

Medium Payload Intelligent Robot

FANUC Robot -710iC

Features

The M-710iC is a medium payload robot with a wrist payload of 12 - 70kg. Seven models are available for a wide variety of applications.

- **FANUC Robot M-710iC/45M, /50, /70**

Wide motion envelope and enough wrist load capacity to handle a large panel.

M-710iC/45M : Payload capacity 45kg

M-710iC/50 : Payload capacity 50kg

M-710iC/70 : Payload capacity 70kg

- **FANUC Robot M-710iC/50S**

This model has a compact body that is suitable for narrow work environments. (Payload capacity 50kg)

- **FANUC Robot M-710iC/12L, /20L, /20M**

Long reach and high motion performance make it suitable for many applications, such as handling, sealing and arc welding.

M-710iC/12L : Payload capacity 12kg (Hollow wrist)

M-710iC/20L : Payload capacity 20kg

M-710iC/20M : Payload capacity 20kg

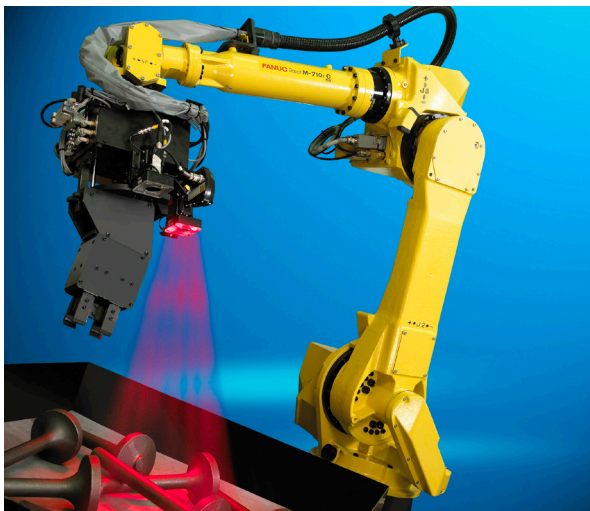
- **FANUC Robot M-710iC/50H**

This five-axes model is designed for the high speed transferring of parts. The ceiling mount option is ideal for compact handling systems. (Payload capacity 50kg)

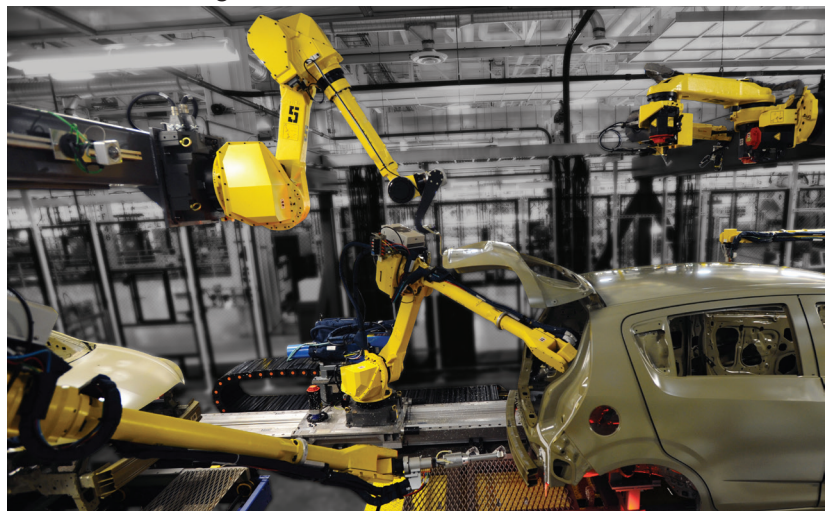
- The full cover provides IP67-equivalent resistance to environmental conditions (dust and liquid). The M-710iC is reliable for various applications, such as load/unload for machined parts, de-burring and die cast loading.



Application system



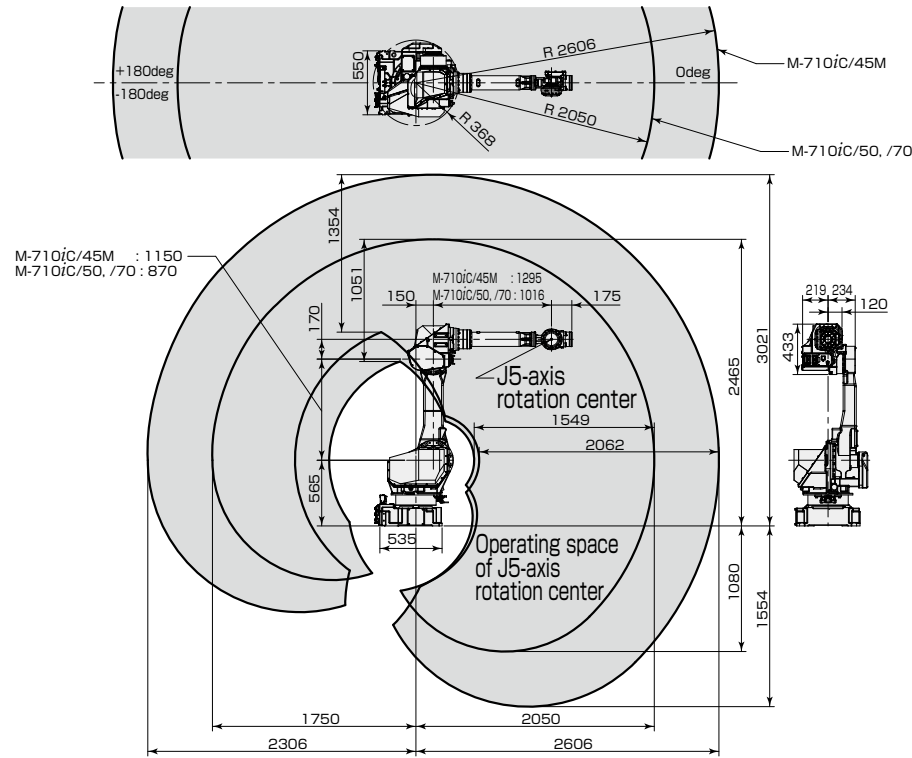
Bin picking of cylindrical parts



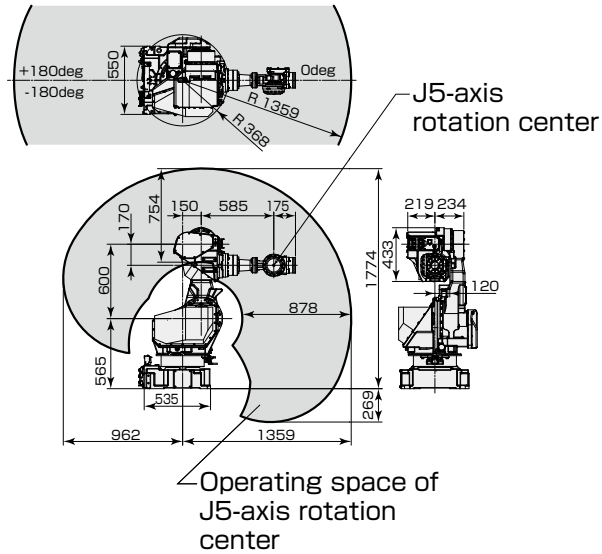
Car body sealing

Operating space

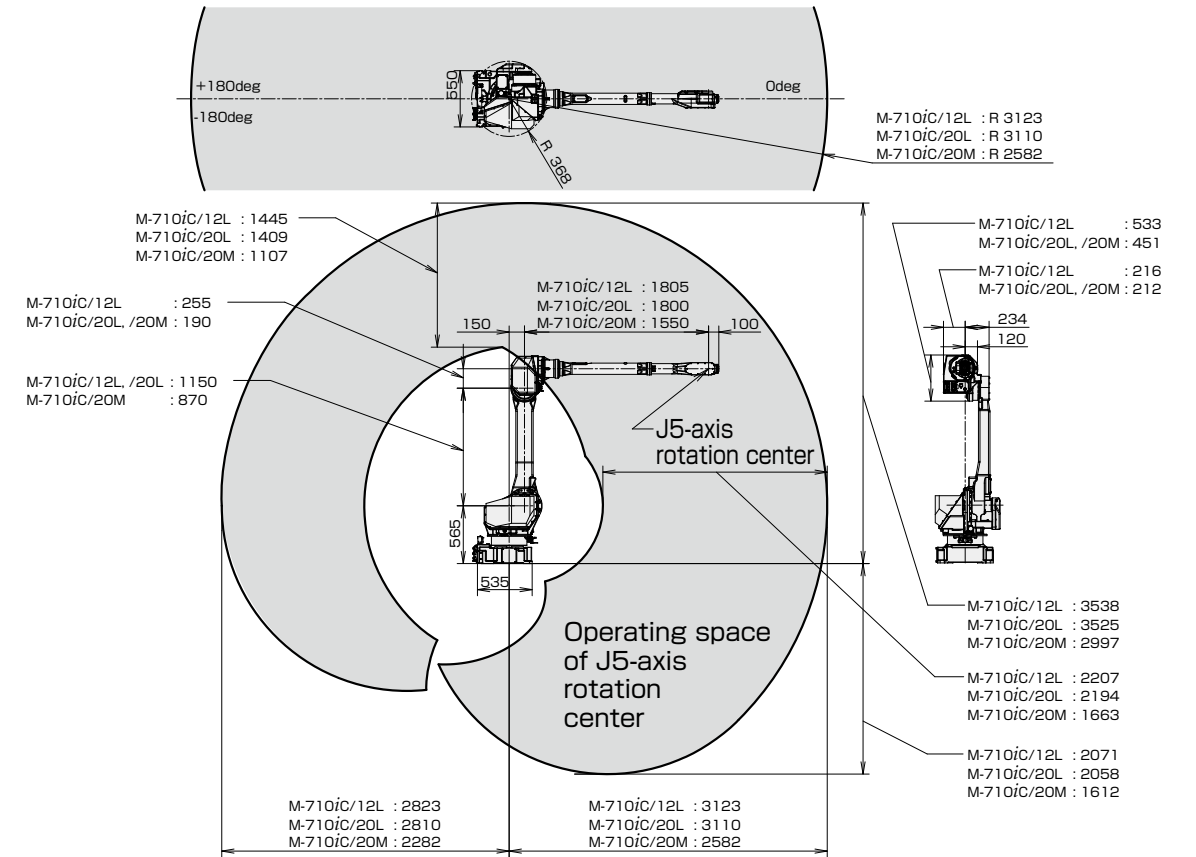
M-710iC/45M, /50, /70



M-710iC/50S



M-710iC/12L, /20L, /20M



Specifications

Model		M-710iC/45M	M-710iC/50	M-710iC/70
Type	Articulated Type			
Controlled axes	6 axes (J1, J2, J3, J4, J5, J6)			
Reach	2606mm		2050mm	
Installation (Note 1)	Floor, Upside-down, Angle mount			
Motion range (Maximum speed) (Note 2)	J1 axis rotation	360° (180°/s) 6.28 rad (3.14 rad/s)	360° (175°/s) 6.28 rad (3.05 rad/s)	360° (160°/s) 6.28 rad (2.79 rad/s)
	J2 axis rotation	225° (180°/s) 3.93 rad (3.14 rad/s)	225° (175°/s) 3.93 rad (3.05 rad/s)	225° (120°/s) 3.93 rad (2.09 rad/s)
	J3 axis rotation	440° (180°/s) 7.68 rad (3.14 rad/s)	440° (175°/s) 7.68 rad (3.05 rad/s)	440° (120°/s) 7.68 rad (2.09 rad/s)
	J4 axis wrist rotation	800° (250°/s) 13.96 rad (4.36 rad/s)	720° (250°/s) 12.57 rad (4.36 rad/s)	720° (225°/s) 12.57 rad (3.93 rad/s)
	J5 axis wrist swing	250° (250°/s) 4.36 rad (4.36 rad/s)	250° (250°/s) 4.36 rad (4.36 rad/s)	250° (225°/s) 4.36 rad (3.93 rad/s)
	J6 axis wrist rotation	800° (360°/s) 13.96 rad (6.28 rad/s)	720° (355°/s) 12.57 rad (6.20 rad/s)	720° (225°/s) 12.57 rad (3.93 rad/s)
	Max. load capacity at wrist	45kg	50kg	70kg
Max. Load capacity at J3 casing (Note 3)	15kg			
Allowable load moment at wrist	J4 axis	206 N·m	21 kgf·m	294 N·m
	J5 axis	206 N·m	21 kgf·m	294 N·m
	J6 axis	127 N·m	13 kgf·m	147 N·m
Allowable load inertia at wrist	J4 axis	28 kg·m ²	286 kgf·cm·s ²	28 kg·m ²
	J5 axis	28 kg·m ²	286 kgf·cm·s ²	28 kg·m ²
	J6 axis	20 kg·m ²	204 kgf·cm·s ²	11 kg·m ²
Drive method	Electric servo drive by AC servo motor			
Positioning accuracy	± 0.1 mm		± 0.07 mm	
Mass (Note 4)	570 kg		560 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 the angle mounting, the 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) Max. load capacity at J3 casing is limited by payload at wrist.
Note 4) Without controller.

Specifications

Model		M-710iC/50S	
Type	Articulated Type		
Controlled axes	6 axes (J1, J2, J3, J4, J5, J6)		
Reach	1359mm		
Installation (Note 1)	Floor, Upside-down, Angle mount		
Motion range (Maximum speed) (Note 2)	J1 axis rotation	360° (175°/s) 6.28 rad (3.05 rad/s)	360° (175°/s) 6.28 rad (3.05 rad/s)
	J2 axis rotation	169° (175°/s) 2.95 rad (3.05 rad/s)	225° (175°/s) 3.93 rad (3.05 rad/s)
	J3 axis rotation	376° (175°/s) 6.56 rad (3.05 rad/s)	440° (175°/s) 7.68 rad (3.05 rad/s)
	J4 axis wrist rotation	720° (250°/s) 12.57 rad (4.36 rad/s)	720° (250°/s) 12.57 rad (4.36 rad/s)
	J5 axis wrist swing	250° (250°/s) 4.36 rad (4.36 rad/s)	250° (250°/s) 4.36 rad (4.36 rad/s)
	J6 axis wrist rotation	720° (355°/s) 12.57 rad (6.20 rad/s)	720° (355°/s) 12.57 rad (6.20 rad/s)
	Max. load capacity at wrist	50kg	
Max. load capacity at J3 casing (Note 3)	15kg		
Allowable load moment at wrist	J4 axis	206 N·m	21 kgf·m
	J5 axis	206 N·m	21 kgf·m
	J6 axis	127 N·m	13 kgf·m
Allowable load inertia at wrist	J4 axis	28 kg·m ²	286 kgf·cm·s ²
	J5 axis	28 kg·m ²	286 kgf·cm·s ²
	J6 axis	11 kg·m ²	112 kgf·cm·s ²
Drive method	Electric servo drive by AC servo motor		
Positioning accuracy	± 0.07 mm		
Mass (Note 4)	545 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 the angle mounting, the 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) Max. load capacity at J3 casing is limited by payload at wrist.
Note 4) Without controller.

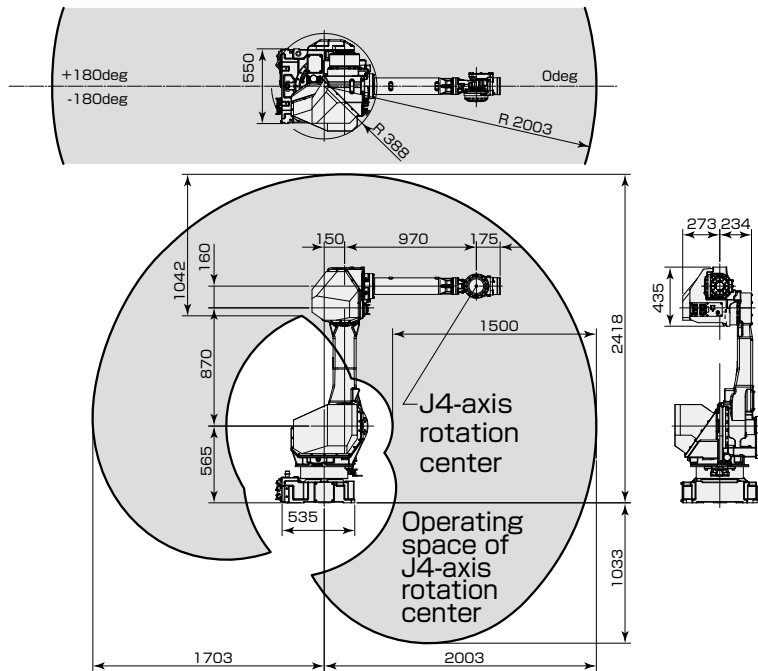
Specifications

Model		M-710iC/12L	M-710iC/20L	M-710iC/20M
Type	Articulated Type			
Controlled axes	6 axes (J1, J2, J3, J4, J5, J6)			
Reach	3123mm		2582mm	
Installation (Note 1)	Floor, Upside-down, Angle mount			
Motion range (Maximum speed) (Note 2)	J1 axis rotation	360° (180°/s) 6.28 rad (3.14 rad/s)	360° (175°/s) 6.28 rad (3.05 rad/s)	360° (175°/s) 6.28 rad (3.05 rad/s)
	J2 axis rotation	225° (180°/s) 3.93 rad (3.14 rad/s)	225° (175°/s) 3.93 rad (3.05 rad/s)	225° (175°/s) 3.93 rad (3.05 rad/s)
	J3 axis rotation	434° (180°/s) 7.57 rad (3.14 rad/s)	432° (180°/s) 7.54 rad (3.14 rad/s)	435° (180°/s) 7.59 rad (3.14 rad/s)
	J4 axis wrist rotation	400° (400°/s) 6.98 rad (6.98 rad/s)	400° (350°/s) 6.98 rad (6.11 rad/s)	400° (350°/s) 6.98 rad (6.11 rad/s)
	J5 axis wrist swing	380° (430°/s) 6.63 rad (7.50 rad/s)	280° (360°/s) 4.89 rad (6.28 rad/s)	280° (360°/s) 4.89 rad (6.28 rad/s)
	J6 axis wrist rotation	720° (630°/s) 12.57 rad (11.0 rad/s)	900° (600°/s) 15.71 rad (10.47 rad/s)	900° (600°/s) 15.71 rad (10.47 rad/s)
	Max. load capacity at wrist	12kg		20kg
Max. Load capacity at J3 casing (Note 3)	24kg			
Allowable load moment at wrist	J4 axis	22.0 N·m	2.24 kgf·m	39.2 N·m
	J5 axis	22.0 N·m	2.24 kgf·m	39.2 N·m
	J6 axis	9.8 N·m	1.0 kgf·m	19.6 N·m
Allowable load inertia at wrist	J4 axis	0.65 kg·m ²	6.6 kgf·cm·s ²	0.88 kg·m ²
	J5 axis	0.65 kg·m ²	6.6 kgf·cm·s ²	0.88 kg·m ²
	J6 axis	0.17 kg·m ²	1.7 kgf·cm·s ²	0.25 kg·m ²
Drive method	Electric servo drive by AC servo motor			
Positioning accuracy	± 0.15 mm			
Mass (Note 4)	540 kg		530 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 the angle mounting, the 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) Max. load capacity at J3 casing is limited by payload at wrist.
Note 4) Without controller.

Operating space

M-710iC/50H



Specifications

Model		M-710iC/50H
Type		Articulated Type
Controlled axes		5 axes (J1, J2, J3, J4, J5)
Reach		2003mm
Installation		Floor, Upside-down
Motion range (Maximum speed) (Note 1)	J1 axis rotation	360° (175°/s) 6.28 rad (3.05 rad/s)
	J2 axis rotation	225° (175°/s) 3.93 rad (3.05 rad/s)
	J3 axis rotation	440° (175°/s) 7.68 rad (3.05 rad/s)
	J4 axis wrist swing	234° (175°/s) 4.08 rad (3.05 rad/s)
	J5 axis wrist rotation	720° (720°/s) 12.57 rad (12.57 rad/s)
Max. load capacity at wrist		50kg
Max. load capacity at J3 casing (Note 2)		15kg
Allowable load moment at wrist	J4 axis	150 N·m 15.3 kgf·m
	J5 axis	68 N·m 6.9 kgf·m
Allowable load inertia at wrist	J4 axis	6.3 kg·m ² 64.3 kgf·cm·s ²
	J5 axis	2.5 kg·m ² 25.5 kgf·cm·s ²
Drive method		Electric servo drive by AC servo motor
Positioning accuracy		± 0.15 mm
Mass (Note 3)		540 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) During short distance motions, the axis speed may not reach the maximum value stated.

Note 2) Max. load capacity at J3 casing is limited by payload at wrist.

Note 3) Without controller.

FANUC

FANUC AMERICA CORPORATION
3900 WEST HAMLIN ROAD
ROCHESTER HILLS MI 48309-3253

