

R-1000iA/80F™

Basic Description

The FANUC Robot R-1000iA is a high-speed and compact robot having a payload capacity of 80kg. Outstanding motion performance and compact mechanical unit are suitable for material handling or spot welding processes in high density work cells with space constraints.

R-1000iA Series, the Ideal Solution for:

- High Density Spot Welding
- Combination Spot / MH

Benefits

- High Speed
- Small Profile
- Superior reliability

Features

- R-1000iA has a large operating space (including its rear and downward side) due to a serial link configuration.
- R-1000iA is made as slim as possible in width and provides accessibility to adjacent robots, fixtures and workpieces. It can be installed not only on the floor, but also in an up-side down orientation.
- High-speed approach from home to working position and fast positioning in short pitch motion can minimize the required time of process.
- The optional Solution Arm dressout packages include welding cables, cooling water hoses and signal wires to support spot welding process.
- The R-30iA robot controller enables intelligent functions including integrated vision and networking options.



Features (Mechanical)

- Wrist motors located at rear of J3 keep them isolated from hot, wet or dirty environments.
- IP67 rated wrist allows wrist to handle parts in wet conditions

Features (Control):

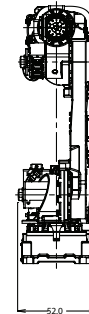
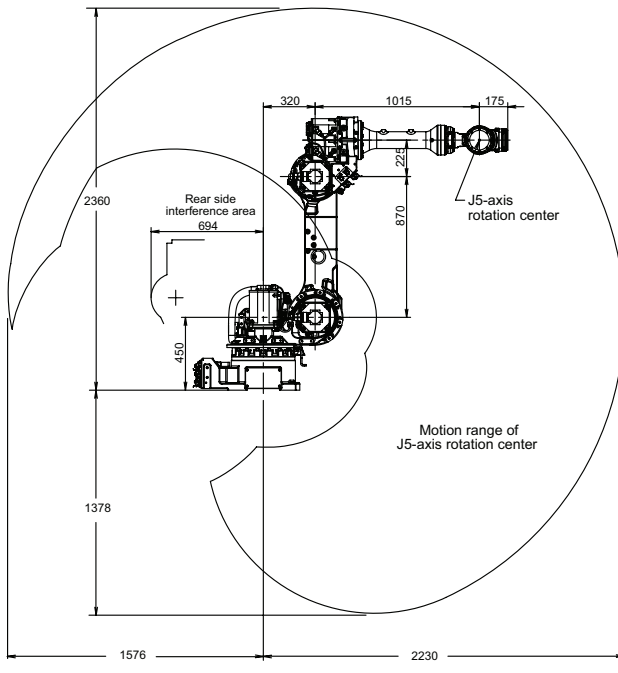
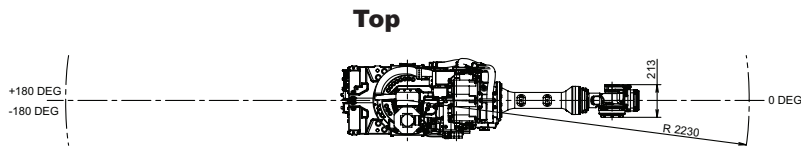
- Built-in support for machine vision applications for robot guidance and error proofing, without the need for a PC.
- Dual-Check Safety (DCS) function achieves the highest level of safety for E-Stop and Fence Stop.
- DCS supports safety monitoring of robot position and speed.
- Easy connections to a variety of I/O, including a number of distributed I/O networks.
- *iPendant*™, a color, Internet-ready teach pendant for even easier programming and custom cell user interface design.

Options

- Standard base plate for quick robot installation.
- Adjustable hard stops for axes J1, J2 and J3.
- Auxiliary axes packages for integration of peripheral servo-controlled devices.
- Multiple robot connection cable lengths for flexible cabinet placement and optional track rated cables.
- *iPendant*™ with touch screen for custom HMI applications.
- FANUC's *iRVision*™ (Integrated Robot Vision) system delivers high performance 2D and 3D machine vision capabilities with proven FANUC reliability to support:
 - 2D robot guidance
 - 3D robot guidance
 - Error Proofing

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R-1000iA/80F Dimensions



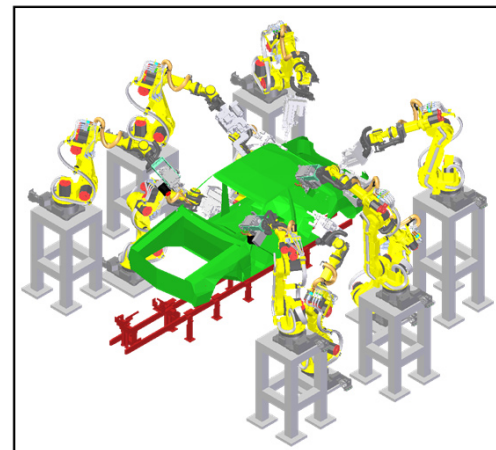
Front

Side

R-1000iA/80F Specifications

Items		
Axes		6
Payload - Wrist (kg)		80 ^A
Payload - J3 Arm (kg)		15 ^B
Reach (mm)		2230
Repeatability (mm)		±0.2
Interference radius (mm)		694
Motion range (degrees)	J1	360 (±180)
	J2	245 (-90~ +155)
	J3	360~ (-180~ +180)
	J4	720 (±360)
	J5	250 (±125)
	J6	720 (±360)
Motion speed (degrees/s)	J1	170
	J2	140
	J3	160
	J4	230
	J5	230
	J6	350
Wrist moments N-m	J4	380
	J5	380
	J6	200
Wrist load inertia (kg-m ²)	J4	30
	J5	30
	J6	20
Mechanical brakes		All axes
Mechanical weight (kg)		620
Mounting method		Floor or Inverted
Installation environment		
Ambient Temperature (°C)		0 to 45
Humidity		Normally: 75% or less; Short term (1 mo): 95% or less; No condensation (no dew or frost)
Vibration (m/s ²)		4.9 or less (0.5G or less)
IP Rating(s)		Wrist IP67 and Forearm, Main Body IP54

Note: A+B < 80 kg



Example of High Density Spot Welding application

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