

NACHI



Powerful and compact

Multipurpose robot

MZ12H

NEW

STYLISH

- Fully enclosed robot body and wrist
Supports various applications
with IP 67 equivalent, rust proof

HIGH-SPEED

- Achieves high speed & precise motion
control through weight reduction
Improved rigidity Increases productivity

SMART

- Integrated valves in the arm and smart cable
and hose routing through the hollow wrist
- Minimizes interference and wear

FLEXIBLE

- 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 | Specification | |
|--|---|---|
| Model | MZ12H-01 | |
| Structure | Articulated robot | |
| Degree of Freedom | 6 | |
| Drive System | AC servo motor | |
| Maximum motion range | J1 | $\pm 170^\circ$ ($\pm 2.97\text{rad}$) |
| | J2 | $+90^\circ \sim -160^\circ$ ($+1.57 \sim -2.79\text{rad}$) |
| | J3 | $+210^\circ \sim -147^\circ$ ($+3.67 \sim -2.57\text{rad}$) |
| | J4 | $\pm 190^\circ$ ($\pm 3.32\text{rad}$) |
| | J5 | $\pm 140^\circ$ ($\pm 2.44\text{rad}$) |
| | J6 | $\pm 360^\circ$ ($\pm 6.28\text{rad}$) |
| Maximum Velocity ¹ | J1 | $260^\circ/\text{s}$ (4.54rad/s) |
| | J2 | $230^\circ/\text{s}$ (4.01rad/s) |
| | J3 | $260^\circ/\text{s}$ (4.54rad/s) |
| | J4 | $470^\circ/\text{s}$ (8.20rad/s) |
| | J5 | $470^\circ/\text{s}$ (8.20rad/s) |
| | J6 | $740^\circ/\text{s}$ (12.92rad/s) |
| Maximum Payload | Wrist | 12kg |
| Maximum static load torque | J4 | $26.5\text{N}\cdot\text{m}$ |
| | J5 | $26.5\text{N}\cdot\text{m}$ |
| | J6 | $12.0\text{N}\cdot\text{m}$ |
| Maximum moment of inertia ² | J4 | $0.9\text{kg}\cdot\text{m}^2$ |
| | J5 | $0.9\text{kg}\cdot\text{m}^2$ |
| | J6 | $0.3\text{kg}\cdot\text{m}^2$ |
| Position repeatability ³ | $\pm 0.04\text{mm}$ | |
| Maximum Reach | 1454mm | |
| Air tubes | $\phi 6 \times 2, \phi 8 \times 1$ | |
| Application cables | 24 wires (Including wires for optional valves) | |
| Installation | Floor / Inverted / Angle | |
| Mounting Condition | Ambient Temperature: $0 \sim 45^\circ\text{C}$ ⁴ Ambient Humidity: $20 \sim 85\% \text{RH}$ (No dew or frost allowed) Vibration: Not more than $0.5\text{G}(4.9\text{m/s}^2)$ | |
| Protection class ⁵ | IP 67 equivalent (dust-proof, liquid-resistant) | |
| Robot weight | 155kg | |

1 (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 maximum velocity in the chart is the maximum value.

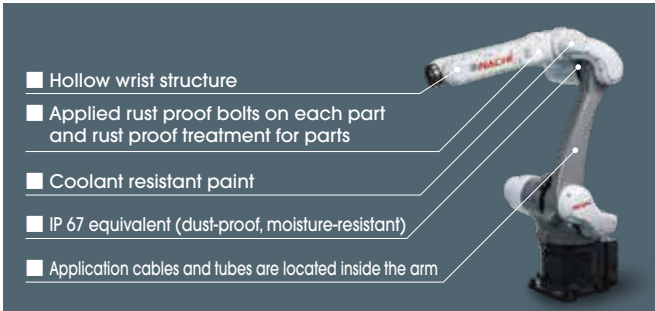
It will change depending on the operation program and the wrist load condition.

*2. Depends on wrist load condition

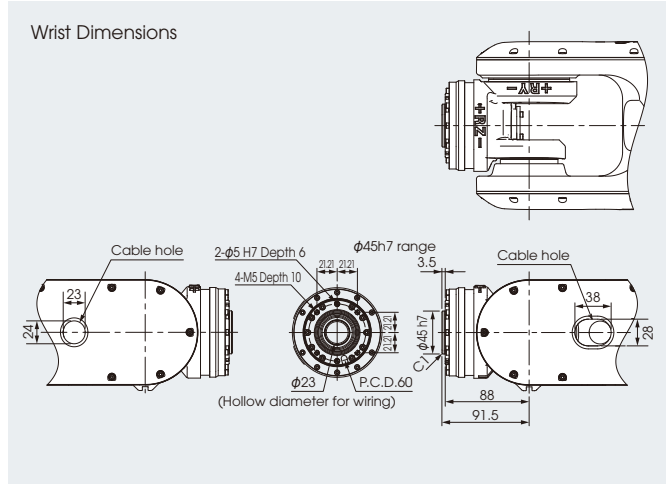
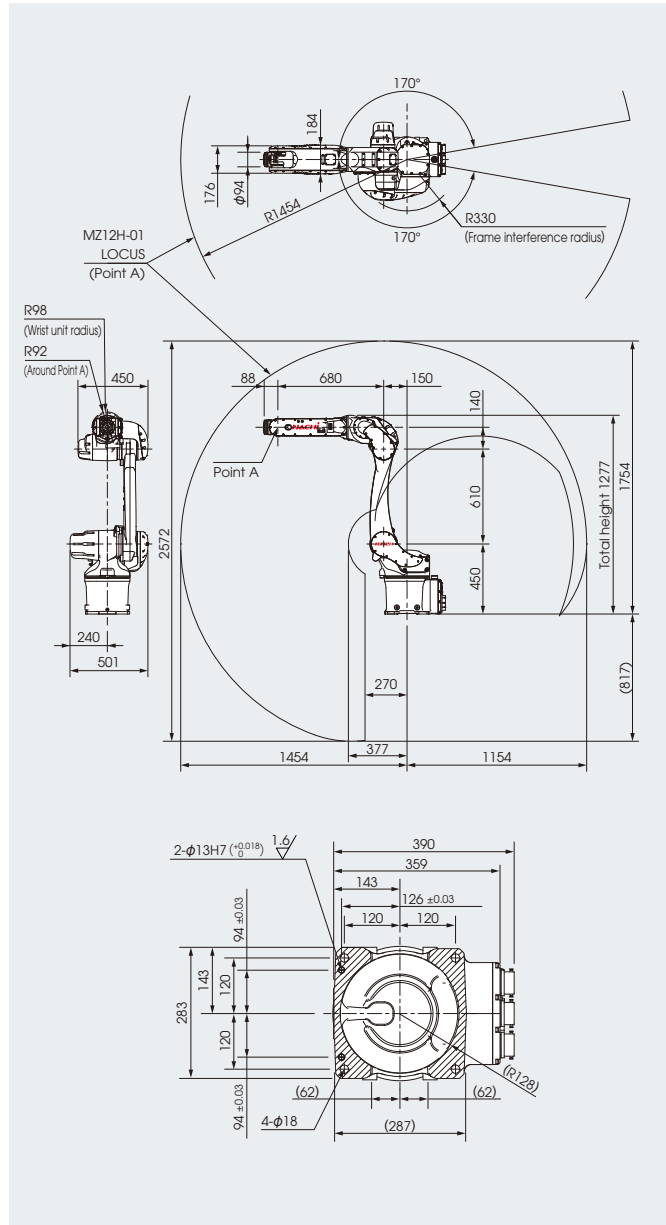
*3. JIS B 8432 conformance

*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.



Dimensions and operating range



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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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