

# FD-V20S

**Highly flexible 7-axis high-speed robot for welding, manufacturing and handling medium-heavy payloads.**

The 7-axis arc welding robot V20S from the FD series is the optimal robot for medium-heavy loads. The extended degree of freedom enables a constant torch orientation when immersing in tight work spaces.

Due to the high flexibility, several robots can be positioned closer to each other, so it is possible to have a larger number of robots in the cell or system working together.



## Specification

Type	FD-V20S
Number of axes	7
Working range	R 1710 mm
Max. payload capacity	20 Kg
Additional payload capacity Axis 3	20 Kg (Note 7)
Installation type	F
Weight	321 Kg
Ambient temperature and humidity	0 ~ 45°C, 20 ~ 80 % RH (No condensation)

## Product information

Order No.	116000015
Model No.	0

## Performance

Position repeatability (ISO 9283) +/- 0,08 mm (Note 1)

	Working Range	Max Speed	Wrist load
Axis 1	+/- 170°	3,40 rad/s {195°}	
Axis 2	- 145° ~ + 70°	3,32 rad/s {190°/s}	
Axis 3	- 170° ~ + 160°	3,14 rad/s {180°/s}	
Axis 4	+/- 180°	6,98 rad/s {400°/s}	1,09 kg/m <sup>2</sup>
Axis 5	- 50° ~ 230° (Note 6)	6,98 rad/s {400°/s}	1,09 kg/m <sup>2</sup>
Axis 6	+/- 360° (Note 6)	10,5 rad/s {600°/s}	0,24 kg/m <sup>2</sup>
Axis 7	+/- 90°	2,79 rad/s {160°}	

Note 1: The value of the positional repeatability is at the tool center point (TCP) compliant to ISO 9283.

Note 2: The value in the parentheses indicates the wall-hung condition. J2 axis may occur the limitation of the working range.

Note 3: There are occasions where restrictions can be made to the operation range of the J2 axis when the wall-hung condition.

Note 4: The operation range of the J3 axis is restricted to -170 degrees to + 180 degrees when floor based welding is applied (In overhead mounting it's a combination of J2 + J3 axis).

Note 5: This is the specification for the case that the coaxial power cable are let into the centrum of J4 and J6 axis. The value given in parentheses presents for other specifications.

Note 6: There are occasions where restrictions can be made to the operation range of the J6 axis, depending on the J5 axis's posture.

Note 7: Max. Load to the upper shoulder, when loading the max. payload capacity at the end effector.

F= Floor W=Wall C=Ceiling