

Small Payload Handling Intelligent Robot

FANUC Robot M-10*i*D

FANUC Robot M-20*i*D



FEATURES

FANUC Robot M-10*i*D / M-20*i*D is a cable integrated small payload handling robot.

- The unique gear drive mechanism realizes the high inertia and the slim arm of the cable integrated robot.
- The cables and tubes backside the tool control box can be integrated in the enlarged J1 hollow tube.
- Various cables and tubes using for hand control can be integrated in the J3 arm due to the enlarged J4 and J6 hollow tubes. The tool control box 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 the force sensor are available.

Application Examples



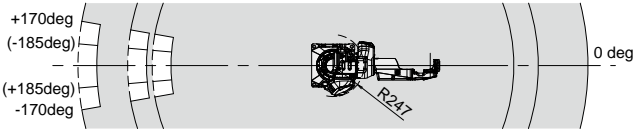
Handling of sheet metal parts



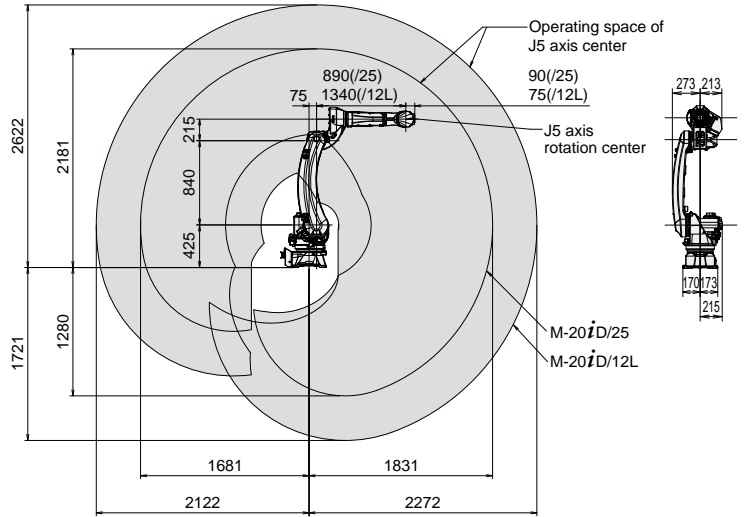
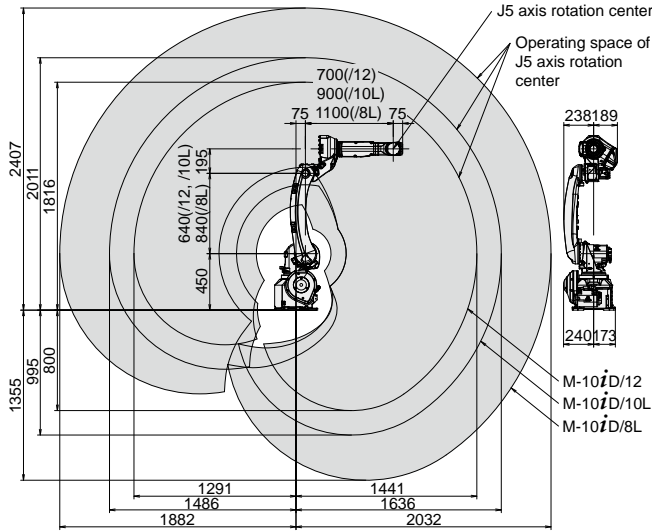
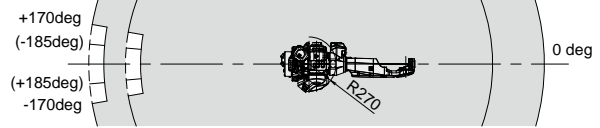
FIBER LASER welding

Operating space

M-10iD/12, /10L, /8L



M-20iD/25, /12L



Specifications

Model		M-10iD/12	M-10iD/10L	M-10iD/8L	M-20iD/25	M-20iD/12L
Control axes		6 axes (J1, J2, J3, J4, J5, J6)				
Reach		1441 mm	1636 mm	2032 mm	1831 mm	2272 mm
Installation		Floor, Upside-down, Angle mount *Floor, Upside-down for 4 brake type		Floor, Upside-down, Angle mount		
Motion range (Maximum speed) Note 1, 2)	J1 axis rotation	340° / 370°(Option)(260°/s) 5.93 rad / 6.46 rad(Option)(4.54 rad/s)		340° / 370°(Option)(210°/s) 5.93 rad / 6.46 rad(Option)(3.67 rad/s)		
	J2 axis rotation	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)
	J3 axis rotation	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)
	J4 axis wrist rotation	380° (430°/s) 6.63 rad (7.50 rad/s)		400° (420°/s) 6.98 rad (7.33 rad/s)		
	J5 axis wrist swing	360° (450°/s) 6.28 rad (7.85 rad/s)		360° (420°/s) 6.28 rad (7.33 rad/s)		360° (450°/s) 6.28 rad (7.85 rad/s)
	J6 axis wrist rotation	900° (720°/s) 15.71 rad (12.57 rad/s)				
Max load capacity at wrist		12 kg	10 kg	8 kg	25 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	22.0 N·m
	J5 axis	26.0 N·m	22.0 N·m	16.1 N·m	52.0 N·m	22.0 N·m
	J6 axis	11.0 N·m	9.8 N·m	5.9 N·m	32.0 N·m	9.8 N·m
Allowable load inertia at wrist	J4 axis	0.90 kg·m ²	0.65 kg·m ²	0.63 kg·m ²	2.40 kg·m ²	0.65 kg·m ²
	J5 axis	0.90 kg·m ²	0.65 kg·m ²	0.63 kg·m ²	2.40 kg·m ²	0.65 kg·m ²
	J6 axis	0.30 kg·m ²	0.17 kg·m ²	0.061 kg·m ²	1.20 kg·m ²	0.17 kg·m ²
Repeatability Note 3)		± 0.02 mm		± 0.03 mm		± 0.03 mm
Mass Note 4)		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/s ² (0.5G) or less				

- Note 1) In case of angle mounting, J1 and J2 axis motion range are restricted.
 Note 2) During short distance motions, the axis speed may not reach the maximum value stated.
 Note 3) Compliant with ISO9283.
 Note 4) Without controller.

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