



YASKAWA

YASKAWA INDUSTRIAL ROBOT MOTOMAN-DA20

20 kg/ARM PAYLOAD
13-AXIS ARTICULATED

Challenging the Human Performance

The MOTOMAN-DA20 will change your image of industrial robots.
Performing tasks once done only by people opens a new realm of possibilities.

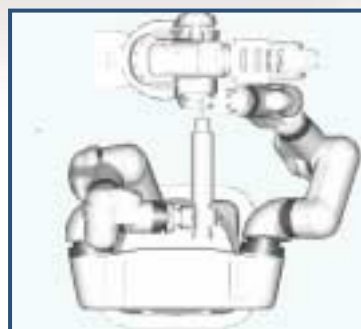
Reach high-speed motion and enhanced freedom with two 6-axis arms.

Free yourself from routine work and concentrate on more complicated tasks.

The MOTOMAN-DA20 – the new generation dual-arm robot
developed to coexist with human beings.

■ Applications

- Improved Physical Distribution
 - Classification and placement of workpieces for individual processing
 - Continuous handling with dual arms without temporary placement on table
 - Handling of heavy workpieces with dual arms
- Improved Assembly
 - Jigless assembly with dual arms
 - Complicated assembly with coordinated motion of arms
 - Coordinated labor of robots and humans with the Power Assist function



Application Examples

• Tightening bolts • Mounting parts

MOTOMAN-DA20

Manipulator Specifications

| | | | |
|----------------------|----------|--|---|
| Model | | MOTOMAN-DA20 | |
| Controlled Axis | | 13 (Articulated) [6 axes for left arm (R1), 6 axes for right arm (R2), 1 rotary axis] | |
| Payload*1 | | 20 kg/arm | |
| Repeatability*2 | | ±0.1 mm | |
| Range of Motion | Rotation | ±180° | |
| | R1 | S-axis (lifting) | +80° to -190° (R1) ; +190° to -80° (R2) |
| | | L-axis (lower arm) | +230°, -30° |
| | | U-axis (upper arm) | +215°, -35° |
| | R2 | R-axis (upper arm twist) | ±180° |
| | | B-axis (wrist pitch/yaw) | ±120° |
| T-axis (wrist twist) | | ±180° | |
| Maximum Speed | Rotation | 2.97 rad/s, 170°/s | |
| | R1 | S-axis (lifting) | 2.97 rad/s, 170°/s |
| | | L-axis (lower arm) | 2.97 rad/s, 170°/s |
| | | U-axis (upper arm) | 2.97 rad/s, 170°/s |
| | R2 | R-axis (upper arm twist) | 5.24 rad/s, 300°/s |
| | | B-axis (wrist pitch/yaw) | 5.24 rad/s, 300°/s |
| | | T-axis (wrist twist) | 10.1 rad/s, 580°/s |

| | | |
|--|--------------------------|--|
| Allowable Moment | R-axis (upper arm twist) | 58.8 N · m |
| | B-axis (wrist pitch/yaw) | 58.8 N · m |
| | T-axis (wrist twist) | 29.4 N · m |
| Allowable Inertia (GD ² /4) | R-axis (upper arm twist) | 4 kg · m ² |
| | B-axis (wrist pitch/yaw) | 4 kg · m ² |
| | T-axis (wrist twist) | 2 kg · m ² |
| Approx. Mass | | 240 kg |
| Ambient Conditions | Temperature | 0°C to +40°C |
| | Humidity | 20 to 80%RH (non-condensing) |
| | Vibration | Less than 4.9 m/s ² |
| | Others | <ul style="list-style-type: none"> Free from corrosive gasses or liquids, or explosive gasses Clean and dry Free from excessive electrical noise (plasma) |
| Power Requirement*3 | | 4.2 kVA |

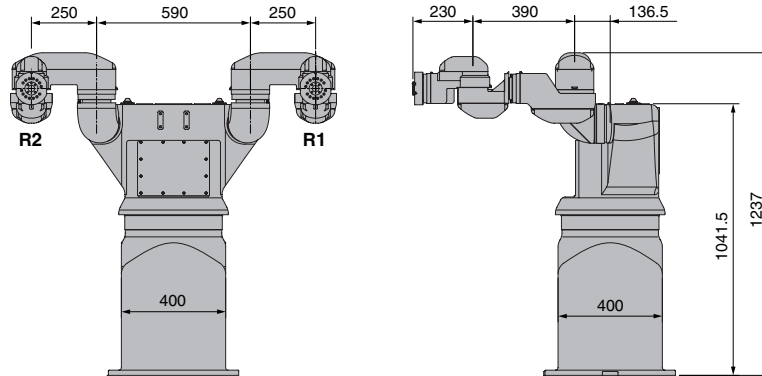
*1 : Model with payloads of 10 kg/arm is also available.

*2 : Conforms to JIS B 8432.

*3 : Varies in accordance with applications and motion patterns.

Note : SI units are used for specifications.

Dimensions Units: mm



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YASKAWA ELECTRIC CORPORATION

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In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply.

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