

Medium Payload Intelligent Robot

FANUC Robot M-710*i*C



Features

The M-710*i*C 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-710*i*C/45M, /50, /70**

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

M-710*i*C/45M : Payload capacity 45kg

M-710*i*C/50 : Payload capacity 50kg

M-710*i*C/70 : Payload capacity 70kg

- **FANUC Robot M-710*i*C/50S**

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

- **FANUC Robot M-710*i*C/12L, /20L**

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

M-710*i*C/12L : Payload capacity 12kg (Hollow wrist)

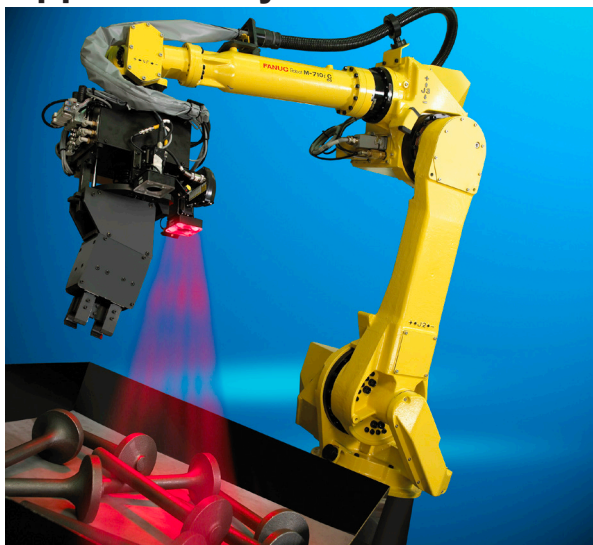
M-710*i*C/20L : Payload capacity 20kg

- **FANUC Robot M-710*i*C/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-710*i*C is reliable for various applications, such as load/unload for machined parts, de-burring and die cast loading.

Application system

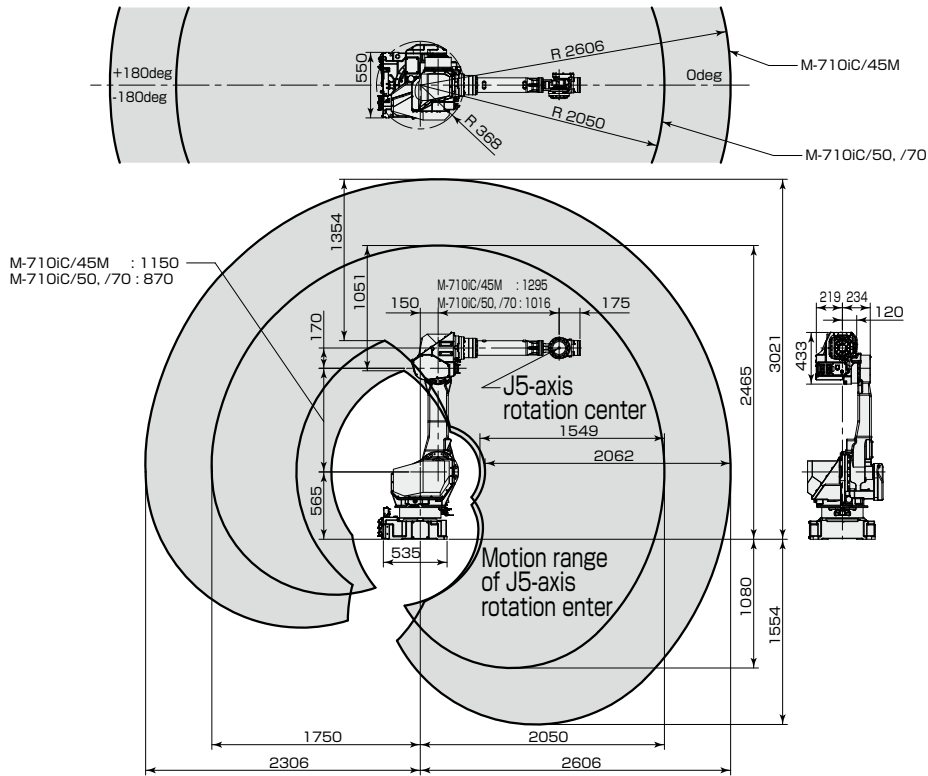


Bin picking of cylindrical parts

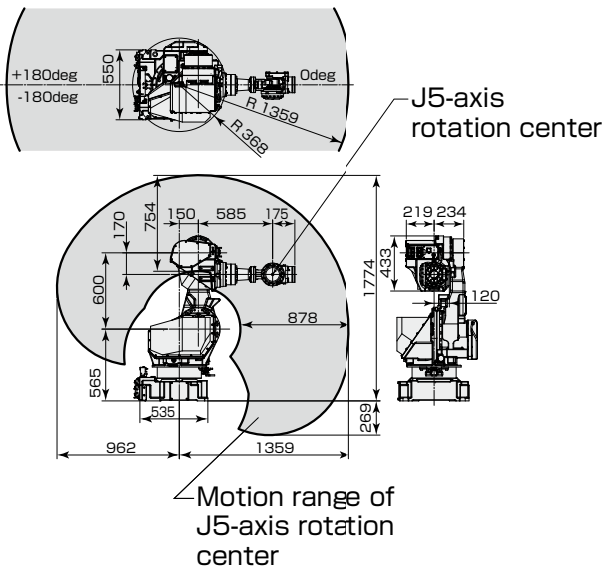


Car body sealing

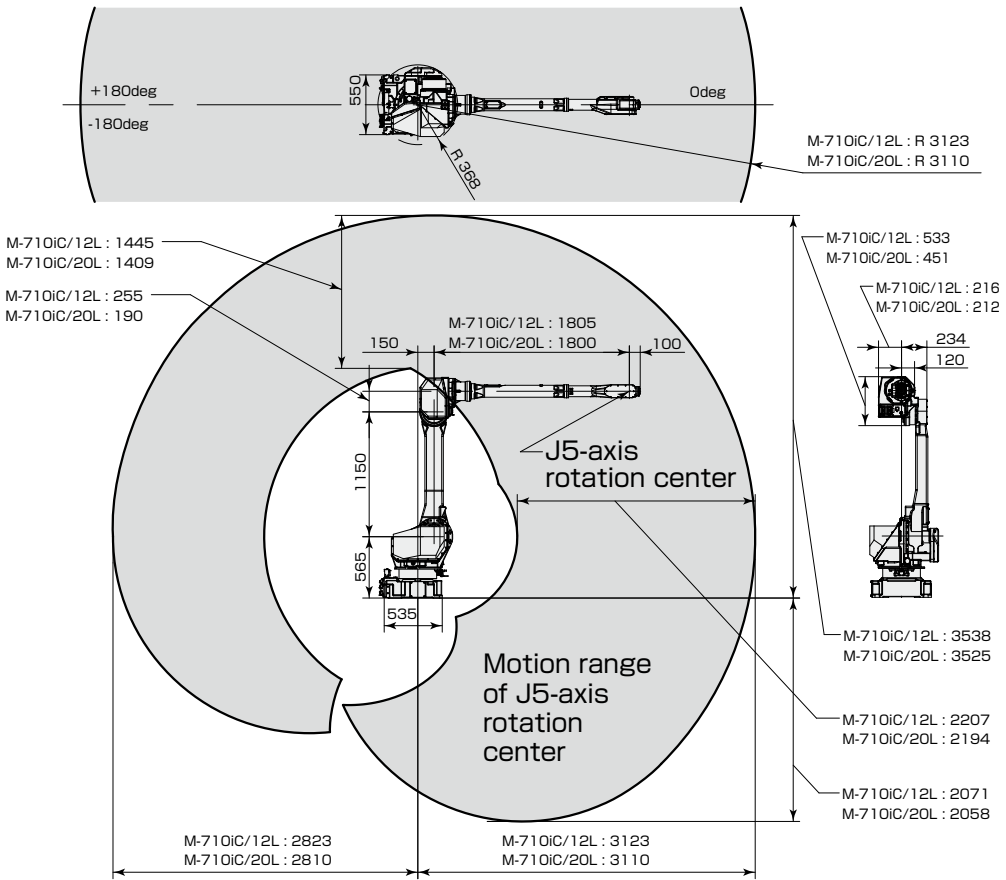
Operating space (M-710*i*C/45M, /50, /70)



Operating space (M-710*i*C/50S)



Operating space (M-710*i*C/12L, /20L)



Specifications

Item		Specification					
		M-710 <i>i</i> C/45M		M-710 <i>i</i> C/50		M-710 <i>i</i> C/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 30 kgf·m	
	J5 axis	206 N·m		21 kgf·m		294 N·m 30 kgf·m	
	J6 axis	127 N·m		13 kgf·m		147 N·m 15 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	20 kg·m ²	204 kgf·cm·s ²	11 kg·m ²		112 kgf·cm·s ²	
Drive method		Electric servo drive by AC servo motor					
Repeatability		± 0.1 mm		± 0.07 mm			
Mass (Note 4)		570 kg		560 kg			
Installation environment		Ambient temperature : 0~45℃ 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) In case of short distance motion the axis speed may not reach the maximum value stated

Specifications

Item		Specification	
		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)	
	J2 axis rotation	169° (175°/s) 2.95 rad (3.05 rad/s)	
	J3 axis rotation	376° (175°/s) 6.56 rad (3.05 rad/s)	
	J4 axis wrist rotation	720° (250°/s) 12.57 rad (4.36 rad/s)	
	J5 axis wrist swing	250° (250°/s) 4.36 rad (4.36 rad/s)	
	J6 axis wrist rotation	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	
Repeatability		± 0.07 mm	
Mass (Note 4)		545 kg	
Installation environment		Ambient temperature : 0~45℃ 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	

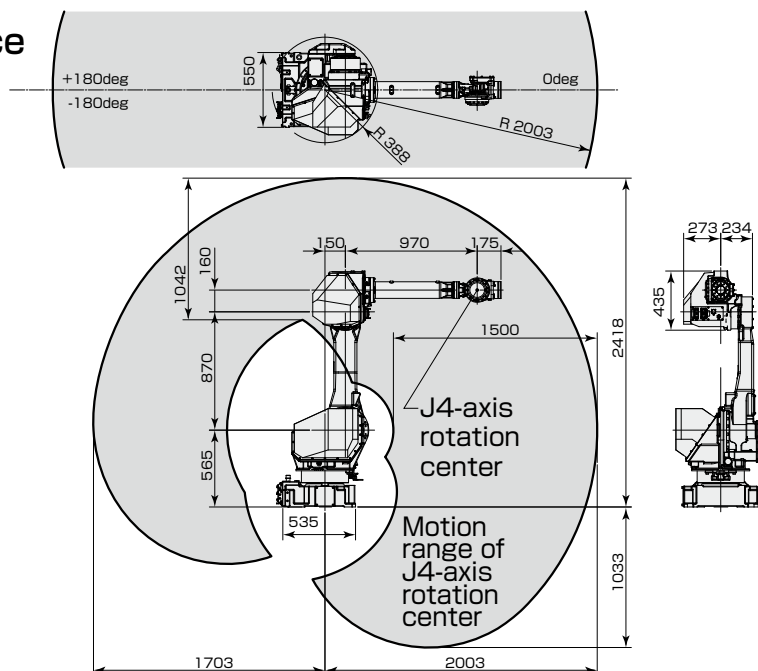
Note 1) In case of the angle mounting, the J1 and J2 axis motion range are restricted.
Note 2) In case of short distance motion the axis speed may not reach the maximum value stated

Specifications

Item		Specification			
		M-710 <i>i</i> C/12L		M-710 <i>i</i> C/20L	
Type		Articulated Type			
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)			
Reach		3123mm		3110mm	
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)	
	J2 axis rotation	225° (180°/s) 3.93 rad (3.14 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)	
	J4 axis wrist rotation	400° (400°/s) 6.98 rad (6.98 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)	
	J6 axis wrist rotation	720° (630°/s) 12.57 rad (11.0 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	4.0 kgf·m
	J5 axis	22.0 N·m	2.24 kgf·m	39.2 N·m	4.0 kgf·m
	J6 axis	9.8 N·m	1.0 kgf·m	19.6 N·m	2.0 kgf·m
Allowable load inertia at wrist	J4 axis	0.65 kg·m ²	6.6 kgf·cm·s ²	0.88 kg·m ²	9.0 kgf·cm·s ²
	J5 axis	0.65 kg·m ²	6.6 kgf·cm·s ²	0.88 kg·m ²	9.0 kgf·cm·s ²
	J6 axis	0.17 kg·m ²	1.7 kgf·cm·s ²	0.25 kg·m ²	2.5 kgf·cm·s ²
Drive method		Electric servo drive by AC servo motor			
Repeatability		± 0.15 mm			
Mass (Note 4)		540 kg			
Installation environment		Ambient temperature : 0~45℃ 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) In case of short distance motion the axis speed may not reach the maximum value stated

Operating space



Specifications

Item		Specification
		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
Repeatability		± 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) In case of short distance motion, 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.

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