

# VS-D Series Vertical articulated robot

## Robot Specifications

Item	Specifications			
	Standard type	Dust-proof & splash-proof type	Overhead-mount	Overhead-mount, dust-proof & splash-proof type
Model name of robot set (Note 1)	VS-6354D	VS-6354D-W	VSS-6354D	VSS-6354D-W
Model name of robot unit	VS-6354DM	VS-6354DM-W	VSS-6354DM	VSS-6354DM-W
Overall arm length	255 (first arm) + 285 (second arm) = 540 mm			
Arm offset	J1 (swing): 100 mm, J3 (front arm): 85 mm			
Maximum motion area	R = 727 mm (end-effector mounting face), R = 652 mm (Point P: J4, J5, J6 center)			
Motion range	J1 : ±140°, J4 : ±168°	J2 : +100°, -55° (Note 3), J5 : ±120°	J3 : +163°, -13° J6 : ±360°	
Maximum weight capacity	5 kg			
Maximum composite speed	6800 mm/s (at the center of an end-effector mounting face under load of 9.8 N)			
Position repeatability (Note 2)	In each of X, Y and Z directions: ±0.02 mm (at the center of an end-effector mounting face)			
Maximum allowable inertia moment	Around J4 and J5: 0.113 kgm <sup>2</sup> Around J6: 0.008 kgm <sup>2</sup>			
Position detection method	Absolute encoder			
Drive motors and brakes	VS, VS-W, VSS, and VSS-W: AC servomotors for all joints, Brakes for joints J2 and J3 VS-B, VS-BW, VSS-B, VSS-BW: AC servomotors for all joints, Brakes for joints J2 to J6			
User air piping	6 systems (φ4), 3 solenoid valves (2-position, double solenoid) contained.			
User signal line	10 (for proximity sensor signals, etc.)			
Air source	Operating pressure	1.0 × 10 <sup>5</sup> Pa to 3.9 × 10 <sup>5</sup> Pa		
	Maximum allowable pressure	4.9 × 10 <sup>5</sup> Pa		
Degree of protection	IP40	IP54	IP40	IP54
Weight	Approx. 28 kg			

**Note 1:** The model name of robot set refers to the model name of a complete set including a robot unit and robot controller.

**Note 2:** The position repeatability is the value at constant ambient temperature.

**Note 3:** J2: +100° and -85° for VSS, and VSS-W.

## Robot Controller Specifications (VS-D series)

Item		Specifications
Applicable robot		Small-sized, vertical articulated type (VS-D series)
Model		RC5-VS6A
Control system		PTP, CP 3-dimensional linear, 3-dimensional circular
No. of controllable axes		Up to six axes simultaneously
Drive system		All axes: Full-digital AC servo
Memory capacity		1.25 MB (equivalent to 5000 steps, 13,000 points)
Language used		DENSO robot language (conforming to SLIM)
No. of teach programs loadable to the memory		255
Teaching system		1) Remote teaching 2) Numerical input (MDI)
External signals (I/O)	Input signal	20 user open points (PLC 12, hand input 8) + 36 fixed system points
	Output signal	32 user open points (PLC 24, hand output 8) + 33 fixed system points
External communication		RS-232C: 1 line Ethernet: 1 line (option)
Timer function		0.02 to 10 sec.(in units of 1/60 sec.)
Self-diagnosis function		Overrun, servo error, memory error, input error, etc.
Error display		Error codes will be displayed on the external I/O or the operating panel (option). Error messages will be displayed in English on the teach pendant (option).
Power source		3-phase, 200 VAC-15% to 230 VAC+10%, 50/60 Hz, 1.5 kVA Single-phase, 230 VAC-10% to 230 VAC+10%, 50/60 Hz, 1.5 kVA
Environmental conditions (in operation)		Temperature: 0 to 40°C Humidity: 90% RH or less (no condensation allowed)
Degree of protection		IP20
Cables (option)	Robot control cable	3 m, 6 m (selective)
	I/O cable	8 m, 15 m
	Power supply cable	5 m
Weight		Approx. 17 kg (excluding attached cables)

 **WARNING**

- × **DO NOT touch fins. Their hot surfaces may cause severe burns.**
- × **DO NOT insert fingers or foreign objects into openings. Doing so may cause bodily injury.**
- × **Before opening the controller cover and accessing the inside of the controller for maintenance, be sure to turn off the power switch, disconnect the power cable, and wait 3 minutes or more. This is for protecting you from electric shock.**
- × **DO NOT connect or disconnect connectors to/from the controller while the power switch is on. Doing so may cause electric shock or controller failure.**

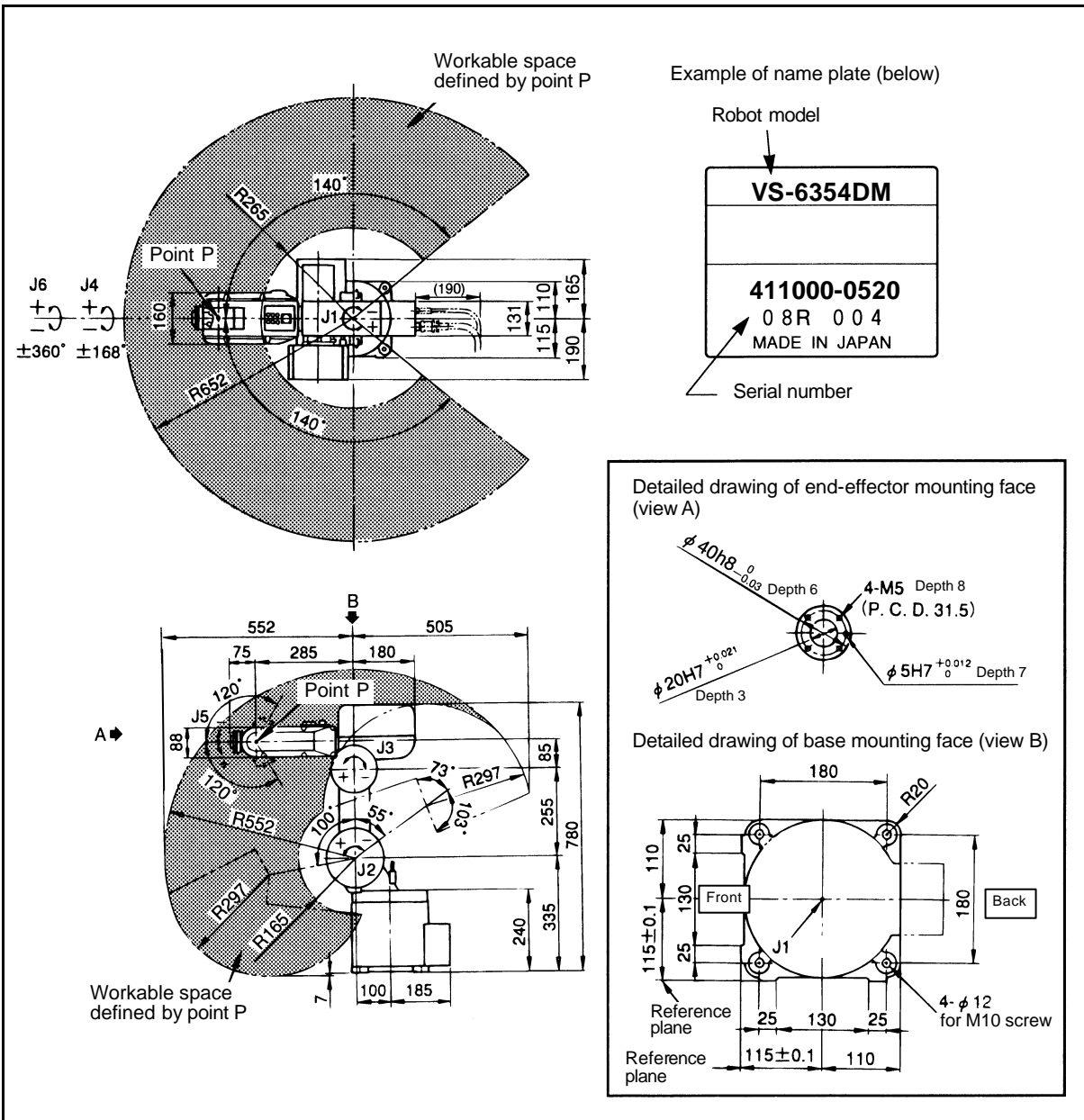
 **CAUTION IN INSTALLATION**

- × **This controller is not designed to be dust-proof, splash-proof, or explosion-proof.**
- × **Read operation manuals before installation.**
- × **Do not place anything on the controller.**

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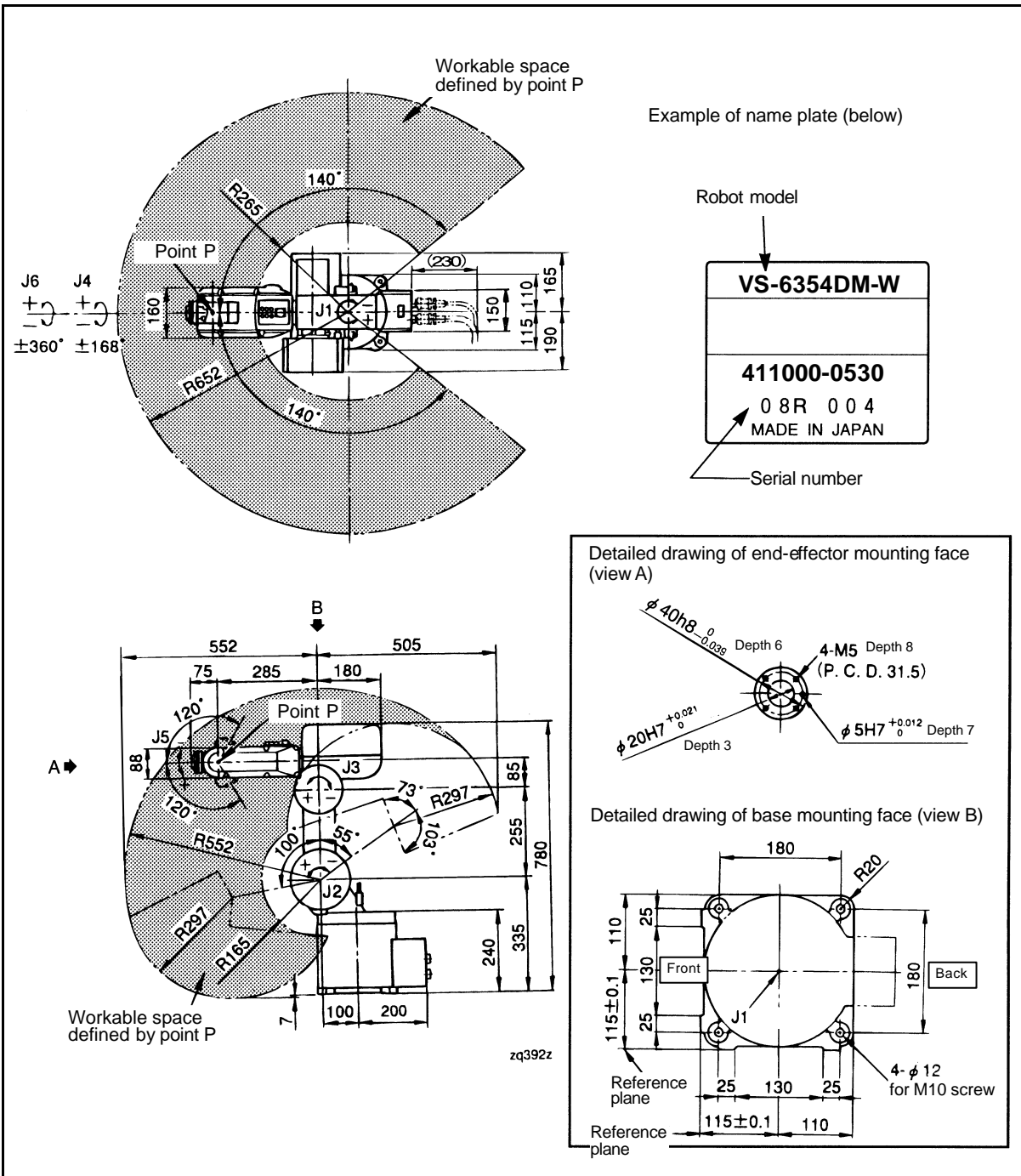
Outer Dimensions and Workable Space  
 VS-6354D (Standard type)

Unit (mm)



VS-D Series Vertical articulated robot  
 Outer Dimensions and Workable Space  
 VS-6354D-W (Dust-proof & splash-proof type)

Unit (mm)



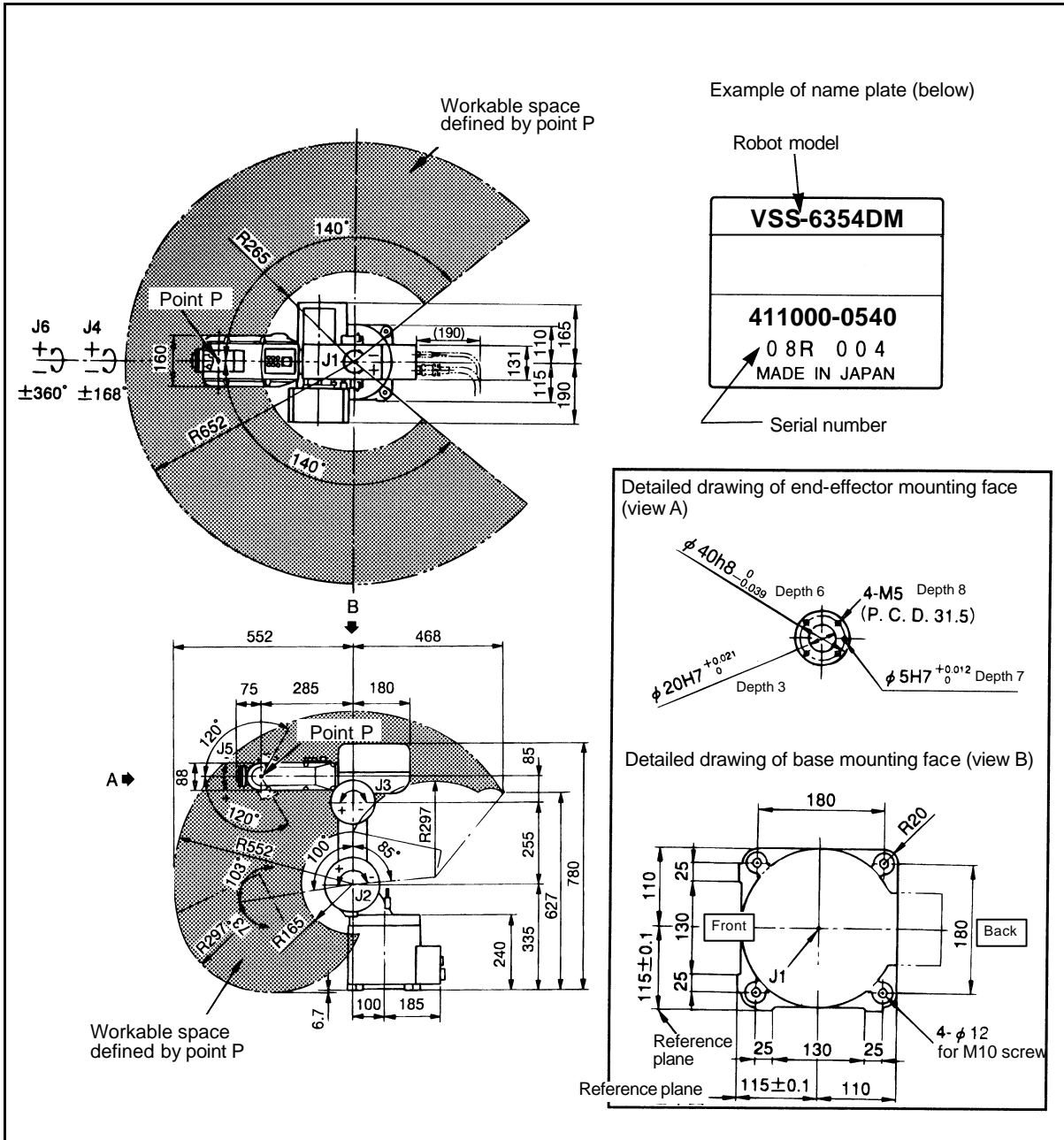
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# VS-D Series Vertical articulated robot

Outer Dimensions and Workable Space

VSS-6354D (Overhead-mount)

Unit (mm)



# VS-D Series Vertical articulated robot

## Outer Dimensions and Workable Space

VSS-6354D-W (Overhead-mount, dust-proof & splash-proof type)

Unit (mm)

