

Compact and High-speed Robot

# FANUC Robot R-1000iA

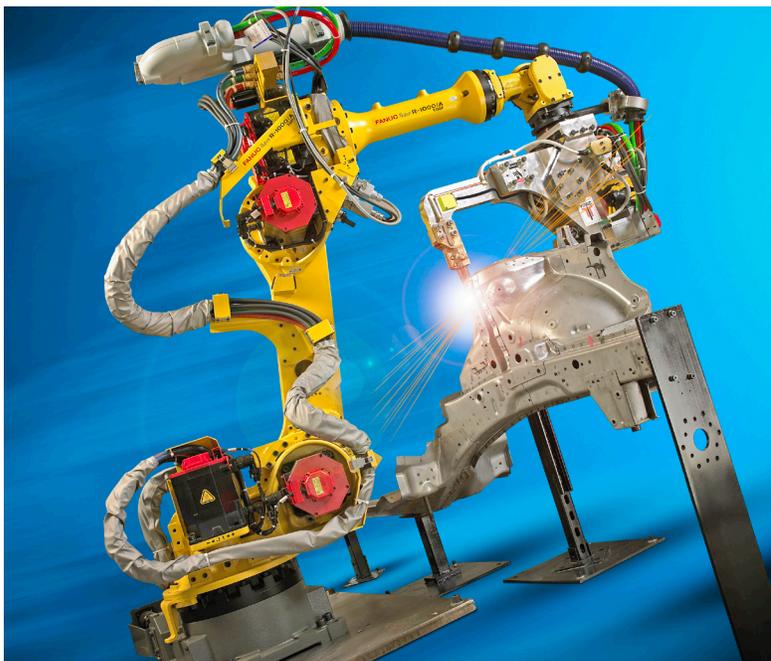


## Features

The R-1000iA is a compact and high-speed robot with a wrist capacity of 80kg and 100kg. A compact mechanical unit combined with outstanding motion performance make this robot ideal for material handling or spot welding processes. A narrow footprint allows more robots to fit into a work cell, helping save valuable floor space.

- Three models are available to meet a variety of applications
  - The R-1000iA 80F/100F has a large operating space (including its rear and downward side) due to a serial link configuration. This robot can be installed up side down. A slim profile, high speed approach and fast short pitch motion combine for reduced process time.
  - The R-1000iA 80H is a 5 axis variant that produces faster transfer speed in a compact unit.
- A slim design allows for easy access to adjacent robots, fixtures and work pieces. The R-1000iA can be floor or invert mounted.
- The latest intelligent features with *i*RVision and force sensing are available, as well as a range of other features with the R-30iB controller.

## Application system



Spot welding with the Learning Robot option

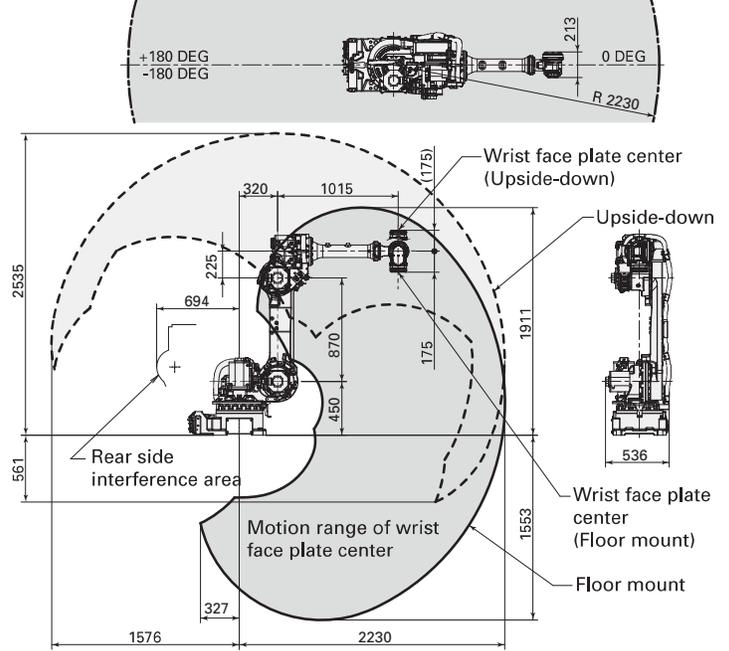
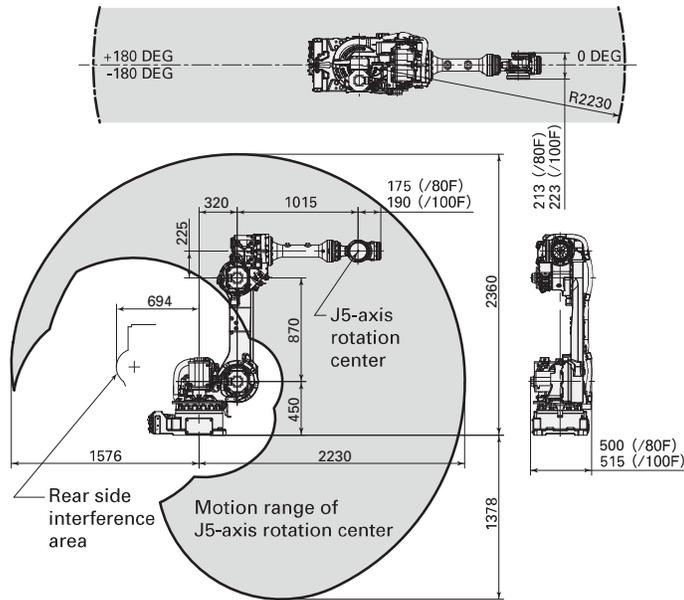


Bag palletizing with R-1000iA 80H

# FANUC Robot R-1000iA

## Operating space (R-1000iA/80F, /100F)

## Operating space (R-1000iA/80H)



## Specifications

Item	Specifications						
	R-1000iA/80F		R-1000iA/100F		R-1000iA/80H		
Type	Articulated Type						
Controlled axes	6 axes (J1, J2, J3, J4, J5, J6)				5 axes (J1, J2, J3, J4, J5)		
Reach	2,230 mm						
Installation	Floor, Upside-down						
Motion range (Maximum speed) Note 1)	J1 axis rotation	360° (170°/s) 6.28 rad (2.97 rad/s)		360° (130°/s) 6.28 rad (2.27 rad/s)		360° (185°/s) 6.28 rad (3.23 rad/s)	
	J2 axis rotation	245° (140°/s) 4.28 rad (2.44 rad/s)		245° (110°/s) 4.28 rad (1.92 rad/s)		245° (180°/s) 4.28 rad (3.14 rad/s)	
	J3 axis rotation	360° (160°/s) 6.28 rad (2.79 rad/s)		360° (120°/s) 6.28 rad (2.09 rad/s)		215° (180°/s) 3.75 rad (3.14 rad/s)	
	J4 axis wrist rotation (/80H:wrist swing)	720° (230°/s) 12.57 rad (4.01 rad/s)		720° (170°/s) 12.57 rad (2.97 rad/s)		20° (180°/s) 0.35 rad (3.14 rad/s) Note 2)	
	J5 axis wrist swing (/80H:wrist rotation)	250° (230°/s) 4.36 rad (4.01 rad/s)		250° (170°/s) 4.36 rad (2.97 rad/s)		720° (500°/s) 12.57 rad (8.73 rad/s)	
	J6 axis wrist rotation	720° (350°/s) 12.57 rad (6.11 rad/s)		720° (250°/s) 12.57 rad (4.36 rad/s)		-	
Max load capacity at wrist	80 kg (A)		100 kg		80 kg (A)		
Max load capacity on J3 arm	-		20 kg (C)		-		
Max load capacity on J3 casing	15 kg (B)		20 kg (D)		15 kg (B)		
Allowable load moment at wrist	J4 axis	380 N·m 38.8 kgf·m		690 N·m 70.4 kgf·m		Note 3)	
	J5 axis	380 N·m 38.8 kgf·m		690 N·m 70.4 kgf·m			
	J6 axis	200 N·m 20.4 kgf·m		260 N·m 26.5 kgf·m			
Allowable load inertia at wrist	J4 axis	30 kg·m <sup>2</sup> 306.1 kgf·cm·s <sup>2</sup>		57 kg·m <sup>2</sup> 581.6 kgf·cm·s <sup>2</sup>		48 kg·m <sup>2</sup> 489.8 kgf·cm·s <sup>2</sup>	
	J5 axis	30 kg·m <sup>2</sup> 306.1 kgf·cm·s <sup>2</sup>		57 kg·m <sup>2</sup> 581.6 kgf·cm·s <sup>2</sup>		25 kg·m <sup>2</sup> 255.1 kgf·cm·s <sup>2</sup>	
	J6 axis	20 kg·m <sup>2</sup> 204.1 kgf·cm·s <sup>2</sup>		32 kg·m <sup>2</sup> 326.5 kgf·cm·s <sup>2</sup>		-	
Drive method	Electric servo drive by AC servo motor						
Repeatability	± 0.2 mm						
Mass Note 4)	620 kg		665 kg		610 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 short distance motion, the axis speed doesn't reach maximum one.

Note 2) The wrist interface is always controlled downward. It can be made fine adjustment from -10 to +10 degrees.

Note 3) Distance from the center of gravity of the load to the wrist flange center is limited by the wrist load and load inertia.

In case of the wrist load and load inertia is maximum, center of gravity of the load can be offset up to 254mm in the horizontal direction and up to 400mm in the vertical direction from the wrist flange center.

Note 4) Without controller

# FANUC

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

