

## Technical Specifications VM-1500 / VM-1800

Item		Specifications	
Model of robot unit		VM-1500	VM-1800
Axes		6	
Position detection		Absolute encoder	
Drive motor and brake		All-axis servo motor / all-axis brake	
Total arm length (No. 1 arm + No. 2 arm)		1395 (710 + 685) mm	1695 (860 + 835) mm
Maximum motion area(Point P)		1506 mm	1804 mm
Motion range	J1 (No.1 axis)	±170°(*4)	
	J2 (No.2 axis)	+140°, -100°	
	J3 (No.3 axis)	+170°, -130°	
	J4 (No.4 axis)	±200°	
	J5 (No.5 axis)	±145°	
	J6 (No.6 axis)	±360°	
Maximum payload		25 kg	
Maximum joint speed	J1	240 deg/sec	285deg/sec
	J2	240 deg/sec	252.5deg/sec
	J3	300 deg/sec	303deg/sec
	J4	425deg/sec	
	J5	425deg/sec	
	J6	887 deg/sec	
Position repeatability(at the center of an end-effector mounting face)(*2)		±0.05mm	±0.05mm
Maximum allowable moment of inertia	J4,J5	2.45 kgm <sup>2</sup>	
	J6	1.3 kgm <sup>2</sup>	
Maximum allowable moment	J4,J5	52 Nm	
	J6	32 Nm	
Signal line / Air pipe solenoid valve (option)	Signal line	15-core (signal wires for proximity sensors, etc) (*5) 1x LAN cable(STP) Option: 2x 10-core (signal wires for proximity sensors, etc) (*5) 1x LAN cable(STP)	
	Air pipe solenoid valve (*3)	9 Circuits (φ6 × 8, φ8 × 1)(*3) [solenoid valves can be selected from 1 to 3] 1. Solenoid valves (2 position, double solenoid) 2. Solenoid valves (3 position, exhaust center solenoid) 3. Solenoid valves (3 position, closed center solenoid) 3rd Axis Option: 1 Circuits (φ8)	
Air source	Normal pressure	0.20Mpa - 0.39Mpa	
	Maximum allowable pressure	0.49Mpa	
Airborne noise(A-weighted equivalent continuous sound pressure level)		75 dB or less	
Protection grade		Standard type : IP40 Protected type : IP67 Cleanroom type : ISO class 5	
Weight		Approx. 220 kg	Approx. 250 kg

\*1. Time required for a robot to move a 1 kg payload between two points 300 mm apart at a height of 25 mm

\*2.Position repeatability is the precision at constant ambient temperature.

\*3.Controllable by use of the embedded solenoid valve only for φ6.

\*4.Limited motion range when wall mounted. For details, please contact our sales representative.

\*5.Allowable current is limited.

**External Dimensions for Standard Type Unit:mm**

