

# NEW

## Wall-Mounted Robot for Use in Compact Spaces

# MZ12W

MZ12W-21



### Compact Design

- Operates over a wide area, eliminating the need for a drive unit.
- Pendulum-like motion of the first axis allows operation in narrow layouts, such as hallways.

### High Speed and High Precision

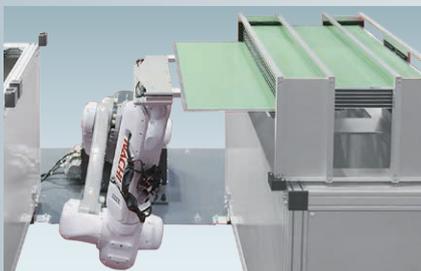
- Vertical Orientation of the first axis and fine-motion functionality improve trajectory accuracy.

### Powerful Wrist

- Wrist torque at least twice that of the MZ12H.
- Suitable for large workpieces and tooling.

### Optimized for rack storage in board transport applications

Reduced risk of dust adhering to boards, as the tooling is positioned above the robot arm.



### Does not block access to front of equipment

Can be installed without obstructing fixture openings, enhancing machine maintenance access.

Retrieval position



Standby position

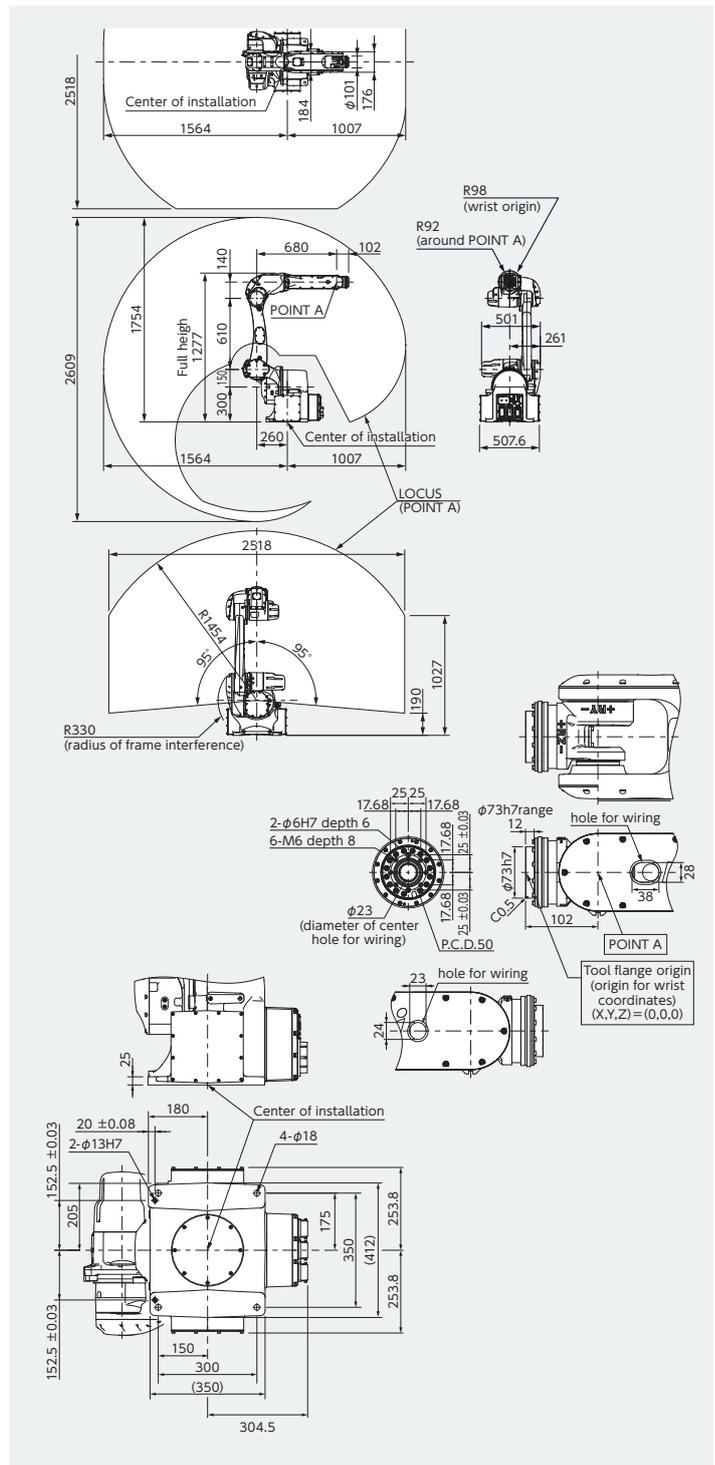


## Basic robot specifications

Item	Specifications	
Robot type	<b>MZ12W-21</b>	
Structure	Vertical articulated	
Axes	6	
Drive system	AC servo motor	
Maximum motion range	J1	$\pm 1.66\text{rad} (\pm 95^\circ)$
	J2	$+3.14 \sim -1.22\text{rad} (+180 \sim -70^\circ)$
	J3	$+3.67 \sim -2.57\text{rad} (+210 \sim -147^\circ)$
	J4	$\pm 3.32\text{rad} (\pm 190^\circ)$
	J5	$\pm 2.36\text{rad} (\pm 135^\circ)$
	J6	$\pm 6.28\text{rad} (\pm 360^\circ)$
Maximum velocity <sup>*1</sup>	J1	4.54rad/s (260°/s)
	J2	4.01rad/s (230°/s)
	J3	4.54rad/s (260°/s)
	J4	8.2rad/s (470°/s)
	J5	4.89rad/s (280°/s)
	J6	10.82rad/s (620°/s)
Maximum payload	Wrist	12kg
Maximum static load torque	J4	55.0N·m
	J5	55.0N·m
	J6	50.0N·m
Maximum moment of inertia <sup>*2</sup>	J4	3.0kg·m <sup>2</sup>
	J5	3.0kg·m <sup>2</sup>
	J6	2.6kg·m <sup>2</sup>
Position repeatability <sup>*3</sup>	$\pm 0.04\text{mm}$	
Maximum reach	1564mm	
Air tubes	$\phi 6 \times 2$ $\phi 8 \times 1$ <sup>*4</sup>	
Application signal wires	24wires	
Mounting Condition	Floor/Tilted/Inverted	
Ambient conditions	Temperature: 0 to 45°C <sup>5</sup> Humidity: 20 to 85%RH (No dew, nor frost allowed) Vibration to the installation face: Not more than 0.5G (4.9m/s <sup>2</sup> )	
Protection class <sup>*6</sup>	IP67 equivalent (dust proof and moisture resistant)	
Clean class <sup>*7</sup>	CLASS4	
Noise level <sup>*8</sup>	73dB	
Robot weight	205kg	

- \*1: The maximum velocity in the chart is the maximum value. It will change depending on the operation program and the wrist load condition.
- \*2: Maximum moment of inertia of a wrist changes depending on the load condition.
- \*3: JIS B 8432 conformance.
- \*4: When selecting the built-in solenoid valve of clean specification, air tube is  $\phi 6 \times 1$ .
- \*5: Using at 1000m or lower sea level. Ambient temperature has limitations when allowable altitude is exceeded.
- \*6: Liquid such as organic compound, acidity, alkalinity, chlorine or gasoline cutting fluid which deteriorates the seal material is not available to use. The wire-harness portion is IP65 equivalent, and the robot controller CFDs-3000 is IP20 equivalent. See the figure of "Protection class" below.
- \*7: Based on internal assessment in accordance with ISO14644-1. To ensure cleanliness, install the robot in a clean room with downflow. The robot is not packed in a dustproof package, so dust removal and wiping and cleaning of the robot are required when bringing it into the clean room.
- \*8: Robot noise is A-weighted equivalent sound level measured under "JIS Z 8737-1" (ISO 11201) with maximum payload and maximum velocity.

## Dimensions and operating range



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\* The specifications are subject to changes without notice.

\* In case that an end user uses this product for military purpose or production of weapon, this product may be liable for the subject of export restriction stipulated in the Foreign Exchange and Foreign Trade Act. Please go through careful investigation and necessary formalities for export.



CATALOG NO. **R7706E-2**

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