

# FANUC Robot R-2000iB series



The FANUC robot R-2000iB is the intelligent robot for versatile applications with the up to date expertise in our quarter century at FANUC. The highly reliable robot with intelligence and network collaboration provides the best cost performance and prompts ease of use applications with integrated versatile process solutions such as spot welding, handling, assembling and so on.

## Simple and compact mechanical unit

R-2000iB provides the ultimate slim and compact body with the simplified vertical articulated arm, while maintaining the largest motion area and the heaviest payload in the class.

- Compact wrist unit
- Minimum interference at rear side
- Dense installation of multi robot

## Intelligence and networking

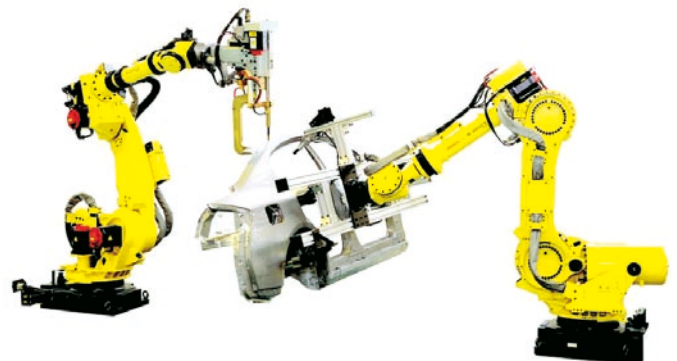
Newly developed robot controller by enhanced CPU performance includes the latest software function, provides the most up to date intelligent and networking features.

- Higher motion performance
- Integrated vision
- Bin picking function
- Diagnostics function

## Application system



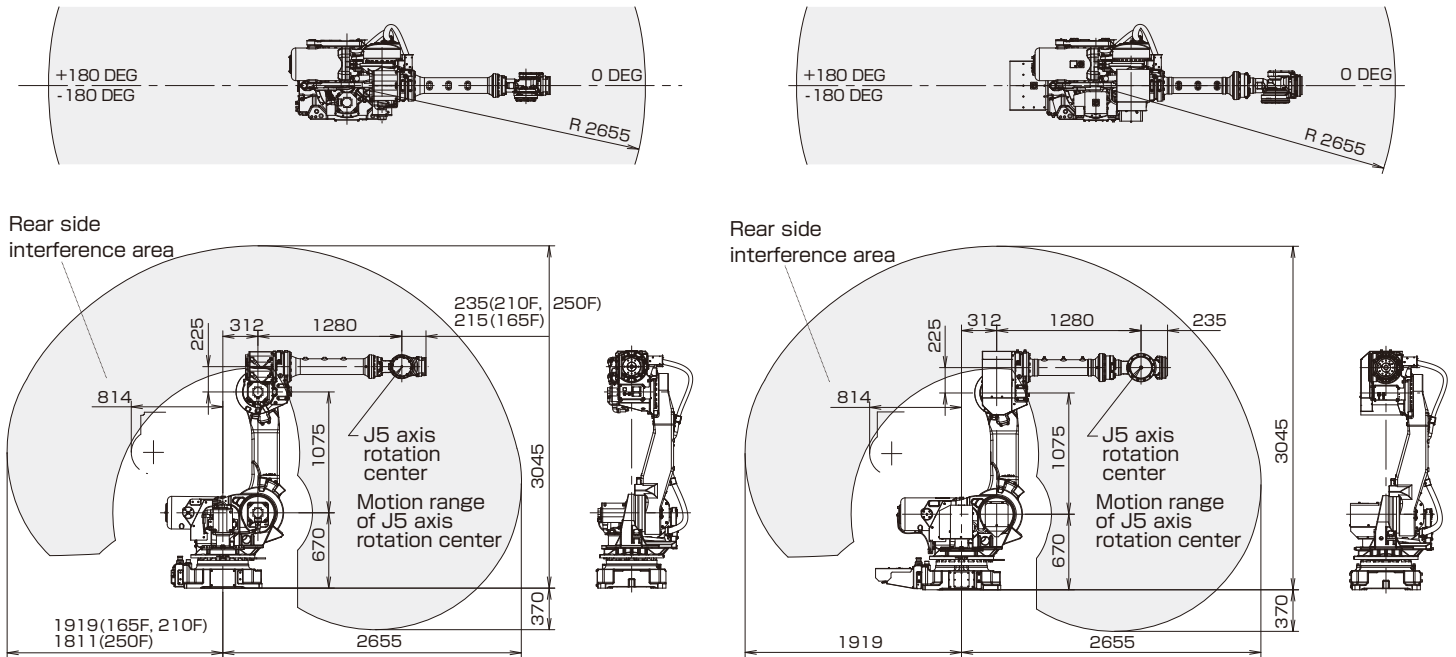
Handling of scattered workpieces



Spot welding by synchronized 2 robots

# FANUC Robot R-2000iB/165F, 210F, 250F, 210WE

Operating space (R-2000iB/165F, 210F, 250F)    Operating space (R-2000iB/210WE)



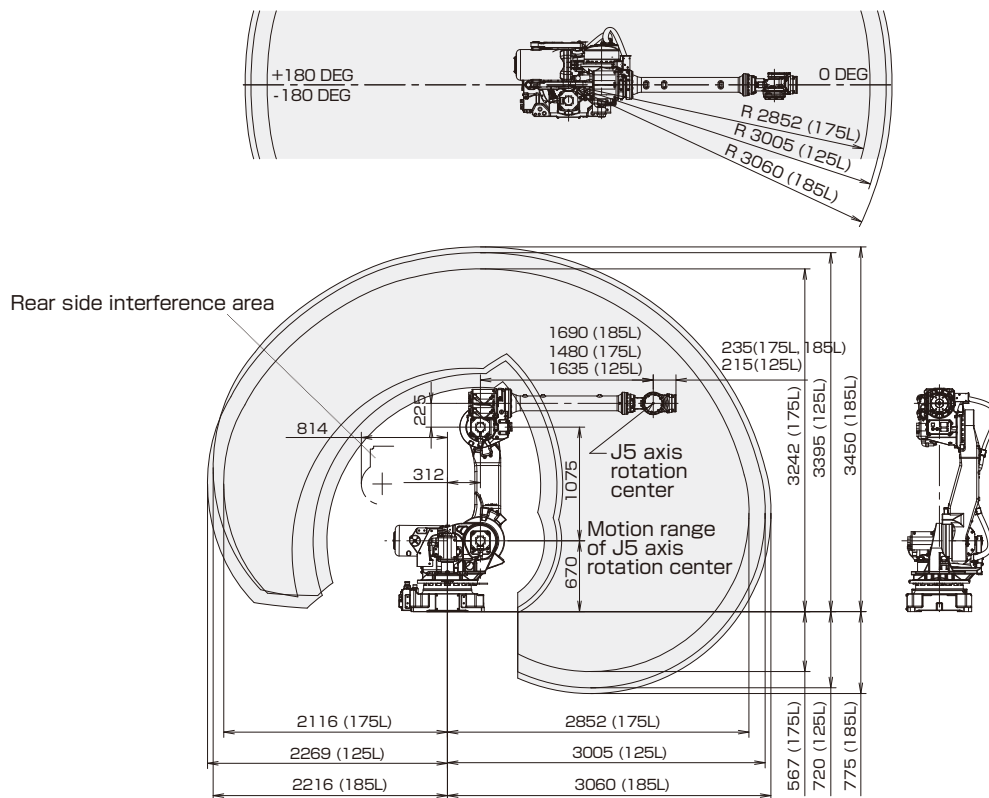
## Specifications

Item		Specifications			
		R-2000iB/165F	R-2000iB/210F	R-2000iB/250F	R-2000iB/210WE
Type		Articulated type			
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)			
Reach		2655mm	2655mm	2655mm	2655mm
Installation		Floor			
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (110°/s) 6.28rad (1.92rad/s)	360° (95°/s) 6.28rad (1.66rad/s)	360° (95°/s) 6.28rad (1.66rad/s)	360° (95°/s) 6.28rad (1.66rad/s)
	J2 axis rotation	136° (110°/s) 2.37rad (1.92rad/s)	136° (90°/s) 2.37rad (1.57rad/s)	136° (85°/s) 2.37rad (1.48rad/s)	136° (90°/s) 2.37rad (1.57rad/s)
	J3 axis rotation	362° (110°/s) 6.32rad (1.92rad/s)	362° (95°/s) 6.32rad (1.66rad/s)	357° (88°/s) 6.23rad (1.54rad/s)	362° (95°/s) 6.32rad (1.66rad/s)
	J4 axis wrist rotation	720° (150°/s) 12.57rad (2.62rad/s)	720° (120°/s) 12.57rad (2.09rad/s)	720° (120°/s) 12.57rad (2.09rad/s)	720° (120°/s) 12.57rad (2.09rad/s)
	J5 axis wrist swing	250° (150°/s) 4.36rad (2.62rad/s)	250° (120°/s) 4.36rad (2.09rad/s)	250° (120°/s) 4.36rad (2.09rad/s)	250° (120°/s) 4.36rad (2.09rad/s)
	J6 axis wrist rotation	720° (220°/s) 12.57rad (3.84rad/s)	720° (190°/s) 12.57rad (3.32rad/s)	720° (190°/s) 12.57rad (3.32rad/s)	720° (190°/s) 12.57rad (3.32rad/s)
	Max load capacity at wrist		165kg	210kg	250kg
Max load capacity at J2 base		550kg	550kg	550kg	550kg
Max load capacity on J3 arm		25kg	25kg	25kg	25kg
Allowable load moment at wrist	J4 axis	921N·m 94kgf·m	1333N·m 136kgf·m	1382N·m 141kgf·m	1333N·m 136kgf·m
	J5 axis	921N·m 94kgf·m	1333N·m 136kgf·m	1382N·m 141kgf·m	1333N·m 136kgf·m
	J6 axis	461N·m 47kgf·m	706N·m 72kgf·m	715N·m 73kgf·m	706N·m 72kgf·m
Allowable load inertia at wrist	J4 axis	78.4kg·m <sup>2</sup> 800kgf·cm·s <sup>2</sup>	141.1kg·m <sup>2</sup> 1440kgf·cm·s <sup>2</sup>	225.4kg·m <sup>2</sup> 2300kgf·cm·s <sup>2</sup>	141.1kg·m <sup>2</sup> 1440kgf·cm·s <sup>2</sup>
	J5 axis	78.4kg·m <sup>2</sup> 800kgf·cm·s <sup>2</sup>	141.1kg·m <sup>2</sup> 1440kgf·cm·s <sup>2</sup>	225.4kg·m <sup>2</sup> 2300kgf·cm·s <sup>2</sup>	141.1kg·m <sup>2</sup> 1440kgf·cm·s <sup>2</sup>
	J6 axis	40.2kg·m <sup>2</sup> 410kgf·cm·s <sup>2</sup>	78.4kg·m <sup>2</sup> 800kgf·cm·s <sup>2</sup>	196kg·m <sup>2</sup> 2000kgf·cm·s <sup>2</sup>	78.4kg·m <sup>2</sup> 800kgf·cm·s <sup>2</sup>
Drive method		Electric servo drive by AC servo motor			
Repeatability		±0.2mm	±0.3mm	±0.3mm	±0.3mm
Mass Note 2)		1170kg	1240kg	1270kg	1280kg
Installation environment		Ambient temperature : 0~45° C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less			

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) Without controller.

## Operating space (R-2000iB/125L, 175L, 185L)

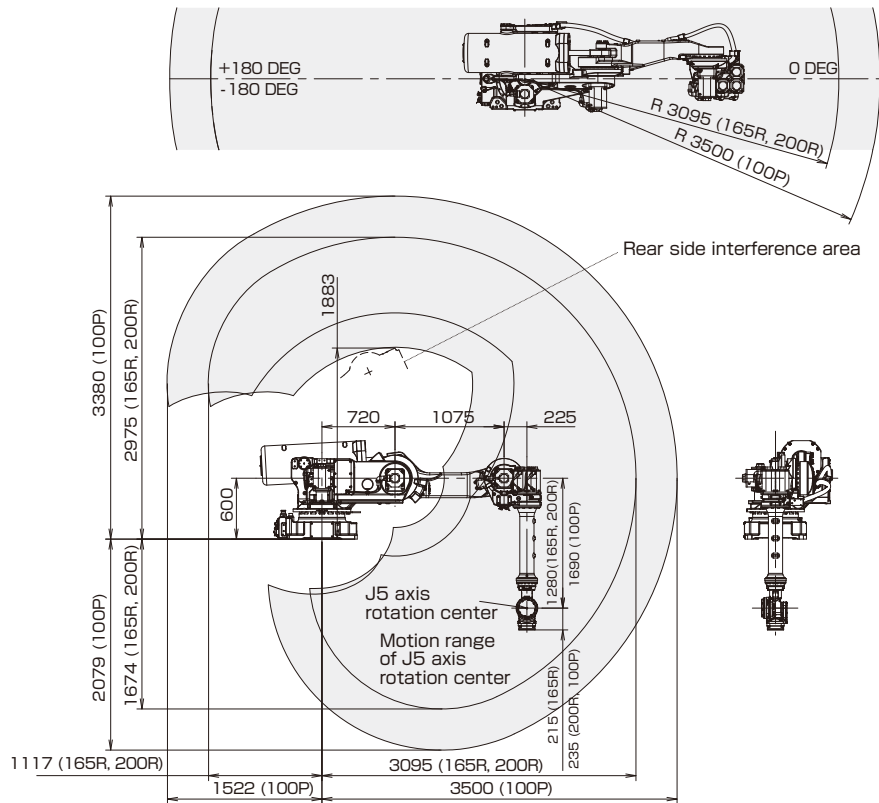


## Specifications

Item		Specifications		
		R-2000iB/125L	R-2000iB/175L	R-2000iB/185L
Type		Articulated type		
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)		
Reach		3005mm	2852mm	3060mm
Installation		Floor		
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (110°/s) 6.28rad (1.92rad/s)	360° (95°/s) 6.28rad (1.66rad/s)	360° (95°/s) 6.28rad (1.66rad/s)
	J2 axis rotation	136° (110°/s) 2.37rad (1.92rad/s)	136° (90°/s) 2.37rad (1.57rad/s)	136° (85°/s) 2.37rad (1.48rad/s)
	J3 axis rotation	352.6° (110°/s) 6.15rad (1.92rad/s)	356.1° (95°/s) 6.21rad (1.66rad/s)	346° (88°/s) 6.04rad (1.54rad/s)
	J4 axis wrist rotation	720° (170°/s) 12.57rad (2.97rad/s)	720° (120°/s) 12.57rad (2.09rad/s)	720° (120°/s) 12.57rad (2.09rad/s)
	J5 axis wrist swing	250° (170°/s) 4.36rad (2.97rad/s)	250° (120°/s) 4.36rad (2.09rad/s)	250° (120°/s) 4.36rad (2.09rad/s)
	J6 axis wrist rotation	720° (260°/s) 12.57rad (4.54rad/s)	720° (190°/s) 12.57rad (3.32rad/s)	720° (190°/s) 12.57rad (3.32rad/s)
	Max load capacity at wrist		125kg	175kg
Max load capacity at J2 base		550kg	550kg	550kg
Max load capacity on J3 arm		20kg	20kg	—
Allowable load moment at wrist	J4 axis	588N·m 60kgf·m	1225N·m 125kgf·m	1225N·m 125kgf·m
	J5 axis	588N·m 60kgf·m	1225N·m 125kgf·m	1225N·m 125kgf·m
	J6 axis	343N·m 35kgf·m	706N·m 72kgf·m	706N·m 72kgf·m
Allowable load inertia at wrist	J4 axis	58.8kg·m <sup>2</sup> 600kgf·cm·s <sup>2</sup>	225.4kg·m <sup>2</sup> 2300kgf·cm·s <sup>2</sup>	225.4kg·m <sup>2</sup> 2300kgf·cm·s <sup>2</sup>
	J5 axis	58.8kg·m <sup>2</sup> 600kgf·cm·s <sup>2</sup>	225.4kg·m <sup>2</sup> 2300kgf·cm·s <sup>2</sup>	225.4kg·m <sup>2</sup> 2300kgf·cm·s <sup>2</sup>
	J6 axis	22.5kg·m <sup>2</sup> 230kgf·cm·s <sup>2</sup>	196kg·m <sup>2</sup> 2000kgf·cm·s <sup>2</sup>	196kg·m <sup>2</sup> 2000kgf·cm·s <sup>2</sup>
Drive method		Electric servo drive by AC servo motor		
Repeatability		±0.2mm	±0.3mm	±0.3mm
Mass Note 2)		1190kg	1260kg	1290kg
Installation environment		Ambient temperature : 0~45° C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less		

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.  
 Note 2) Without controller.

## Operating space (R-2000iB/165R, 200R, 100P)



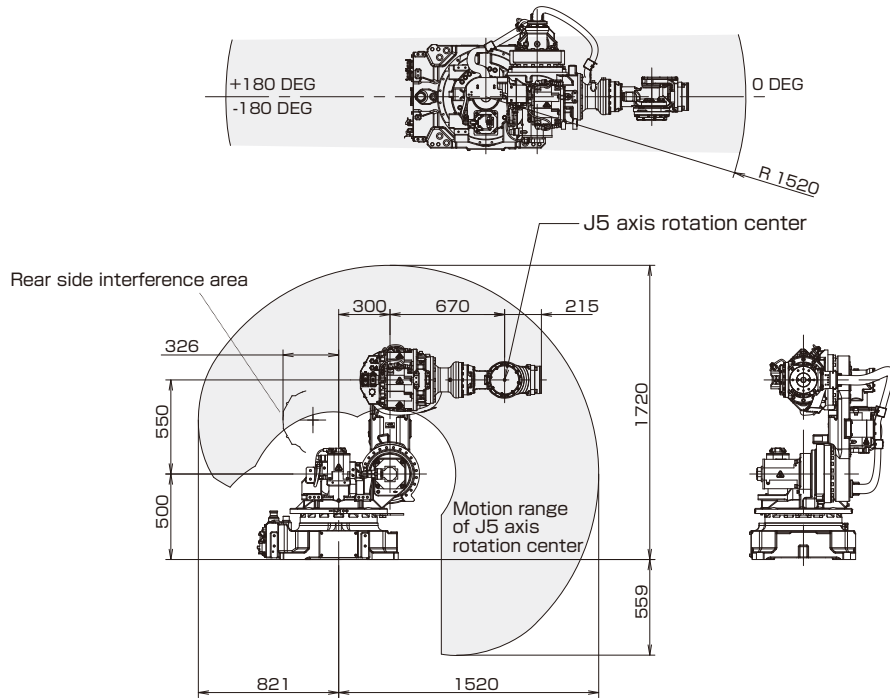
## Specifications

Item		Specifications		
		R-2000iB/165R	R-2000iB/200R	R-2000iB/100P
Type		Articulated type		
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)		
Reach		3095mm	3095mm	3500mm
Installation		Rack mount		
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (110°/s) 6.28rad (1.92rad/s)	360° (90°/s) 6.28rad (1.57rad/s)	360° (110°/s) 6.28rad (1.92rad/s)
	J2 axis rotation	185° (100°/s) 3.23rad (1.75rad/s)	185° (85°/s) 3.23rad (1.48rad/s)	185° (90°/s) 3.23rad (1.57rad/s)
	J3 axis rotation	365° (110°/s) 6.37rad (1.92rad/s)	365° (95°/s) 6.37rad (1.66rad/s)	365° (110°/s) 6.37rad (1.92rad/s)
	J4 axis wrist rotation	720° (150°/s) 12.57rad (2.62rad/s)	720° (120°/s) 12.57rad (2.09rad/s)	720° (120°/s) 12.57rad (2.09rad/s)
	J5 axis wrist swing	250° (150°/s) 4.36rad (2.62rad/s)	250° (120°/s) 4.36rad (2.09rad/s)	250° (120°/s) 4.36rad (2.09rad/s)
	J6 axis wrist rotation	720° (220°/s) 12.57rad (3.84rad/s)	720° (190°/s) 12.57rad (3.32rad/s)	720° (190°/s) 12.57rad (3.32rad/s)
	Max load capacity at wrist	165kg	200kg	100kg
	Max load capacity at J2 base	550kg	550kg	550kg
Max load capacity on J3 casing		25kg	—	25kg
Allowable load moment at wrist	J4 axis	921N · m 94kgf · m	1333N · m 136kgf · m	980N · m 100kgf · m
	J5 axis	921N · m 94kgf · m	1333N · m 136kgf · m	980N · m 100kgf · m
	J6 axis	461N · m 47kgf · m	706N · m 72kgf · m	706N · m 72kgf · m
Allowable load inertia at wrist	J4 axis	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	141.1kg · m <sup>2</sup> 1440kgf · cm · s <sup>2</sup>	225.4kg · m <sup>2</sup> 2300kgf · cm · s <sup>2</sup>
	J5 axis	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	141.1kg · m <sup>2</sup> 1440kgf · cm · s <sup>2</sup>	225.4kg · m <sup>2</sup> 2300kgf · cm · s <sup>2</sup>
	J6 axis	40.2kg · m <sup>2</sup> 410kgf · cm · s <sup>2</sup>	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	196kg · m <sup>2</sup> 2000kgf · cm · s <sup>2</sup>
Drive method		Electric servo drive by AC servo motor		
Repeatability		±0.3mm	±0.3mm	±0.3mm
Mass Note 2)		1480kg	1540kg	1560kg
Installation environment		Ambient temperature : 0~45° C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less		

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) Without controller.

## Operating space (R-2000iB/170CF)



## Specifications

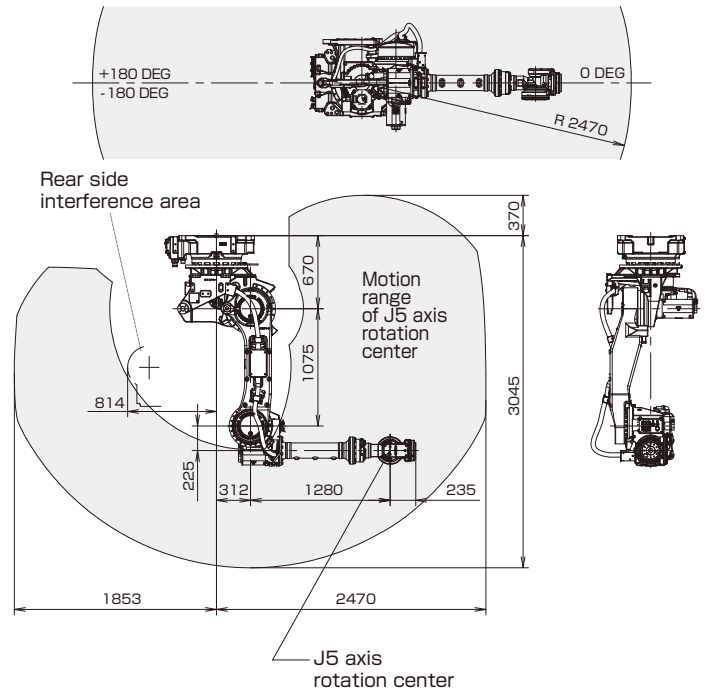
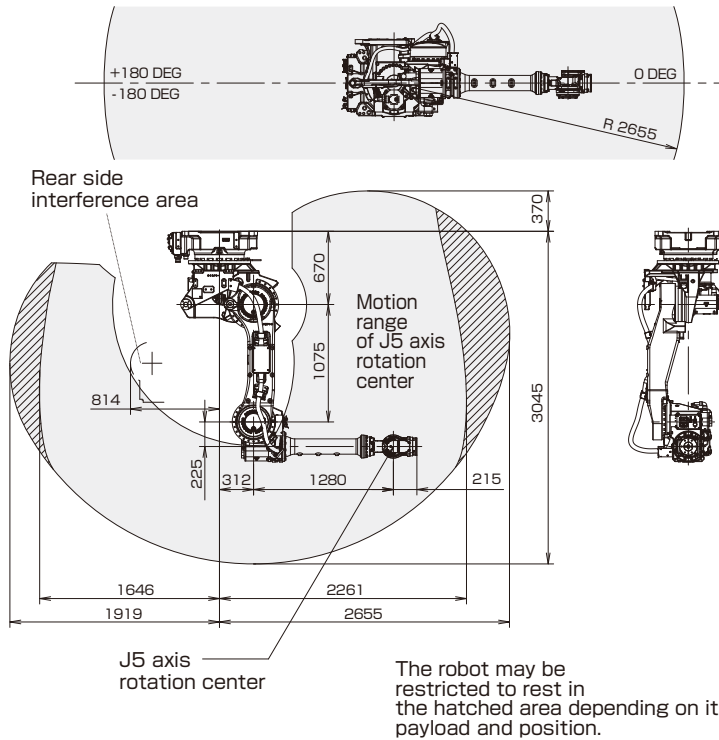
Item		Specifications	
		R-2000iB/170CF	
Type		Articulated type	
Controlled axes		6 axes (J1, J2, J3, J4, J5, J6)	
Reach		1520mm	
Installation		Floor, Upside-down	
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (110°/s) 6.28rad (1.92rad/s)	
	J2 axis rotation	190° (110°/s) 3.32rad (1.92rad/s)	
	J3 axis rotation	332° (110°/s) 5.79rad (1.92rad/s)	
	J4 axis wrist rotation	720° (150°/s) 12.57rad (2.62rad/s)	
	J5 axis wrist swing	250° (150°/s) 4.36rad (2.62rad/s)	
	J6 axis wrist rotation	720° (220°/s) 12.57rad (3.84rad/s)	
	Max load capacity at wrist		170kg
Max load capacity at J2 base		550kg (Floor mount only)	
Max load capacity on J3 casing		25kg	
Allowable load moment at wrist	J4 axis	921N · m 94kgf · m	
	J5 axis	921N · m 94kgf · m	
	J6 axis	461N · m 47kgf · m	
Allowable load inertia at wrist	J4 axis	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	
	J5 axis	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	
	J6 axis	40.2kg · m <sup>2</sup> 410kgf · cm · s <sup>2</sup>	
Drive method		Electric servo drive by AC servo motor	
Repeatability		±0.15mm	
Mass Note 2)		800kg	
Installation environment		Ambient temperature : 0~45° C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less	

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) Without controller.

## Operating space (R-2000iB/150U)

## Operating space (R-2000iB/220U)



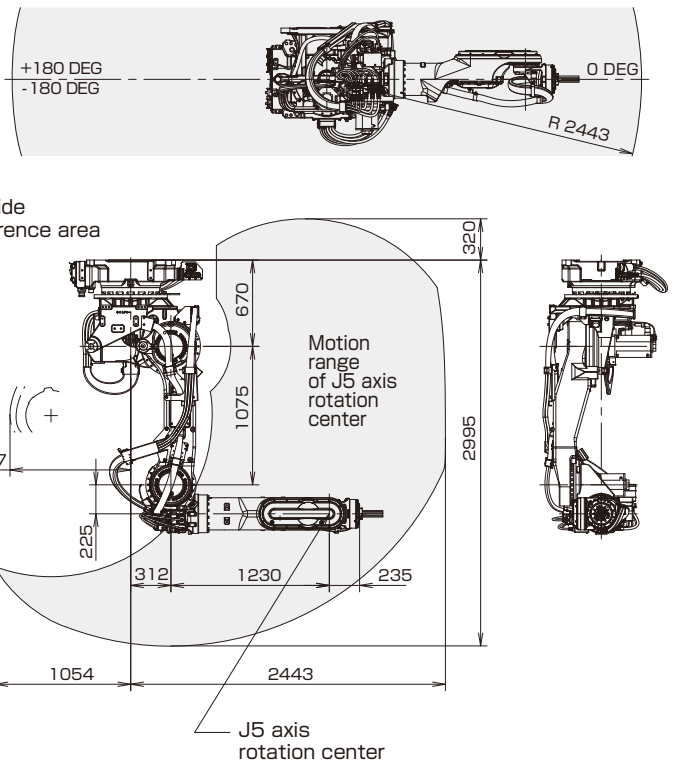
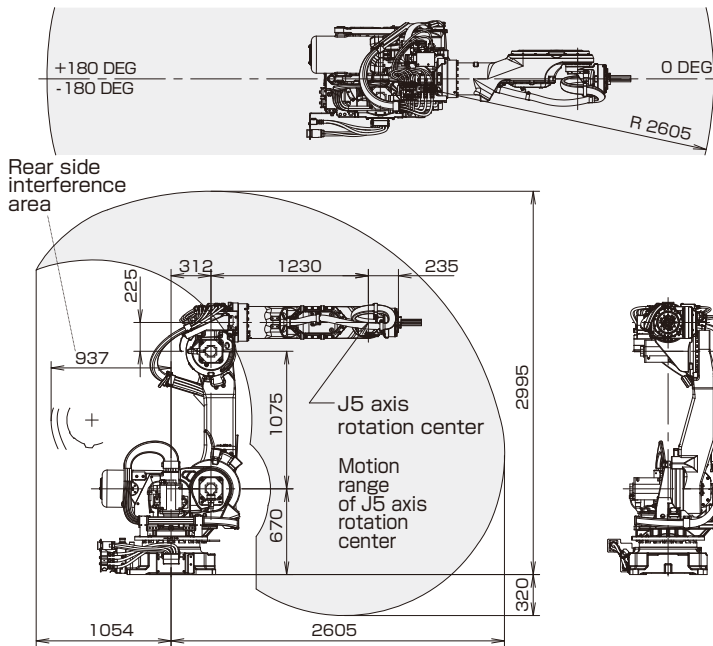
## Specifications

Item	Specifications		
	R-2000iB/150U	R-2000iB/220U	
Type	Articulated type		
Controlled axes	6 axes (J1, J2, J3, J4, J5, J6)		
Reach	2655mm	2470mm	
Installation	Upside-down		
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (110°/s) 6.28rad (1.92rad/s)	360° (95°/s) 6.28rad (1.66rad/s)
	J2 axis rotation	136° (85°/s) 2.37rad (1.48rad/s)	136° (85°/s) 2.37rad (1.48rad/s)
	J3 axis rotation	362° (110°/s) 6.32rad (1.92rad/s)	362° (95°/s) 6.32rad (1.66rad/s)
	J4 axis wrist rotation	720° (150°/s) 12.57rad (2.62rad/s)	720° (120°/s) 12.57rad (2.09rad/s)
	J5 axis wrist swing	250° (150°/s) 4.36rad (2.62rad/s)	250° (120°/s) 4.36rad (2.09rad/s)
	J6 axis wrist rotation	720° (220°/s) 12.57rad (3.84rad/s)	720° (190°/s) 12.57rad (3.32rad/s)
	Max load capacity at wrist	150kg	220kg
Max load capacity at J2 base	—	—	
Max load capacity on J3 arm	10kg	25kg	
Allowable load moment at wrist	J4 axis	833N · m 85kgf · m	1333N · m 136kgf · m
	J5 axis	833N · m 85kgf · m	1333N · m 136kgf · m
	J6 axis	421N · m 43kgf · m	706N · m 72kgf · m
Allowable load inertia at wrist	J4 axis	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	141.1kg · m <sup>2</sup> 1440kgf · cm · s <sup>2</sup>
	J5 axis	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>	141.1kg · m <sup>2</sup> 1440kgf · cm · s <sup>2</sup>
	J6 axis	40.2kg · m <sup>2</sup> 410kgf · cm · s <sup>2</sup>	78.4kg · m <sup>2</sup> 800kgf · cm · s <sup>2</sup>
Drive method	Electric servo drive by AC servo motor		
Repeatability	±0.2mm	±0.3mm	
Mass Note 2)	1070kg	1150kg	
Installation environment	Ambient temperature : 0~45° C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less		

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.  
Note 2) Without controller.

## Operating space (R-2000iB/210FS)

## Operating space (R-2000iB/220US)

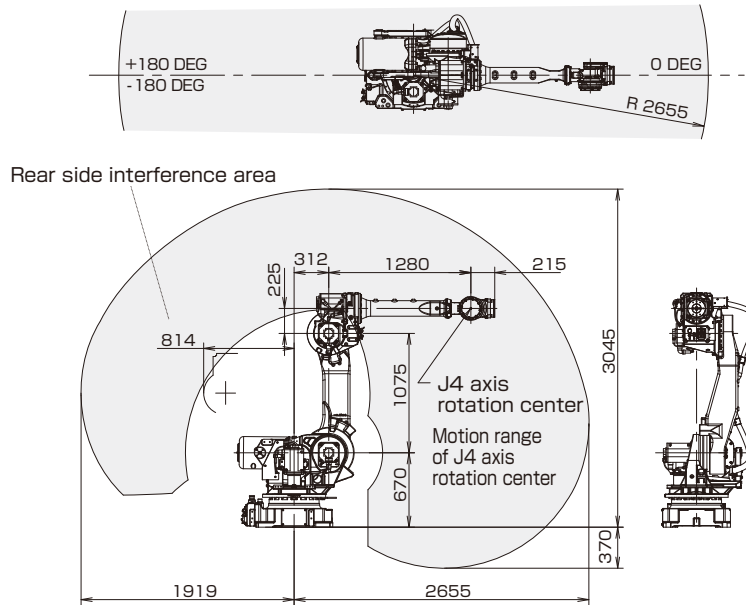


## Specifications

Item	Specifications	
	R-2000iB/210FS	R-2000iB/220US
Type	Articulated type	
Controlled axes	6 axes (J1, J2, J3, J4, J5, J6)	
Reach	2605mm	2443mm
Installation	Floor	Upside-down
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (110°/s)
	J2 axis rotation	6.28rad (1.92rad/s)
	J3 axis rotation	136° (90°/s)
	J4 axis rotation	2.37rad (1.57rad/s)
	J5 axis rotation	233.9° (95°/s)
	J6 axis rotation	4.08rad (1.66rad/s)
	J5 axis wrist swing	4.08rad (1.66rad/s)
Max load capacity at	wrist	210kg
	J2 base	550kg
	J3 arm	—
Allowable load moment at wrist	J4 axis	1333N · m
	J5 axis	136kgf · m
	J6 axis	1333N · m
Allowable load inertia at wrist	J4 axis	136kgf · m
	J5 axis	706N · m
	J6 axis	72kgf · m
Drive method	J4 axis	141.1kg · m <sup>2</sup>
	J5 axis	1440kgf · cm · s <sup>2</sup>
	J6 axis	141.1kg · m <sup>2</sup>
Repeatability	±0.3mm	±0.3mm
Mass Note 2)	1250kg	1160kg
Installation environment	Ambient temperature	: 0~45° C
	Ambient humidity	: Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month)
	Vibration	: Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.  
Note 2) Without controller.

## Operating space (R-2000iB/100H)



## Specifications

Item		Specifications	
		R-2000iB/100H	
Type		Articulated Type	
Controlled axes		5 axes (J1, J2, J3, J4, J5)	
Reach		2655mm	
Installation		Floor	
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (130°/s) 6.28rad (2.27rad/s)	
	J2 axis rotation	136° (130°/s) 2.37rad (2.27rad/s)	
	J3 axis rotation	362° (130°/s) 6.32rad (2.27rad/s)	
	J4 axis wrist swing	250° (170°/s) 4.36rad (2.97rad/s)	
	J5 axis wrist rotation	720° (360°/s) 12.57rad (6.28rad/s)	
	Max load capacity at wrist		100kg
Max load capacity at J2 base		550kg	
Max load capacity on J3 arm		—	
Allowable load moment at wrist	J4 axis	441N·m 45kgf·m	
	J5 axis	245N·m 25kgf·m	
Allowable load inertia at wrist	J4 axis	39.2kg·m <sup>2</sup> 400kgf·cm·s <sup>2</sup>	
	J5 axis	15.7kg·m <sup>2</sup> 160kgf·cm·s <sup>2</sup>	
Drive method		Electric servo drive by AC servo motor	
Repeatability		±0.2mm	
Mass Note 2)		1150kg	
Installation environment		Ambient temperature : 0~45° C	
		Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month)	
		Vibration : Vibration acceleration : 4.9m/s <sup>2</sup> (0.5G) or less	

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) Without controller.

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