

TOSHIBA MACHINE'S  
VERTICAL ARTICULATED ROBOT

# TV600

### Return of investment

Easy adaptation to production facilities  
High extensibility  
User friendly software

### Light weight design

Space-saving, Light-weight  
High speed, High precision  
Environment friendly

#### Robot Specifications



Model	TV600	
Type	Vertical Articulated Robot	
Number of controlled axis	6 axis	
Arm Length	Total Length	572mm
	1st Arm	270mm
	2nd Arm	302mm
Reach	580mm	
Working envelope	Axis 1(J1)	±165°
	Axis 2(J2)	±110°
	Axis 3(J3)	0~+160°
	Axis 4(J4)	±160°
	Axis 5(J5)	±120°
	Axis 6(J6)	±400°
Maximum speed*1	Axis 1(J1)	250°/s
	Axis 2(J2)	250°/s
	Axis 3(J3)	250°/s
	Axis 4(J4)	320°/s
	Axis 5(J5)	320°/s
	Axis 6(J6)	420°/s
Composite*4	5.9m/sec	
Maximum payload mass*1	3kg (rated : 1kg)	
Standard cycle time*2	0.58sec	
Allowable moment of inertia at end*1	Axis 4,5	0.02kg·m <sup>2</sup>
	Axis 6	0.015kg·m <sup>2</sup>
Positioning repeatability*3	±0.02mm(X-Y-Z)	
Position detecting system	Absolute system/AC servo motor	
Power supply	1.0kVA	
Robot body	Mass	25kg
	Color	White

\*1: Acceleration rates are limited depending on motion patterns, payload mass, and offset value.  
\*2: Continuous operation of standard cycle motion pattern is not possible beyond the effective load ratio.

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

\*3: When the environment temperature is constant.

\*4: Under rated load

#### Controller Specifications



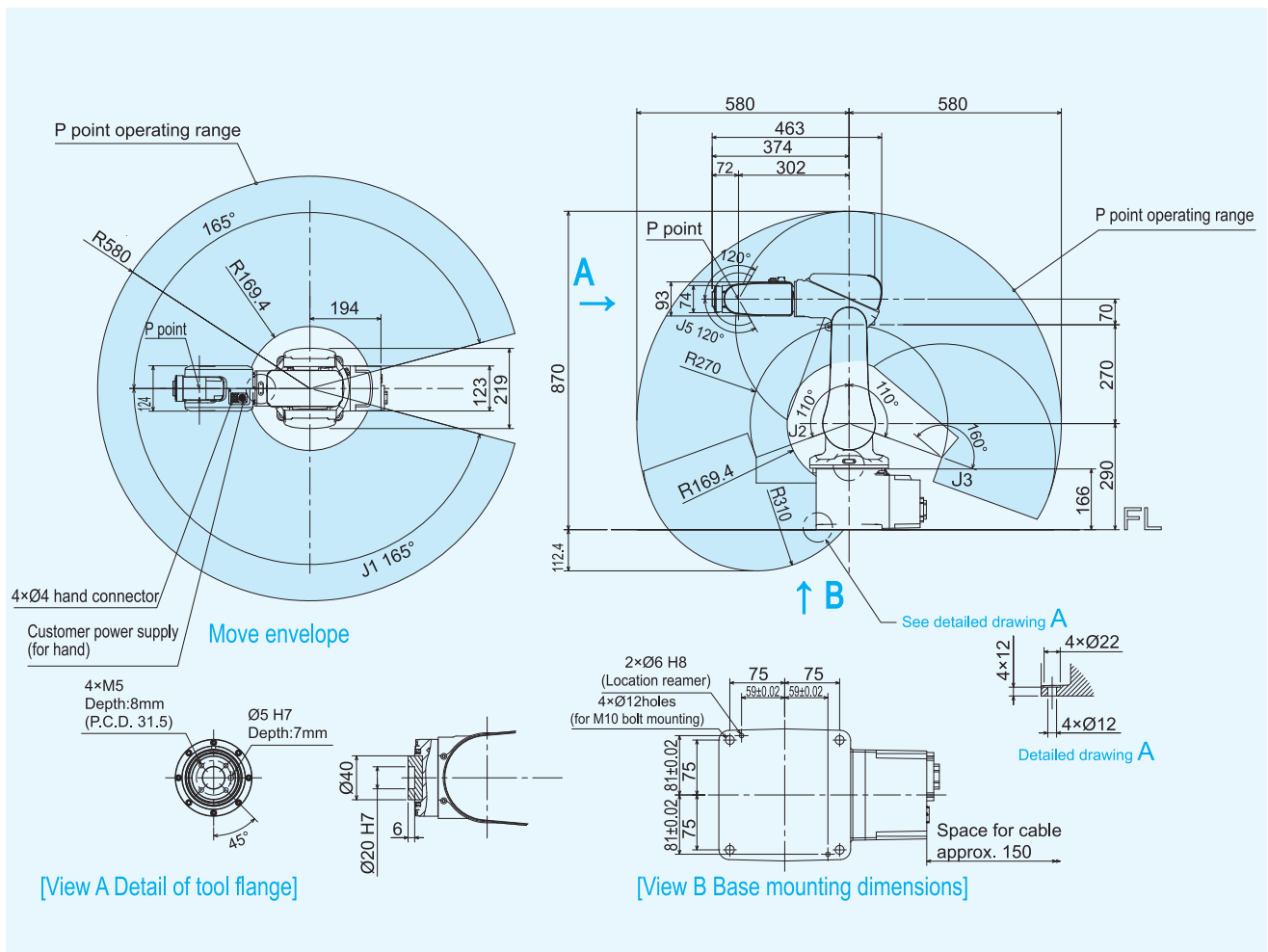
Controller  
TS3100V2

TEACH PENDANT(OPTION)  
TP1000

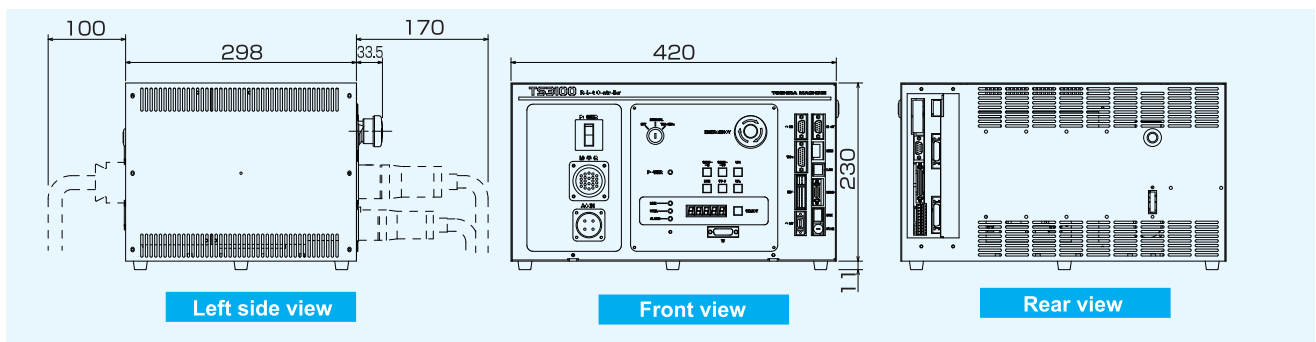
Model	TS3100V2
No. of axis	Maximum six-axis simultaneous control
Operation mode	PTP, CP(linear·Circular), Short-cut, Arch motion
Storage capacity	Total: 12800 points + 25600 steps
	1 program: 2000 points + 3000 steps
No. of programs	Max.256(247 user files + 9 system files)
Programming language	SCOL(proprietary, 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	4 inputs/4 outputs
External operation signal(exclusive)	Inputs: Cycle operation 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*5
Other functions	Torque control, Interruptive functions, self-diagnosis, I/O control and communications during motion, Coordinate calculations, Built-in PLC, etc
Outer dimensions and mass	420W×230H×298D(mm), 17kg
PC software(option)	TSPEC...Program editor, Teaching, Remote operation, etc
Options	I/O extension, I/O cables, Field-Network(CC-Link, DeviceNet, PROFIBUS)*5

\*5: 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.

## TV600 [External View]



## TS3100V2 [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

**TM ROBOTICS (AMERICAS) INC.**  
755 Greenleaf Avenue, Elk Grove Village, IL 60007, U.S.A.  
TEL:[1]-847-709-7308 FAX:[1]-847-869-7358

**TM ROBOTICS (EUROPE) LTD.**  
Unit 2, Bridge Gate Centre, Martinfeld,  
Welwyn Garden City, Herts AL7 1JG, UK  
TEL [44]-(0)1707-290370 FAX [44]-(0)1707-376662

URL:<http://www.toshiba-machine.co.jp/en/product/robot/index.html>  
<http://www.toshiba-machine.com>  
<http://www.tmrobotics.co.uk>