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MZ10LF

Compact 10kg payload long reach robot

MZ10LF

Achieves payload improvement, longer reach, and higher speed and precision while previous features, lightweight, compact body, and hollow wrist are maintained.

Lightweight body

Achieves 10kg payload and 1202mm reach with only 55 kg body weight

Compact design

*Minimizes installation space with compact design and small foot print
Frame interference radius : R160, Foot print : 200mm×204mm

High speed/High precision

*Top-level Maximum speed
Achieves precise positioning with high standard position repeatability ($\pm 0.025\text{mm}$)*

Hollow wrist structure

Smart cable and hose routing through the hollow wrist



Basic Robot Specification

| Item | Specification | |
|--|--|---|
| Model | MZ10LF-01 | |
| Structure | Articulated robot | |
| Degree of Freedom | 6 | |
| Drive System | AC Servo drive | |
| Maximum motion range | J1 | $\pm 2.97\text{rad}$ ($\pm 170^\circ$) |
| | J2 | $-2.36 \sim +1.40\text{rad}$ ($-135 \sim +80^\circ$) |
| | J3 | $-2.37 \sim +4.71\text{rad}$ ($-136 \sim +270^\circ$) |
| | J4 | $\pm 3.32\text{rad}$ ($\pm 190^\circ$) |
| | J5 | $\pm 2.09\text{rad}$ ($\pm 120^\circ$) |
| | J6 | $\pm 6.28\text{rad}$ ($\pm 360^\circ$) |
| Maximum Velocity ¹ | J1 | 5.24rad/s (300°/s) |
| | J2 | 3.49rad/s (200°/s) |
| | J3 | 5.76rad/s (330°/s) |
| | J4 | 8.20rad/s (470°/s) |
| | J5 | 8.20rad/s (470°/s) |
| | J6 | 12.92rad/s (740°/s) |
| Maximum Payload | Wrist 10kg | |
| Maximum static load torque | J4 | 20.0N·m |
| | J5 | 20.0N·m |
| | J6 | 10.4N·m |
| Maximum moment of inertia ² | J4 | 0.60kg·m ² |
| | J5 | 0.60kg·m ² |
| | J6 | 0.20kg·m ² |
| Position repeatability ³ | $\pm 0.025\text{mm}$ | |
| Maximum Reach | 1202mm | |
| Air tubes | $\phi 6 \times 2$ | |
| Application cables | 20 wires | |
| Installation | Floor / Inverted | |
| Installation Condition | Ambient Temperature: 0 ~ 45°C ⁴ Ambient Humidity: 20 ~ 85%RH (No dew or frost allowed) Vibration: $\leq 0.5\text{G}$ (4.9m/s ²) | |
| Protection class ⁵ | IP 67 equivalent (dust-proof, moisture-resistant) | |
| Clean rating ⁶ | CLASS4 | |
| Robot Mass | 55kg | |

1 (rad) = $180/\pi$ (°), 1 (N·m) = 1/9.8 (kgf·m)

* Explosion-proof version is not available.

*1: The maximum velocity in the table is the maximum value and varies depending on the operation program and wrist load condition.

*2: Please note that the allowable wrist moment of inertia depends on the wrist load conditions.

*3: JIS B 8432 conformance

*4: Using at an altitude of 1000 m or less.

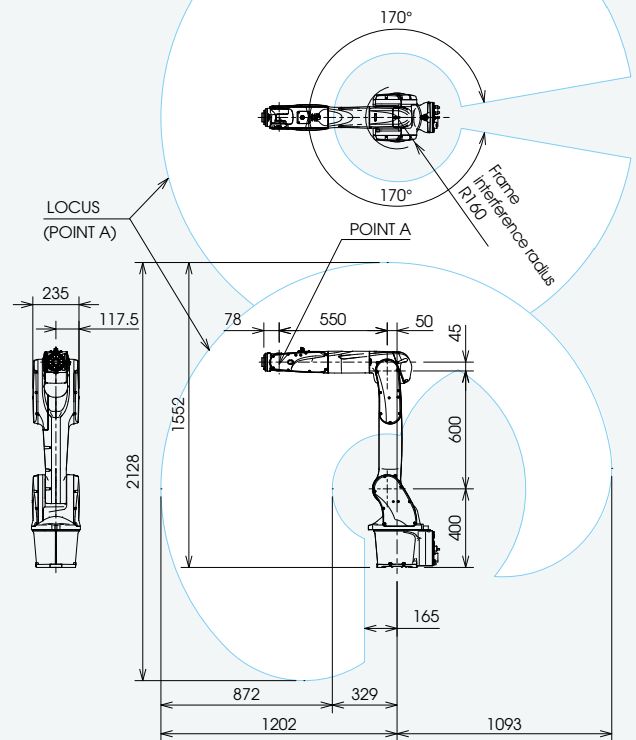
Ambient temperature limited when the allowable altitude exceeds.

*5: A liquid that deteriorates the sealing such as organic solvent, acid, alkali, chlorine-based, or gasoline-based cutting fluid cannot be used.

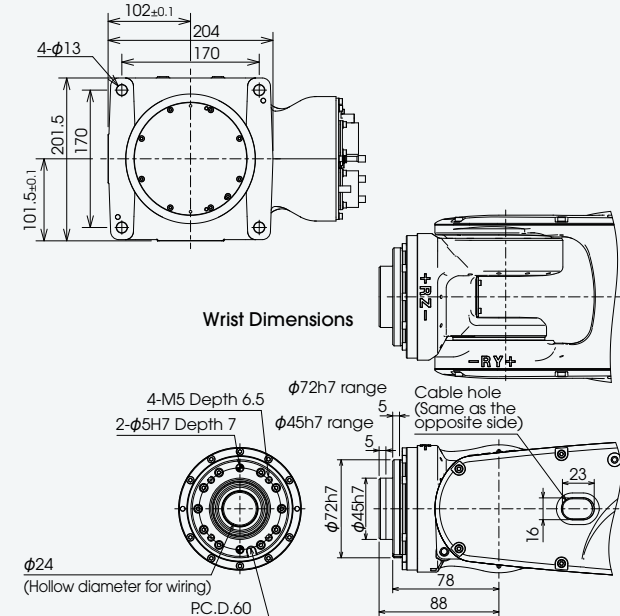
*6: This is based on an in-house assessment that complies with ISO 14644-1. In order to ensure cleanliness, install the robot in a down-flow type cleanroom. The robot is not in a dust-proof package. Before bringing the robot into the clean room, dust and dirt must be removed and wipe it clean.

Dimensions and operating range

MZ10LF-01



Installation dimensions



Wrist Dimensions

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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.

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R7710E

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