

NACHI

NACHI EUROPE GmbH

**OUR SYNERGY
YOUR PERFORMANCE**

MINI-COMPACT ROBOT **MZ01**
HIGH SPEED | PRECISE | COMPACT

CELEBRATE THE POLE POSITION



MZ01 expands the
successful MZ portfolio as the
new smallest model

**NEW
ON THE
MARKET**

The new MZ01 offers a load
capacity of 1kg with a maximum
reach of 350mm.



MINI-COMPACT-ROBOT MZ01: HIGH SPEED | PRECISE | COMPACT

MZ01 expands the successful MZ lineup as the current smallest model

- ▶ The new MZ01 offers a load capacity of 1kg with a maximum reach of 350mm.
- ▶ As a lightweight high-speed robot, the compact six-axis robot combines short cycle times with a high repeatability of $\pm 0.02\text{mm}$.
- ▶ The MZ01 was specially developed for the handling and assembly of small workpieces.

BASIC SPECIFICATION OF ROBOT		
Item	Specifications	
Robot model	MZ01-01	
Construction	articulated	
Number of axes	6	
Max. reach	350mm	
Installation	Floor / Inverted	
Drive system	AC servo drive	
Max. working envelope	J1	$\pm 2.97\text{rad}$ ($\pm 170^\circ$)
	J2	$-1.57 \sim +1.48\text{rad}$ ($-90 \sim +85^\circ$)
	J3	$-0.87 \sim -1.57\text{rad}$ ($-50 \sim +90^\circ$)
	J4	$\pm 2.53\text{rad}$ ($\pm 145^\circ$)
	J5	$\pm 2.18\text{rad}$ ($\pm 125^\circ$)
	J6	$\pm 6.28\text{rad}$ ($\pm 360^\circ$)
Max. speed*1	J1	5.59rad/s (320°/s)
	J2	5.59rad/s (320°/s)
	J3	6.54rad/s (375°/s)
	J4	10.47rad/s (600°/s)
	J5	10.47rad/s (600°/s)
	J6	10.47rad/s (600°/s)
Max. payload*2	Handgelenk	1.0kg
	Additional load Arm	max. 0.25kg
Allowable static load torque	J4	0.9N·m
	J5	0.9N·m
	J6	0.78N·m
Allowable moment of inertia*3	J4	0.008kg·m ²
	J5	0.008kg·m ²
	J6	0.006kg·m ²
Position repeatability*4	$\pm 0.02\text{mm}$	
Air piping	IN: $\varnothing 6 \times 2$, OUT: $\varnothing 4 \times 2$	
Application signal wires	12 wires	
Ambient conditions	Temperature: 0-40°C*5 Humidity: 20-85% RH (No dew condensation) Vibration to the installation face: 0.5G (4.9m/s ²) or less	
Dust Proof, Drip Proof*6	IP40	
Cleanroom class*7	ISO 14644-1 Class 5	
Noise level*8	70dB	
Robot mass	10kg	

$$1[\text{rad}] = 180/\pi[^\circ], 1[\text{N}\cdot\text{m}] = 1/9.8[\text{kgf}\cdot\text{m}]$$

*: Explosion-proof version is not available.

*1: The "Max. speed" in this table is the available maximum value and will change depending on the work-program and the wrist load condition.

*2: When no load is on arm 1 (arm of axis 3), the max. wrist load is 1.0kg. However, when a 0.25kg load is on arm 1, the wrist load can only go up to 0.75kg.

*3: The allowable moment of inertia of wrist changes with load conditions.

*4: Based on JIS B8432

*5: Permitted installation is less than 1000m above sea level. Allowable operating temperature dependent on installation height.

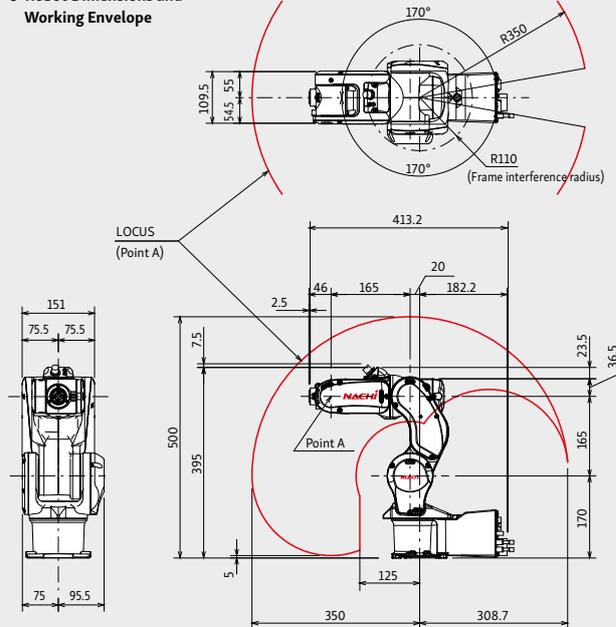
*6: Limit use in applications where liquids, such as, organic compound, acidity, alkalinity, chlorine, gasoline and/or cutting fluids. These could deteriorate seal material. Wire harness is IP65 equivalent, controller is IP20 equivalent.

*7: 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.

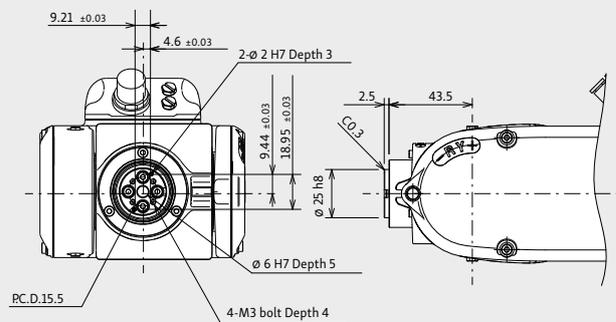
*8: A-weighted equivalent level of sound measured according to JIS Z 8737-1 (ISO 11201), while operating at max. speed with the rated load.

ROBOT DIMENSIONS AND WORKING ENVELOPE

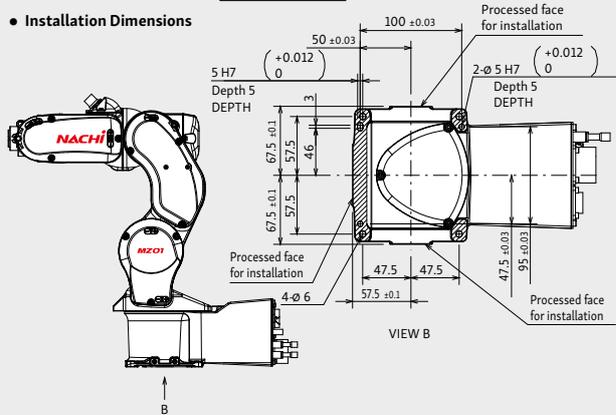
• Robot Dimensions and Working Envelope



• Wrist Dimensions



• Installation Dimensions



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