

Compact and High-speed Robot

FANUC Robot R-1000iA

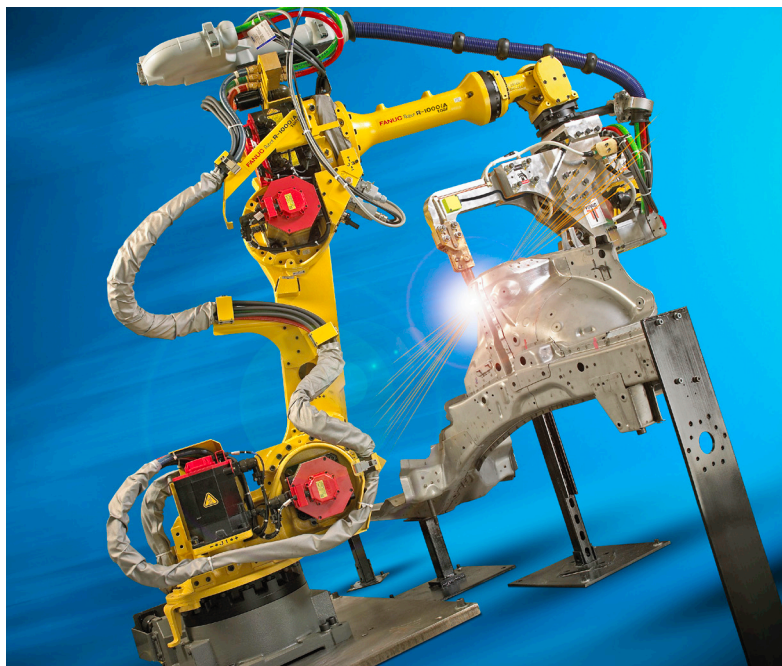


Features

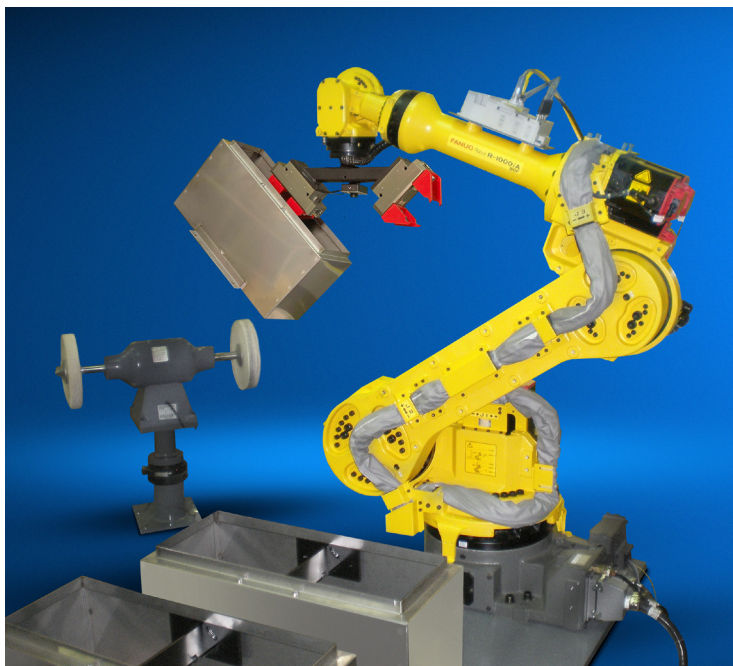
The R-1000iA is a compact and high-speed robot with a wrist capacity of 80kg and 100kg. A compact mechanical unit combined with outstanding motion performance make this robot ideal for material handling or spot welding processes. A narrow footprint allows more robots to fit into a workcell, helping save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

- The R-1000iA has a large operating space (including its rear and downward side) due to a serial link configuration.
- A slim design allows for easy access to adjacent robots, fixtures and work pieces. The R-1000iA can be floor or invert mounted.
- A high-speed approach from home to its working position paired with high-speed positioning in short pitch motions can minimize the required process time.
- The latest intelligent features with *i*RVision and the force sensor are available.

Application system



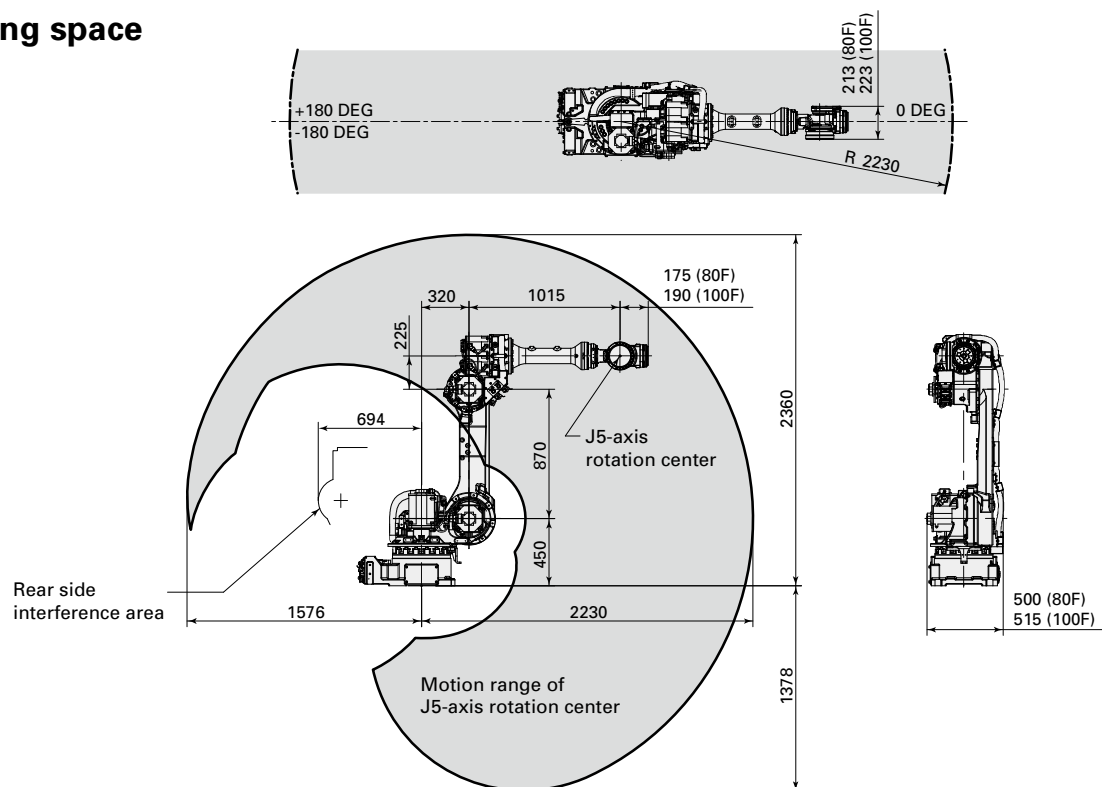
Spot welding with the Learning Robot option



Picking boxes from a pallet and deburring

FANUC Robot R-1000iA

Operating space



Specifications

| Item | | Specifications | | | |
|--|------------------------|--|-----------------------------|--|-----------------------------|
| | | R-1000iA/80F | | R-1000iA/100F | |
| Type | | Articulated Type | | | |
| Controlled axes | | 6 axes (J1, J2, J3, J4, J5, J6) | | | |
| 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) |
| | J2 axis rotation | 245° (140°/s) | 4.28 rad (2.44 rad/s) | 245° (110°/s) | 4.28 rad (1.92 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) |
| | J4 axis wrist rotation | 720° (230°/s) | 12.57 rad (4.01 rad/s) | 720° (170°/s) | 12.57 rad (2.97 rad/s) |
| | J5 axis wrist swing | 250° (230°/s) | 4.36 rad (4.01 rad/s) | 250° (170°/s) | 4.36 rad (2.97 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 | |
| Max load capacity on J3 arm | | (A) + (B) < 80 kg | | 20 kg (C) | |
| Max load capacity on J3 casing | | | | 20 kg (D) | |
| | | | | (C) + (D) < 20 kg | |
| Allowable load moment at wrist | J4 axis | 380 N·m | 38.8 kgf·m | 690 N·m | 70.4 kgf·m |
| | 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 ² | 306.1 kgf·cm·s ² | 57 kg·m ² | 581.6 kgf·cm·s ² |
| | J5 axis | 30 kg·m ² | 306.1 kgf·cm·s ² | 57 kg·m ² | 581.6 kgf·cm·s ² |
| | J6 axis | 20 kg·m ² | 204.1 kgf·cm·s ² | 32 kg·m ² | 326.5 kgf·cm·s ² |
| Drive method | | Electric servo drive by AC servo motor | | | |
| Repeatability | | ± 0.2 mm | | | |
| Mass Note 2) | | 620 kg | | 665 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 : 0.5G or less | | | |

Note 1) In case of short distance motion, the axis speed doesn't reach maximum.

Note 2) Without controller



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