

# 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

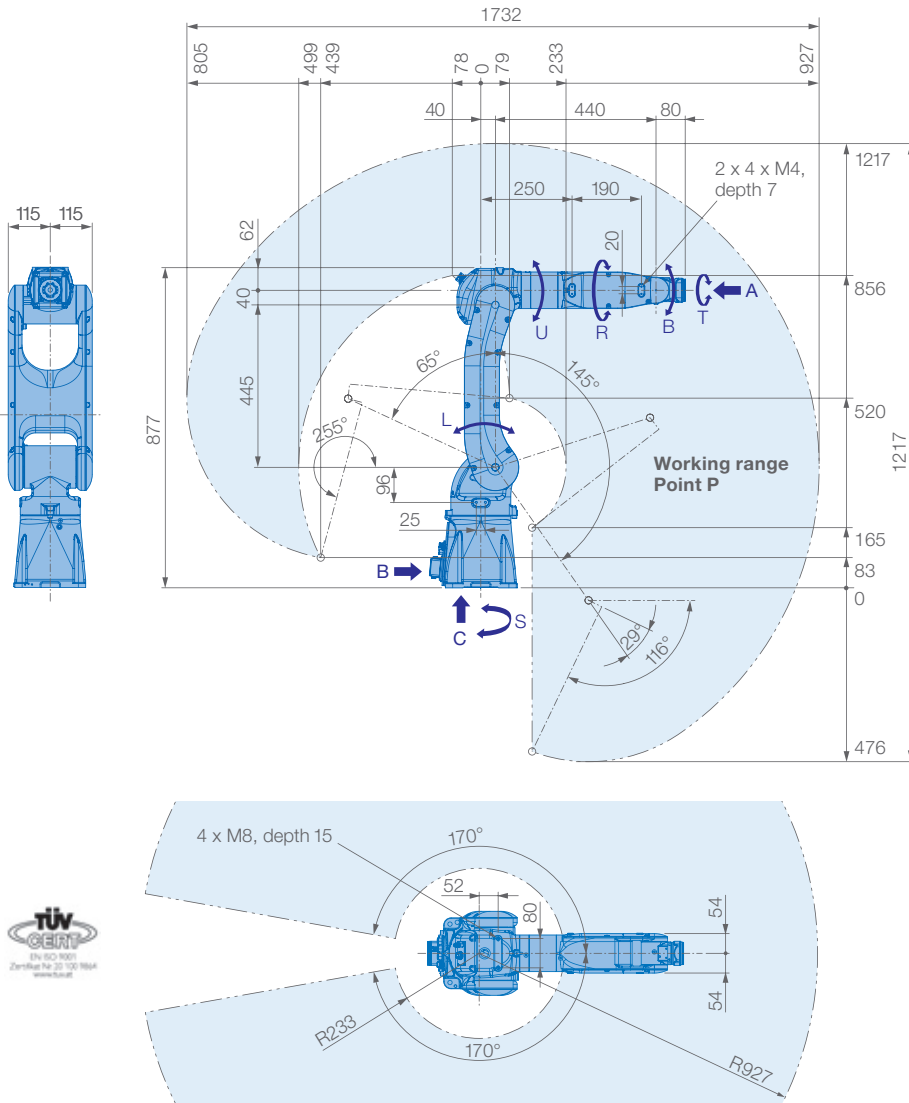
**Slim and easy-to-use structure**

- 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

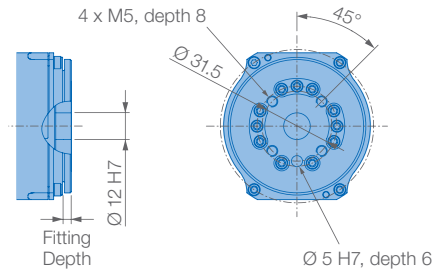
## KEY BENEFITS

- 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

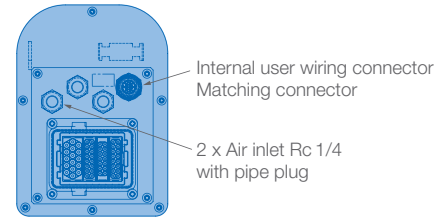




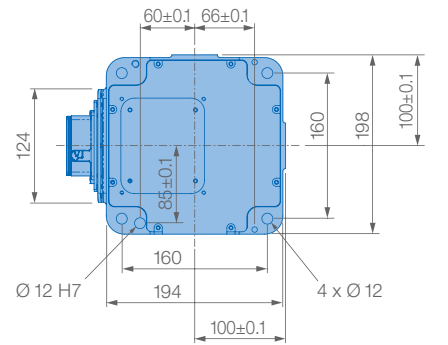
## View A



## View B



## View C



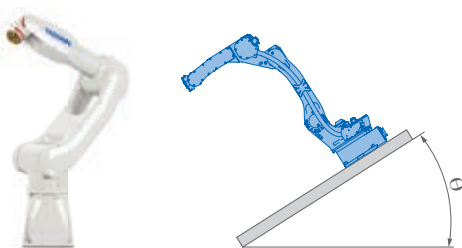
Mounting options: Floor, ceiling, wall, tilt\*

Protection class: IP67

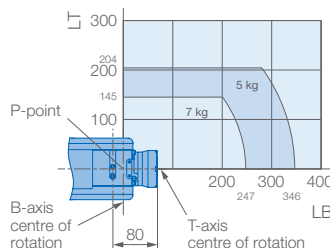
\* tilt with condition of angle – see table below

### 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



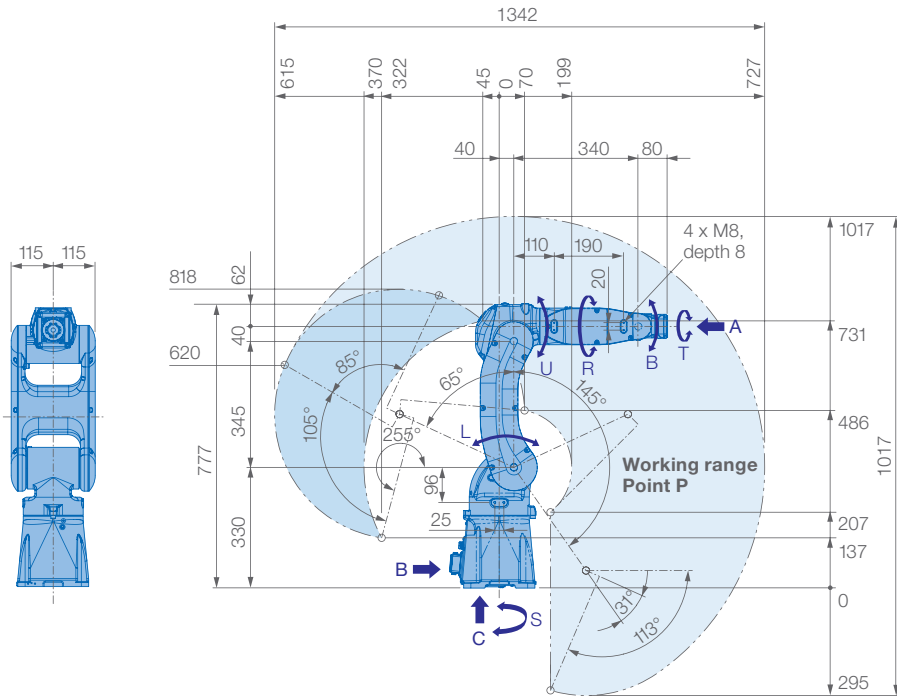
Robot installation angle $\theta$ [deg.]	S-axis operating range [deg.]
$0 \leq \theta \leq 30$	$\pm 170$ degrees or less (no limit)
$30 < \theta \leq 35$	$\pm 60$ degrees or less
$35 < \theta \leq 40$	$\pm 50$ degrees or less
$40 < \theta \leq 45$	$\pm 45$ degrees or less
$45 < \theta \leq 50$	$\pm 40$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

### Specifications GP7 FGG

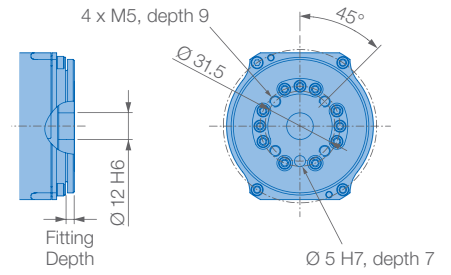
Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes	
S	$\pm 170$	375	–	–	Max. payload [kg]	6
L	+145/–65	315	–	–	Repeatability [mm]	7
U	+190/–70	410	–	–	Max. working range R [mm]	$\pm 0.03^*$
R	$\pm 190$	550	17	0.5	Temperature [°C]	$\pm 0.03^*$
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

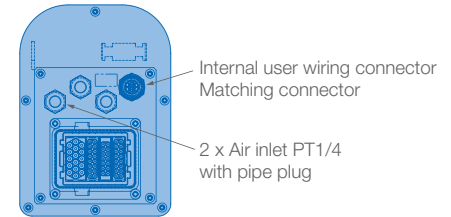
Note: SI units are used for specifications.



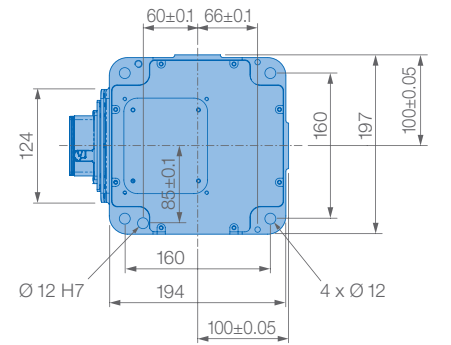
**View A**



**View B**



**View C**

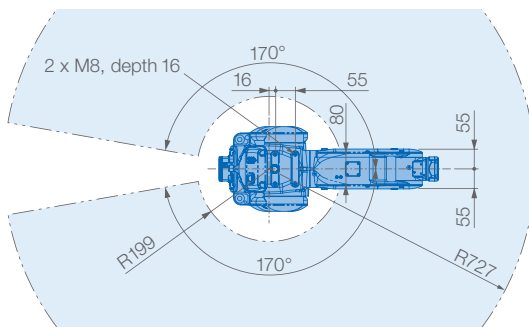


Mounting options: Floor, ceiling, wall, tilt\*

Protection class: IP67

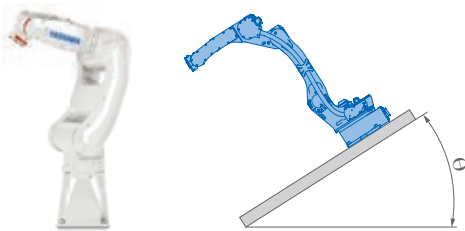
\* tilt with condition of angle – see table below

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

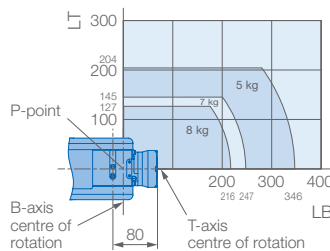


**Prevent interaction of the robot with:**

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



**Allowable wrist load**

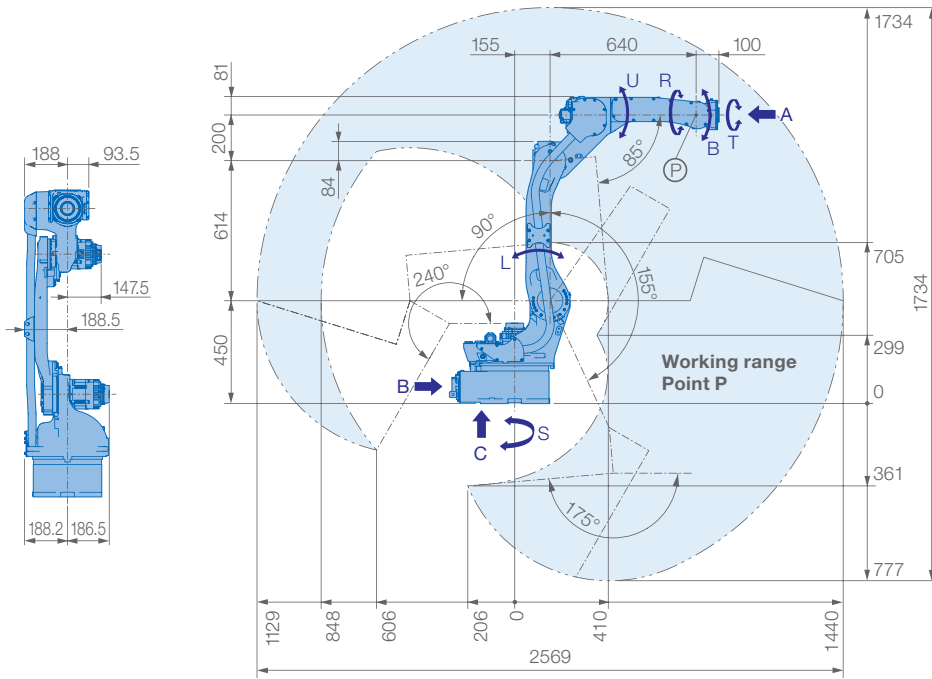


**Specifications GP8 FGG**

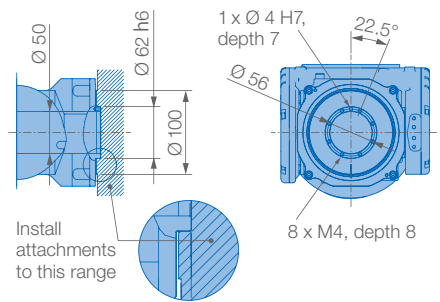
Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes	6
S	±170	455	–	–	Max. payload [kg]	8
L	+145/-65	385	–	–	Repeatability [mm]	±0.02*
U	+255/-113	520	–	–	Max. working range R [mm]	727
R	±190	550	17	0.5	Temperature [°C]	+15 to +45***
B	±135	550	17	0.5	Humidity [%]	20 – 80
T	±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

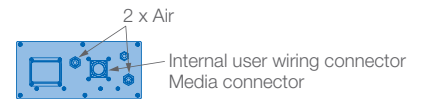
Note: SI units are used for specifications.



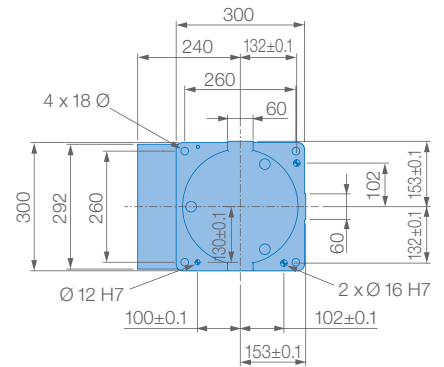
## View A



## View B



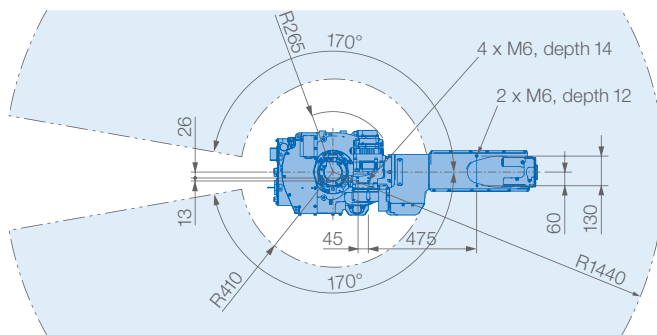
## View C



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

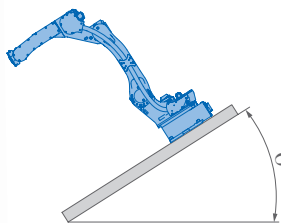
Protection class: IP67

\* tilt with condition of angle – see table below

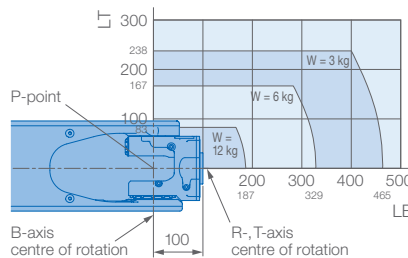


## Prevent interaction of the robot with:

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



## Allowable wrist load

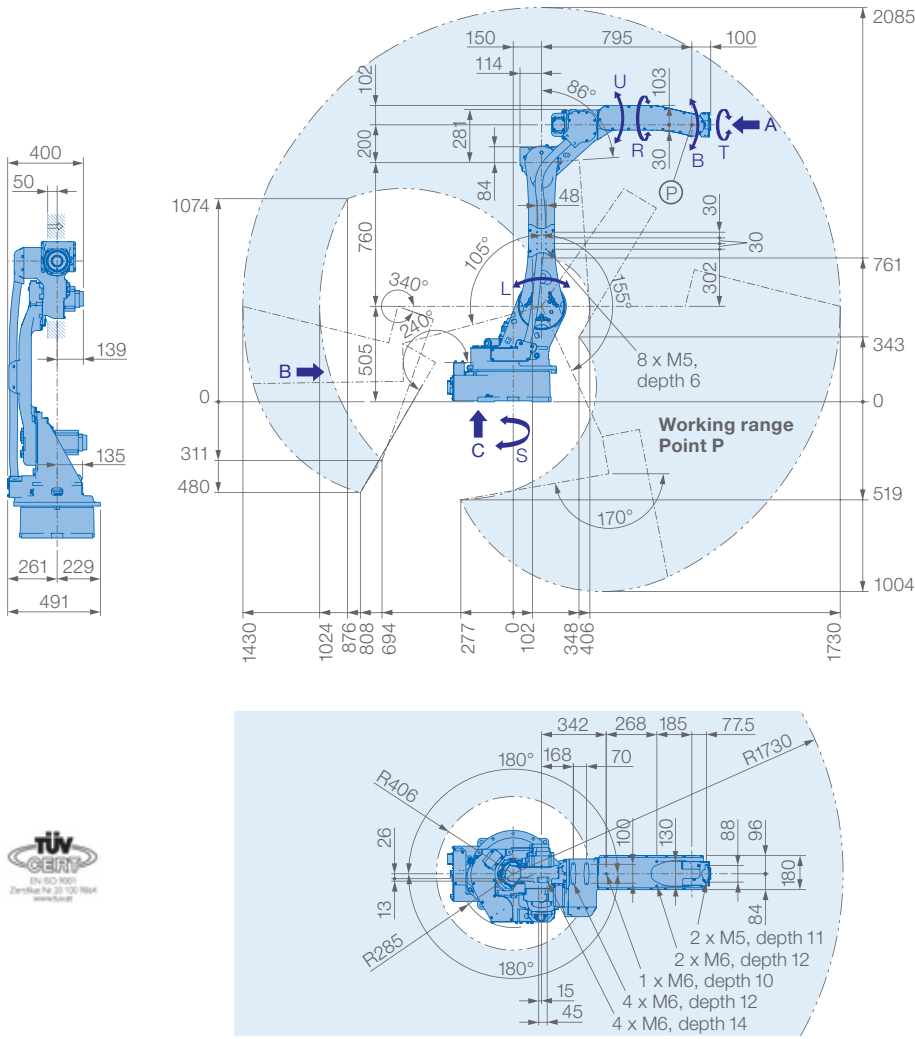


Roboter-Neigungswinkel $\Theta$ [Grad]	S-Achsen-Arbeitsbereich [Grad]
$0 \leq \Theta \leq 30$	$\pm 170$ max. Neigungswinkel (keine Beschränkung)
$30 < \Theta \leq 35$	$\pm 60$ max. Neigungswinkel
$35 < \Theta \leq 45$	$\pm 45$ max. Neigungswinkel
$45 < \Theta$	$\pm 30$ max. Neigungswinkel

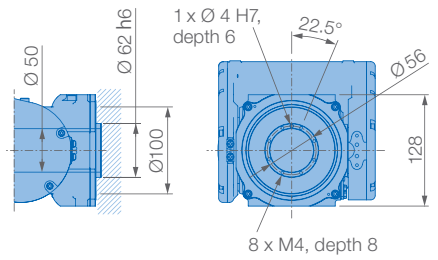
## Technische Daten GP12 FGG

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**

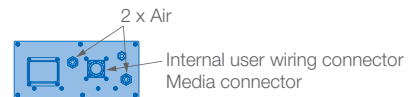




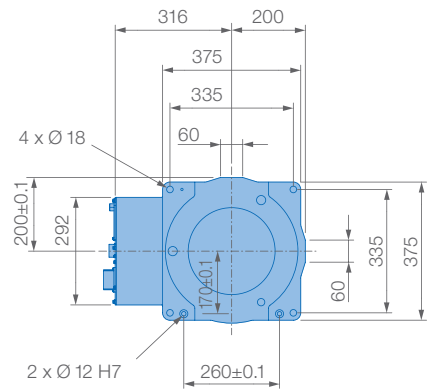
## View A



## View B

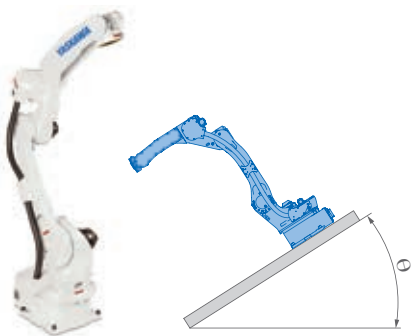


## View C

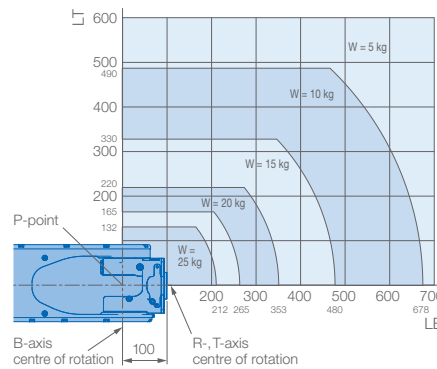


### Prevent interaction of the robot with:

- 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

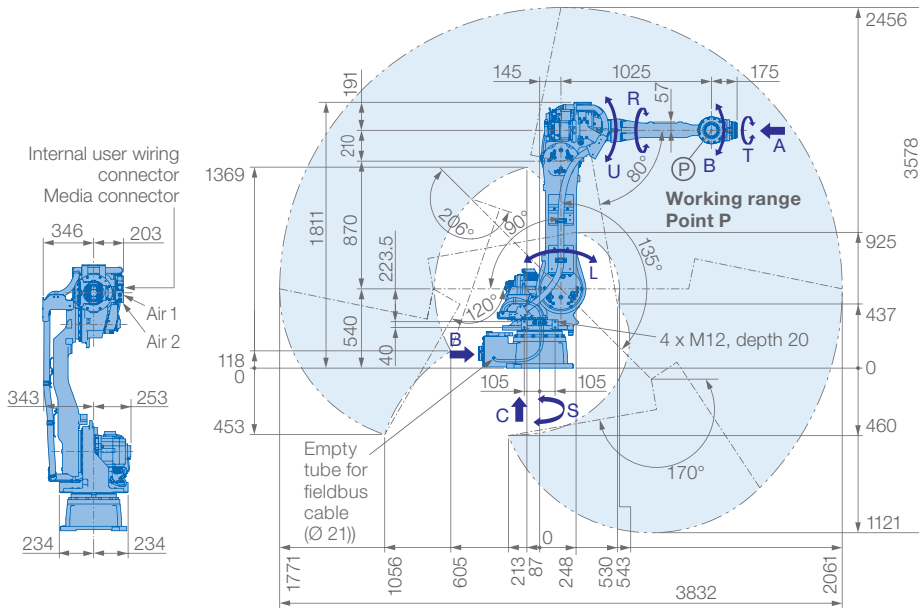
\* tilt with condition of angle – see table below

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

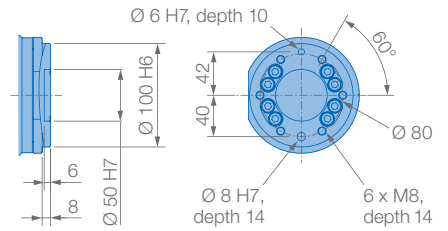
### Specifications GP25 FGG

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**

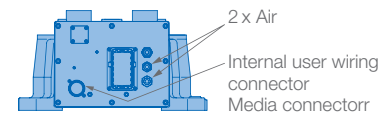
\* Conforms to ISO 9283 \*\* Varies in accordance with applications and motion patterns Note: SI units are used for specifications.



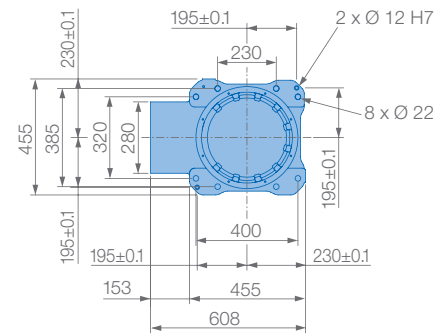
## View A



## View B



## View C



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

Protection class: IP67

\* tilt with condition of angle – see table below

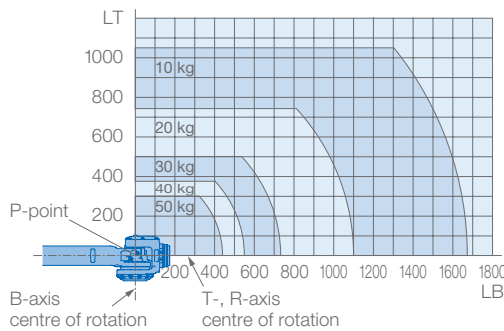
Robot installation angle $\theta$ [deg.]	S-axis operating range [deg.]
$0 \leq \theta \leq 30$	$\pm 180$ (Standard)
$30 < \theta \leq 35$	$\pm 60$
$35 < \theta \leq 45$	$\pm 45$
$45 < \theta$	$\pm 30$



### 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



**YASKAWA**

## YASKAWA GROUP

AT	YASKAWA Austria Schwechat/Wien +43(0)1-707-9324-15
CZ	YASKAWA Czech s.r.o. Rudná u Prahy +420-257-941-718
ES	YASKAWA Ibérica, S.L. Gavà/Barcelona +34-93-6303478
FR	YASKAWA France SARL Le Bignon +33-2-40131919
FI	YASKAWA Finland Oy Turku +358-(0)-403000600
GB	YASKAWA UK Ltd. Banbury +44-1295-272755
IT	YASKAWA Italia s.r.l. Torino +39-011-9005833
IL	YASKAWA Europe Technology Ltd. Rosh Ha'ayin +972-3-9004114
NL	YASKAWA Benelux B.V. Eindhoven +31-40-2895500
PL	YASKAWA Polska Sp. z o.o. Wrocław +48-71-7928670
RU	YASKAWA Europe Holding AB Moskva +46-480-417-800
SE	YASKAWA Nordic AB Torsås +46-480-417-800
SI	YASKAWA Slovenia Ribnica +386-1-8372-410
TR	YASKAWA Turkey Elektrik Ticaret Ltd. Sti. İstanbul +90-216-5273450
ZA	YASKAWA Southern Africa (PTY) Ltd Johannesburg +27-11-6083182

## DISTRIBUTORS

BG	ARAMET ROBOTICS Ltd. Yambol +359-885 317 294  Kammarton Bulgaria Ltd. Sofia +359-02-926-6060
DK	Robotcenter Danmark Løsning +45 7022 2477
EE	RKR Seadmed OÜ Tallinn/Estonia +372-68-35-235
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PT	ROBOPLAN Lda Aveiro +351-234 943 900
RO	Sam Robotics srl Timisoara +40-720-279-866  MPL Automation S.R.L. Satu Mare +40 (0) 261 750 741



## YASKAWA Headquarters

YASKAWA Europe GmbH  
Robotics Division  
Yaskawastraße 1  
85391 Allershausen, Germany  
Tel. +49 (0) 8166/90-0  
Fax +49 (0) 8166/90-103

## YASKAWA ACADEMY and sales office Frankfurt

YASKAWA Europe GmbH  
Robotics Division  
Hauptstraße 185  
65760 Eschborn, Germany  
Tel. +49 (0) 6196/77725-0  
Fax +49 (0) 6196/77725-39

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

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