Cost Savings through Intelligent Robotization for the 21st Century

GENERAL CATALOG

FANUC
Advantage of using robots

• FANUC Robots will provide your factories with a wide range of advantages.

**Increased Productivity**
• Robots are able to handle products that are too heavy and unsafe for humans to lift.
• Robots are able to operate faster than humans.
• Robots can work nights, weekends, holidays, and in "lights out" facilities without a rest.

**Improved Work Reliability**
• Robots are highly durable and can be relied on for a long-term operation.
• Robots are able to perform complex tasks and operations on behalf of humans.
• No sudden surprises such as sick leave or retirement exists.

**Higher Product Quality**
• Robots are more accurate than manual labor.
• Robots provide higher product quality more consistently than manual labor.

**Reduced Costs**
• Replacing manual operations with robots can reduce personnel costs.
• Easier system or process changeover can be realized.

**Various application of robots**

• FANUC has a wide range of robot types and models available for various applications.
• Various features are available for FANUC robots to make a maximum use of robot flexibilities.

- Load/unload
- Arc Welding
- Bin Picking
- Logistics/Warehouse
- Assembly
- Deburring
- Pharmaceuticals
- Food Packing
- Error Proofing
- Polishing
- Washing
- Painting
Features of FANUC Robot

High Reliability

- **Reliable**
  FANUC designs and manufacturers all robot components with the highest quality and durability, including mechanical arms, servo motors, controllers, software, and sensors.

- **Predictable**
  Diagnostic features can inform you of conditions in which a robot may fail, allowing for preventative maintenance on the robot before a failure.

- **Easy to Repair**
  - Robot mechanical units are designed for easy maintenance.
  - Diagnostic features can estimate causes of failure, assisting your quick repair.

Advanced Intelligence

- **Collaborative Robot**
  CR-35iA is a 35kg payload collaborative robot that can work without safety fences. This robot can work in cooperation with a human operator and bring production efficiency and save labor in your factories.

- **Bin Picking Robot**
  The Bin Picking Robot equipped with a vision sensor automates the picking process of randomly piled parts in a bin. The parts do not need to be arranged in advance, eliminating the need for positioning fixtures. It also allows for easy part changeover. The Bin Picking Robot enables unmanned part handling in your factories.

- **Visual Tracking**
  Through Visual Tracking the robot tracks and picks parts moving on a conveyor by utilizing the vision sensor located upstream. Multiple robots connected via a network can automatically divide the workload among the robots, allowing for automation in various picking and packing processes.

High Cost Performance

- **Learning Robot**
  The Learning Robot provides smooth and high-speed motion by suppressing robot vibration. This enhances the robot’s productivity and the efficiency of a production line, which contributes to reduced overall system costs. Also the Learning Robot enhances the performance of handling a heavy jig or workpiece, which causes robot vibration.

- **Force Sensor/Deburring-Polishing**
  The Six-Axis Force Sensor, equipped on the robot’s wrist, enables a contouring motion of the robot tool while maintaining a designated pushing force to the part. The force-controlled robot contributes to automating processes such as deburring of machined part edges and polishing of part surfaces.

- **Saving Energy, Workspace, and Installation Costs**
  - DCS (Dual Check Safety) functions can reduce installation costs, workspace requirements, and the need for safety devices, such as zone switches.
  - Energy-saving features include a low-power design and an energy regeneration option. Stacking up to three A cabinets reduce installation space.
### Collaborative Robot

**FANUC Robot CR-35iA**

- **Controlled axes**: 6
- **Max. payload at wrist**: 35kg
- **Motion range(X,Y)**: φ280mm, 100mm / φ420mm, 150mm
- **Repeatability**: ±0.02mm / ±0.03mm
- **Mass**: 990kg
- **Installation**: Floor
- **Matching controller/Input power capacity**: R-30iB Mate controller(A-cabinet)/3kVA

### Genkotsu-robot, Mini Robot

**FANUC Robot M-1iA**

- **Controlled axes**: 6 4 3 6 4 3
- **Max. payload at wrist**: 0.5kg(option:1kg) / 1kg
- **Motion range(X,Y)**: φ280mm, 100mm / φ420mm, 150mm
- **Mass(without stand)**: 17kg / 14kg / 12kg
- **Installation**: Floor, Ceiling, Angle
- **Matching controller/Input power capacity**: R-30iB Mate controller(standard, open air)/1kVA

**FANUC Robot M-2iA**

- **Controlled axes**: 6 4 3 6 4 3
- **Max. payload at wrist**: 3kg / 6kg
- **Motion range(X,Y)**: φ280mm, 100mm / φ420mm, 150mm
- **Mass(without stand)**: 140kg / 130kg / 125kg
- **Installation**: Ceiling
- **Matching controller/Input power capacity**: R-30iB Mate controller(A-cabinet), R-30iB Mate controller(standard, open air)/12kVA

**FANUC Robot M-3iA**

- **Controlled axes**: 6 4 3
- **Max. payload at wrist**: 6kg(option:8kg) / 12kg
- **Motion range(X,Y)**: φ335mm, 500mm
- **Mass**: 175kg / 160kg / 155kg
- **Installation**: Ceiling
- **Matching controller/Input power capacity**: R-30iB Mate controller(A-cabinet), R-30iB Mate controller(standard, open air)/12kVA

**FANUC Robot LR Mate 200i/D**

- **Controlled axes**: 6
- **Max. payload at wrist**: 7kg
- **Motion range(X,Y)**: 717mm, 1274mm / 911mm, 1643mm / 550mm, 970mm
- **Mass**: 25kg
- **Installation**: Floor, Upside-down, Angle
- **Matching controller/Input power capacity**: R-30iB Mate controller(standard, open air)/1.2kVA

**FANUC Robot LR Mate 200i/D**

- **Controlled axes**: 6
- **Max. payload at wrist**: 7kg
- **Motion range(X,Y)**: 717mm, 1274mm / 911mm, 1643mm / 550mm, 970mm
- **Mass**: 25kg
- **Installation**: Floor, Upside-down, Angle
- **Matching controller/Input power capacity**: R-30iB Mate controller(standard, open air)/1.2kVA

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- **Matching controller/Input power capacity**: R-30iB Mate controller(standard, open air)/1.2kVA

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- **Controlled axes**: 6
- **Max. payload at wrist**: 7kg
- **Motion range(X,Y)**: 717mm, 1274mm / 911mm, 1643mm / 550mm, 970mm
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- **Installation**: Floor, Upside-down, Angle
- **Matching controller/Input power capacity**: R-30iB Mate controller(standard, open air)/1.2kVA

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- **Controlled axes**: 6
- **Max. payload at wrist**: 7kg
- **Motion range(X,Y)**: 717mm, 1274mm / 911mm, 1643mm / 550mm, 970mm
- **Mass**: 25kg
- **Installation**: Floor, Upside-down, Angle
- **Matching controller/Input power capacity**: R-30iB Mate controller(standard, open air)/1.2kVA
## FANUC Robot ARC Mate 0i/B

| Controlled axes | 6 |
| Max. payload at wrist | 3kg |
| Motion range (X,Y) | 1437mm, 2637mm |
| Repeatability | ±0.08mm |
| Mass | 99kg (in case of pedestal option: 145kg) |
| Installation | Floor, Upside-down, Angle |
| Matching controller/Input power capacity | R-30iB Mate controller (standard) / 2kVA |
| Application | Arc welding |

## FANUC Robot M-10iA

| Controlled axes | 6 |
| Max. payload at wrist | 12kg, 7kg, 8kg, 10kg |
| Motion range (X,Y) | 1089mm, 1872mm, 1420mm, 2504mm, 2590mm, 1832mm, 5908mm, 1901mm, 1878mm, 1422mm, 2508mm |
| Repeatability | ±0.05mm, ±0.08mm |
| Mass | 130kg, 135kg, 150kg, 130kg |
| Installation | Floor, Upside-down, Angle |
| Matching controller/Input power capacity | R-30iB controller (A,B-cabinet), R-30iB Mate controller (standard) / 2kVA |
| Application | Handling ● ● ● ●, Assembling ● ● ● ●, Arc welding ● ● ● ●, Sealing ● ● ● ●, Others ● ● ● ● |

## FANUC Robot M-20iA

| Controlled axes | 6 |
| Max. payload at wrist | 20kg, 12kg, 20kg, 35kg |
| Motion range (X,Y) | 1811mm, 3275mm, 2009mm, 3672mm, 1813mm, 3278mm |
| Repeatability | ±0.08mm |
| Mass | 250kg, 252kg |
| Installation | Floor, Upside-down, Angle |
| Matching controller/Input power capacity | R-30iB controller (A,B-cabinet), R-30iB Mate controller (standard) / 3kVA |
| Application | Handling ● ● ● ●, Assembling ● ● ● ●, Arc welding ● ● ● ●, Sealing ● ● ● ●, Others ● ● ● ● |

## FANUC Robot M-20iB

| Controlled axes | 6 |
| Max. payload at wrist | 25kg |
| Motion range (X,Y) | 1853mm, 3345mm |
| Repeatability | ±0.06mm |
| Mass | 210kg |
| Installation | Floor, Upside-down, Angle |
| Matching controller/Input power capacity | R-30iB controller (A,B-cabinet), R-30iB Mate controller (standard) / 3kVA |
| Application | Handling ●, Assembling ●, Arc welding ●, Sealing ●, Others ● |

## FANUC Robot M-710i/C

| Controlled axes | 6 |
| Max. payload at wrist | 45kg, 50kg, 70kg, 12kg, 20kg, 50kg, 50kg |
| Motion range (X,Y) | 2650mm, 4550mm, 2050mm, 3545mm, 3123mm, 5908mm, 3109mm, 5600mm, 1298mm, 2434mm, 2039mm, 3455mm |
| Repeatability | ±0.1mm, ±0.07mm, ±0.15mm, ±0.15mm, ±0.07mm, ±0.07mm |
| Mass | 570kg, 565kg, 540kg, 545kg |
| Installation | Floor, Upside-down, Angle |
| Matching controller/Input power capacity | R-30iB controller (A,B-cabinet), R-30iB Mate controller (standard) (Note) / 1.2kVA |
| Application | Handling ● ● ● ● ● ● ●, Assembling ● ● ● ● ● ● ●, Arc welding ● ● ● ● ● ● ●, Sealing ● ● ● ● ● ● ●, Spot welding ● ● ● ● ● ● ●, Others ● ● ● ● ● ● ● |

**Note:** R-30iB Mate controller (standard) is not available for /50H.
# Medium Size Robot

**FANUC Robot R-1000iA**

- **Controlled axes**: 6, 5
- **Max. payload at wrist**: 80kg, 100kg, 80kg
- **Motion range (X,Y)**: 2230mm, 3738mm, 2230mm, 3485mm
- **Repeatability**: ≤0.2mm, ≤0.2mm
- **Mass**: 620kg, 665kg, 610kg
- **Installation**: Floor, Upside-down
- **Matching controller/input power capacity**: R-30iB controller (A,B-cabinet) R-30iB Mate controller (standard)/12kVA
- **Application**: Handling, Assembling, Sealing, Spot welding

**FANUC Robot R-1000iC**

- **Controlled axes**: 6, 5
- **Max. payload at wrist**: 165kg, 210kg, 125kg, 165kg, 210kg
- **Motion range (X,Y)**: 2655mm, 3414mm, 3100mm, 4304mm, 3975mm, 4733mm
- **Repeatability**: ≤0.2mm, ≤0.2mm, ≤0.2mm
- **Mass**: 1090kg, 1115kg, 1370kg
- **Installation**: Floor, Rack
- **Matching controller/input power capacity**: R-30iB controller (A,B-cabinet), R-30iB Mate controller (standard)/12kVA
- **Application**: Handling, Assembling, Sealing, Spot welding

**FANUC Robot R-1000iB**

- **Controlled axes**: 6
- **Max. payload at wrist**: 250kg, 210kg, 175kg, 215kg, 100kg
- **Motion range (X,Y)**: 2655mm, 3414mm, 2852mm, 3809mm, 3060mm, 4225mm
- **Repeatability**: ±0.3mm, ±0.3mm
- **Mass**: 1270kg, 1280kg, 1260kg, 1290kg, 1560kg
- **Installation**: Floor, Rack
- **Matching controller/input power capacity**: R-30iB controller (A,B-cabinet)/12kVA
- **Application**: Handling, Assembling, Sealing, Spot welding, Washing, Others

**FANUC Robot M-900iB**

- **Controlled axes**: 6, 5
- **Max. payload at wrist**: 360kg, 280kg, 280kg, 150kg, 700kg, 400kg, 200kg
- **Motion range (X,Y)**: 2655mm, 3338mm, 3225mm, 3976mm, 3976mm, 3813mm, 3813mm
- **Repeatability**: ≤0.3mm, ≤0.3mm
- **Mass**: 1540kg, 1600kg, 1700kg, 1860kg, 2800kg, 3150kg, 2670kg
- **Installation**: Floor, Upside-down, Angle Rack, Floor, Rack
- **Matching controller/input power capacity**: R-30iB controller (A,B-cabinet), R-30iB controller (B-cabinet)/12kVA
- **Application**: Handling, Assembling, Sealing, Spot welding, Press to press handling

# Large Size Robot

**FANUC Robot R-2000iC**

- **Controlled axes**: 6
- **Max. payload at wrist**: 165F, 210F, 125L, 165R, 210R
- **Motion range (X,Y)**: 2220mm, 3738mm, 2220mm, 3485mm
- **Repeatability**: ≤0.2mm
- **Mass**: 652kg, 665kg, 610kg
- **Installation**: Floor, Upside-down
- **Matching controller/input power capacity**: R-30iB controller (A,B-cabinet), R-30iB Mate controller (standard)/12kVA
- **Application**: Handling, Assembling, Sealing, Spot welding

**FANUC Robot R-2000iB**

- **Controlled axes**: 6
- **Max. payload at wrist**: 210CF, 150U, 220U, 210FS, 220US, 100H
- **Motion range (X,Y)**: 1520mm, 2279mm, 2655mm, 3414mm, 2470mm, 3414mm
- **Repeatability**: ±0.15mm, ±0.2mm, ±0.3mm
- **Mass**: 800kg, 1070kg, 1150kg, 1250kg, 100kg
- **Installation**: Floor, Upside-down, Floor, Upside-down, Floor
- **Matching controller**: R-30iB controller (A,B-cabinet)
- **Input power capacity**: 12kVA, 15kVA, 12kVA, 15kVA, 12kVA
- **Application**: Handling, Assembling, Sealing, Spot welding, Washing, Others

**FANUC Robot M-900iA**

- **Controlled axes**: 6
- **Max. payload at wrist**: 150P, 150P
- **Motion range (X,Y)**: 2855mm, 3338mm, 2855mm, 3976mm, 2855mm, 3813mm
- **Repeatability**: ≤0.3mm
- **Mass**: 1540kg, 1600kg, 1700kg, 1860kg, 2800kg, 3150kg, 2670kg
- **Installation**: Floor, Upside-down, Angle Rack, Floor, Rack
- **Matching controller**: R-30iB controller (A,B-cabinet), R-30iB controller (B-cabinet)
- **Input power capacity**: 15kVA, 18kVA, 30kVA
- **Application**: Handling, Assembling, Sealing, Spot welding, Press to press handling
### Large Size Robot

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<tr>
<th>FANUC Robot</th>
<th>M-2000iA</th>
<th>(1200)</th>
<th>(900L)</th>
<th>(2300)</th>
<th>(1700L)</th>
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<tbody>
<tr>
<td>Controlled axes</td>
<td>6</td>
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<tr>
<td>Max. payload at wrist</td>
<td>1200kg (option: 1350kg)</td>
<td>900kg</td>
<td>2300kg</td>
<td>1700kg</td>
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<tr>
<td>Motion range (X,Y)</td>
<td>3734mm, 4683mm</td>
<td>4683mm, 6209mm</td>
<td>3734mm, 4683mm</td>
<td>4683mm, 6209mm</td>
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<tr>
<td>Repeatability</td>
<td>±0.3mm</td>
<td>±0.5mm</td>
<td>±0.3mm</td>
<td>20.5mm</td>
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<tr>
<td>Mass</td>
<td>8600kg</td>
<td>9800kg</td>
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<td>Installation</td>
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<tr>
<td>Matching controller / Input power capacity</td>
<td>R-30iB controller (A.B-cabinet) / 30kVA</td>
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<td>Application</td>
<td>Handling</td>
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### Palletizing Robot, Others

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<th>M-410iC</th>
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<td>Controlled axes</td>
<td>/185</td>
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<td>Max. payload at wrist</td>
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<td>Motion range (X,Y)</td>
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<tr>
<td>Repeatability</td>
<td>±0.2mm</td>
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<tr>
<td>Mass</td>
<td>1200kg</td>
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<tr>
<td>Installation</td>
<td>Floor</td>
</tr>
<tr>
<td>Matching controller / Input power capacity</td>
<td>R-30iB controller (A.B-cabinet) / 15kVA</td>
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<tr>
<td>Application</td>
<td>Handling</td>
</tr>
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### Top Mount Robot

<table>
<thead>
<tr>
<th>FANUC Robot</th>
<th>M-710iC</th>
<th>R-2000iB</th>
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</thead>
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<tr>
<td>Controlled axes</td>
<td>/20T</td>
<td>/35T</td>
</tr>
<tr>
<td>Max. payload at wrist</td>
<td>20kg</td>
<td>35kg</td>
</tr>
<tr>
<td>Motion range (X,Y)</td>
<td>1823mm, 3217mm</td>
<td>1663mm, 3220mm</td>
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<td>Repeatability</td>
<td>±0.08mm</td>
<td>±0.07mm (*)</td>
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<tr>
<td>Mass</td>
<td>150kg</td>
<td>187kg</td>
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<td>Installation</td>
<td>Floor, Upside-down, Wall</td>
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<td>Matching controller / Input power capacity</td>
<td>R-30iB controller (A,B-cabinet) / 5kVA</td>
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<td>Input power capacity</td>
<td>3kVA</td>
<td>12kVA</td>
</tr>
<tr>
<td>Application</td>
<td>Handling, Assembling, Spot welding, Others</td>
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</tbody>
</table>

*1: Standard welding torch mode  
*2: High inertia mode  
*3: This does not include an influence from a rail transfer unit.
**Controller**

### R-3G/B Controller
- **A-Cabinet**
- **B-Cabinet**
- **Standard Type**
- **Open Air Type**

#### Rated Supply Voltage
- **AC 200−575V +10% -15%**
- **50/60Hz ±1Hz, 3-phase**

#### Mass of Controller
- **120−140kg**
- **180−200kg**
- **40kg**
- **20kg**

#### Dimensions (W×D×H)
- **600×470×500**
- **740×550×1100**
- **470×322×400**
- **470×402×400**
- **370×350×200**
- **370×350×356**

#### Protection Class
- **IP54**
- **IP20**

#### Emergency stop
- **Emergency stop function**
- **Position/Speed check function**
  - **PL=e, Cat4(ISO13849-1)**
  - **SI3L(IEC61508)**
  - **PL=d, Cat3(ISO13849-1)**
  - **SI2L(IEC61508)**

#### External Memory
- **USB, PCMCIA**
- **USB**

#### Fieldbus
- **Ethernet, FL-net, DeviceNet, PROFIBUS, PROFINET, CC-Link, CC-Link IE, EtherNet/IP, EtherCAT**

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**Safety & Reliability**

**Industrial Standards Conformance for Safety and Environment**

The FANUC Robot i series is manufactured at fully automated and robotized factories under strict quality control, and meets ISO:9001 certifications.

The FANUC Robot i series is compliant with the European, American, Korean, etc. safety standards, and has been certified with the CE, NRTL and KC marking (with options for each specification). TÜV marking and TÜV EMC marking are attached when the European specification for the robot is chosen.

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**Maintenance & Support**

**Worldwide Customer Support**

FANUC offers customer service and support anywhere in the world through subsidiaries and affiliates. FANUC prides itself in providing the highest quality service with the quickest response time at the nearest location to you.

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**FANUC Training Center**

FANUC’s training centers offer a variety of intensive robot training courses, from introductory to advanced knowledge and skills for teaching, operation, engineering and maintenance of FANUC robots and their applications. Hands-on training provides your employees with the skills needed to operate and maintain your factory automation.

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**FANUC CORPORATION**

- **Overseas Affiliated Companies**
  - FANUC America Corporation
  - FANUC Europe Corporation, S.A.
  - SHANGHAI-FANUC Robotics Co., LTD.
  - KOREA FANUC CORPORATION
  - TAIWAN FANUC CORPORATION
  - FANUC INDIA PRIVATE LIMITED
  - FANUC SINGAPORE PTE LTD.
  - PANJU THAI LIMITED
  - FANUC MEDATRONICS (MALAYSIA) SDN. BHD.
  - PT. FANUC INDONESIA
  - FANUC OSANOA PTY. LIMITED
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