

# NACHI

NACHI EUROPE GmbH

**OUR SYNERGY  
YOUR PERFORMANCE**

# MZ12H

## COMPACT MULTIPURPOSE ROBOT

CELEBRATE THE POLE POSITION



**NEW**

**17%  
SMALLER  
FOOTPRINT**

Footprint is 17% smaller  
than conventional robots.  
Protection level: IP67.  
Leads its class in speed  
and precision.

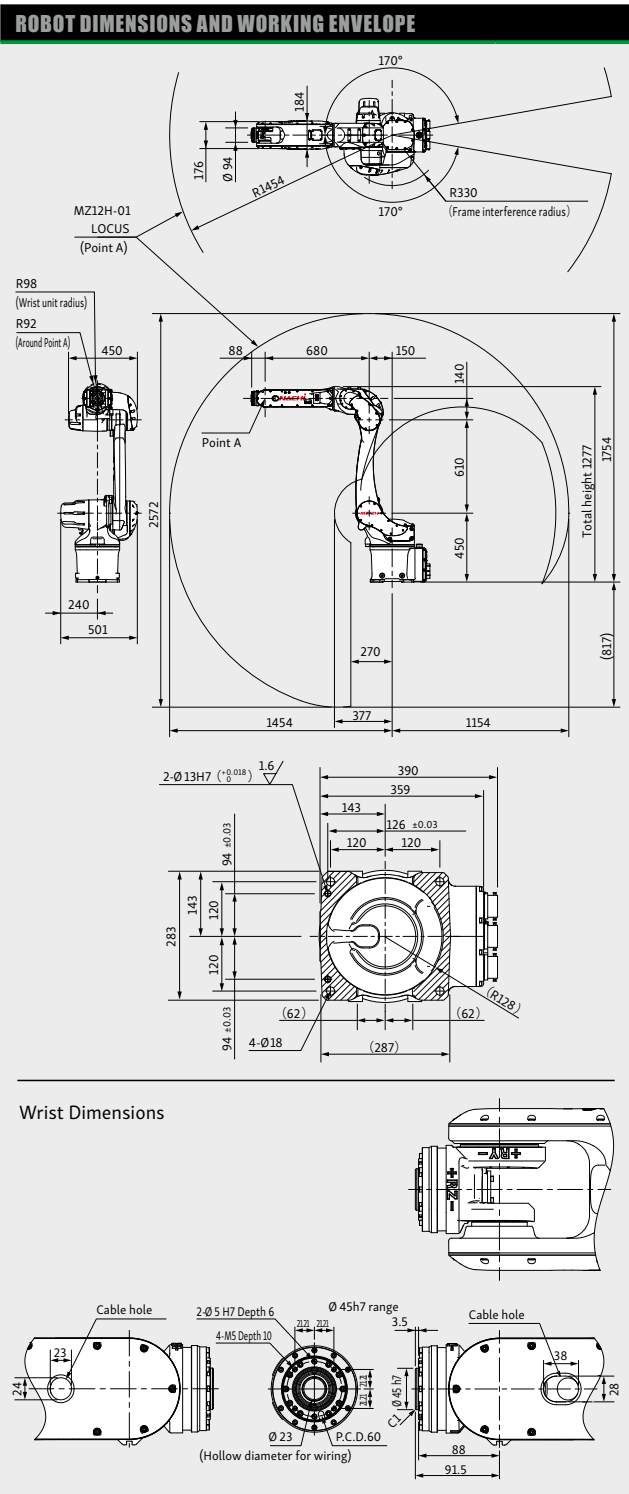
- ▶ Fully enclosed robot body and wrist: Supports various applications with IP67 equivalent, rust proof
- ▶ Achieves high speed & precise motion control through weight reduction and Improved rigidity Increases productivity
- ▶ Integrated valves in the arm and smart cable and hose routing through the hollow wrist – Minimizes interference and wear

- ▶ Flexible system designs possible utilising the wide working envelope
- ▶ Large wrist torque supports large and heavy tooling and work pieces
- ▶ Integrated wiring at the wrist for 7th axis & Ethernet
- ▶ Neat cable and hose routing

BASIC SPECIFICATION OF ROBOT		
Item	Specifications	
Robot model	MZ12H-01	
Structure	Articulated	
Number of axes	6	
Max. reach	1454mm	
Installation	Floor / Inverted mount / Tilted	
Drive system	AC Servodrive	
Max. working envelope	J1	$\pm 2.97\text{rad}$ ( $\pm 170^\circ$ )
	J2	$+1.57\text{--}2.79\text{rad}$ ( $+90\text{--}160^\circ$ )
	J3	$+3.67\text{--}2.57\text{rad}$ ( $+210\text{--}147^\circ$ )
	J4	$\pm 3.32\text{rad}$ ( $\pm 190^\circ$ )
	J5	$\pm 2.44\text{rad}$ ( $\pm 140^\circ$ )
	J6	$\pm 6.28\text{rad}$ ( $\pm 360^\circ$ )
Max. speed*1	J1	4.54rad/s (260°/s)
	J2	4.01rad/s (230°/s)
	J3	4.54rad/s (260°/s)
	J4	8.20rad/s (470°/s)
	J5	8.20rad/s (470°/s)
	J6	12.92rad/s (740°/s)
Payload (max.)	Wrist	12kg
Allowable static load torque	J4	26.5N·m
	J5	26.5N·m
	J6	12.0N·m
Allowable moment of inertia*2	J4	0.9kg·m <sup>2</sup>
	J5	0.9kg·m <sup>2</sup>
	J6	0.3kg·m <sup>2</sup>
Position repeatability*3	$\pm 0.04\text{mm}$	
Air piping	$\varnothing 6 \times 2, \varnothing 8 \times 1$	
Application signal wires	24 wires (including wires for the optional solenoid valves)	
Ambient conditions	Ambient temperature: 0-45°C*4 Ambient humidity: 20-85% RH (without condensation) Vibration: Not more than 0.5G (4.9m/s <sup>2</sup> )	
Dust-proof/ Drip-proof performance*5	IP67 equivalent (Protection Rating)	
Robot mass	155kg	

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

- \*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 Up to a maximum of 1000m from sea level. Ambient temperature is reduced when allowable altitude is exceeded.
- \*5 Fluids that cause the deterioration of sealants, such as gasoline-based cutting fluids, chlorine, alkalines, acids and organic solvents cannot be used. The main robot cables are IP65.



Note: Explosion-proof version is not available.  
Specifications are subject to change without prior notice for technical changes.

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