Intelligent Arc Welding Robot

FANUC Robot ARC Mate 100*i*D
FANUC Robot ARC Mate 120*i*D



FEATURES

FANUC Robot ARC Mate 100*i*D / 120*i*D is the cables integrated arc welding robot with an enhanced dress-out ability.

- The robot is available to meet a variety of operating spaces.
- The unique gear drive mechanism realizes the slim arm of the torch cable integrated robot.
- Welding cable utilities backside the wire feeder can be integrated in the enlarged J1 hollow tube. It makes system setup easy.
- Not only the torch cable but also the sensor cable can be integrated in the J3 arm due to the enlarged J4 and J6 hollow tubes. The wire feeder can be compactly mounted backside of the J3 arm.
- Higher rigidity of the arm provides high speed and high accuracy of the robot motion. It can enhance the productivity of the system.
- Off-line teaching by ROBOGUIDE (Option) reduces touch-up cost.
- Various intelligent functions with *i*RVision (integrated vision) and coordinated motion with the positioner are available.

Application Examples



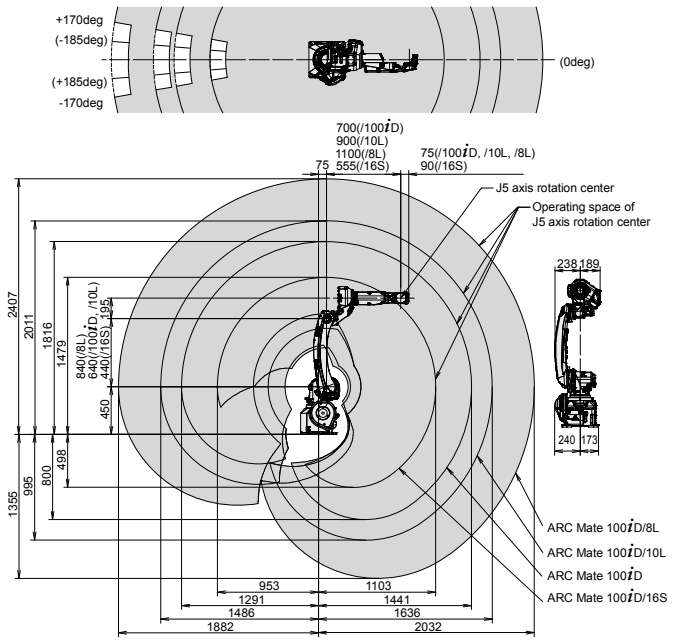
Automotive part welding



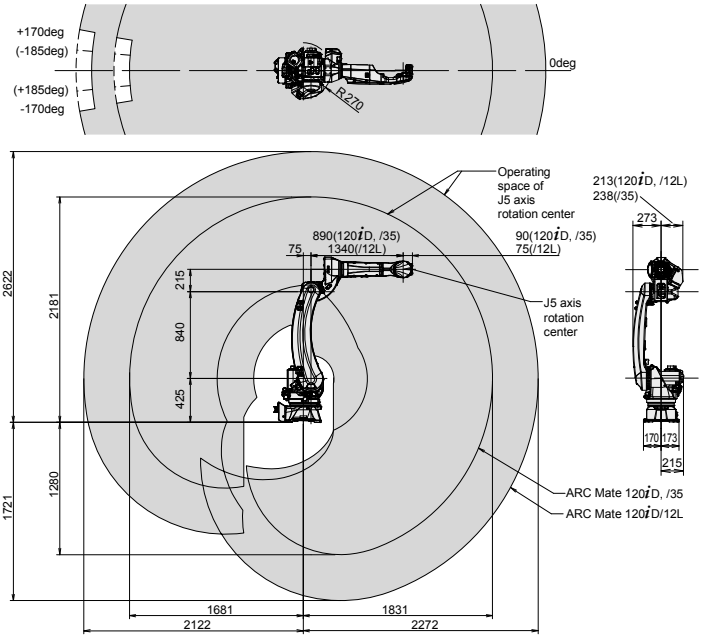
Stainless part welding

Operating space

ARC Mate 100*i*D/16S, 100*i*D, /10L, /8L



ARC Mate 120*i*D, /35, /12L



Specifications

Model		ARC Mate 100*i*D/16S	ARC Mate 100*i*D	ARC Mate 100*i*D/10L	ARC Mate 100*i*D/8L	ARC Mate 120*i*D	ARC Mate 120*i*D/35	ARC Mate 120*i*D/12L
Type		6 axes (J1, J2, J3, J4, J5, J6)						
Reach		1103 mm	1441 mm	1636 mm	2032 mm	1831 mm		2272 mm
Installation Note 1)		Floor, Upside-down, Angle mount						
Motion range (Maximum speed) Note 2), 3), 4)	J1 axis	370° (290°/s) 6.46 rad (5.06 rad/s)	370° (260°/s) 6.46 rad (4.54 rad/s)		370° (210°/s) 6.46 rad (3.67 rad/s)		370° (180°/s) 6.46 rad (3.14 rad/s)	370° (210°/s) 6.46 rad (3.67 rad/s)
	J2 axis	235° (270°/s) 4.10 rad (4.71 rad/s)	235° (240°/s) 4.10 rad (4.19 rad/s)		235° (210°/s) 4.10 rad (3.67 rad/s)	260° (210°/s) 4.54 rad (3.67 rad/s)	260° (180°/s) 4.54 rad (3.14 rad/s)	260° (210°/s) 4.54 rad (3.67 rad/s)
	J3 axis	455° (270°/s) 7.94 rad (4.71 rad/s)	455° (260°/s) 7.94 rad (4.54 rad/s)		455° (220°/s) 7.94 rad (3.84 rad/s)	458° (265°/s) 8.00 rad (4.63 rad/s)	458° (200°/s) 8.00 rad (3.49 rad/s)	458° (265°/s) 8.00 rad (4.63 rad/s)
	J4 axis	380° (430°/s) 6.63 rad (7.50 rad/s)				400° (420°/s) 6.98 rad (7.33 rad/s)	400° (350°/s) 6.98 rad (6.11 rad/s)	400° (420°/s) 6.98 rad (7.33 rad/s)
	J5 axis	360° (450°/s) 6.28 rad (7.85 rad/s)				360° (420°/s) 6.28 rad (7.33 rad/s)	360° (350°/s) 6.28 rad (6.11 rad/s)	360° (450°/s) 6.28 rad (7.85 rad/s)
	J6 axis	900° (730°/s) 15.71 rad (12.74 rad/s)	900° (720°/s) 15.71 rad (12.57 rad/s)				900° (400°/s) 15.71 rad (6.98 rad/s)	900° (720°/s) 15.71 rad (12.57 rad/s)
Max load capacity at wrist		16 kg	12 kg	10 kg	8 kg	25 kg	35 kg	12 kg
Allowable load moment at wrist	J4 axis	26.0 N·m		22.0 N·m	16.1 N·m	52.0 N·m	110.0 N·m	22.0 N·m
	J5 axis	26.0 N·m		22.0 N·m	16.1 N·m	52.0 N·m	110.0 N·m	22.0 N·m
	J6 axis	11.0 N·m		9.8 N·m	5.9 N·m	32.0 N·m	60.0 N·m	9.8 N·m
Allowable load inertia at wrist	J4 axis	0.90 kg·m²		0.65 kg·m²	0.63 kg·m²	2.40 kg·m²	4.00 kg·m²	0.65 kg·m²
	J5 axis	0.90 kg·m²		0.65 kg·m²	0.63 kg·m²	2.40 kg·m²	4.00 kg·m²	0.65 kg·m²
	J6 axis	0.30 kg·m²		0.17 kg·m²	0.061 kg·m²	1.20 kg·m²	1.50 kg·m²	0.17 kg·m²
Repeatability Note 5)		± 0.02 mm		± 0.03 mm		± 0.02 mm	± 0.03 mm	
Mass Note 6)		145 kg		150 kg	180 kg	250 kg		
Installation environment		Ambient temperature : 0 to 45°C Ambient humidity : Normally 75%RH or less (No dew nor frost allowed), Short term 95%RH or less (within one month) Vibration acceleration : 4.9m/s² (0.5G) or less						

Note 1) Angle mount is not supported for 4 brake type of ARC Mate 100*i*D.
Note 2) In case of equipping mechanical stopper, motion range of J1 axis is restricted to 340° (5.93 rad).
Note 3) In case of angle mounting, J1 and J2 axis motion range are restricted.
Note 4) During short distance motions, the axis speed may not reach the maximum value stated.
Note 5) Compliant with ISO9283.
Note 6) Without controller.

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