

NACHI

*Hollow wrist, High-speed and high-precision
35/50/70Kg medium payload robot*

MZ

35/50/70F/50LF

*Nachi's first hollow wrist in the middle payload class
Supports a wide range of applications with
world-class high-speed and
high-precision*



*Lightweight, slim and ridged body
supports a wide range of
applications*

- Smallest turning interference radius and installation area in its class
- Space-saving with a lightweight and slim body
- Anti-corrosion treatment and anti-coolant coating are standard equipment

(protection class IP67)

High speed and High precision

- High-speed, high-precision motion improves productivity

Smart cable routing

- Interference is avoided by wiring routing through the hollow wrist



MZ35/50/70F/50LF

Basic Specification of Robot

Item	Specification				
Model	MZ35F-01	MZ50F-01	MZ70F-01	MZ50LF-01	
Structure	Articulated robot				
Axis	6				
Drive System	AC servo motor				
Maximum motion range	J1	±3.14rad (±180°)			
	J2	-2.36rad ~ +1.40rad (-135 ~ +80°)			
	J3	-2.50 ~ +4.54rad (-143.5 ~ +260°)			
	J4	±3.32rad (±190°)			
	J5	±2.53rad (±145°)			
	J6	±6.28rad (±360°)			
Maximum Velocity ¹⁾	J1	3.32rad/s (188°/s)	3.23rad/s (185°/s)	3.14rad/s (180°/s)	
	J2	3.14rad/s (180°/s)			
	J3	3.40rad/s (195°/s)	3.23rad/s (185°/s)	2.96rad/s (170°/s)	3.14rad/s (180°/s)
	J4	4.88rad/s (280°/s)	4.54rad/s (260°/s)	4.19rad/s (240°/s)	4.54rad/s (260°/s)
	J5	5.41rad/s (310°/s)	4.54rad/s (260°/s)	4.19rad/s (240°/s)	4.54rad/s (260°/s)
	J6	7.33rad/s (420°/s)	6.46rad/s (370°/s)	6.11rad/s (350°/s)	6.46rad/s (370°/s)
Maximum Payload	Wrist	35kg	50kg	70kg	50kg
Maximum static load torque	J4	165N·m	216N·m	309N·m	216N·m
	J5	165N·m	216N·m	309N·m	216N·m
	J6	102N·m	147N·m	170N·m	147N·m
Maximum moment of inertia ²⁾	J4	16kg·m ²		30kg·m ²	
	J5	16kg·m ²		30kg·m ²	
	J6	5kg·m ²		12kg·m ²	
Position repeatability ³⁾	±0.06mm				
Maximum Reach	2102mm			2502mm	
Air tubes	φ10x2				
Application cables	24 wires				
Installation ⁴⁾	Floor / Inverted				
Mounting Condition	Ambient Temperature: 0 ~ 45°C ⁵⁾ Ambient Humidity: 20 ~ 85%RH (No dew or frost allowed) Vibration: Not more than 0.5G(4.9m/s ²)				
Protection class ⁶⁾	IP 67 equivalent				
Clean rating ⁷⁾	Equivalent to ISO Class 4				
Noise level ⁸⁾	80dB				
Robot weight	593kg			611kg	

1(rad)=180/π(*), 1(N·m)=1/9.8(kgf·m)

* Specifications are subject to change without prior notice for technical changes.

* Explosion-proof version is not available.

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⁾ Depends on wrist load condition.

³⁾ JIS B 8432 conformance.

⁴⁾ Motion range is limited when wall mount and tilted mount. (Example: axis 1 motion range is ±30° in case of wall mount)

⁵⁾ Using at 1000 m or lower sea level.

Ambient temperature has limitations when allowable altitude is exceeded.

⁶⁾ Fluids that cause the deterioration of sealants, such as gasoline-based cutting fluids, chlorine, alkali, acids, and organic solvents, cannot be used. The wire-harness portion is IP65 equivalent, and the robot controller is IP20 equivalent.

⁷⁾ This is based on an internal assessment in accordance with ISO 14644-1.

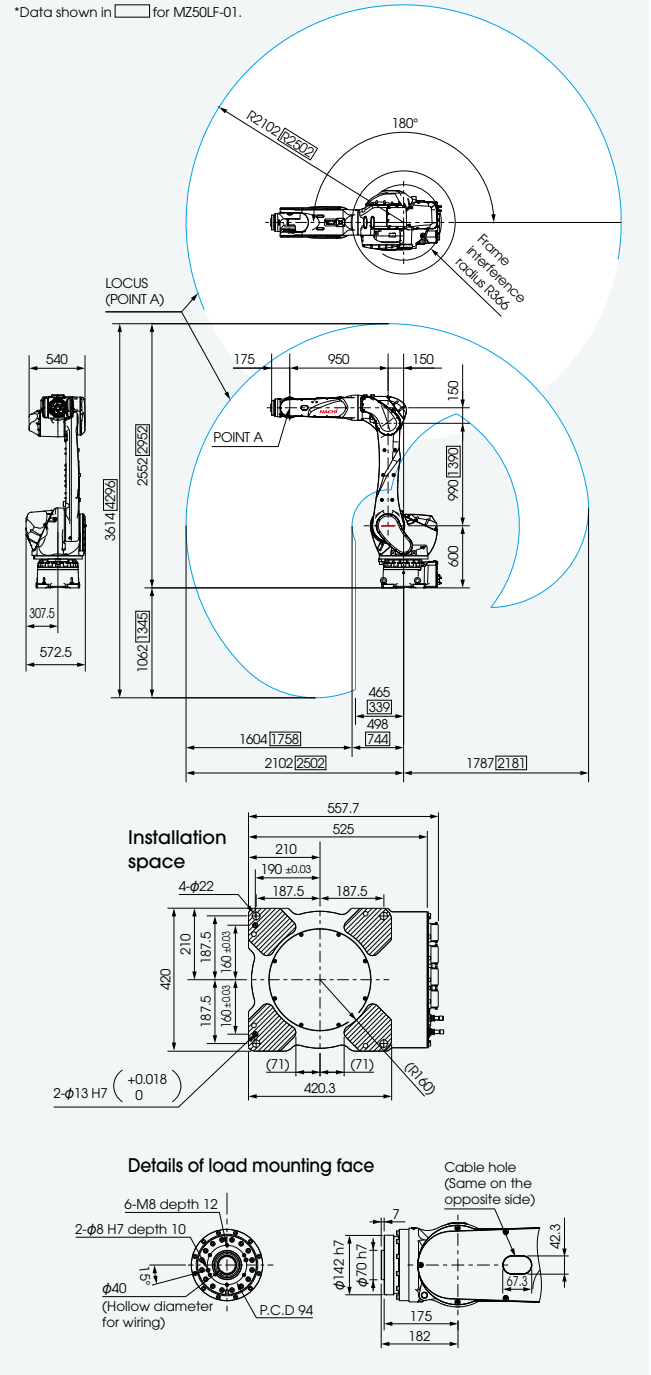
To ensure a cleanliness, install the robot in a down-flow type cleanroom.

The robot's packaging is not dust proof. Before bringing the robot into a cleanroom, you must clean the robot by wiping it off or by removing dust and fine particles from it.

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

*Data shown in □ for MZ50LF-01.



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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.