

## Small Payload Handling Intelligent Robot

# FANUC Robot M-10iA

# FANUC Robot M-20iA

### FEATURES

FANUC Robot M-10iA / M-20iA is a small payload handling robot whose payload is 7~35kg.

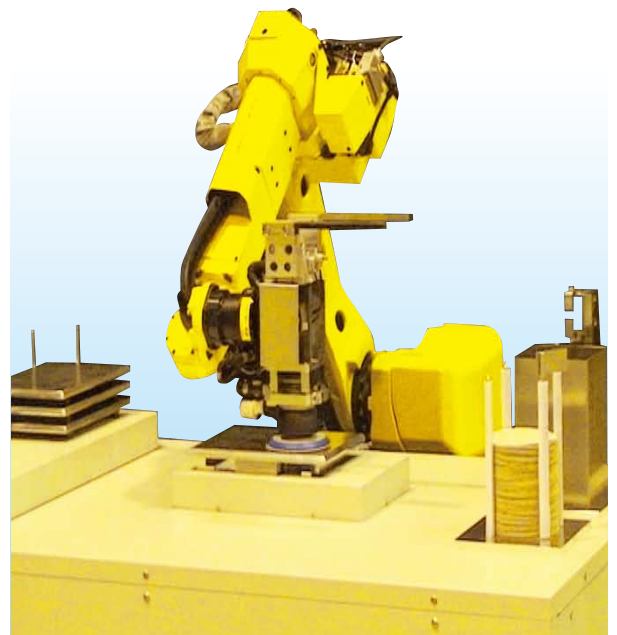
- Two wrist types are available. Hollow wrist realizes the user cable easy wiring. High inertia wrist is appropriate for large work piece handling.
- Standard arm, short arm and long arm are available for variable working area.
- High rigidity arm and advanced servo technology enable to increase acceleration performance. This decrease cycle time and realizes high productivity.
- Latest intelligent functions with *i*RVision (integrated vision) and force sensor are available.



### Application system

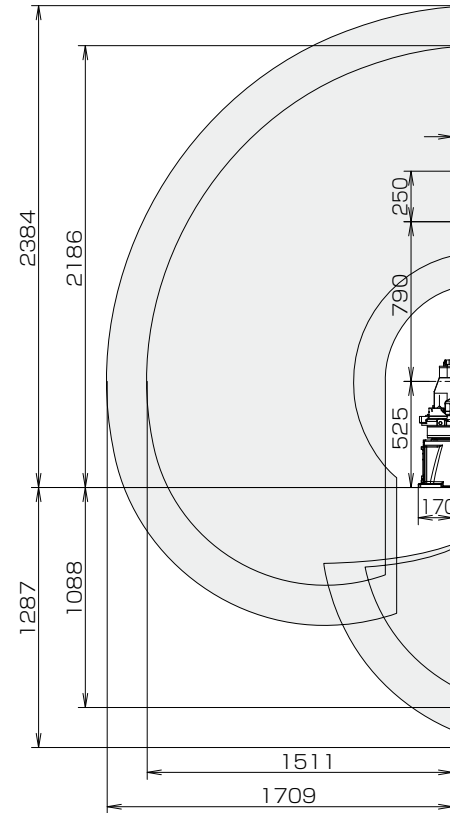
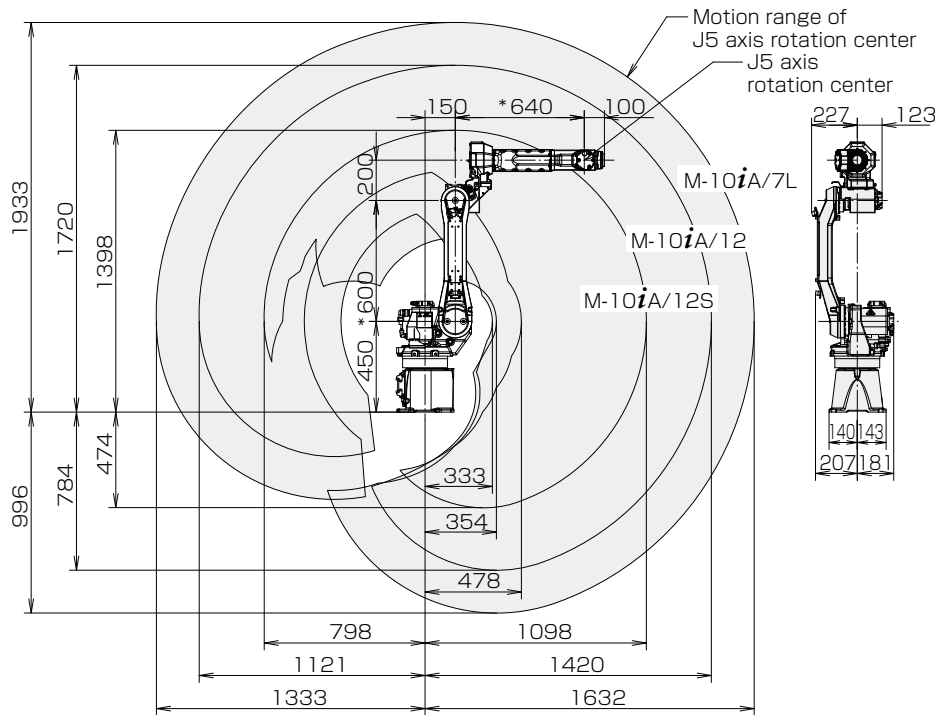
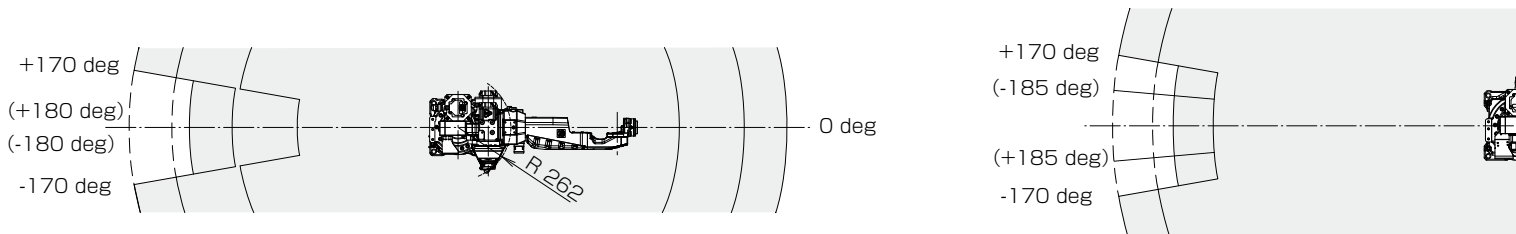


Small parts bin picking



Case parts polishing

## Operating space



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

	*J3 arm length
M-20 <i>i</i> A	: 835mm
M-20 <i>i</i> A/12L	: 1040mm

## Specifications

Item		M-10 <i>i</i> A/12S	M-10 <i>i</i> A/12	M-10 <i>i</i> A/7L
Controlled axes				
Reach		1098mm	1420mm	1632mm
Installation				
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)	
	J2 axis rotation	250°(280°/s) 4.36 rad (4.89 rad/s)	250°(225°/s) 4.36 rad (3.93 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)
	J4 axis wrist rotation		380°(430°/s) 6.63 rad (7.50 rad/s)	
	J5 axis wrist swing		380°(430°/s) 6.63 rad (7.50 rad/s)	
	J6 axis wrist rotation		720°(630°/s) 12.57 rad (11.0 rad/s)	
Max load capacity at wrist		12 kg		7 kg
Allowable load moment at wrist	J4 axis	22.0 N·m		15.7 N·m
	J5 axis	22.0 N·m		10.1 N·m
	J6 axis	9.8 N·m		5.9 N·m
Allowable load inertia at wrist	J4 axis	0.65 kg·m <sup>2</sup>		0.63 kg·m <sup>2</sup>
	J5 axis	0.65 kg·m <sup>2</sup>		0.38 kg·m <sup>2</sup>
	J6 axis	0.17 kg·m <sup>2</sup>		0.061 kg·m <sup>2</sup>
Repeatability		± 0.05 mm		
Mass (Note 3)		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 <sup>2</sup> (0.5G) or less		

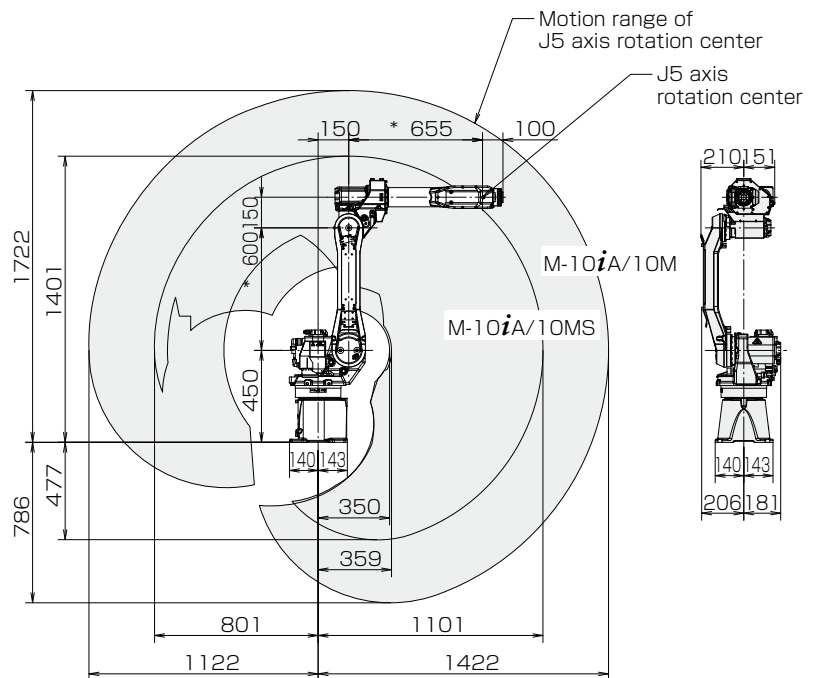
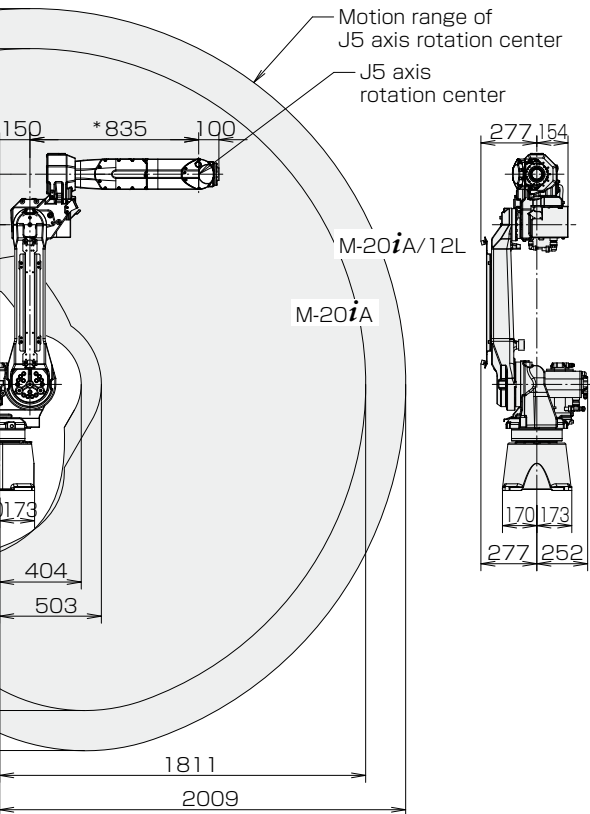
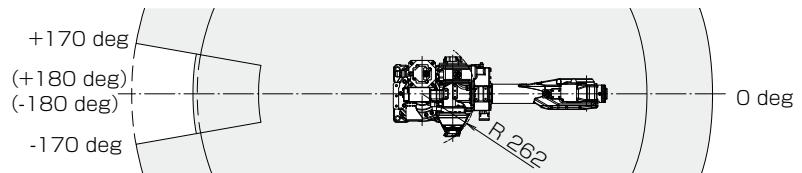
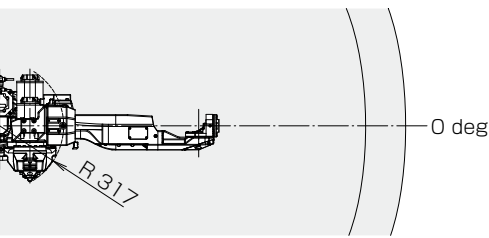
Note 1) In case of angle mounting, J1 and J2 axis motion range are restricted.

Note 2) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 3) Without controller

# M-20*i*A, /12L

# FANUC Robot M-10*i*A/10M, /10MS

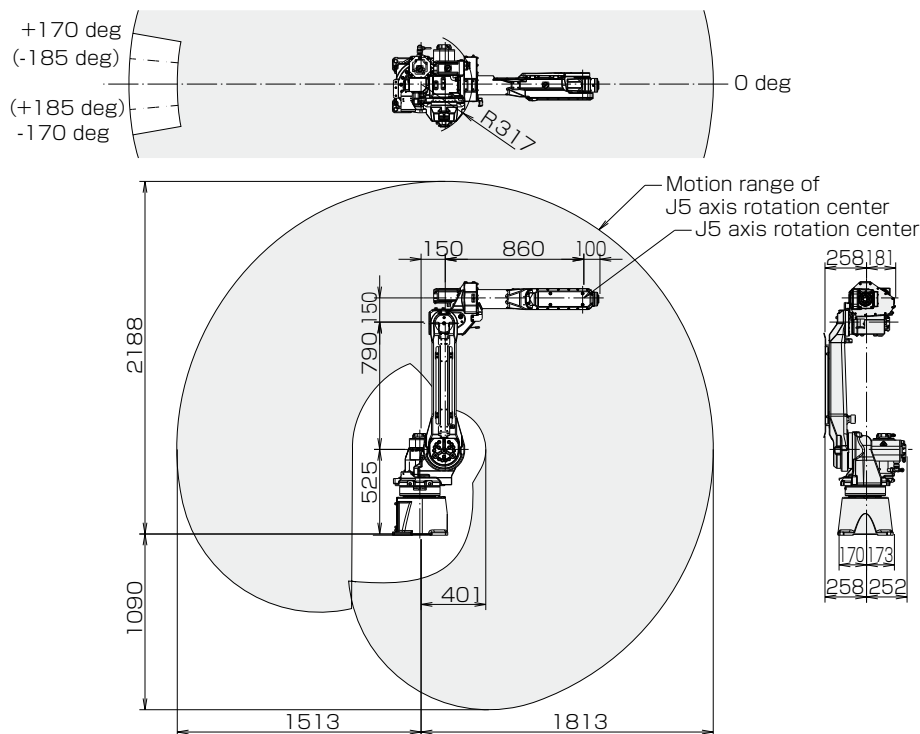


\*J2 arm length      \*J3 arm length  
M-10*i*A/10MS : 400mm    M-10*i*A/10MS : 530mm  
M-10*i*A/10M : 600mm      M-10*i*A/10M : 655mm

Specifications			
M-20 <i>i</i> A	M-20 <i>i</i> A/12L	M-10 <i>i</i> A/10M	M-10 <i>i</i> A/10MS
6 axes (J1, J2, J3, J4, J5, J6)			
1811mm	2009mm	1422mm	1101mm
Floor, Upside-down, Angle mount			
340°/370°(Option) (195°/s)	340°/370°(Option) (200°/s)	340°/360°(Option) (225°/s)	340°/360°(Option) (290°/s)
5.93 rad/6.45 rad (Option) (3.40 rad/s)	5.93 rad/6.45 rad (Option) (3.49 rad/s)	5.93 rad/6.28 rad (Option) (3.93 rad/s)	5.93 rad/6.28 rad (Option) (5.06 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)
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)
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)	
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)	
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)
20 kg	12 kg	10 kg	
44.0 N·m	22.0 N·m	26.0 N·m	
44.0 N·m	22.0 N·m	26.0 N·m	
22.0 N·m	9.8 N·m	11.0 N·m	
1.04 kg·m <sup>2</sup>	0.65 kg·m <sup>2</sup>	0.90 kg·m <sup>2</sup>	
1.04 kg·m <sup>2</sup>	0.65 kg·m <sup>2</sup>	0.90 kg·m <sup>2</sup>	
0.28 kg·m <sup>2</sup>	0.17 kg·m <sup>2</sup>	0.30 kg·m <sup>2</sup>	
± 0.08 mm			
250 kg		130 kg	

# 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)
	J2 axis rotation	260°(175°/s) 4.54 rad (3.05 rad/s)
	J3 axis rotation	458°(180°/s) 8.00 rad (3.14 rad/s)
	J4 axis wrist rotation	400°(405°/s) 6.98 rad (7.07 rad/s)
	J5 axis wrist swing	280°(405°/s) 4.89 rad (7.07 rad/s)
	J6 axis wrist rotation	900°(615°/s) 15.71 rad (10.73 rad/s)
Max load capacity at wrist	20 kg	35 kg
Allowable load moment at wrist	J4 axis	45.1 N·m
	J5 axis	45.1 N·m
	J6 axis	30.0 N·m
Allowable load inertia at wrist	J4 axis	2.01 kg·m <sup>2</sup>
	J5 axis	2.01 kg·m <sup>2</sup>
	J6 axis	1.01 kg·m <sup>2</sup>
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 <sup>2</sup> (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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