

# MOTOMAN GP FGG-series

Handling & General Application  
for the Food Industry

**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

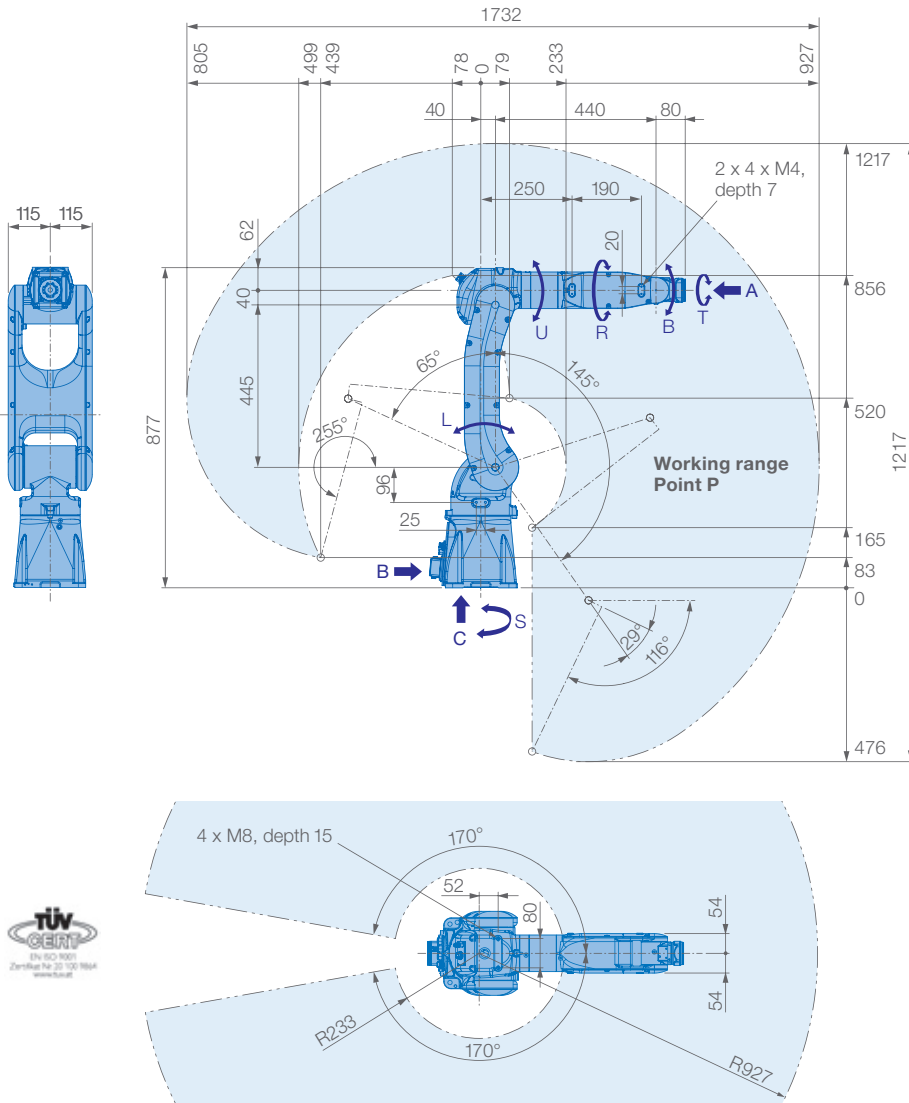
**Slim and easy-to-use structure**

- 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

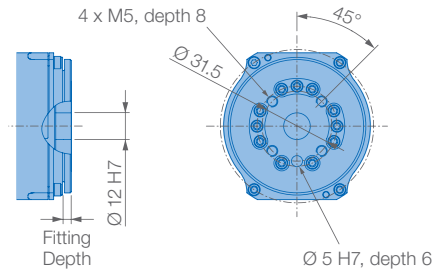
## KEY BENEFITS

- 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

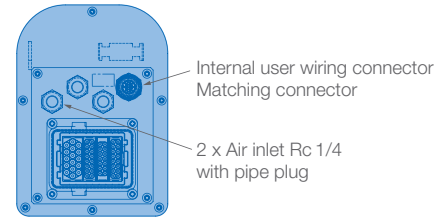




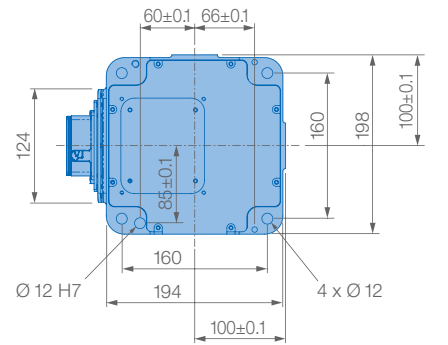
## View A



## View B



## View C

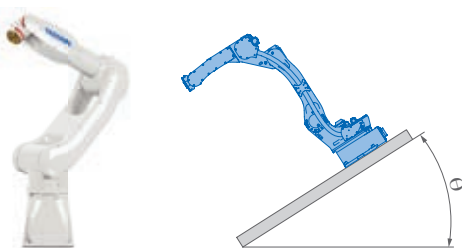


Mounting options: Floor, ceiling, wall, tilt\*  
Protection class: IP67

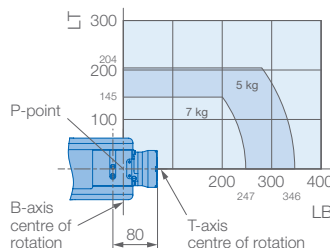
\* tilt with condition of angle – see table below

### 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



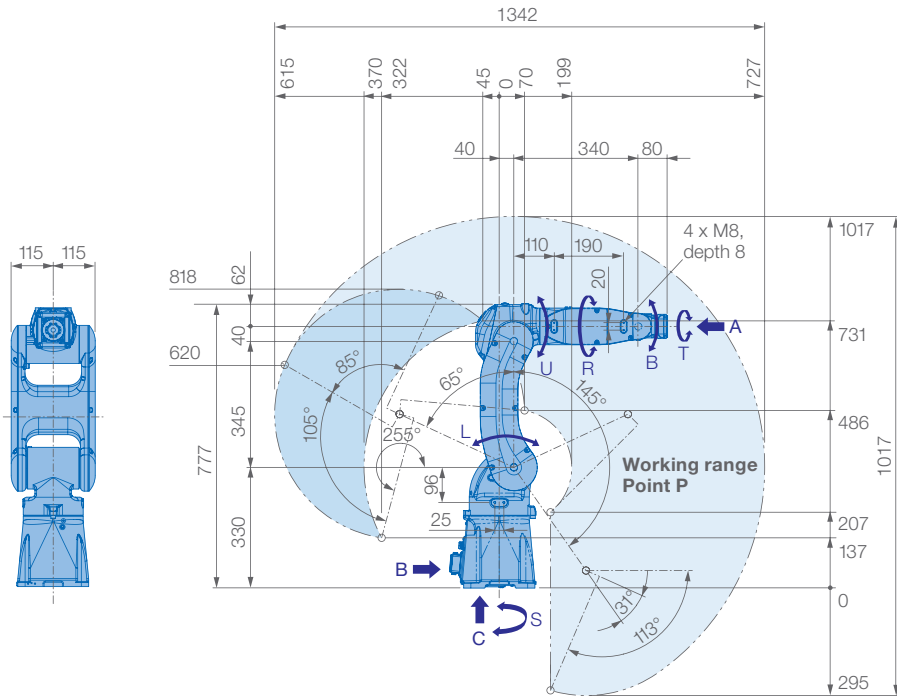
Robot installation angle $\Theta$ [deg.]	S-axis operating range [deg.]
$0 \leq \Theta \leq 30$	$\pm 170$ degrees or less (no limit)
$30 < \Theta \leq 35$	$\pm 60$ degrees or less
$35 < \Theta \leq 40$	$\pm 50$ degrees or less
$40 < \Theta \leq 45$	$\pm 45$ degrees or less
$45 < \Theta \leq 50$	$\pm 40$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

### Specifications GP7 FGG

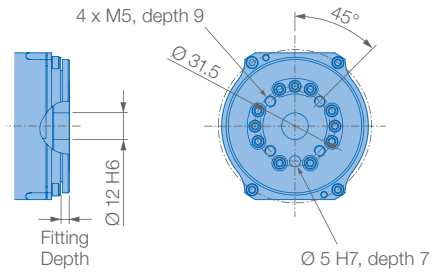
Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes	
S	$\pm 170$	375	–	–	Max. payload [kg]	6
L	+145/–65	315	–	–	Repeatability [mm]	7
U	+190/–70	410	–	–	Max. working range R [mm]	$\pm 0.03^*$
R	$\pm 190$	550	17	0.5	Temperature [°C]	927
B	$\pm 135$	550	17	0.5	Humidity [%]	+15 to +45***
T	$\pm 360$	1000	10	0.2	Weight [kg]	20 – 80
					Power supply, average [KVA]	34
						1**

\* Conforms to ISO 9283 \*\* Varies in accordance with applications and motion patterns \*\*\* During FGG operation; During transportation and storage -10 to +60°C

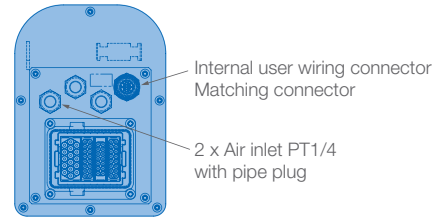
Note: SI units are used for specifications.



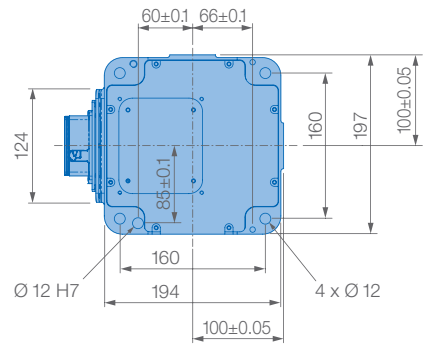
**View A**



**View B**



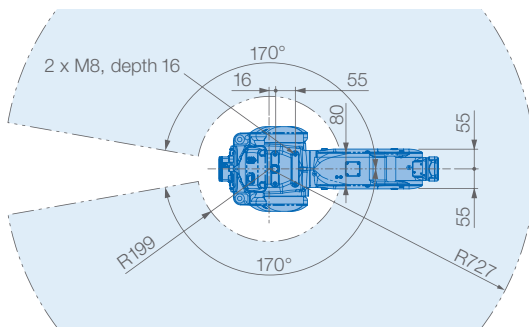
**View C**



Mounting options: Floor, ceiling, wall, tilt\*  
Protection class: IP67

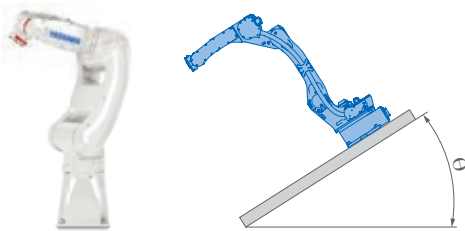
\* tilt with condition of angle – see table below

Robot installation angle $\theta$ [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
$35 < \theta \leq 40$	$\pm 50$ degrees or less
$40 < \theta \leq 45$	$\pm 45$ degrees or less
$45 < \theta \leq 50$	$\pm 40$ degrees or less
$50 < \theta \leq 60$	$\pm 35$ degrees or less
$60 < \theta$	$\pm 30$ degrees or less

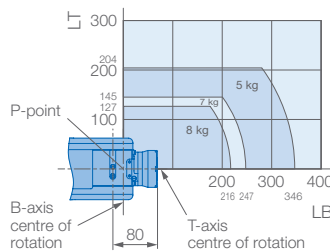


**Prevent interaction of the robot with:**

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



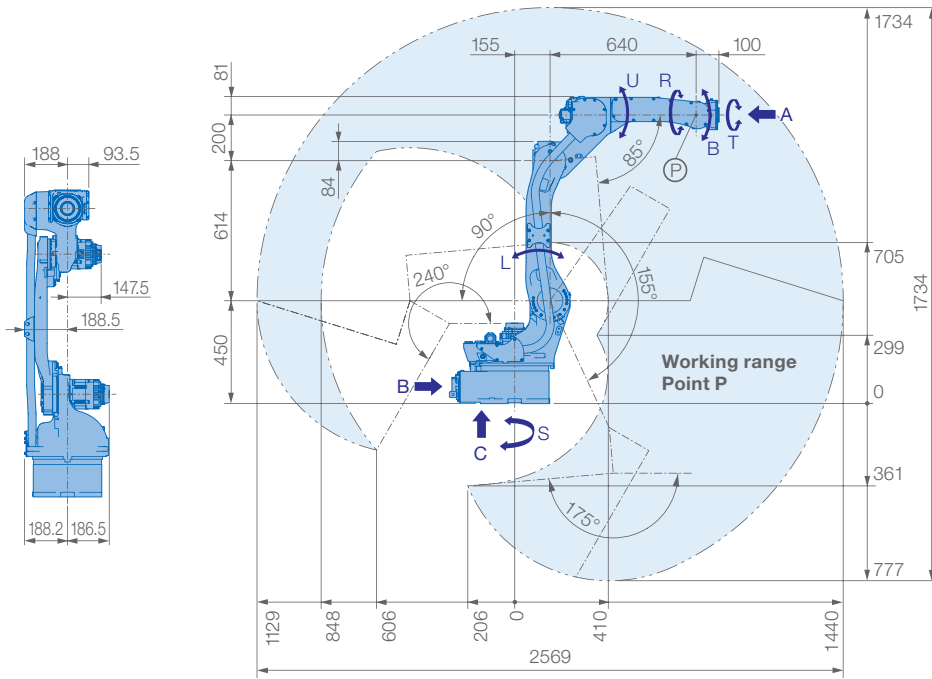
**Allowable wrist load**



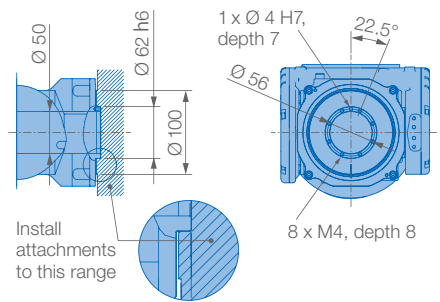
Specifications GP8 FGG						
Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes	6
S	$\pm 170$	455	–	–	Max. payload [kg]	8
L	+145/–65	385	–	–	Repeatability [mm]	$\pm 0.02^*$
U	+255/–113	520	–	–	Max. working range R [mm]	727
R	$\pm 190$	550	17	0.5	Temperature [°C]	+15 to +45***
B	$\pm 135$	550	17	0.5	Humidity [%]	20 – 80
T	$\pm 360$	1000	10	0.2	Weight [kg]	32
					Power supply, average [KVA]	1**

\* Conforms to ISO 9283 \*\* Varies in accordance with applications and motion patterns \*\*\* During FGG operation; During transportation and storage -10 to +60°C

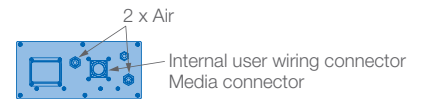
Note: SI units are used for specifications.



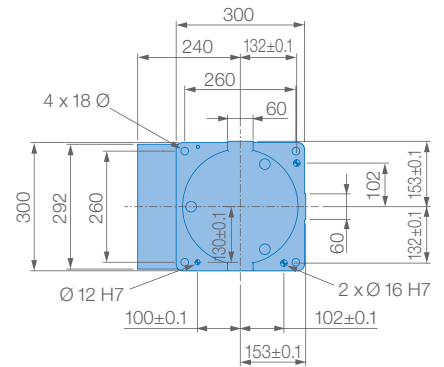
## View A



## View B



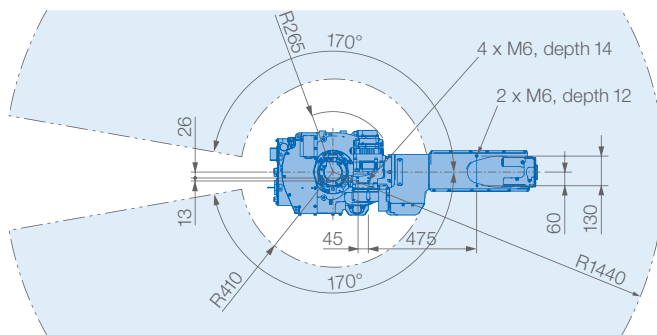
## View C



Mounting options: Floor, ceiling, wall, tilt\*

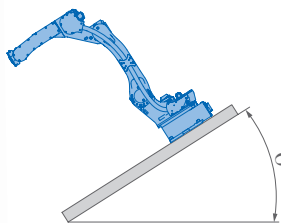
Protection class: IP67

\* tilt with condition of angle – see table below

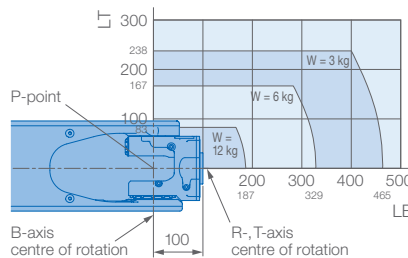


## Prevent interaction of the robot with:

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



## Allowable wrist load

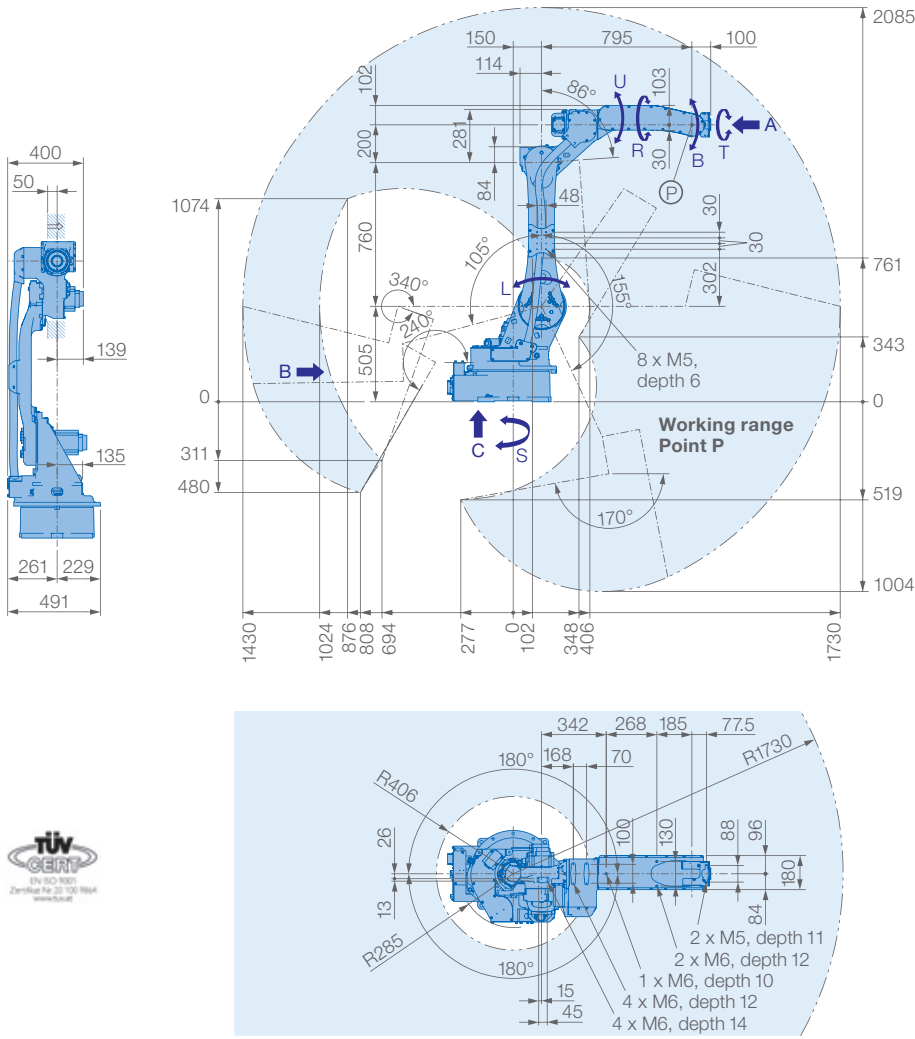


Roboter-Neigungswinkel $\Theta$ [Grad]	S-Achsen-Arbeitsbereich [Grad]
$0 \leq \Theta \leq 30$	$\pm 170$ max. Neigungswinkel (keine Beschränkung)
$30 < \Theta \leq 35$	$\pm 60$ max. Neigungswinkel
$35 < \Theta \leq 45$	$\pm 45$ max. Neigungswinkel
$45 < \Theta$	$\pm 30$ max. Neigungswinkel

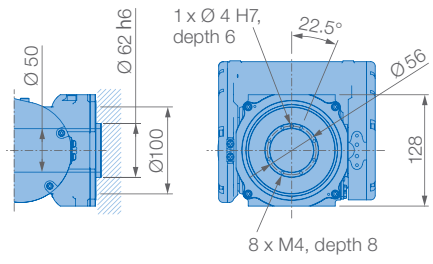
## Technische Daten GP12 FGG

Achsen	Maximaler Arbeitsbereich [°]	Maximale Geschwindigkeit [°/sec.]	Maximales Drehmoment [Nm]	Maximales Trägheitsmoment [kg · m <sup>2</sup> ]	Anzahl gesteuerter Achsen	6
S	$\pm 170$	260	–	–	Max. Traglast [kg]	12
L	+155/–90	230	–	–	Wiederholgenauigkeit [mm]	$\pm 0,06^*$
U	+155/–85	260	–	–	Max. Arbeitsbereich R [mm]	1440
R	$\pm 200$	470	22	0,65	Zulässige Temperatur [°C]	15 bis +45
B	$\pm 150$	470	22	0,65	Zulässige Luftfeuchtigkeit [%]	20 – 80
T	$\pm 455$	700	9.8	0,17	Gewicht des Roboters [kg]	155
					Mittlere Anschlußleistung [KVA]	1,5**

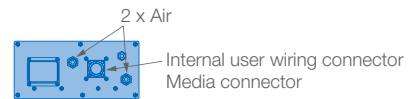
\* Entspricht ISO 9283 \*\* Variiert je nach Anwendung und Bewegungsmuster Hinweis: SI-Einheiten werden für Spezifikationszwecke genutzt.



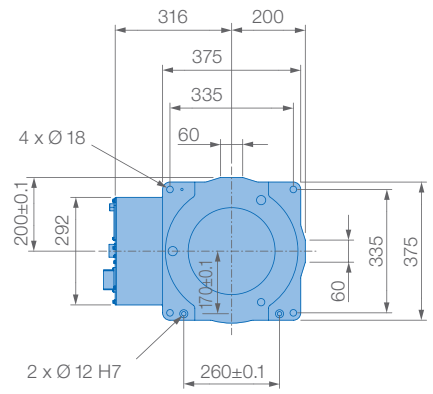
## View A



## View B

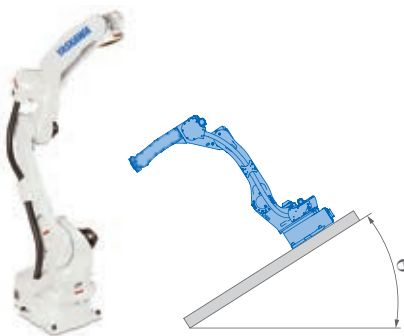


## View C

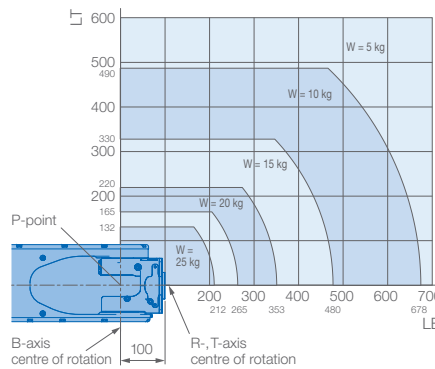


### Prevent interaction of the robot with:

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



### Allowable wrist load



Mounting options: Floor, ceiling, wall, tilt\*

Protection class: IP67

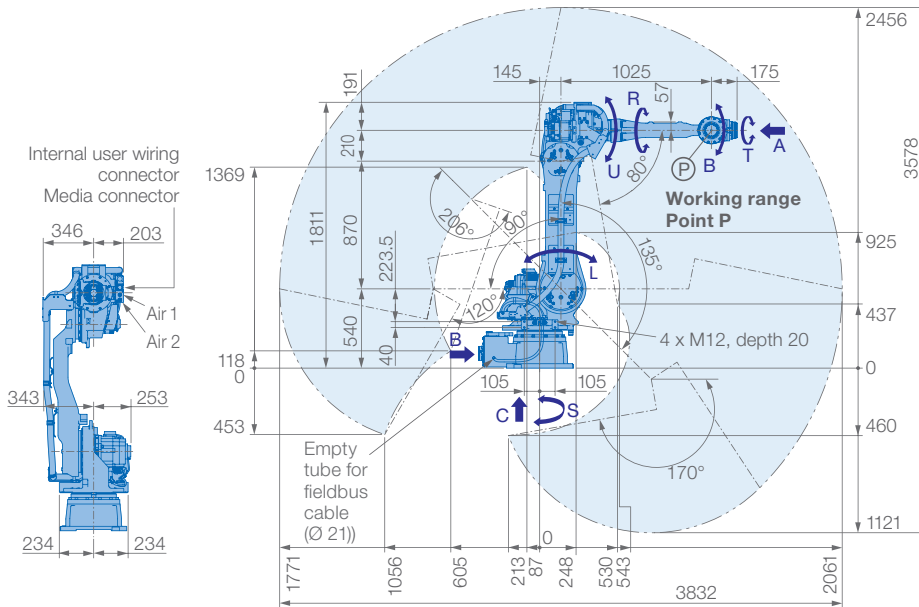
\* tilt with condition of angle – see table below

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

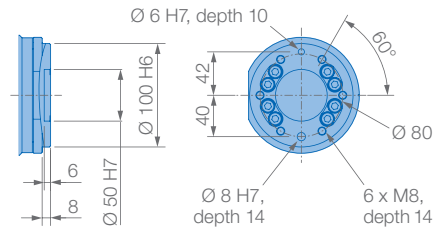
### Specifications GP25 FGG

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes	6
S	$\pm 180$	210	–	–	Max. payload [kg]	25
L	$+155/-105$	210	–	–	Repeatability [mm]	$\pm 0.06^*$
U	$+160/-86$	265	–	–	Max. working range R [mm]	1730
R	$\pm 200$	420	52	2.3	Temperature [°C]	15 to +45
B	$\pm 150$	420	52	2.3	Humidity [%]	20 – 80
T	$\pm 455$	885	32	1.2	Weight [kg]	265
					Power supply, average [KVA]	2,0**

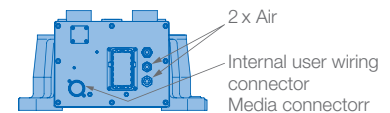
\* Conforms to ISO 9283 \*\* Varies in accordance with applications and motion patterns Note: SI units are used for specifications.



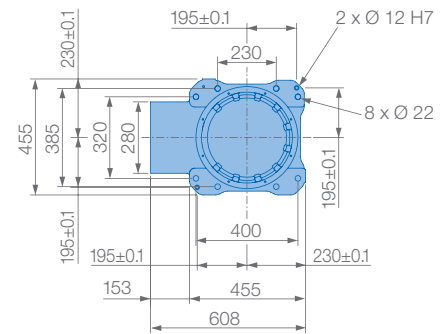
## View A



## View B



## View C



Mounting options: Floor, ceiling, wall, tilt\*

Protection class: IP67

\* tilt with condition of angle – see table below

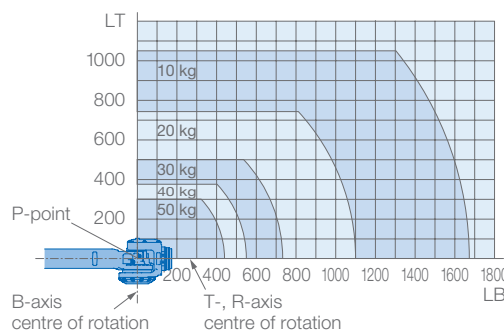
Robot installation angle $\theta$ [deg.]	S-axis operating range [deg.]
$0 \leq \theta \leq 30$	$\pm 180$ (Standard)
$30 < \theta \leq 35$	$\pm 60$
$35 < \theta \leq 45$	$\pm 45$
$45 < \theta$	$\pm 30$



### 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 [°/sec.]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes	6
S	$\pm 180$	180	–	–	Max. payload [kg]	50
L	$+135/-90$	178	–	–	Repeatability [mm]	$\pm 0.07$
U	$+206/-80$	178	–	–	Max. working range R [mm]	2061
R	$\pm 360$	150	216	28	Temperature [°C]	15 to +45
B	$\pm 125$	150	216	28	Humidity [%]	20 – 80
T	$\pm 360$	200	147	11	Weight [kg]	585
					Power supply, average [KVA]	4.0

The background of the image features a white, inverted triangle pointing downwards, centered on a blue background. The blue background is composed of several overlapping, semi-transparent triangular shapes that create a geometric, layered effect.

**YASKAWA**

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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.com](mailto:robotics@yaskawa.eu.com).

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

B-09-2019, A-Nr. 190839

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