

**NACHI**



*Powerful and Compact*

*Multipurpose Robot*

**MZ12/  
15H**

**NEW**

**DURABLE**

- Fully enclosed robot body and wrist
- Supports various applications with IP67 equivalent, rust-resistant design
- Achieves high speed and precise motion control through weight reduction
- Improved rigidity enhances productivity

**INNOVATIVE**

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

**FLEXIBLE**

- Flexible system designs enabled by a wide working envelope
- Large wrist torque supports heavy tooling and workpieces
- Integrated wiring at the wrist for 7th axis & Ethernet
- Neat cable and hose routing

## Basic Specification of Robot

| Item                                 | Specification  |                              |                      |
|--------------------------------------|--|------------------------------|----------------------|
| Model                                | <b>MZ12H-01</b>  | <b>MZ15H-01</b>              |                      |
| Structure                            | Articulated robot  |                              |                      |
| Axes                                 | 6  |                              |                      |
| Drive System                         | AC servo motor   |                              |                      |
| Maximum motion range                 | J1   | ±2.97rad ( ±170°)            |                      |
|                                      | J2   | +1.57~-2.79rad ( +90~-160°)  |                      |
|                                      | J3   | +3.67~-2.57rad ( +210~-147°) |                      |
|                                      | J4   | ±3.32rad ( ±190°)            |                      |
|                                      | J5   | ±2.44rad ( ±140°)            | ±2.36rad ( ±135°)    |
|                                      | J6   | ±6.28rad ( ±360°)            |                      |
|                                      | Maximum Velocity <sup>1)</sup>   | 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)           | 4.88rad/s (280°/s)   |
| J6                                   |  | 12.92rad/s (740°/s)          | 10.82rad/s (620°/s)  |
| Maximum Payload                      |  | Wrist                        | 12kg                 |
|                                      | J4   | 26.5N·m                      | 35.0N·m              |
|                                      | J5   | 26.5N·m                      | 35.0N·m              |
| Maximum static load torque           | J4   | 12.0N·m                      | 15.0N·m              |
|                                      | J5   | 0.9kg·m <sup>2</sup>         | 1.6kg·m <sup>2</sup> |
|                                      | J6   | 0.9kg·m <sup>2</sup>         | 0.8kg·m <sup>2</sup> |
| Position repeatability <sup>3)</sup> | ±0.04mm  |                              |                      |
| Maximum Reach                        | 1454mm   |                              |                      |
| Air tubes                            | φ6×2, φ8×1   |                              |                      |
| Application cables                   | 24 wires (Including wires for optional valves)   |                              |                      |
| Installation                         | Floor / Inverted / Angle   | Floor / Inverted             |                      |
| Mounting Condition                   | Ambient Temperature:0~45°C <sup>4</sup>  |                              |                      |
|                                      | Ambient Humidity:20~85%RH (No dew or frost allowed)<br>Vibration: Not more than 0.5G(4.9m/s <sup>2</sup> ) |                              |                      |
| Protection class <sup>5)</sup>       | IP 67 equivalent(dust-proof, liquid-resistant)   |                              |                      |
| Robot weight                         | 155kg  |                              |                      |

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.

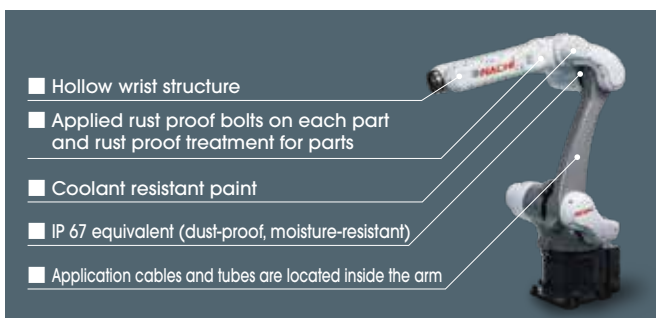
It will change depending on the operation program and the wrist load condition.

\*2. Depends on wrist load condition

\*3. JIS B 8432 conformance

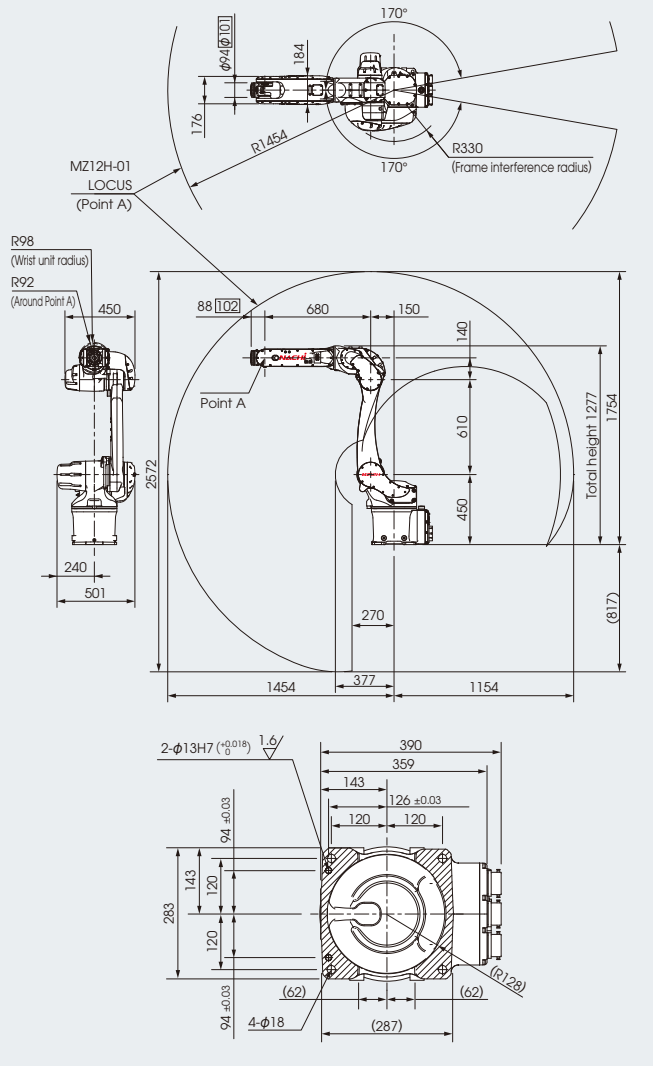
\*4. Up to a maximum of 1000m from sea level. Ambient temperature is reduced when allowable altitude is exceeded.

\*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.

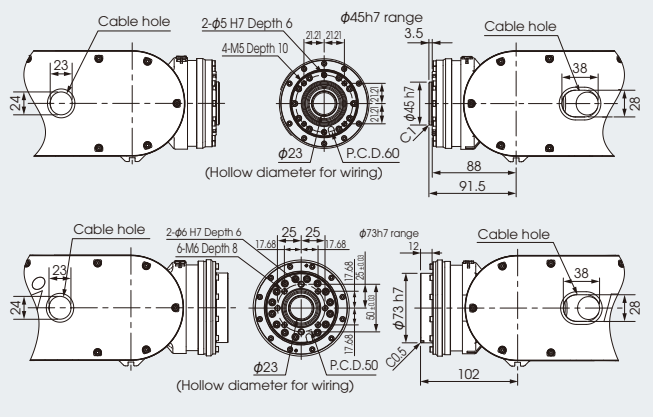


## Dimensions and Operating Range

\*Data shown in □ for MZ15H-01



### Wrist Dimensions



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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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