

Small Payload Handling Intelligent Robot

FANUC Robot M-10iA

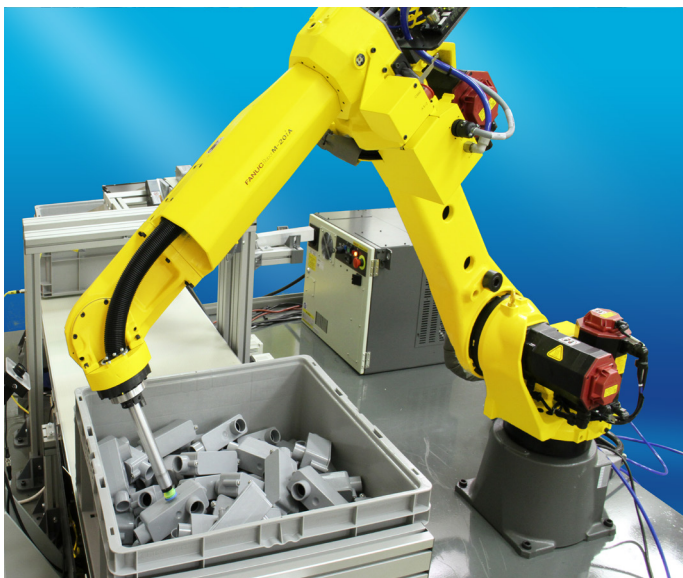
FANUC Robot M-20iA

Features

The M-10iA/M-20iA is a light payload handling robot with a payload range of 7 - 35KG.

- Two types of wrists are available -
A hollow wrist allows for easy cable wiring.
A high inertia wrist is ideal for handling a large workpiece
- Short, Standard and Long arm variances are available for variable work areas.
- A highly rigid arm and advanced servo technology enable increased acceleration performance. This decreases cycle time; leading to higher productivity.
- Latest intelligent functions with *iR*Vision (integrated vision) and force sensor are available.

Application system



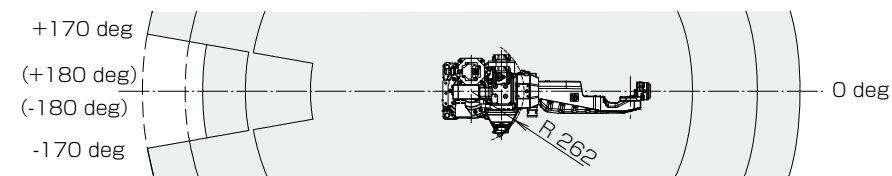
Small parts bin picking



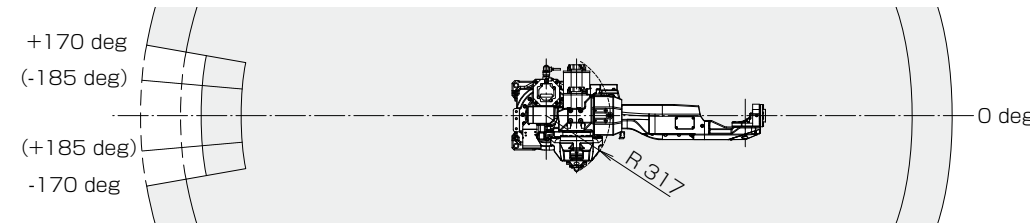
Plastic part material removal

FANUC Robot M-10iA/12S, /12, /7L

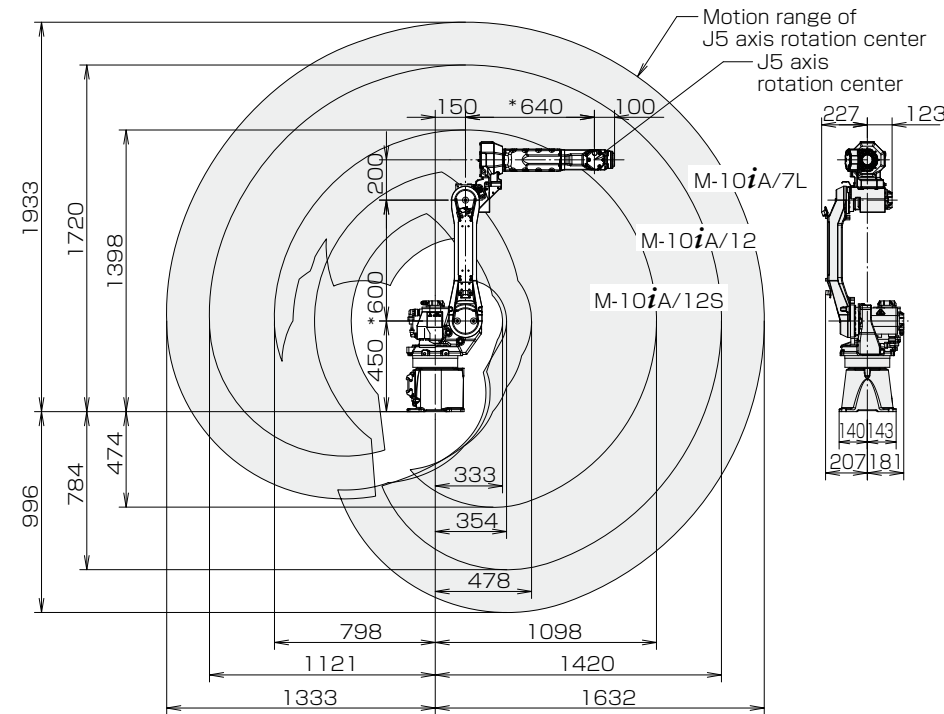
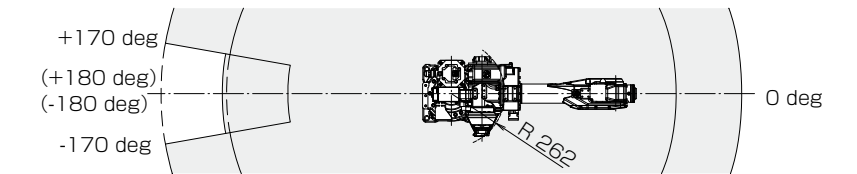
Operating space



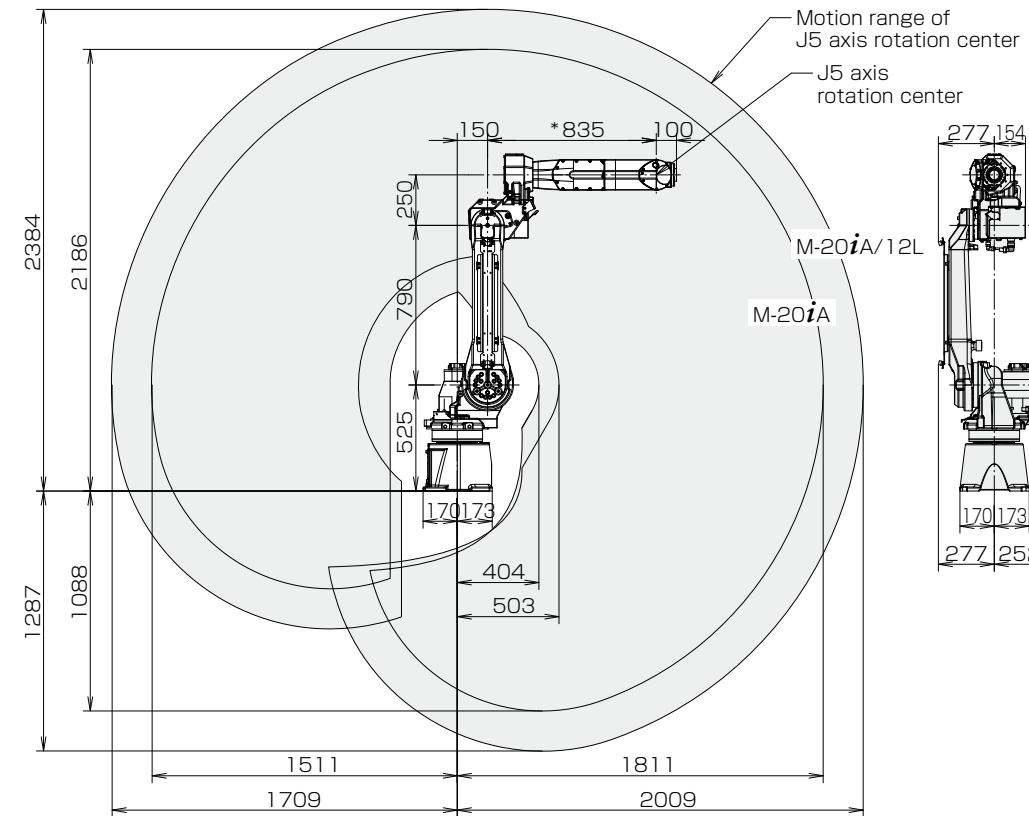
FANUC Robot M-20iA, /12L



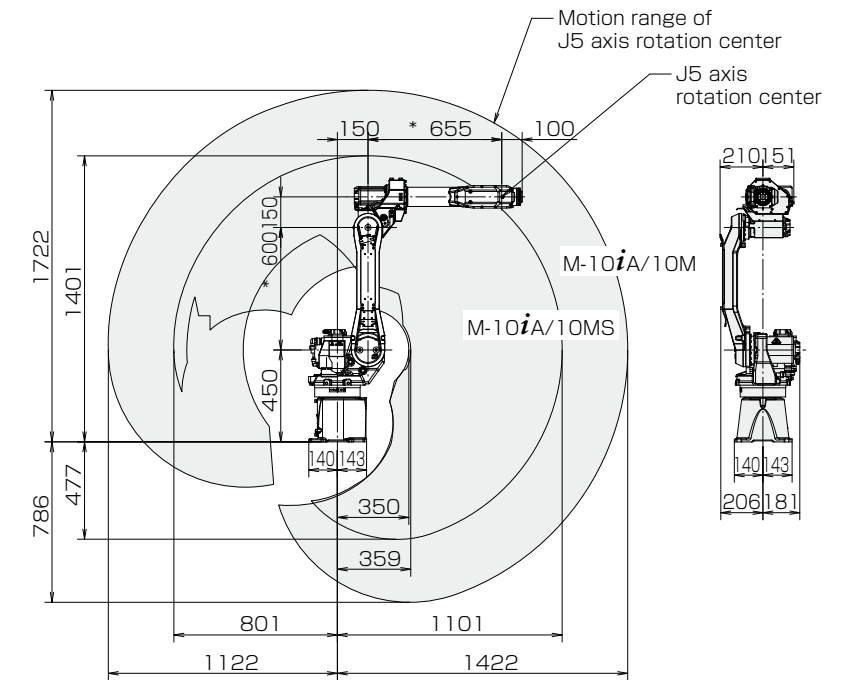
FANUC Robot M-10iA/10M, /10MS



*J2 arm length *J3 arm length
M-10iA/12S : 400mm M-10iA/12S : 510mm
M-10iA/12 : 600mm M-10iA/12 : 640mm
M-10iA/7L : 600mm M-10iA/7L : 860mm



*J3 arm length
M-20iA : 835mm
M-20iA/12L : 1040mm



*J2 arm length *J3 arm length
M-10iA/10MS : 400mm M-10iA/10MS : 530mm
M-10iA/10M : 600mm M-10iA/10M : 655mm

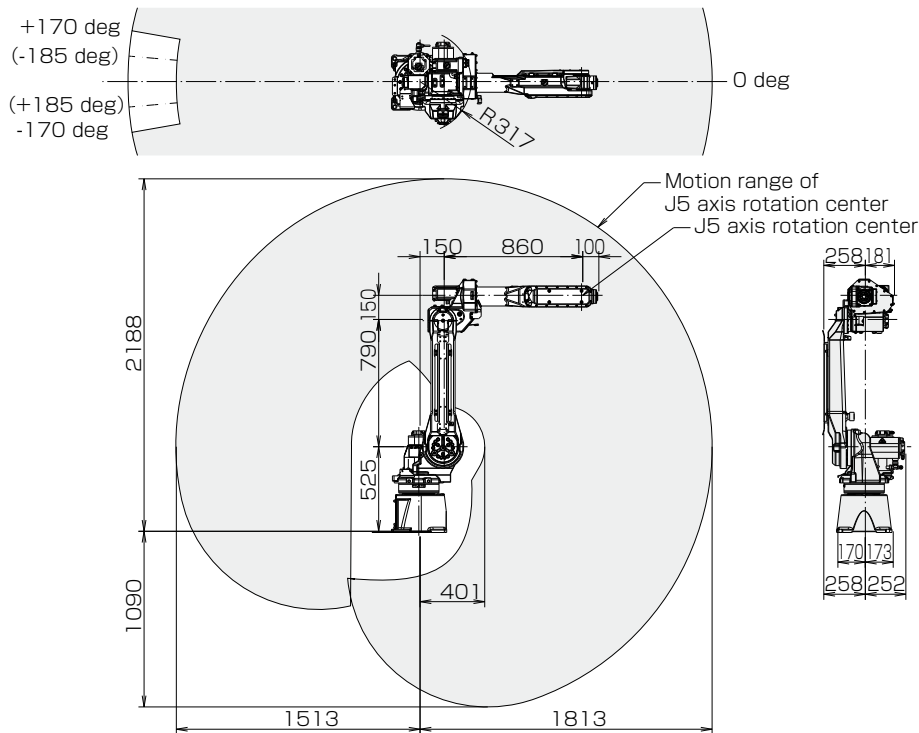
Specifications

Item		Specifications						
		M-10iA/12S	M-10iA/12	M-10iA/7L	M-20iA	M-20iA/12L	M-10iA/10M	M-10iA/10MS
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)						
Reach		1098mm	1420mm	1632mm	1811mm	2009mm	1422mm	1101mm
Installation		Floor, Upside-down, Angle mount						
Motion range (Maximum speed) (Note 1, 2)	J1 axis rotation	340°/360°(Option) (260°/s) 5.93 rad/6.28 rad(Option) (4.54 rad/s)	340°/360°(Option) (230°/s) 5.93 rad/6.28 rad(Option) (4.01 rad/s)	340°/360°(Option) (195°/s) 5.93 rad/6.45 rad(Option) (3.40 rad/s)	340°/370°(Option) (200°/s) 5.93 rad/6.45 rad(Option) (3.49 rad/s)	340°/360°(Option) (225°/s) 5.93 rad/6.28 rad(Option) (3.93 rad/s)	340°/360°(Option) (290°/s) 5.93 rad/6.28 rad(Option) (5.06 rad/s)	
	J2 axis rotation	250°(280°/s) 4.36 rad(4.89 rad/s)	250°(225°/s) 4.36 rad(3.93 rad/s)	260°(175°/s) 4.54 rad(3.05 rad/s)	260°(175°/s) 4.54 rad(3.05 rad/s)	250°(205°/s) 4.36 rad(3.58 rad/s)	250°(280°/s) 4.36 rad(4.89 rad/s)	
	J3 axis rotation	340°(315°/s) 5.93 rad(5.50 rad/s)	445°(230°/s) 7.76 rad(4.01 rad/s)	447°(230°/s) 7.80 rad(4.01 rad/s)	458°(180°/s) 8.00 rad(3.14 rad/s)	460°(190°/s) 8.04 rad(3.32 rad/s)	445°(225°/s) 7.76 rad(3.93 rad/s)	341°(315°/s) 5.95 rad(5.50 rad/s)
	J4 axis wrist rotation		380°(430°/s) 6.63 rad(7.50 rad/s)	380°(430°/s) 6.63 rad(7.50 rad/s)	400°(360°/s) 6.98 rad(6.28 rad/s)	400°(430°/s) 6.98 rad(7.50 rad/s)	380°(420°/s) 6.63 rad(7.33 rad/s)	380°(420°/s) 6.63 rad(7.33 rad/s)
	J5 axis wrist swing		380°(430°/s) 6.63 rad(7.50 rad/s)	360°(360°/s) 6.28 rad(6.28 rad/s)	360°(360°/s) 6.28 rad(6.28 rad/s)	360°(430°/s) 6.28 rad(7.50 rad/s)	280°(420°/s) 6.63 rad(7.50 rad/s)	280°(420°/s) 6.63 rad(7.50 rad/s)
	J6 axis wrist rotation		720°(630°/s) 12.57 rad(11.0 rad/s)	720°(630°/s) 12.57 rad(11.0 rad/s)	900°(550°/s) 15.71 rad(9.60 rad/s)	900°(630°/s) 15.71 rad(11.0 rad/s)	720°(700°/s) 12.57 rad(12.22 rad/s)	720°(720°/s) 12.57 rad(12.57 rad/s)
Max load capacity at wrist		12 kg		7 kg	20 kg	12 kg	10 kg	
Allowable load moment at wrist	J4 axis	22.0 N·m		15.7 N·m	44.0 N·m	22.0 N·m	26.0 N·m	
	J5 axis	22.0 N·m		10.1 N·m	44.0 N·m	22.0 N·m	26.0 N·m	
	J6 axis	9.8 N·m		5.9 N·m	22.0 N·m	9.8 N·m	11.0 N·m	
Allowable load inertia at wrist	J4 axis	0.65 kg·m ²		0.63 kg·m ²	1.04 kg·m ²	0.65 kg·m ²	0.90 kg·m ²	
	J5 axis	0.65 kg·m ²		0.38 kg·m ²	1.04 kg·m ²	0.65 kg·m ²	0.90 kg·m ²	
	J6 axis	0.17 kg·m ²		0.061 kg·m ²	0.28 kg·m ²	0.17 kg·m ²	0.30 kg·m ²	
Repeatability		± 0.05 mm				± 0.08 mm		
Mass (Note 3)		130 kg			250 kg		130 kg	
Installation environment		Ambient temperature : 0 ~ 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) In case of short distance motion, the axis speed may not reach the maximum value stated.
Note 3) Without controller

FANUC Robot M-20iA/20M, /35M

Operating space



Specifications

Item		Specifications	
		M-20iA/20M	M-20iA/35M
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)	
Reach		1813mm	
Installation		Floor, Upside-down, Angle mount	
Motion range (Maximum speed) (Note 1, 2)	J1 axis rotation	340°/370°(Option) (195°/s) 5.93 rad/6.45 rad (Option) (3.40 rad/s)	340°/370°(Option) (180°/s) 5.93 rad/6.45 rad (Option) (3.14 rad/s)
	J2 axis rotation	260°(175°/s) 4.54 rad (3.05 rad/s)	260°(180°/s) 4.54 rad (3.14 rad/s)
	J3 axis rotation	458°(180°/s) 8.00 rad (3.14 rad/s)	458°(200°/s) 8.00 rad (3.49 rad/s)
	J4 axis wrist rotation	400°(405°/s) 6.98 rad (7.07 rad/s)	400°(350°/s) 6.98 rad (6.11 rad/s)
	J5 axis wrist swing	280°(405°/s) 4.89 rad (7.07 rad/s)	280°(350°/s) 4.89 rad (6.11 rad/s)
	J6 axis wrist rotation	900°(615°/s) 15.71 rad (10.73 rad/s)	900°(400°/s) 15.71 rad (6.98 rad/s)
	Max load capacity at wrist	20 kg	35 kg
Allowable load moment at wrist	J4 axis	45.1 N·m	110 N·m
	J5 axis	45.1 N·m	110 N·m
	J6 axis	30.0 N·m	60 N·m
Allowable load inertia at wrist	J4 axis	2.01 kg·m ²	4.00 kg·m ²
	J5 axis	2.01 kg·m ²	4.00 kg·m ²
	J6 axis	1.01 kg·m ²	1.50 kg·m ²
Repeatability	± 0.08 mm		
Mass (Note 3)	250 kg	252 kg	
Installation environment	Ambient temperature : 0 ~ 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) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 3) Without controller

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