

# YASKAWA

# MOTOMAN AR1440

## Arc Welding with the AR-series



The six-axis MOTOMAN AR1440 robot provides fast and accurate performance to achieve optimal results in extremely difficult conditions and especially for the high demands of arc welding applications.

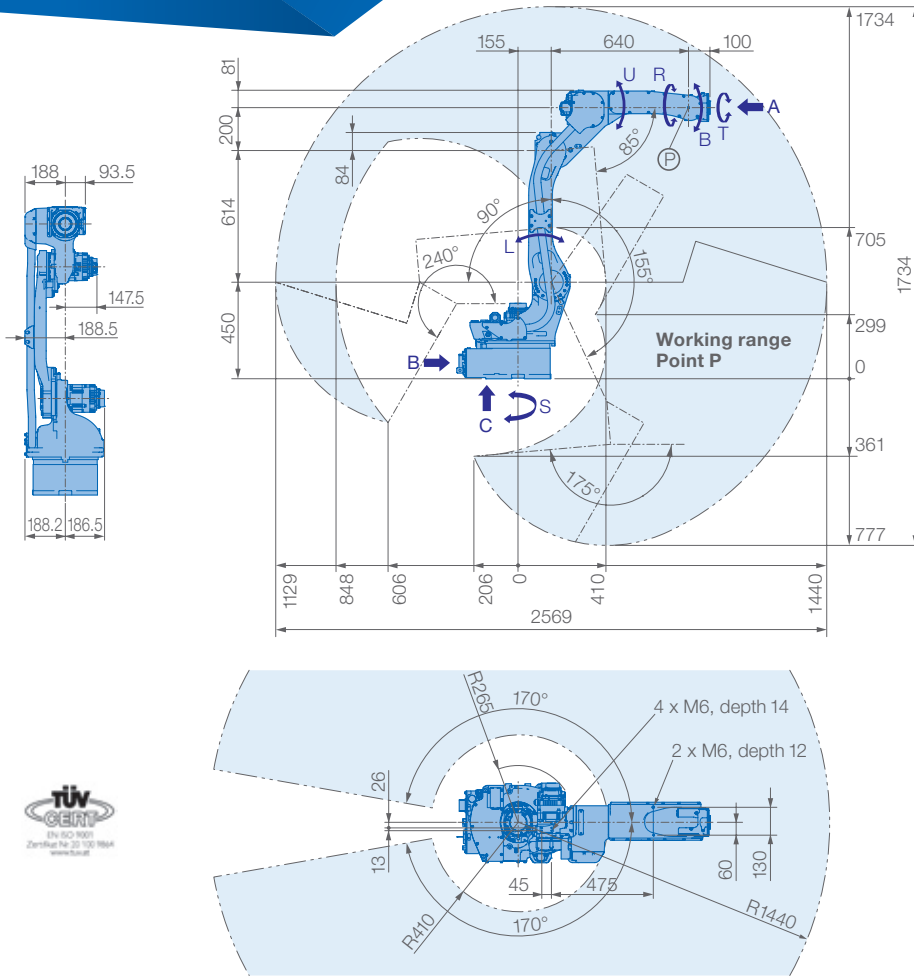
With a payload of up to 12 kg, its wire feed system, the maximum working range of 1440 mm and integrated media hose package, this robot enables simple machining of bulky and hard-to-access workpieces with high quality results. Furthermore, the slim design allows high-density robot placement in confined spaces.

The fast motion sequences of the MOTOMAN AR1440 robot reduce welding cycle times and the hollow wrist of 50 mm allow integrated torch cabling in the robot arm in order to avoid collisions with the workpiece or other robots.

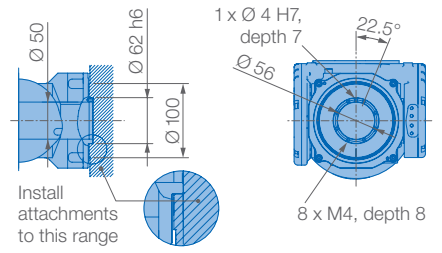
The integration of the power cable and the air connections in the base enable an enlarged turning range of more than 340°.

### KEY BENEFITS

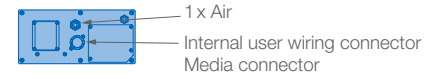
- Fast motion sequences
- Wide motion range
- High path accuracy
- High density placement due to slim design
- Integrated cabling avoids interferences



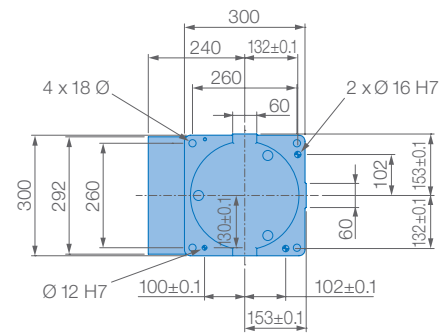
**View A**



**View B**



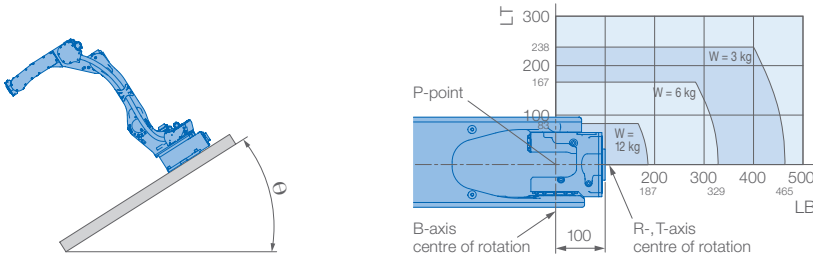
**View C**



Mounting options: Floor, ceiling, wall, tilt\*  
 Protection class: Main axes (S, L, U) IP54, wrist IP67

\* tilt with condition of angle – see table below

**Allowable wrist load**



| Robot installation angle $\theta$ [deg.] | S-axis operating range [deg.]        |
|--|--------------------------------------|
| $0 \leq \theta \leq 30$                  | $\pm 170$ degrees or less (no limit) |
| $30 < \theta \leq 35$                    | $\pm 60$ degrees or less             |
| $35 < \theta \leq 45$                    | $\pm 45$ degrees or less             |
| $45 < \theta$                            | $\pm 30$ degrees or less             |

| Specifications AR1440 |                          |                        |                       |  |                             |
|-----------------------|--------------------------|------------------------|-----------------------|--|-----------------------------|
| Axes                  | Maximum motion range [°] | Maximum speed [°/sec.] | Allowable moment [Nm] | Allowable moment of inertia [kg · m <sup>2</sup> ] | Controlled axes             |
| S                     | $\pm 170$                | 260                    | –                     | –  | 6                           |
| L                     | +155/–90                 | 230                    | –                     | –  | Max. payload [kg]           |
| U                     | +155/–85                 | 260                    | –                     | –  | 12                          |
| R                     | $\pm 200$                | 470                    | 22                    | 0.65   | Repeatability [mm]          |
| B                     | $\pm 150$                | 470                    | 22                    | 0.65   | $\pm 0.06^*$                |
| T                     | $\pm 455$                | 700                    | 9.8                   | 0.17   | Max. working range R [mm]   |
|                       |                          |                        |                       |  | 1440                        |
|                       |                          |                        |                       |  | Temperature [°C]            |
|                       |                          |                        |                       |  | 0 to +45                    |
|                       |                          |                        |                       |  | Humidity [%]                |
|                       |                          |                        |                       |  | 20 – 80                     |
|                       |                          |                        |                       |  | Weight [kg]                 |
|                       |                          |                        |                       |  | 150                         |
|                       |                          |                        |                       |  | Power supply, average [KVA] |
|                       |                          |                        |                       |  | 1.5**                       |

\* Conforms to ISO 9283 \*\* Varies in accordance with applications and motion patterns

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