



NACHI

NEW

MZS SERIES

12kg Payload Collaborative Robot

Model: CMZ12-01

**A collaborative robot with trusted MZ series technology,
now with a longer reach
Capable of 12 kg payloads at high speed and high precision**

Superb safety features

- *Conforms to various certification standards for ensuring safety as a collaborative robot
(Third-party certifications received: ISO 13849-1, ISO 10218-1, ISO/TS 15066)*
- *Product shape and safety software features designed to minimize clamping risk*

High speed and high precision

- *Best-in-class levels of speed and precision due to the application of the latest MZ series mechanisms*
 - *1000 mm/s during collaborative operation and 3000 mm/s during non-collaborative operation*
 - *Precise positioning repeatability of ± 0.025 mm*
- *Designed with a double-arm construction for greater rigidity*

Useful for a wide range of applications

- *Hollow-wrist construction reduces risk of contact with internal arm cables and tubes during work*
- *Conforms to standards for high levels of resistance to dust and water (equivalent to IP67)*



MZS

Basic Specification of Robot

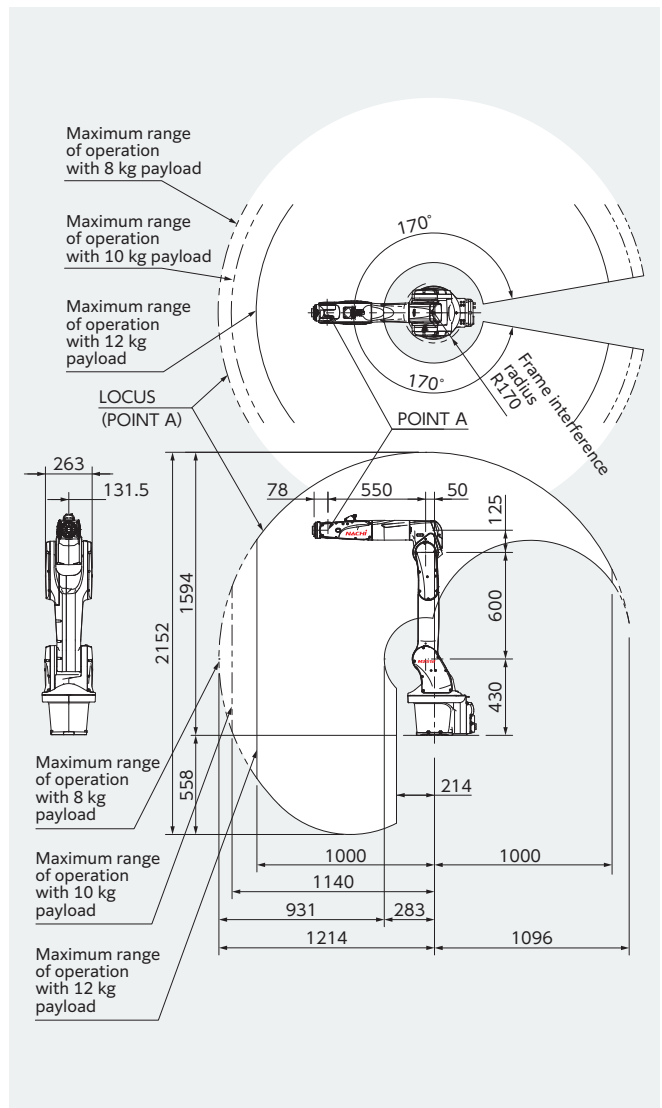
Item	Specification	
Model	CMZ12-01	
Structure	Articulated robot	
Axes	6	
Drive system	AC servo motor	
Maximum motion range	J1	$\pm 2.97\text{rad}(\pm 170^\circ)$
	J2	Initialization: $-1.75 \sim +0.70\text{rad}(-100 \sim +40^\circ)$ MAX: $-2.36 \sim 1.40\text{rad}(-135 \sim +80^\circ)$
	J3	$-2.68 \sim 2.74\text{rad}(-153 \sim +157^\circ)$
	J4	$\pm 3.32\text{rad}(\pm 190^\circ)$
	J5	Initialization: $\pm 1.57\text{rad}(\pm 90^\circ)$ MAX: $\pm 2.09\text{rad}(\pm 120^\circ)$
	J6	$\pm 6.28\text{rad}(\pm 360^\circ)$
Maximum Velocity	J1	2.09rad/s(120°/s) [with 8kg payload: 4.71rad/s(270°/s)] ^{Note 1)}
	J2	2.09rad/s(120°/s) [with 8kg payload: 3.14rad/s(180°/s)] ^{Note 1)}
	J3	3.14rad/s(180°/s) [with 8kg payload: 5.41rad/s(310°/s)] ^{Note 1)}
	J4	7.68rad/s(440°/s)
	J5	7.68rad/s(440°/s)
	J6	12.22rad/s(700°/s)
TCP speed	Non-collaborative: 1000mm/s [with 8kg payload: 3000mm/s] ^{Note 1)} Collaborative: 1000mm/s	
Payload weight	Wrist: 12kg	
Maximum static load torque	J4	20N·m
	J5	20N·m
	J6	10.4N·m
Maximum moment of inertia	J4	0.60kg·m ²
	J5	0.60kg·m ²
	J6	0.20kg·m ²
Position repeatability	$\pm 0.025\text{mm}$	
Maximum Reach	1000mm [with 8kg payload: 1214mm] ^{Note 1)}	
Air tubes	$\phi 6 \times 2$ (3 solenoid valves installed as standard) Available pressure range: 0.1~0.5MPa	
Application cables	20 core or 12 core (Depends on option selection)	
LAN	None, 8 core 1 line, 8 core 2 line (Depends on option selection)	
Installation	Floor/Inverted	
Mounting Condition	Ambient Temperature: 0~40°C Ambient Humidity: 20~85%RH (No dew or frost allowed) Vibration: Not more than 0.5G (4.9m/s ²)	
Protection class	IP67 equivalent (dust-proof, liquid-resistant)	
Clean rating	Equivalent ISO CLASS 5	
Noise level	75dB	
Robot weight	66kg	

1 [rad] = $180/\pi$ [°], 1 [N·m] = 1/9.8 [kgf·m]

- Note that the information represented in this document, such as rated values, specifications, and dimensions, is subject to change without notice to improve the product.
- An explosion-proof version is not available.

Note 1) The speed and operating range are extended by the payload.

Dimensions and operating range



- When using the robot for collaborative operation, ensure that its stand is rigid and firmly secured.
- If parts such as the stand or installation vibrate due to robot operation or the surrounding circumstances, the collision-detection system of the CMZ12-01 might erroneously detect a collision.



I/O 20 core, LAN 8 core 1 Line



Collaborative mode indicator lamp



Stopper cover that reduces the risk of getting caught



Offset shape that reduces the risk of getting caught

NACHI

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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.

R7714E

MD-MIZUNO