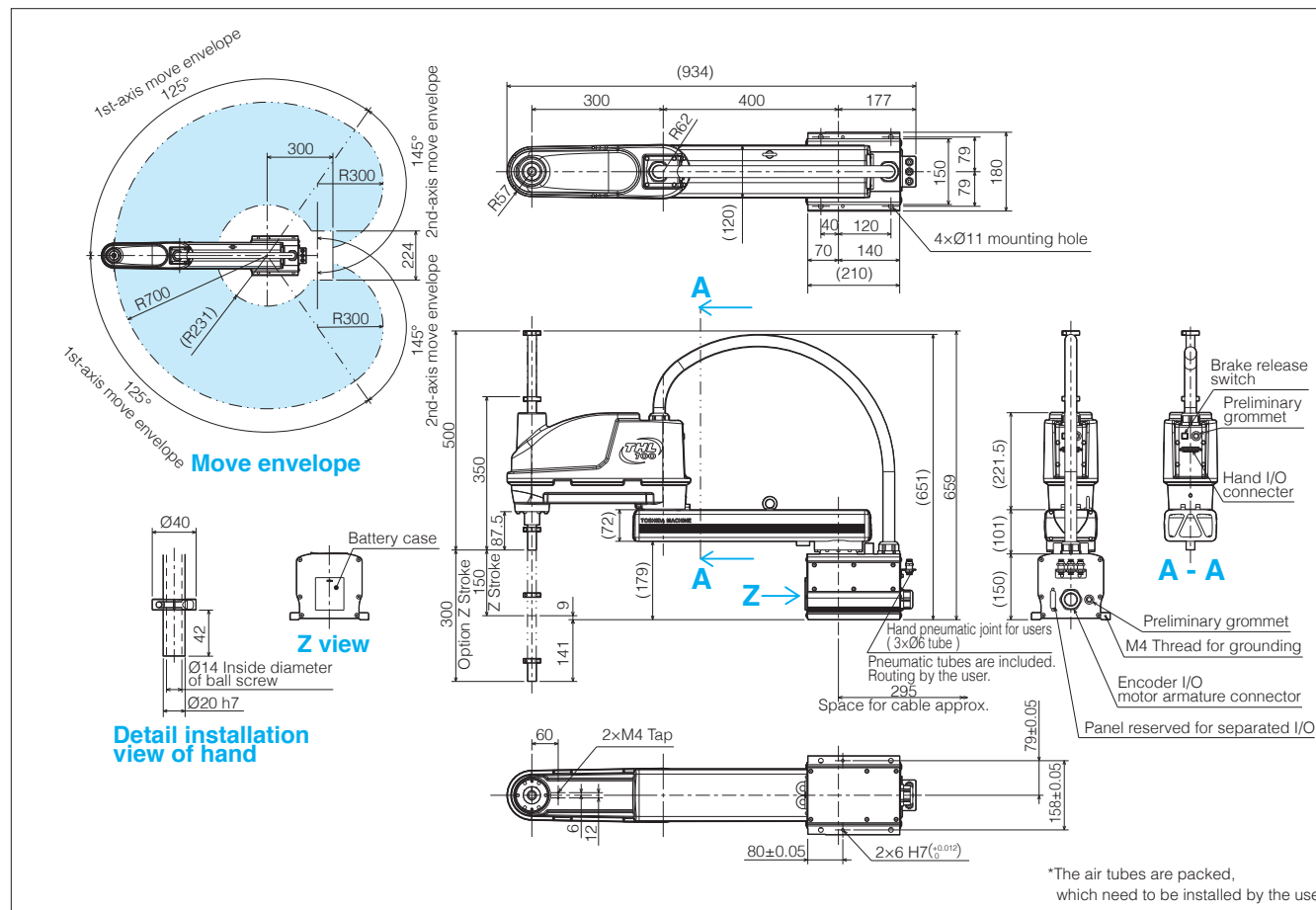
■For *1 to *4, please see page 5.



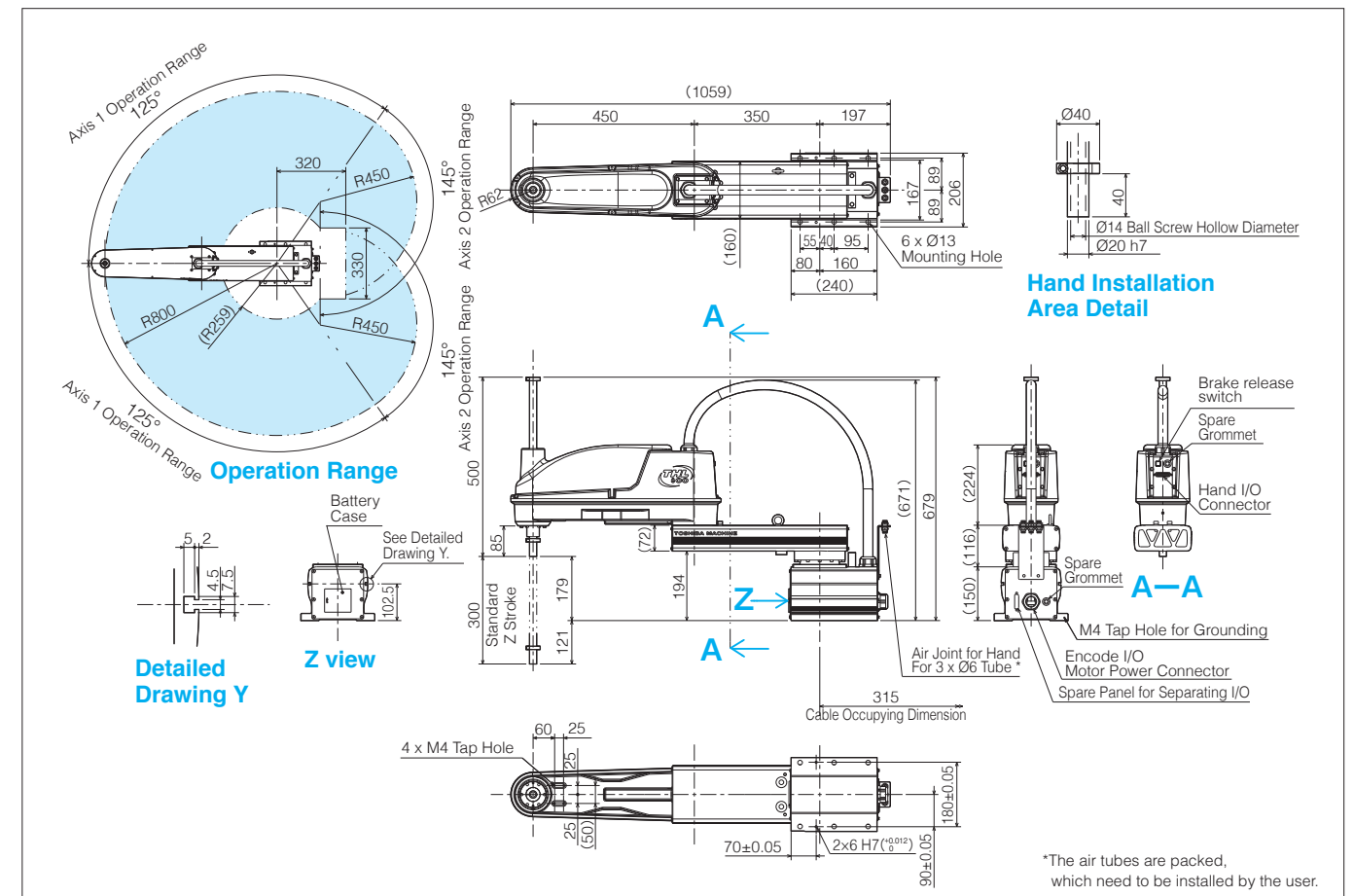
Model	THL800	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	800mm (350mm+450mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~300mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	187.5°/s
	Axis 2	217.5°/s
	Axis 3 (Z axis)	2000mm/s
	Axis 4 (Z-axis rotation)	1700°/s
	Composite	4.3m/s
Standard cycle time (with 2 kg load)*2	0.47s	
Maximum payload mass	10kg (rated: 2kg)	
Allowable moment of inertia	0.2kg·m ²	
Positioning repeatability*3	X-Y	±0.02mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ 6 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	1.4kVA	
Mass	33kg	

■For *1 to *4, please see page 5.

External view



External view



SCARA ROBOT THL900

SCARA ROBOT THL1000

WALTON



Model	THL900	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	900mm (450mm+450mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~300mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	187.5°/s
	Axis 2	217.5°/s
	Axis 3 (Z axis)	2000mm/s
	Axis 4 (Z-axis rotation)	1700°/s
	Composite	4.6m/s
Standard cycle time (with 2 kg load)*2	0.48s	
Maximum payload mass	10kg (rated: 2kg)	
Allowable moment of inertia	0.2kg·m ²	
Positioning repeatability*3	X-Y	±0.02mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ 6 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	1.4kVA	
Mass	35kg	

■For *1 to *4, please see page 5.



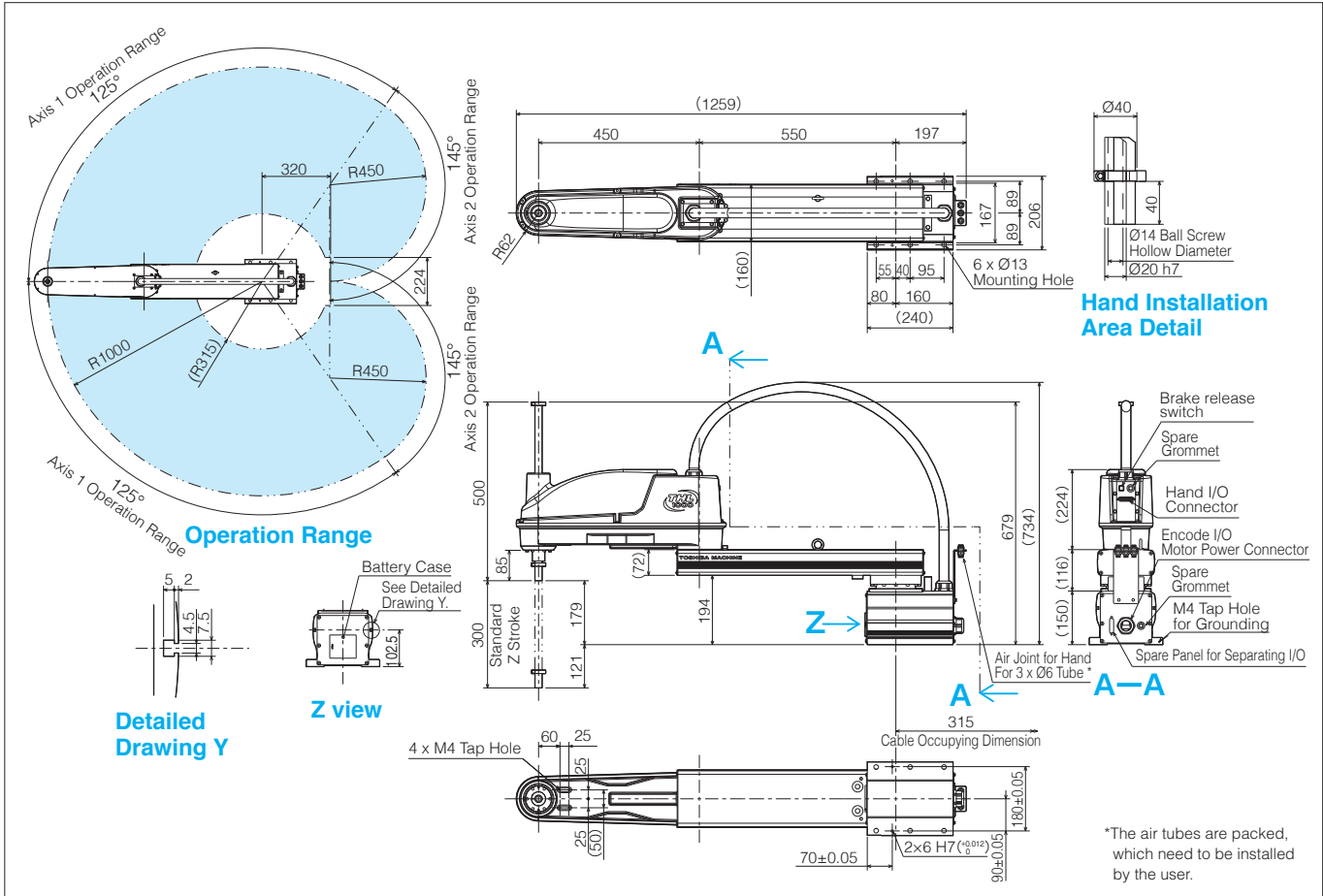
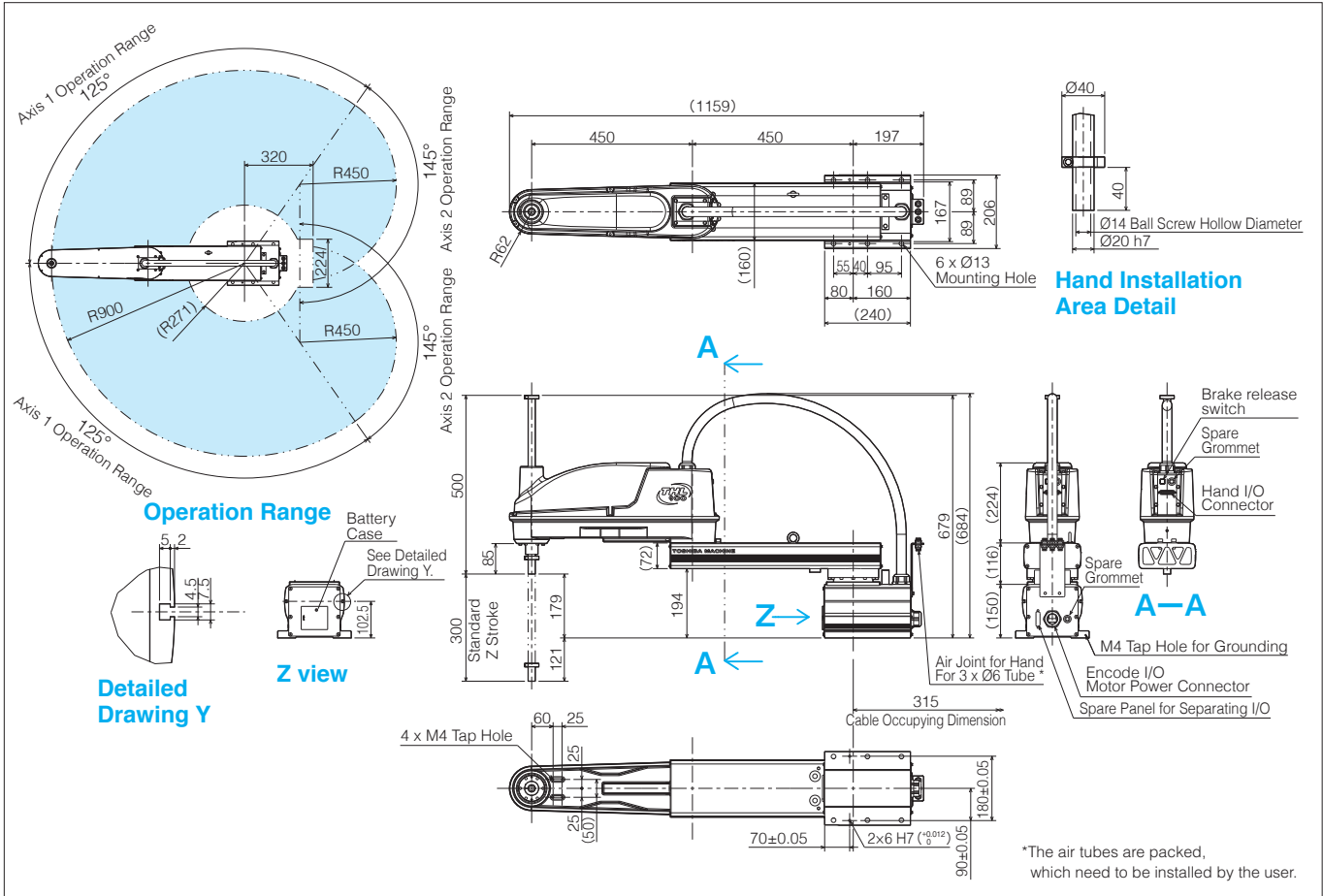
Model	THL1000	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	1000mm (550mm+450mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z axis)	0~300mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed*1	Axis 1	187.5°/s
	Axis 2	217.5°/s
	Axis 3 (Z axis)	2000mm/s
	Axis 4 (Z-axis rotation)	1700°/s
	Composite	5.0m/s
Standard cycle time (with 2 kg load)*2	0.48s	
Maximum payload mass	10kg (rated: 2kg)	
Allowable moment of inertia	0.2kg·m ²	
Positioning repeatability*3	X-Y	±0.02mm
	Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs / 8 outputs	
Hand pneumatic joints*4	φ 6 x 3 pcs.	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	1.4kVA	
Mass	37kg	

■For *1 to *4, please see page 5.

WALTON

External view

External view



These functional optional specifications are designed with consideration for applications, environment, and system-layout requirements.

Z-Axis Long Stroke (-Z)

Applicable Models: THL500, THL600, THL700

- The Z-axis stroke range is extended.
- Useful in an application with large up-down movements and handling of long workpieces.
- (Note: If a stroke length other than 300mm is required, please contact us.)

Protective Belliows for Z-Axis (-B)

Applicable Models: all models of the THL Series

- Protection of the Z-axis shaft lower side in an environment where liquid or chips may scatter.
- (Note: The cycle time and Z-axis stroke differ from the standard specifications. Please contact us for details.)



Z-Axis Cap (-C)

Applicable Models: all models of the THL Series

- Protection of the Z-axis shaft upper side in an environment where liquid or chips may scatter. It also prevents intrusion and jamming by cables and other peripheral items.



Ceiling-mount type (-T)

Applicable Models: THL400, THL500, THL600, THL700, THL800, THL900, THL1000

- To enable more freedom in system layout and effective use of space, the robot is suspended from the upper side of the working area.
- (Note: The working envelopes differ from the standard-type robots. Please contact us for details.)



Optional Cables Length

- In all models of the THL Series SCARA robots, the length of the cable between a SCARA robot and its controller can be extended to a maximum of 15m.

Dust-proof (-IP6X)

Applicable models: THL500, THL600, THL700

- Dust-proof structure with protection rating IP6X.
- (Note: The number of hand signals and pneumatic pipes differ from the standard design. Please contact us for details.)

Support of Safety Category 3

Applicable Models: all models of the THL Series

- By adding necessary safety design, conformance to the safety category 3, which is required in the ANSI and CE marking, is achieved.
- (Note: this is possible with TSL3000E controller.)

Tool Flange for End Effectors Mounting

Applicable Models: all models of the THL Series

- Tool flange for securing the robot's hand is available.
- *The photo right shows the tool flange for the THL500 ~ THL1000 SCARA robots.
- The shape of the tool flange for the THL300 and THL400 SCARA robots is different from the photo right.



Additional Axis

Applicable Models: all models of the THL Series

- Additional axis can be added and controlled, for such purpose as mounting a robot on a traverse axis.

Simple Cleanroom specification (-SC)

WALTON Applicable Models: all models of the THL Series

- Cleanroom design equivalent of ISO clean Class 5.
- Effective for dust-averse applications such as semiconductor and electronics manufacturing.

Low Height Design (-LH)

Applicable Models: THL1000

- Total height is lower than standard design by alternative wire harness design. It allows for installation in tight space.

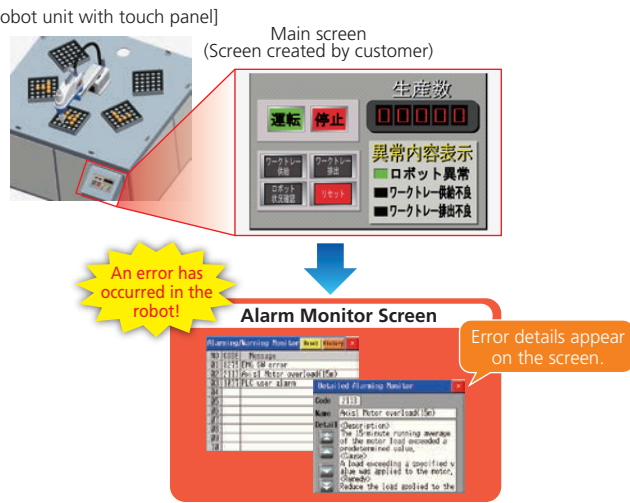
Options Overview Table

Please contact us for the latest optional designs supported.

Option Model Name	Z-Axis Long Stroke (-Z)	Protective Belliows for Z-Axis (-B)	Z-Axis Cap (-C)	Ceiling-mount type (-T)	Cable Extension (Max.)	Safety Category 3	Dust-proof (-IP6X)	Dust and Splash-proof (-IP)	Tool Flange for End Effectors Mounting	Additional Axis	Simple Cleanroom (-SC)	Low Height (-LH)
THL300	△	○	○	×	15m	○	△	×	○	○	○	×
THL400	△	○	○	○	15m	○	△	×	○	○	○	×
THL500	○(300mm)	○	○	○	15m	○	○	×	○	○	○	×
THL600	○(300mm)	○	○	○	15m	○	○	×	○	○	○	×
THL700	○(300mm)	○	○	○	15m	○	○	×	○	○	○	×
THL800	△	○	○	○	15m	○	△	×	○	○	○	△
THL900	△	○	○	○	15m	○	△	×	○	○	○	△
THL1000	△	○	○	○	15m	○	△	×	○	○	○	○

○: Applicable △: Please contact us ×: Not applicable TH-A Series is recommended for dust and splash proof (IP) design.

Support for Connection Device Samples



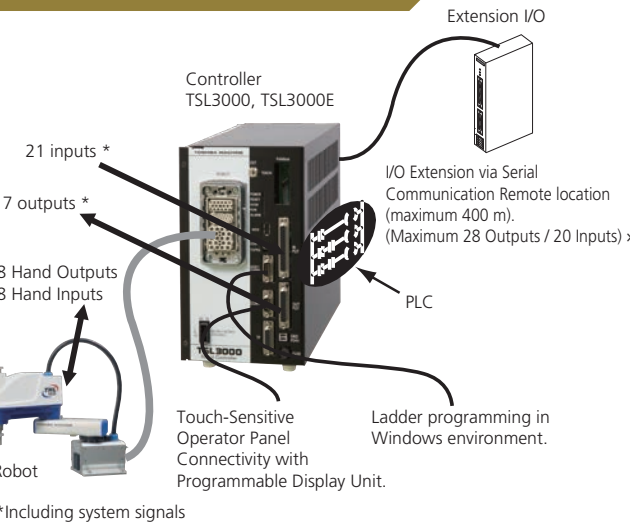
Connection Device Samples is a collaborative system between Toshiba Machine Co., Ltd. and Digital Electronics Corporation. It enables users to check the status of the robot on the touch panel display device.

[Features and advantages]

- When an error occurs in the robot, the error information or details can be checked on the Alarm Monitor Screen (see the left figure).
- Additionally, various other screens for functions including Robot I/O Monitor, Current Position Monitor, I/O Time Chart and Connected Device Data Transfer are provided.
- The above robot screens can be downloaded from the website of Digital Electronics Corporation free of charge. There is no need to create these screens and they can be used immediately after product purchase. http://www.pro-face.co.jp/otasuke/sample/download/common/connection_robot_con_ts_j.html
- The status of the robot can be checked even by people who cannot operate the teach pendant.
- Because the information about both the robot and the system is displayed on the same display device, troubleshooting is much easier.

*For product information about the touch panel that is compatible with this system, please contact Digital Electronics Corporation. http://www.pro-face.com/otasuke/sample/detail/common/connection_robot_con_ts_e.html

Built-In PLC

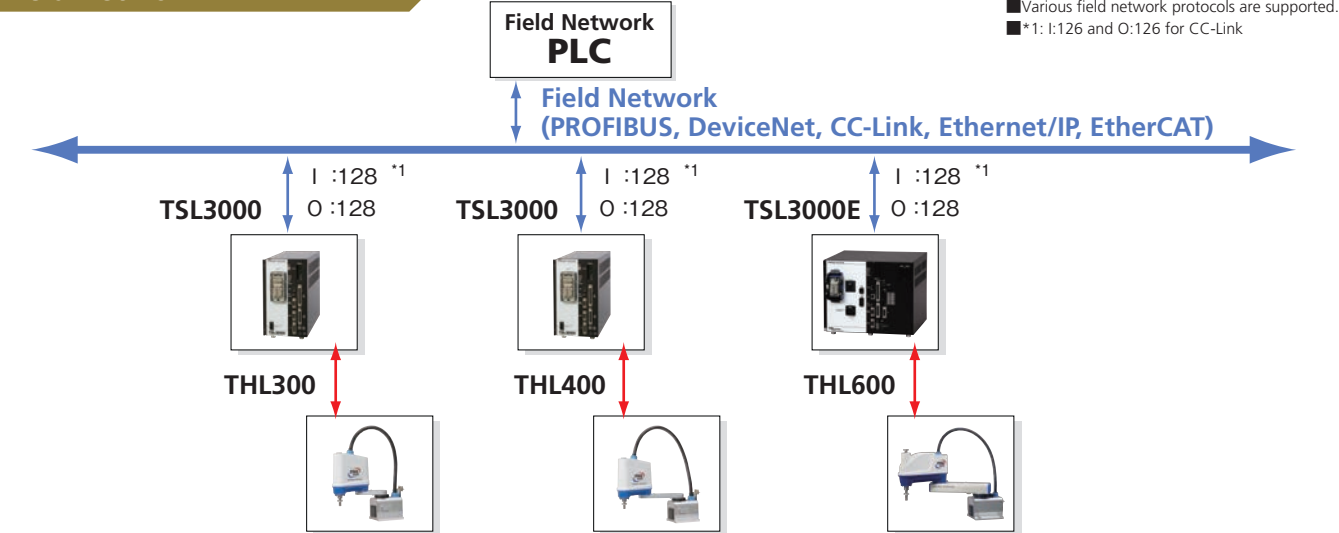


The TSL3000 controller has a built-in PLC (TCmini). Input and output signals can be handled by ladder-style programming logic, independent from robot motion.

[Features and advantages]

- TCmini controls input/output signals of standard I/O, extension I/O and touch-sensitive panel by ladder program and exchanges data with robot program.
- Thus, flexible system design and control of peripheral equipment is possible without the added cost of an outside host PLC.
- Creation, monitoring and debugging of ladder-logic programming with powerful programming support software TSPRGOS-W (optional).
- The scan time is 5ms per 1 K-Word. Connection is possible with various programmable controllers and display units etc.

Field Network



The following PC software tools are provided to shorten the time and increase the efficiency of system designing and installation work.

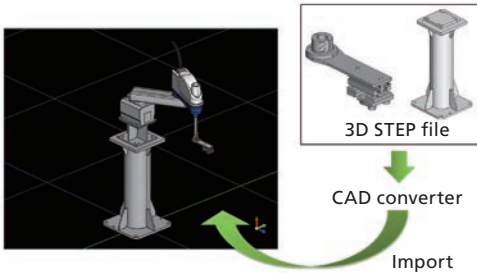


POWERFUL ASSISTANCE TO ALL PHASES OF AUTOMATION FACILITIES, FROM PLANNING, INSTALLATION TO ENHANCEMENT

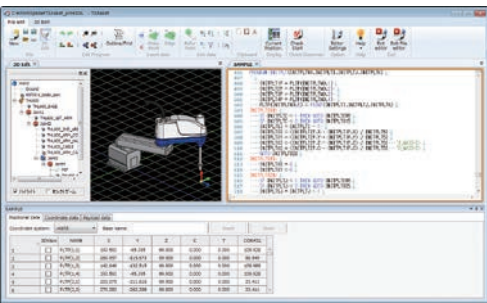
1.High Performance 3D Simulation

Accurate simulation with interference check, locus display, timer (cycle time measurement), placing simple workpieces and model shapes, loading 3D CAD data, saving 3D simulation to a video file, and multi-angle view.

These functions enable highly-accurate and a high-quality estimation of robot-automation processes. From simple outline simulation to "get the picture" to accurate simulation closer to actual machine implementation, TSAssist powerfully assists all phases of robot-automation system life cycle, from initial "sketch," planning, proposal, designing and installation, to improvement and re-purposing of existing facilities.



2.Highly Functional Program Editor



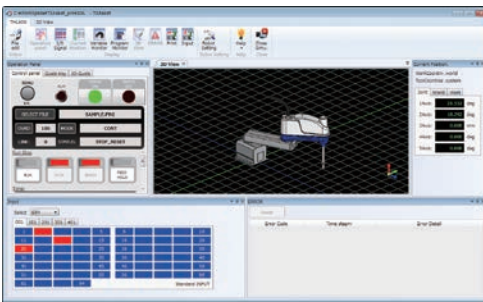
Robot language input support (keyword suggestions), Outline display, Split display.

Point data (taught position information) editor with, sort, search, filter functions. And in 3D Editor Mode, robot can be guided by mouse dragging and by clicking on object model surface. No complex position calculation is necessary. With these functions, programming can be done efficiently and with minimum mistakes.

3.Easy Operation

Easy-to-understand, intuitive screen design, ribbon interface, window-dock function for customize-able operator panels.

Beginners will find it easy to understand and can quickly learn robot programming skills. For experienced robot users, TSAssist helps making robot programs efficient by customization.



TCPRGOS: For programming the built-in PLC

- 1.Ladder-style logic programming for the built-in PLC.
- 2.In addition to program creation, on-line monitoring of ladder program and I/O status help reduce development and debugging time.
- 3.Extensive functions such as address map display, comment display and search functions are provided.

