



# UR20

## Technical Specification

The UR20, the first of our next-generation high performance cobots, has been redesigned from the ground up to provide up to 30% more speed and torque, advanced motion control capabilities, and first-class user experience.

Today, more than 90,000 UR collaborative industrial robots have been delivered to customers across industries and around the world. The newest series of heavy payload cobots brings unparalleled performance, adaptability and an unparalleled user experience.

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### UR20

#### General specification

Payload	20 kg (44.1 lbs) 25 kg (55.1 lbs) with boundary conditions according to manual
Reach	1750 mm (68.9 in)
Degrees of freedom	6 rotating joints
Programming	12 inch touchscreen with PolyScope graphical user interface
<b>Power consumption (average)</b>	
Maximum power	750 W
Moderate operating settings	300 W
Operating temperature range	Ambient temperature: 0-50°C (32-122°F)
Safety functions	17 configurable safety functions
In compliance with	EN ISO 13849-1 (PLd Category 3) and EN ISO 10218-1
Joint architecture	2-1-3

### UR20 arm

#### Performance

Force sensing, tool flange/torque sensor	Force, x-y-z	Torque, x-y-z
Range	± 200,0 N	± 20,0 Nm
Precision	± 5,5 N	± 0,2 Nm
Accuracy	± 10,0 N	± 1,0 Nm

#### Movement

Typical TCP speed	2 m/s	
Pose repeatability per ISO 9283	± 0,1 mm	
<b>Axis movement</b>	<b>Working range</b>	<b>Maximum speed</b>
Base	± 360°	± 120°/s
Shoulder	± 360°	± 120°/s
Elbow	± 360°	± 150°/s
Wrist 1	± 360°	± 210°/s
Wrist 2	± 360°	± 210°/s
Wrist 3	± 360°	± 210°/s

#### Features

IP rating	IP65	
Cleanroom classification ISO 14644-1	Class 4 at ≤ 80%*	
*Velocity and payload		
Noise	< 65 dB(A)	
Arm mounting direction	Any orientation	
<b>I/O Ports</b>		
Digital In	2	
Digital Out	2	
Analog In	2	
Tool I/O power supply voltage	12/24 V	
Tool I/O power supply	2 A (Dual pin), 1 A (Single pin)	

#### Physical

Footprint	Ø 245 mm
Materials	Aluminum, plastic, steel
Tool flange	EN ISO-9409-1-80-6-M8
Connector type	M8 8-pin female
Cable length (robot arm)	6 m (236 in/19.68 ft)
Weight including cable	64 kg (141,1 lbs)
Humidity	≤ 90% RH (non-condensing)

### Contact

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### 3-Position Enabling Teach Pendant

#### Features

IP classification	IP54
Humidity	≤ 90% RH (non-condensing)
Display resolution	1280 x 800 pixels

#### Physical

Materials	Plastic
Teach pendant size (W x H x D)	300 mm x 231 mm x 50 mm (11,8 in x 9,1 in x 1,97 in)
Weight	1,8 kg (3.961 lbs) including 1 m of teach pendant cable
Cable length	4,5 m (177,17 in/14,77 ft)

### Control Box

#### Features

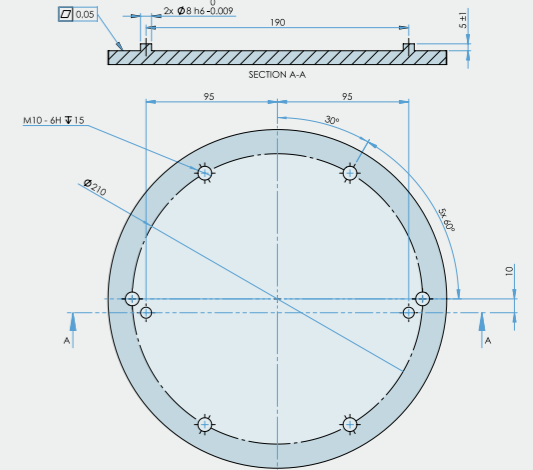
IP classification	IP44
Humidity	≤ 90% RH (non-condensing)
<b>I/O Ports</b>	
Digital In	16
Digital Out	16
Analog In	2
Analog Out	2
Quadrature digital inputs	4
I/O Power Supply	24V, 2A
Industrial protocols	Modbus TCP (Client/Server) Ethernet/IP Adapter PROFINET device/PROFIsafe ROS/ROS2
Hardware interfaces	Ethernet 1 Gb/s USB 2.0 USB 3.0 Mini DisplayPort Injection Moulding Machine Interface (SPI AN-146 & Euromap-67)
Power Source	115/230 VAC, 60/50 Hz

#### Physical

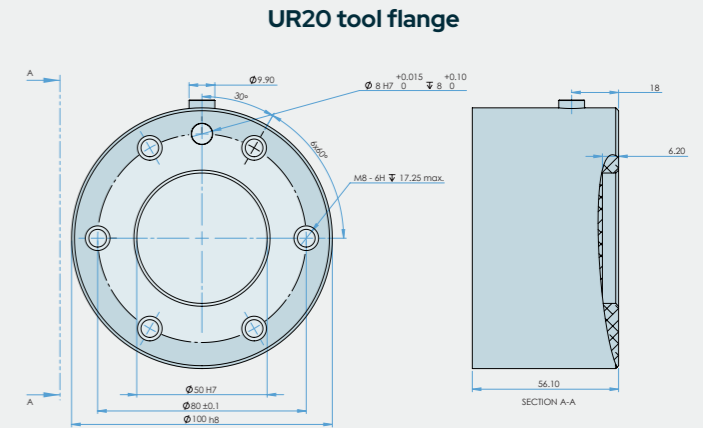
Control Box Size (W x H x D)	460 mm x 449 mm x 254 mm (18,2 in x 17,6 in x 10 in)
Weight	12 kg (26,5 lbs)
Materials	Powder coated steel

The control box is also available in an OEM version

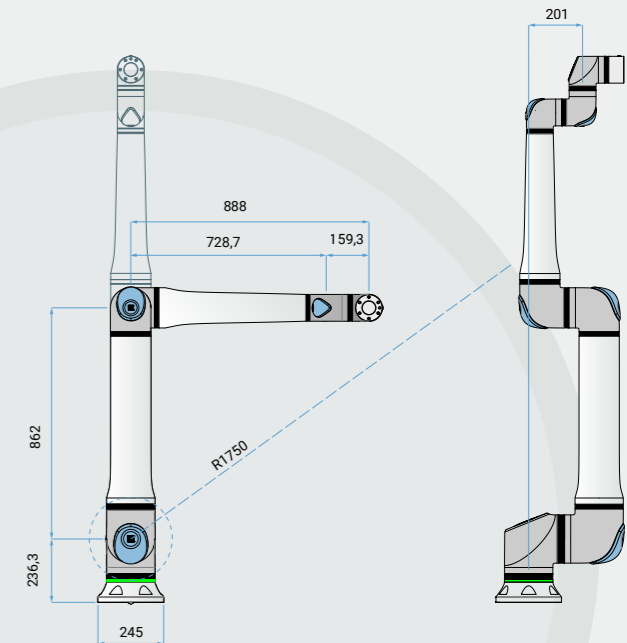
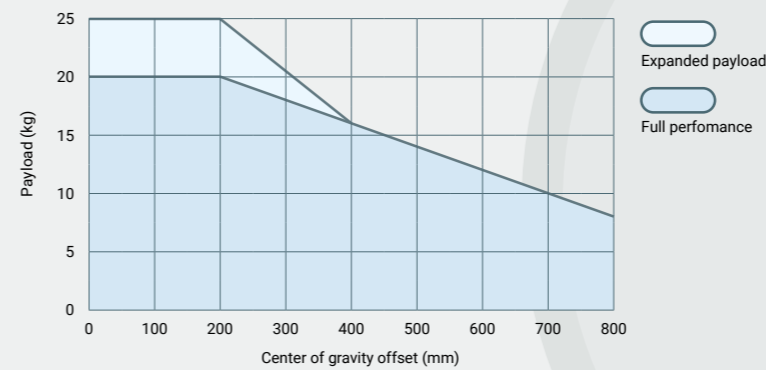
#### Mounting hole pattern with pins for robot base



#### Recommended hole pattern for robot base



UR20 payload curve



UNLESS OTHERWISE SPECIFIED:  
Dimensions are in millimeters. Tolerance ± 0,1 mm ± 0,5°