

YASKAWA

MOTOMAN GP FGG-series

Handling & General Application
for the Food Industry



**GP4 FGG, GP7 FGG, GP8 FGG, GP12 FGG, GP25 FGG
and GP50 FGG:**

Increase Productivity

**Highest payloads, speeds and wrist allowable
moment in its class**

- A variety of workpieces can be transferred and different grippers can be mounted of with payloads up to 50 kg
- Acceleration/deceleration control has been improved to achieve maximum reduction of acceleration/deceleration times for all robot postures

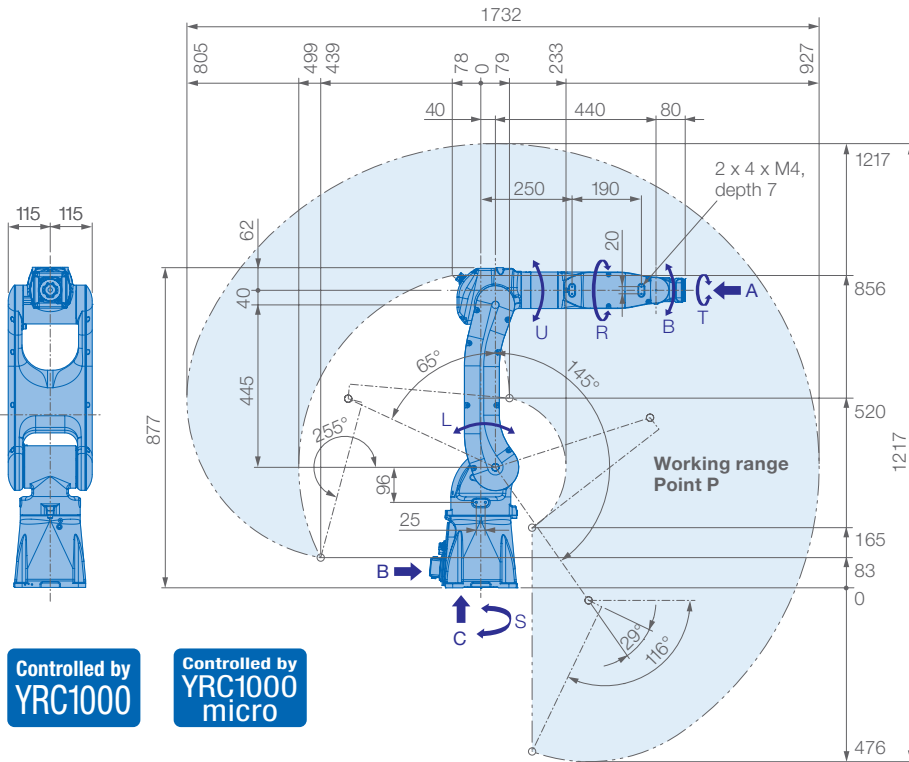
Make Equipment compact

Slim and easy-to-use structure

- Slim robot body requires minimum installation space (minimizes L-U axis offset)
- The manipulator cable can be connected at the bottom section, which reduces interference with walls and requires far less installation space when compared with cable connections on the side of the robot
- Increased maximum reach and horizontal reach enables robots to operate in wider work areas
- The slim, straight, and symmetrical arm design minimize interference with peripheral devices even in small spaces

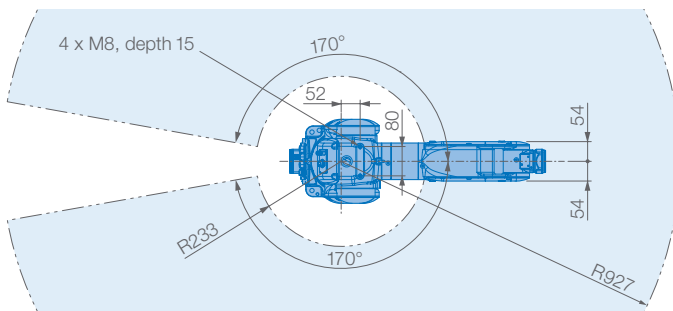
KEY BENEFITS

- Food grade grease allows robot to be used in food related applications in secondary and tertiary packaging
- Drip proof design assures smooth disposal of a liquid on the robot surface

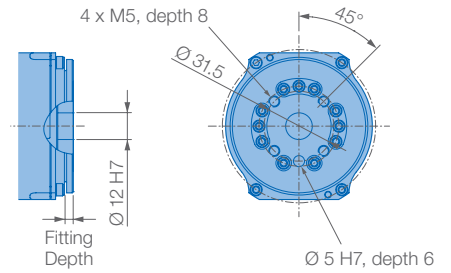


Controlled by YRC1000

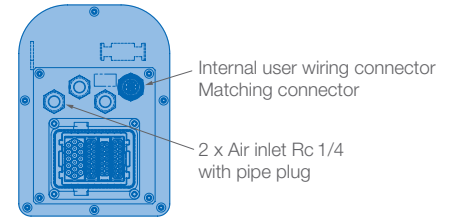
Controlled by YRC1000 micro



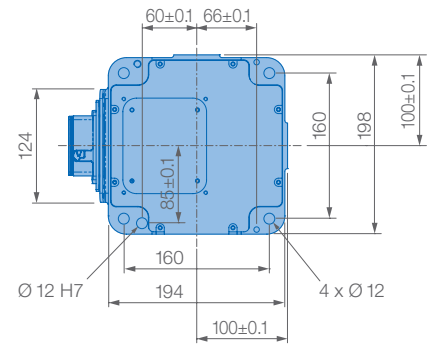
View A



View B



View C



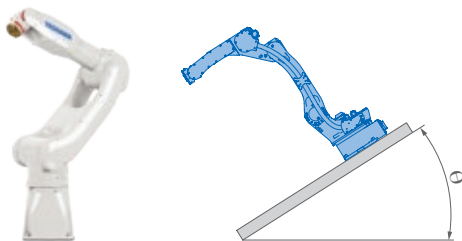
Mounting options: Floor, ceiling, wall, tilt*

Protection class: IP67

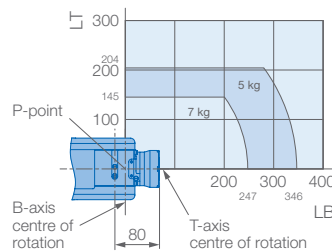
* tilt with condition of angle – see table below

Prevent interaction of the robot with:

- Corrosive gasses, liquids or explosive gasses
- Exposure to water, oil or dust
- Excessive electrical noise (plasma)



Allowable wrist load

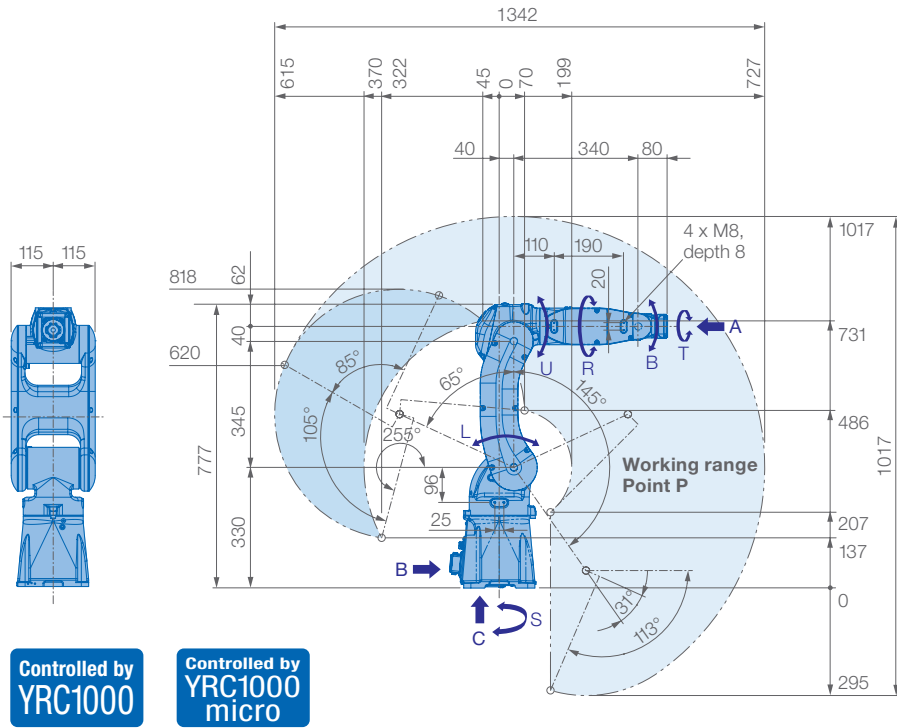


| Robot installation angle Θ [deg.] | S-axis operating range [deg.] |
|--|--------------------------------------|
| $0 \leq \Theta \leq 30$ | ± 170 degrees or less (no limit) |
| $30 < \Theta \leq 35$ | ± 60 degrees or less |
| $35 < \Theta \leq 40$ | ± 50 degrees or less |
| $40 < \Theta \leq 45$ | ± 45 degrees or less |
| $45 < \Theta \leq 50$ | ± 40 degrees or less |
| $50 < \Theta \leq 60$ | ± 35 degrees or less |
| $60 < \Theta$ | ± 30 degrees or less |

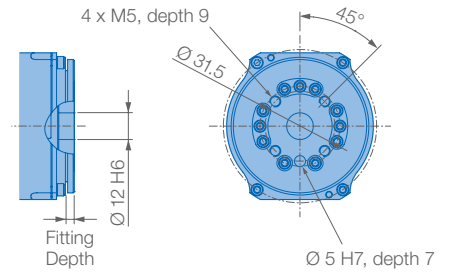
Specifications GP7 FGG

| Axes | Maximum motion range [°] | Maximum speed [°/s] | Allowable moment [Nm] | Allowable moment of inertia [kg · m ²] | Controlled axes | |
|------|--------------------------|---------------------|-----------------------|--|-----------------------------|--------------|
| S | ± 170 | 375 | – | – | Max. payload [kg] | 6 |
| L | +145/–65 | 315 | – | – | Repeatability [mm] | 7 |
| U | +190/–70 | 410 | – | – | Max. working range R [mm] | $\pm 0.01^*$ |
| R | ± 190 | 550 | 17 | 0.5 | Temperature [°C] | 927 |
| B | ± 135 | 550 | 17 | 0.5 | Humidity [%] | 0 to +45 |
| T | ± 360 | 1000 | 10 | 0.2 | Weight [kg] | 20 – 80 |
| | | | | | Power supply, average [kVA] | 37 |
| | | | | | | 1** |

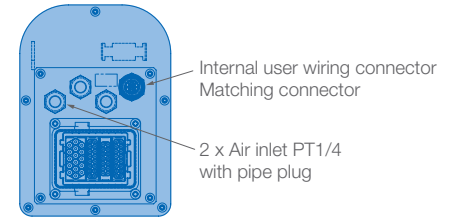
* Conforms to ISO 9283 ** Varies in accordance with applications and motion patterns Note: SI units are used for specifications.



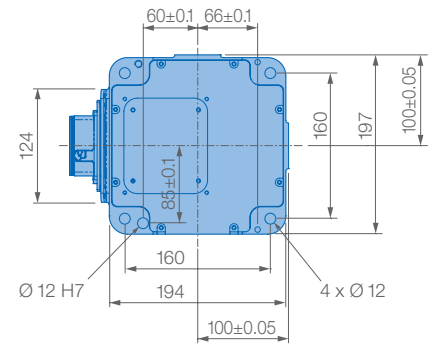
View A



View B



View C

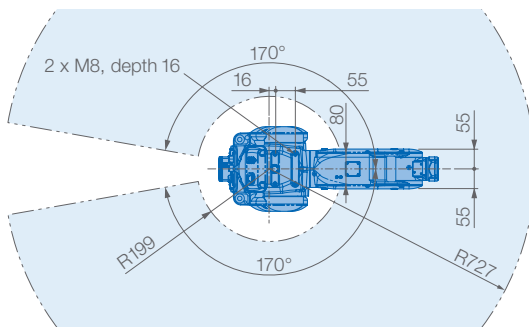


Mounting options: Floor, ceiling, wall, tilt*

Protection class: IP67

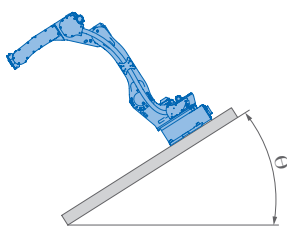
* tilt with condition of angle – see table below

| Robot installation angle θ [deg.] | S-axis operating range [deg.] |
|--|--------------------------------------|
| $0 \leq \theta \leq 30$ | ± 170 degrees or less (no limit) |
| $30 < \theta \leq 35$ | ± 60 degrees or less |
| $35 < \theta \leq 40$ | ± 50 degrees or less |
| $40 < \theta \leq 45$ | ± 45 degrees or less |
| $45 < \theta \leq 50$ | ± 40 degrees or less |
| $50 < \theta \leq 60$ | ± 35 degrees or less |
| $60 < \theta$ | ± 30 degrees or less |

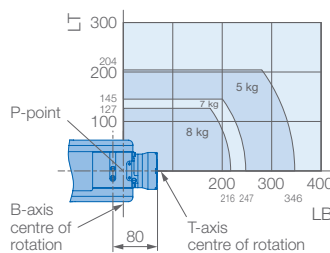


Prevent interaction of the robot with:

- Corrosive gasses, liquids or explosive gasses
- Exposure to water, oil or dust
- Excessive electrical noise (plasma)

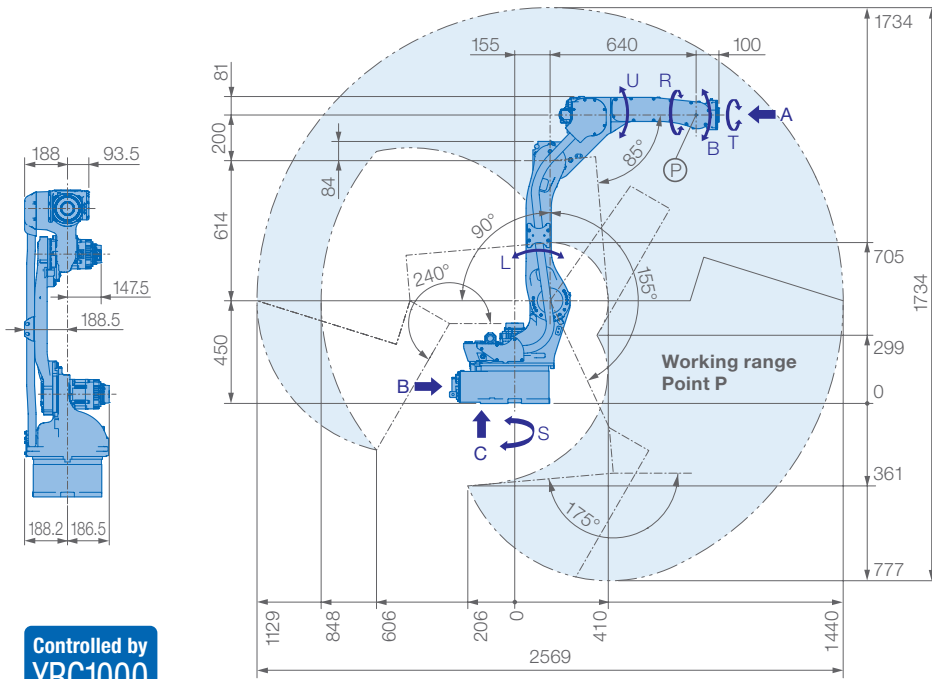


Allowable wrist load

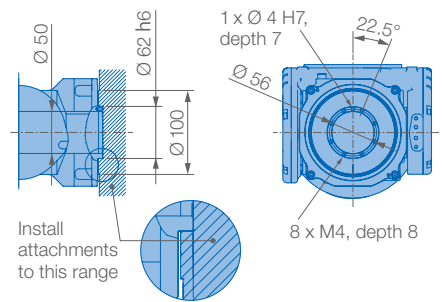


Specifications GP8 FGG

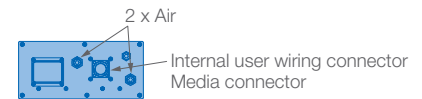
| Axes | Maximum motion range [°] | Maximum speed [°/s] | Allowable moment [Nm] | Allowable moment of inertia [kg · m ²] | Controlled axes | |
|------|--------------------------|---------------------|-----------------------|--|-----------------------------|--------------|
| S | ± 170 | 455 | – | – | Max. payload [kg] | 6 |
| L | +145/–65 | 385 | – | – | Repeatability [mm] | 8 |
| U | +255/–113 | 520 | – | – | Max. working range R [mm] | $\pm 0.01^*$ |
| R | ± 190 | 550 | 17 | 0.5 | Temperature [°C] | 727 |
| B | ± 135 | 550 | 17 | 0.5 | Humidity [%] | 0 to +45 |
| T | ± 360 | 1000 | 10 | 0.2 | Weight [kg] | 20 – 80 |
| | | | | | Power supply, average [kVA] | 35 |
| | | | | | | 1** |



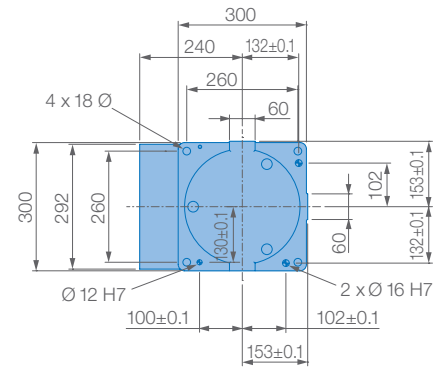
View A



View B



View C



Mounting options: Floor, ceiling, wall, tilt*

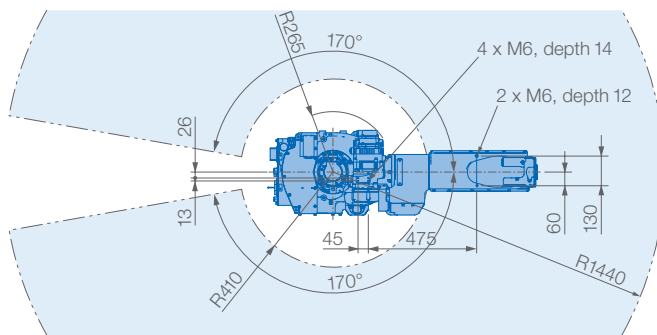
Protection class: IP67

* tilt with condition of angle – see table below

| Roboter-Neigungswinkel Θ [Grad] | S-Achsen-Arbeitsbereich [Grad] |
|--|--|
| $0 \leq \Theta \leq 30$ | ± 170 max. Neigungswinkel (keine Beschränkung) |
| $30 < \Theta \leq 35$ | ± 60 max. Neigungswinkel |
| $35 < \Theta \leq 45$ | ± 45 max. Neigungswinkel |
| $45 < \Theta$ | ± 30 max. Neigungswinkel |

Controlled by YRC1000

Controlled by YRC1000 micro

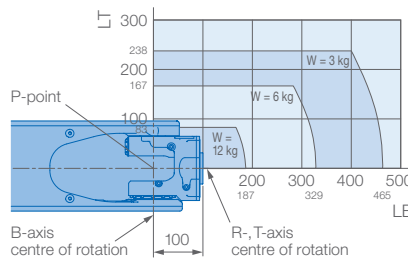


Prevent interaction of the robot with:

- Corrosive gasses, liquids or explosive gasses
- Exposure to water, oil or dust
- Excessive electrical noise (plasma)



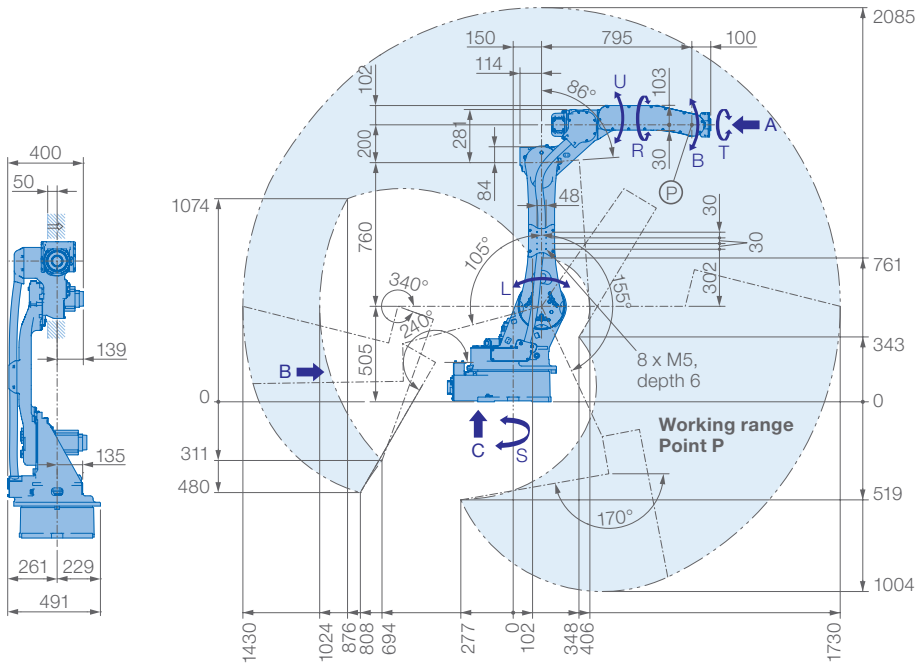
Allowable wrist load



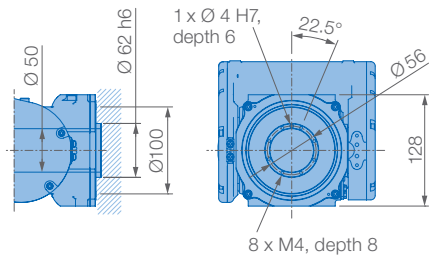
Specifications GP12 FGG

| Axes | Maximum motion range [°] | Maximum speed [°/s] | Allowable moment [Nm] | Allowable moment of inertia [kg · m ²] | Controlled axes | 6 |
|------|--------------------------|---------------------|-----------------------|--|-----------------------------|--------------|
| S | ± 170 | 260 | – | – | Max. payload [kg] | 12 |
| L | +155/-90 | 230 | – | – | Repeatability [mm] | $\pm 0.02^*$ |
| U | +155/-85 | 260 | – | – | Max. working range R [mm] | 1440 |
| R | ± 200 | 470 | 22 | 0.65 | Temperature [°C] | 15 to +45 |
| B | ± 150 | 470 | 22 | 0.65 | Humidity [%] | 20 – 80 |
| T | ± 455 | 700 | 9.8 | 0.17 | Weight [kg] | 155 |
| | | | | | Power supply, average [kVA] | 1,5** |

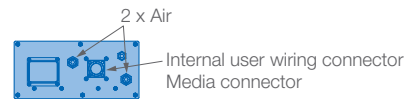
* Conforms to ISO 9283 ** Varies in accordance with applications and motion patterns Note: SI units are used for specifications.



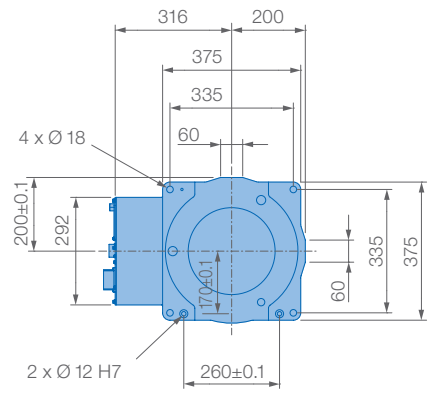
View A



View B



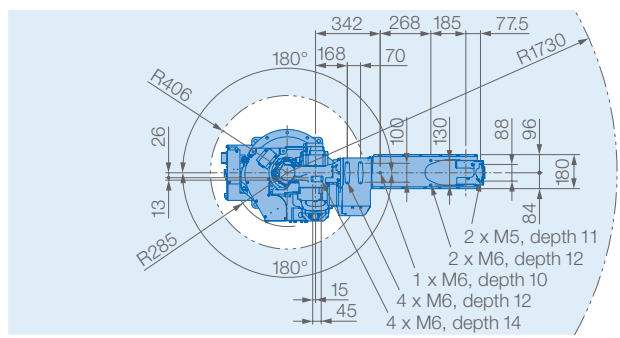
View C



Mounting options: Floor, ceiling, wall, tilt*
 Protection class: IP65/67
 * tilt with condition of angle – see table below

| Robot installation angle Θ [deg.] | S-axis operating range [deg.] |
|--|--------------------------------------|
| $0 \leq \Theta \leq 30$ | ± 180 degrees or less (no limit) |
| $30 < \Theta \leq 35$ | ± 60 degrees or less |
| $35 < \Theta$ | ± 30 degrees or less |

Controlled by YRC1000

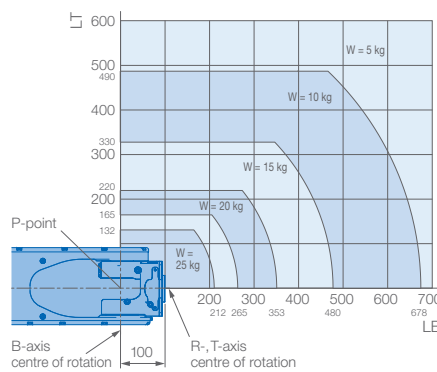


Prevent interaction of the robot with:

- Corrosive gasses, liquids or explosive gasses
- Exposure to water, oil or dust
- Excessive electrical noise (plasma)

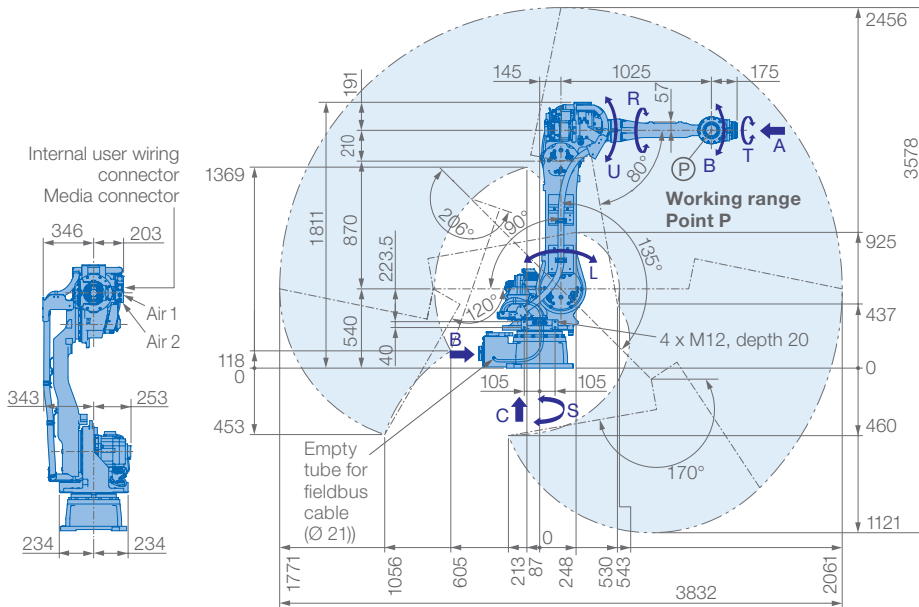


Allowable wrist load

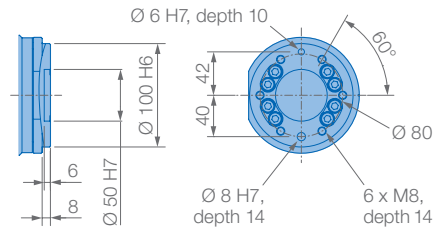


| Specifications GP25 FGG | | | | | | |
|-------------------------|--------------------------|---------------------|-----------------------|--|-----------------------------|--------------|
| Axes | Maximum motion range [°] | Maximum speed [°/s] | Allowable moment [Nm] | Allowable moment of inertia [kg · m ²] | Controlled axes | 6 |
| S | ± 180 | 210 | – | – | Max. payload [kg] | 25 |
| L | +155/–105 | 210 | – | – | Repeatability [mm] | $\pm 0.02^*$ |
| U | +160/–86 | 265 | – | – | Max. working range R [mm] | 1730 |
| R | ± 200 | 420 | 52 | 2.3 | Temperature [°C] | 15 to +45 |
| B | ± 150 | 420 | 52 | 2.3 | Humidity [%] | 20 – 80 |
| T | ± 455 | 885 | 32 | 1.2 | Weight [kg] | 265 |
| | | | | | Power supply, average [kVA] | 2,0** |

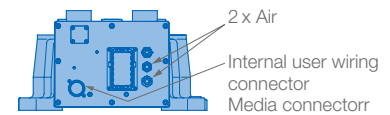
* Conforms to ISO 9283 ** Varies in accordance with applications and motion patterns Note: SI units are used for specifications.



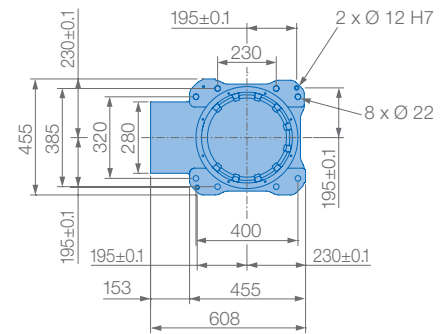
View A



View B



View C



Mounting options: Floor, ceiling, wall, tilt*

Protection class: IP67

* tilt with condition of angle – see table below

| Robot installation angle θ [deg.] | S-axis operating range [deg.] |
|--|-------------------------------|
| $0 \leq \theta \leq 30$ | ± 180 (Standard) |
| $30 < \theta \leq 35$ | ± 60 |
| $35 < \theta \leq 45$ | ± 45 |
| $45 < \theta$ | ± 30 |

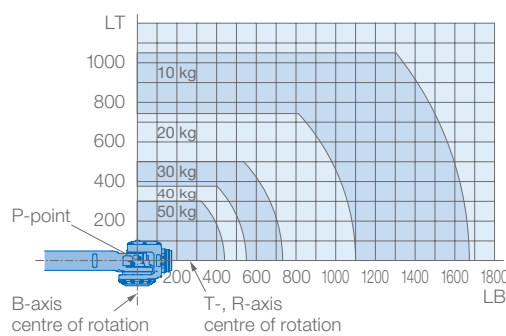
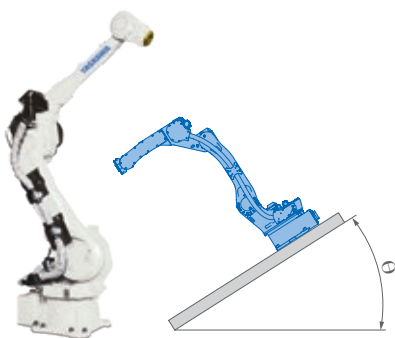
Controlled by YRC1000



Prevent interaction of the robot with:

- Corrosive gasses, liquids or explosive gasses
- Exposure to water, oil or dust
- Excessive electrical noise (plasma)

Allowable wrist load



Specifications GP50 FGG

| Axes | Maximum motion range [°] | Maximum speed [°/s] | Allowable moment [Nm] | Allowable moment of inertia [kg · m ²] | Controlled axes | 6 |
|------|--------------------------|---------------------|-----------------------|--|-----------------------------|------------|
| S | ± 180 | 180 | – | – | Max. payload [kg] | 50 |
| L | $+135/-90$ | 178 | – | – | Repeatability [mm] | ± 0.03 |
| U | $+206/-80$ | 178 | – | – | Max. working range R [mm] | 2061 |
| R | ± 360 | 150 | 216 | 28 | Temperature [°C] | 15 to +45 |
| B | ± 125 | 150 | 216 | 28 | Humidity [%] | 20 – 80 |
| T | ± 360 | 200 | 147 | 11 | Weight [kg] | 585 |
| | | | | | Power supply, average [kVA] | 4.0 |

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All drawing dimensions in mm.
Technical data may be subject to change without previous notice.
Please request detailed drawings at robotics@yaskawa.eu.

YR-1-06VX4-F00, YR-1-06VX7-F40, YR-1-06VX8-F40,
YR-1-06VXH12-F00, YR-1-06VXH25-F40, YR-1-06VX50-F00
GP FGG-series

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