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#### Kawasaki Robotics website

<https://robotics.kawasaki.com/>



#### Kawasaki Robotics brand site XYZ

<https://robotics.kawasaki.com/ja1/xyz/en/>



#### Kawasaki Robostage (showroom)

<https://robotics.kawasaki.com/ja1/robostage/en.html>



### Global Network

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# Kawasaki Robot

## Medical & Pharmaceutical Robots

Small-to-medium robots  
up to 80kg payload

Large robots  
up to 300kg payload

Extra large robots  
up to 1,500kg payload

Dual-arm Collaborative robots

Explosion-proof painting robots

Sealing robots

Arc welding robots

Palletizing robots

Medical & pharmaceutical robots

Picking robots

Wafer transfer robots

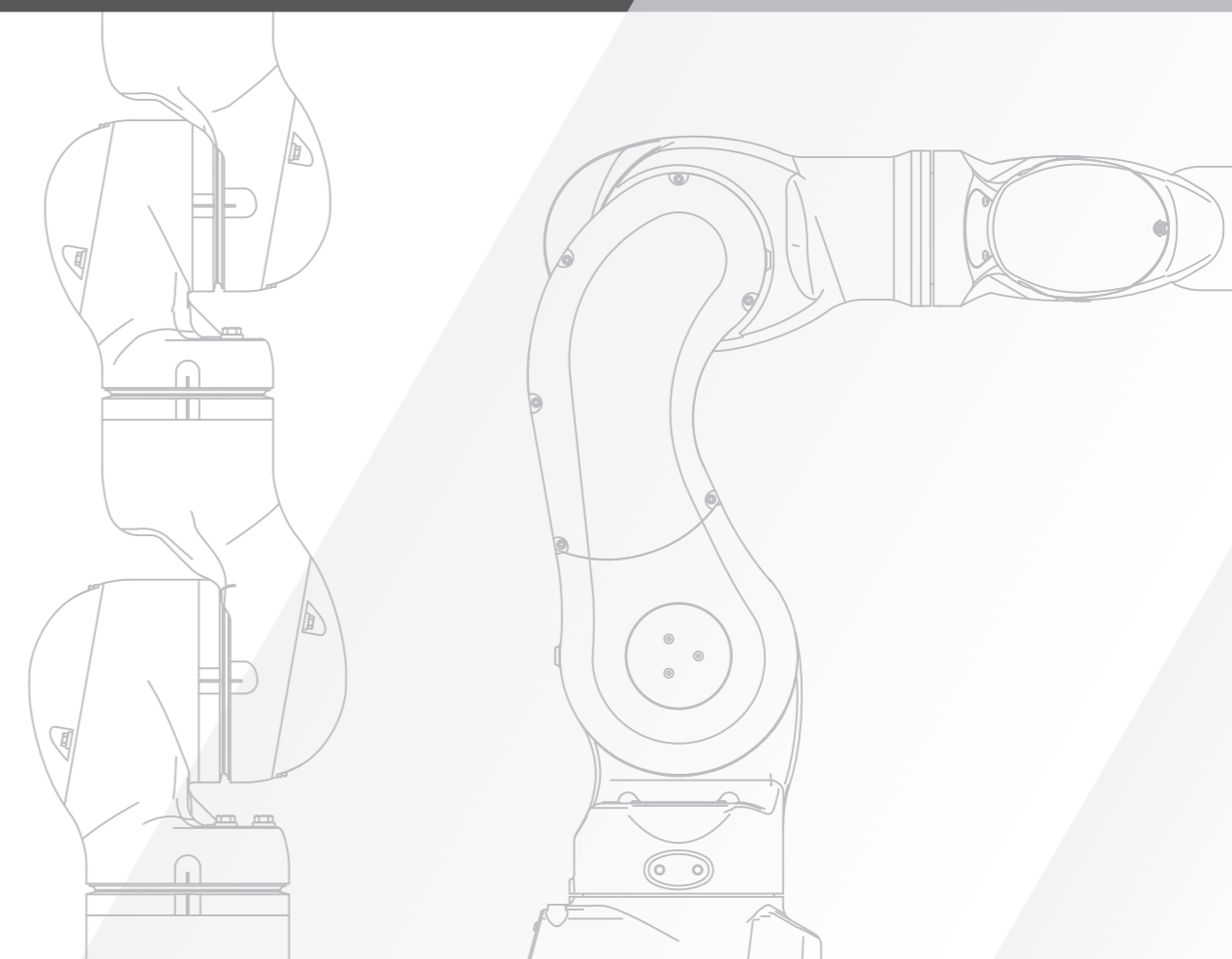


#### CAUTIONS TO BE TAKEN TO ENSURE SAFETY

- For those persons involved with the operation / service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related safety documents.
- Products described in this catalogue are general industrial robots. Therefore, if a customer wishes to use the Robot for special purposes, which might endanger operators or if the Robot has any problems, please contact us. We will be pleased to help you.
- Be careful as Photographs illustrated in this catalogue are frequently taken after removing safety fences and other safety devices stipulated in the safety regulations from the Robot operation system.



ISO certified in Akashi Works and Nishi-Kobe Works.



# Medical and Pharmaceutical Robots

Robotics automation is required in the medical and pharmaceutical industries to avoid human errors, contamination and exposure risks to high potency active pharmaceutical ingredients such as anticancer drugs.

## MS series

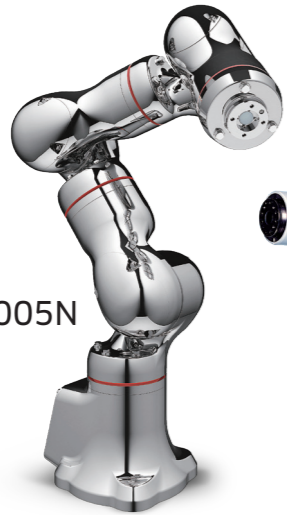
The MS series robot is made of all stainless steel that allows for sterilization by VHP and wash-down with alkaline cleaning liquid.

### [Applications]



Pharmaceutical

MS005N



### Features

- All-stainless steel made VHP resistant arm.
- FDA-approved parts
- Meets ISO Class 5 (Fed-class 100) cleanliness.
- The 7-axis arm has high dexterity with complex motions even in a confined space.

## MC series

The streamlined arm with a special surface treatment is chemical-resistant, allowing for sterilization by VHP.

### [Applications]



Pharmaceutical

MC004N



### Features

- Hollow wrist for built-in cables and hoses.
- Compatible with ISO Class 5 (Fed-class 100) without vacuum piping.
- (MC004V) Special sealing material that enables sterilization by VHP.

## F60

### Features

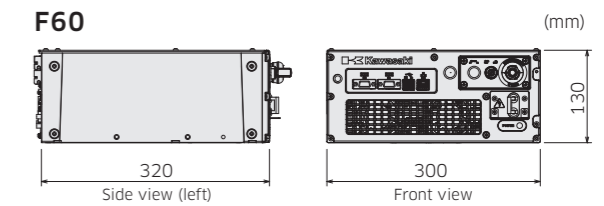
- Universal controller has common specifications to be used worldwide.
- Drastic downsizing has achieved very compact dimensions and light weight (8.3kg). It is easy for a person to carry the controller.

### Standard Specifications

|                          |                                                                                         |                                     |
|--------------------------|-----------------------------------------------------------------------------------------|-------------------------------------|
| Dimensions (mm)          | W300×D320×H130                                                                          |                                     |
| Type                     | Open type indirect cooling system (IP20 or equivalent)                                  |                                     |
| Controlled (axes)        | 6                                                                                       |                                     |
| Memory capacity (MB)     | 16                                                                                      |                                     |
| I/O signals              | External operation                                                                      | Motor power off, Hold               |
|                          | Input (Channels)                                                                        | 16                                  |
| Cable length             | Teach pendant (m)                                                                       | 5                                   |
|                          | Robot-controller (m)                                                                    | 5                                   |
| Mass (kg)                | 8.3                                                                                     |                                     |
| Power requirements       | AC200 - AC230V ±10%, 50/60Hz, 1Φ                                                        |                                     |
|                          | Max. 2.0kVA                                                                             |                                     |
| Installation environment | Ambient temperature (°C)                                                                | 0 - 45                              |
|                          | Relative humidity (%)                                                                   | 35 - 85 (No dew, nor frost allowed) |
| Teach pendant            | TFT color LCD display with touch-panel, E-Stop switch, Teach lock switch, Enable switch |                                     |
| Operation panel          | E-stop switch, teach/repeat switch                                                      |                                     |



### External view and dimensions

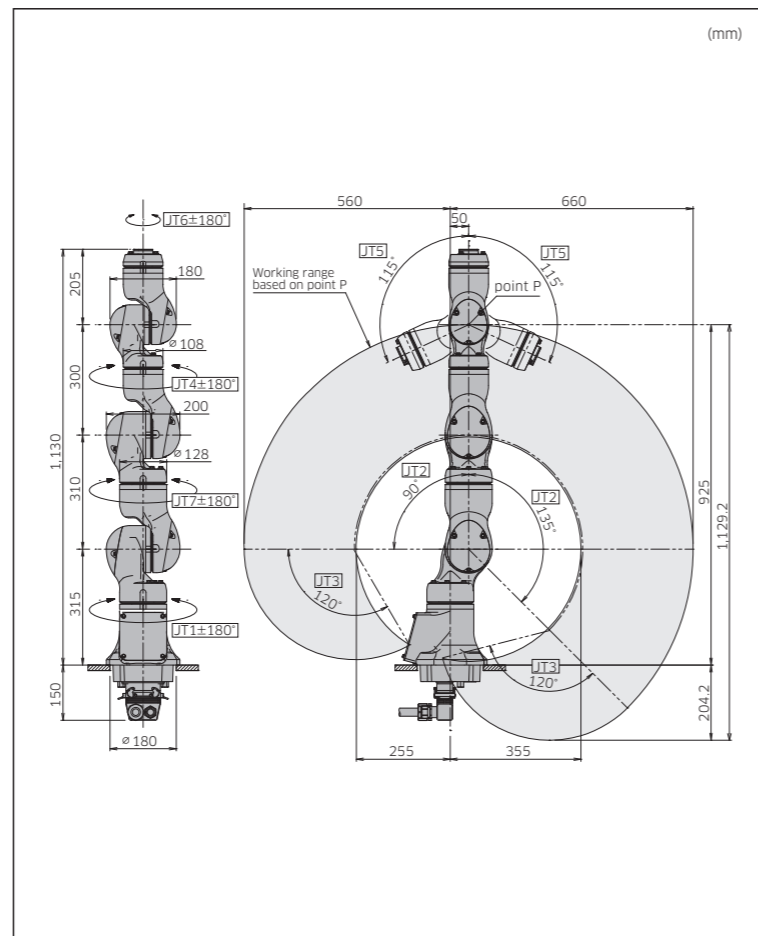


## MS005N

### Standard Specifications

|                                     |                     |            |
|-------------------------------------|---------------------|------------|
| Type                                | Articulated robot   |            |
| Degree of freedom (axes)            | 7                   |            |
| Payload (kg)                        | 5                   |            |
| Max. reach (mm)                     | 660                 |            |
| Position repeatability*1 (mm)       | ±0.1                |            |
| Motion range (°)                    | Arm rotation (JT1)  | ±180       |
|                                     | Arm out-in (JT2)    | +135 - -90 |
|                                     | Arm up-down (JT3)   | ±120       |
|                                     | Wrist swivel (JT4)  | ±180       |
|                                     | Wrist bend (JT5)    | ±115       |
|                                     | Wrist twist (JT6)   | ±180       |
|                                     | Wrist twist (JT7)   | ±180       |
| Max. speed (°/s)                    | Arm rotation (JT1)  | 130        |
|                                     | Arm out-in (JT2)    | 130        |
|                                     | Arm up-down (JT3)   | 215        |
|                                     | Wrist swivel (JT4)  | 300        |
|                                     | Wrist bend (JT5)    | 300        |
|                                     | Wrist twist (JT6)   | 480        |
|                                     | Wrist twist (JT7)   | 215        |
| Allowable moment (N·m)              | Wrist swivel (JT4)  | 17.0       |
|                                     | Wrist bend (JT5)    | 17.0       |
|                                     | Wrist twist (JT6)   | 7.0        |
| Allowable moment of inertia (kg·m²) | Wrist swivel (JT4)  | 0.9        |
|                                     | Wrist bend (JT5)    | 0.9        |
|                                     | Wrist twist (JT6)   | 0.4        |
| Mass (kg)                           | 50                  |            |
| Mounting                            | Floor, Ceiling      |            |
| Degree of protection                | IP69K or equivalent |            |
| Controller/Power requirements       | F60/2.0kVA          |            |

\*1: Conforms to ISO9283



## MC004N/MC004V

### Standard Specifications

|                                     |                                                              |                                     |
|-------------------------------------|--------------------------------------------------------------|-------------------------------------|
| Type                                | Articulated robot                                            |                                     |
| Degree of freedom (axes)            | 6                                                            |                                     |
| Payload (kg)                        | 4                                                            |                                     |
| Max. reach (mm)                     | 505.8                                                        |                                     |
| Position repeatability*1 (mm)       | ±0.05                                                        |                                     |
| Motion range (°)                    | Arm rotation (JT1)                                           | ±180                                |
|                                     | Arm out-in (JT2)                                             | +135 - -95                          |
|                                     | Arm up-down (JT3)                                            | +60 - -155                          |
|                                     | Wrist swivel (JT4)                                           | ±270                                |
|                                     | Wrist bend (JT5)                                             | ±120                                |
|                                     | Wrist twist (JT6)                                            | ±270                                |
| Max. speed (°/s)                    | Arm rotation (JT1)                                           | 200                                 |
|                                     | Arm out-in (JT2)                                             | 180                                 |
|                                     | Arm up-down (JT3)                                            | 225                                 |
|                                     | Wrist swivel (JT4)                                           | 700                                 |
|                                     | Wrist bend (JT5)                                             | 500                                 |
|                                     | Wrist twist (JT6)                                            | 350                                 |
| Allowable moment (N·m)              | Wrist swivel (JT4)                                           | 8.5                                 |
|                                     | Wrist bend (JT5)                                             | 8.5                                 |
|                                     | Wrist twist (JT6)                                            | 4.0                                 |
| Allowable moment of inertia (kg·m²) | Wrist swivel (JT4)                                           | 0.2                                 |
|                                     | Wrist bend (JT5)                                             | 0.2                                 |
|                                     | Wrist twist (JT6)                                            | 0.1                                 |
| Mass (kg)                           | 25                                                           |                                     |
| Mounting                            | Floor, Ceiling                                               |                                     |
| Installation environment            | Ambient temperature (°C)                                     | 10 - 35                             |
|                                     | Relative humidity (%)                                        | 35 - 85 (No dew, nor frost allowed) |
| Degree of protection*2              | Wrist : IP67 or equivalent<br>Base axes : IP65 or equivalent |                                     |
| Controller/Power requirements       | F60/2.0kVA                                                   |                                     |

\*1: Conforms to ISO9283

\*2: The flange must be closed in case of using the built-in piping.

