

## HM-D/HS-D Series Horizontal articulated robot Robot Specifications

Item		Specifications		
Model of robot system (Note 1)		HS(S)-4055*D	HM(S)-4070*D	HM-4085*D
Model of robot unit		HS(S)-4055*DM	HM(S)-4070*DM	HM-4085*DM
Overall arm length		250 (J1: 1st axis) + 300 (J2: 2nd axis) = 550 mm	350 (J1: 1st axis) + 350 (J2: 2nd axis) = 700 mm	425 (J1: 1st axis) + 425 (J2: 2nd axis) = 850 mm
Z-axis (3rd axis) vertical stroke*		* = 1: 100 mm, 2: 200 mm, 3: 300 mm		* = 2: 200 mm, 3: 300 mm
Wrist rotation angle (4th axis)		T: 540°		
Motion angle and stroke		J1 (1st axis): ±165°, J2 (2nd axis): ±138°, Z (3rd axis): 200 mm, T (4th axis): ±270°		
Axis combination		J1 (1st axis) + J2 (2nd axis) + Z (3rd axis) + T (4th axis)		
Maximum payload		10 kg		
Composite speed (Note 2)	At the center of the end-effector mounting face	7,900 mm/s (6,000 mm/s)	9,700 mm/s (7,350 mm/s)	11,000 mm/s (8,000 mm/s)
	Z and T	Z (3rd axis): 2,260 mm/s (2,000 mm/s), T (4th axis): 930/s° (709°/s)		
Position repeatability (Note 3)		At the center of the end-effector mounting face: 0.025 mm Z (3rd axis): ±0.025 mm		At the center of the end-effector mounting face: 0.030 mm Z (3rd axis): ±0.025 mm
Maximum forcefit		98N (one second or less)		
Maximum allowable inertia moment around T axis		0.078kgm <sup>2</sup> max. (with 10 kg payload)		
Position detection		Simplified absolute encoder		
Drive motor		AC servomotors for all axes + Gravity air balance cylinder, Z axis (3rd axis) equipped with brake		
Air source	Operating pressure	0.05 to 0.35 MPa		
	Maximum allowable pressure	0.59 MPa		
Weight		Approx. 50 kg	Approx. 55 kg	Approx. 60 kg

Note 1: The model of robot system refers to the model of a complete set, including a robot unit and robot controller. An asterisk (\*) in models denotes the Z-axis stroke: 1=100 mm, 2=200 mm, and 3=300 mm. The (S) in models denotes "overhead-mount" type robot.

Note 2: Values in parentheses apply when the control set of motion optimization is set to OFF.

Note 3: Provided that the ambient temperature is constant.

## H\*-D Series Robot Controller

Item		Specification
Applicable robot		Medium-/small-sized, horizontal articulated type Compact-sized, horizontal articulated type
Model		RC5-H4A RC5-HC4A
Control system		PTP, CP 3-dimensional linear, 3-dimensional circular
No. of controllable axes		Up to four axes simultaneously
Drive system		All axes: all digital AC servo
Memory capacity		1.25 MB (equivalent to 5000 steps, 13,000 points)
Language used		DENSO robot language (conforming to SLIM)
Usable programs		255
Teaching system		1) Remote teaching 2) Numerical input (MDI) 3) Direct teaching
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 increment 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 , the operating panel (option) or mini pendant (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, 2.0 kVA Single-phase, 200 VAC-10% to 230 VAC+10%, 50/60 Hz, 2.0 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 or 6 m (selective)
	I/O cable	(8 m, 15 m)
	Power supply cable	5 m
Weight		Approx. 16 kg (excluding attached cables)

 **CAUTION**

- DO NOT touch fins. Hot surface may cause severe burns.
- DO NOT insert fingers or foreign objects into opening, or personal injury may occur.
- DO NOT touch inside of controller before turning off power switch, disconnecting cable from controller and waiting 3 minutes or more, or you can receive electric shock.
- DO NOT connect or disconnect connectors while the robot controller is turned ON.  
Doing so will result in an electric shock or controller failure.

 **CAUTION IN INSTALLATION**

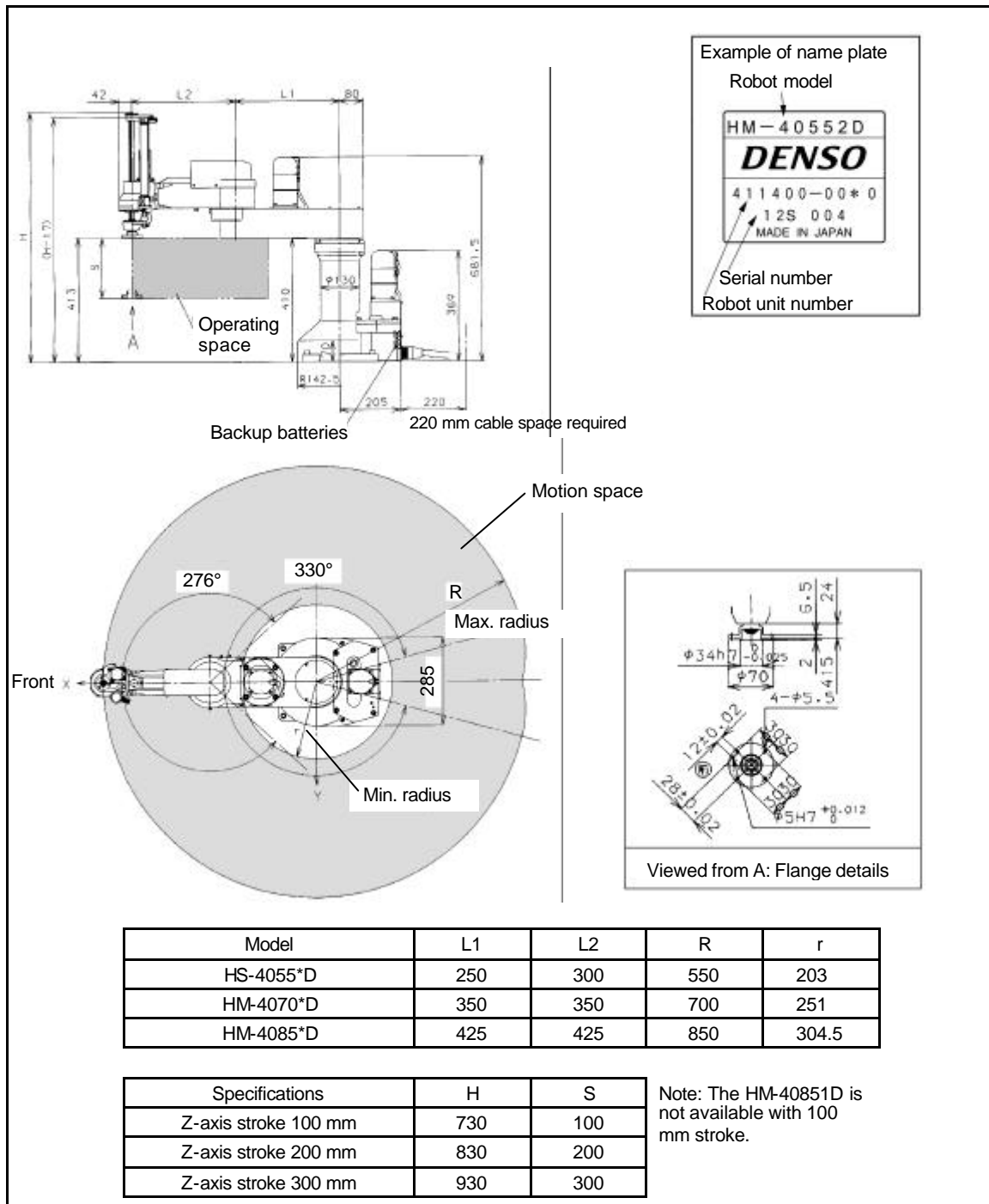
- This controller does not meet dust-proof, splash-proof or explosion-proof specifications.
- Read the owner's manuals before installation.
- Do not place anything on the controller.

# HM-D/HS-D Series Horizontal articulated robot

## Outer Dimensions and Workable Space

HM-D/HS-D series (Floor-mount)

Unit (mm)



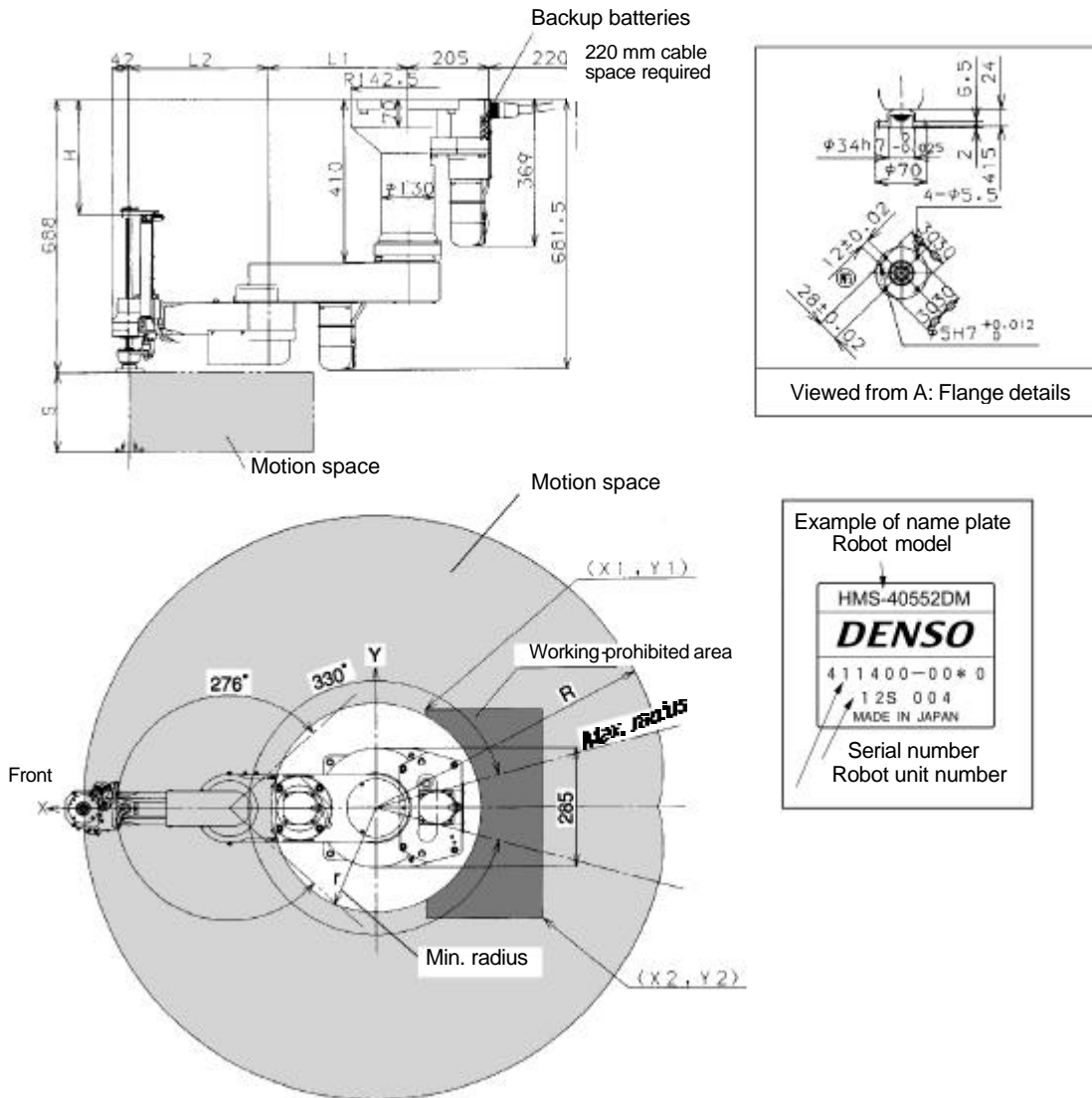
# HM-D/HS-D Series Horizontal articulated robot

## Outer Dimensions and Workable Space

### HMS-D/HSS-D series (Overhead-mount)

Unit (mm)

The working-prohibited area is determined as illustrated below where no person should work.



Model	L1	L2	R	r	X1	Y1	X2	Y2
HSS-4055*D	250	300	550	203	-61	236	-398	-266
HMS-4070*D	350	350	700	251	-120	236	-398	-266

Specifications	H	S
Z-axis stroke 100 mm	388	100
Z-axis stroke 200 mm	288	200
Z-axis stroke 300 mm	188	300