

Further technical data for HORST1500 robot system.  
 Technical data version: V241016

## 1 Technical Data - HORST1500

<b>Robot</b>	HORST1500
<b>Number of axes</b>	6
<b>Maximum payload</b>	15 kg
<b>Nominal load</b>	12 kg
<b>Max. range</b>	1485 mm
<b>Repeatability</b>	+/- 0.05 mm
<b>Protection classification</b>	IP54
<b>Sound level</b>	<70 dB (A)
<b>Weight</b>	110 kg
<b>Power supply</b>	230 V AC, 50-60 Hz
<b>Ambient temperature</b>	5-40 °C
<b>Installation area (L x W)</b>	380 x 380 mm
<b>Base drilling pattern</b>	300 x 300 mm
<b>Standard color</b>	RAL 5021 (water blue)

### Information on load capacity

The nominal load is determined in accordance with VDI 2861-2. The load center of gravity has a defined distance from the robot flange (for HORST1500:  $L_{xy} = 77$  mm;  $L_z = 164$  mm). The nominal load can be moved with these distances of the load center of gravity without restrictions in the entire working area of the robot.

The maximum payload can be moved within the entire working area of the robot, provided the load is attached directly to the robot flange. If the working area is restricted, the maximum payload can be even higher in consultation with fruitcore robotics.

## 2 Axis data HORST1500

Axis	Range of movement	Speed (With a payload of 0 kg; rounded down)
1	+/- 176°	260 °/s
2	+89° / -20°	100 °/s
3	+62° / -61°	120 °/s
4	+/- 170°	560 °/s
5	+/- 165°	380 °/s
6	+/- 300°	620 °/s

The maximum axis speeds were determined with a payload of 0 kg as this is the only way to ensure that the measured values can be compared properly. At maximum payload, the maximum speed can vary greatly since it depends directly on the position of the center of mass. The maximum speed at 0 kg payload, on the other hand, is unambiguous as the influence of the center of mass of a payload does not apply.

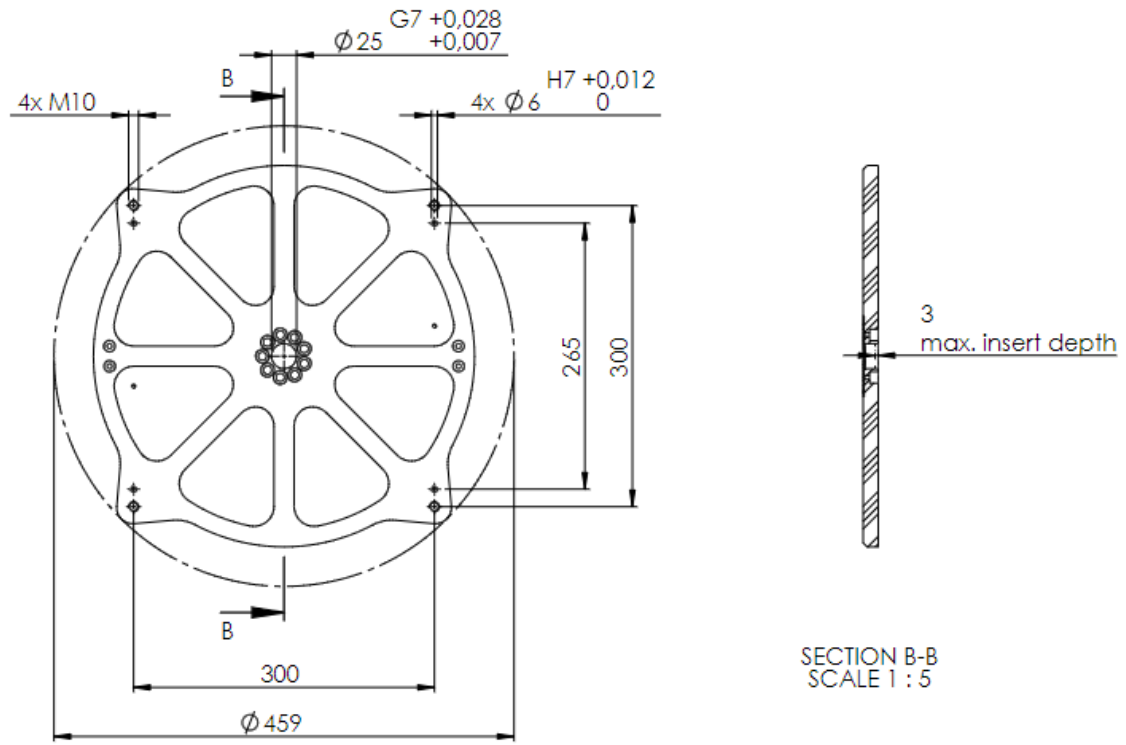
In general, speed is rather less suitable as a basis of decision-making in robot selection, as it only shows the actual performance of a robot to a limited extent. Depending on the range of motion and the motion profile of the application, high accelerations, for example, can have a significantly greater influence on cycle time and economic efficiency than speed. It is therefore recommended to analyze the application with the corresponding framework conditions by using [horstFX Simulation](https://horstcosmos.com/horstfx/options)<sup>1</sup> or via a feasibility analysis, for example.

<sup>1</sup> <https://horstcosmos.com/horstfx/options>

### 3 Technical Data Control

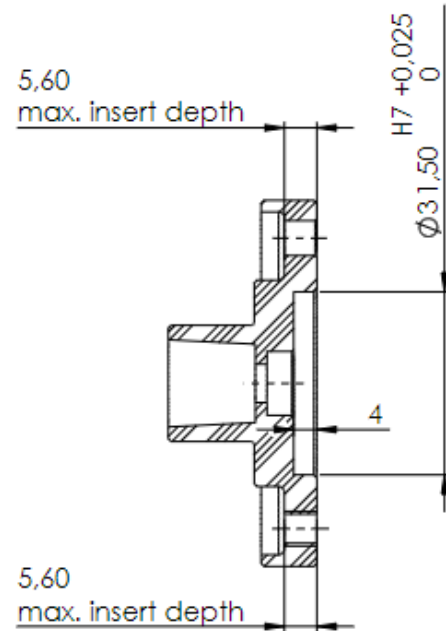
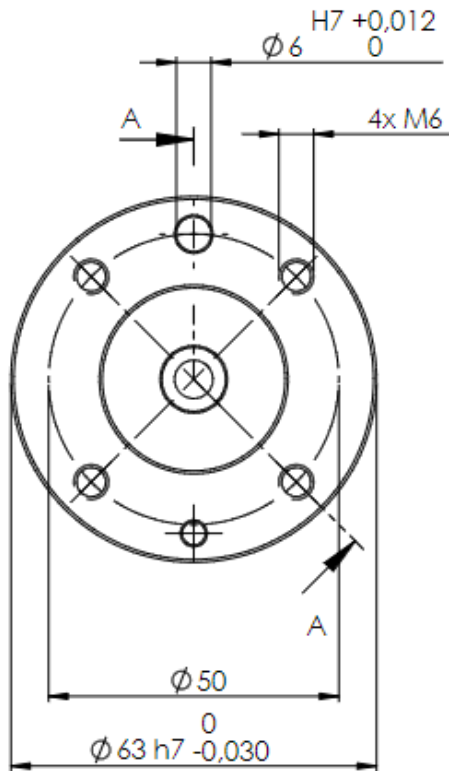
<b>Dimensions (H x W x D)</b>	313 mm x 174 mm x 446 mm
<b>Weight</b>	ca. 10 kg
<b>Protection classification</b>	IP20
<b>I/O connections on switch cabinet</b>	20 digital inputs (expandable to 28) 18 digital outputs (expandable to 30)
<b>I/O connections on tool flange</b>	2 digital inputs and outputs each M8 male, 4-pin, angled, A-coded
<b>I/O power supply</b>	24 V / 7 A at control 24 V / 2.5 A at tool flange
<b>Communication</b>	TCP/IP 100-Mbit/s Ethernet (Sockets), Primary interface (XML-RPC)  (The primary interface (XML-RPC) is activated via the "Advanced Interfaces" software option)
<b>Fieldbuses</b>	Modbus/TCP, Profinet  (Activation of the interfaces via horstFX extension "horstFX External")
<b>Safety-relevant Interfaces (2 channels each)</b>	Emergency stop [input and output] Safety stop [input and output] In accordance with DIN EN ISO 10218-1; PL d.  + 4 config. safe inputs (also configurable as 8 digital inputs) + 6 config. safe outputs (including 2 potential-free contacts)
<b>USB ports</b>	2x USB port 3.0
<b>Wiring of HORST</b>	3 m cable between robot and switch cabinet
<b>Wiring of operating panel</b>	5 m cable between operating panel and switch cabinet

## 4 HORST1500 Base drilling pattern



Dimensions of the installation area and base drilling pattern of HORST1500

## 5 HORST1500 Robot flange

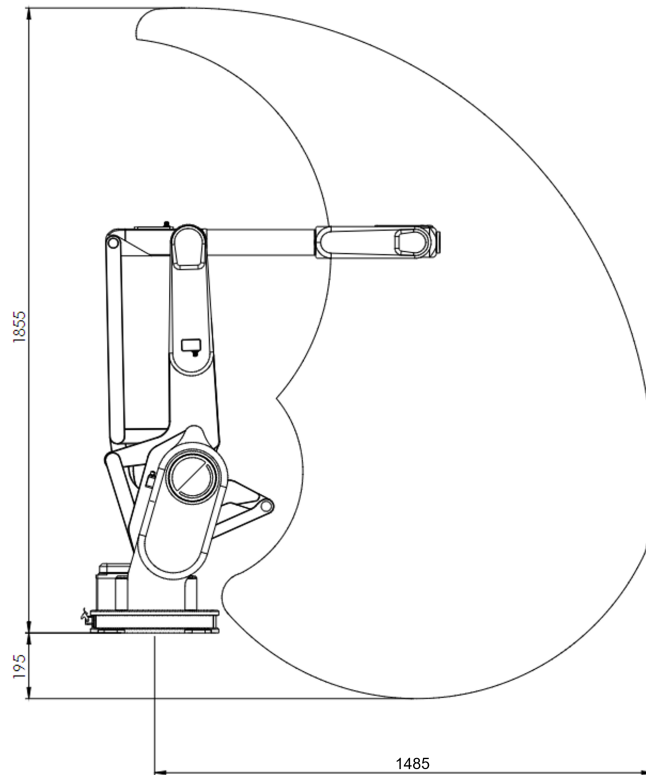


SECTION A-A  
SCALE 1 : 1

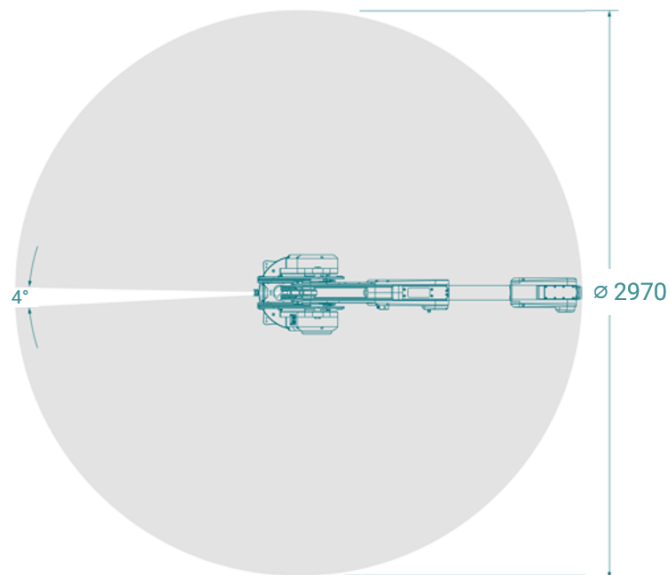
ROBOT FLANGE according to ISO 9409-1-50-4-M6  
SCALE 1:1

Robot flange of HORST1500

## 6 HORST1500 Workspace



Lateral section of the HORST1500 workspace

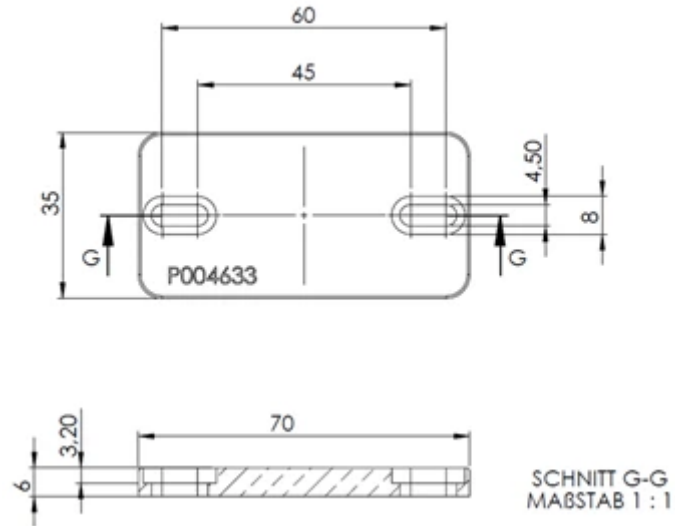


Top view of working area of HORST1500

## 7 Fastening attachments and external energy chains

Accessory flange plates can be used for attachments that are to be mounted on the robot arm (e.g. pneumatic valves). Bolt-on points with hole spacings of 45 mm, 50 mm and 60 mm are available on the robot. The flange plate is designed with slotted holes and can therefore be used universally. The flange plates are optional accessories and are not included as standard in the scope of delivery of a robot system.

Dimensioning of the accessory flange plate:



Positions of the holes for attachments on HORST1500:

