

# 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.

UR cobots bring incredible versatility and unparalleled ease of use to your applications. The UR20 is no exception - its 20 kg payload and 1750 mm reach make it an ideal match for applications ranging from palletizing to machine loading.

## Contact

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1<sup>st</sup> Edition Published May 2022

\* Preliminary Specification.  
 Subject to change.

## UR20\*

### Specification

Payload	20 kg (44.1 lbs) at full CoG offset and in the entire workspace	
Reach	1750 mm (68.9 in)	
Degrees of Freedom	6 rotating joints	
Programming	12 inch touchscreen with PolyScope graphical user interface	
Power, Consumption, Maximum Average	1500 W	
Power, Consumption, Typical with Moderate Settings (approximate)	500 W	
Safety	17 configurable safety functions	
Certifications	EN ISO 13849-1, PLd Category 3, and EN ISO 10218-1, UL1740	

### Performance

Force Sensing, Tool Flange	Force, x-y-z	Torque, x-y-z
Reach	200 N	20.0 Nm
Precision	5.5 N	0.2 Nm
Accuracy	10 N	1 Nm

### Movement

Pose Repeatability per ISO 9283	± 0.05 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
Typical TCP speed	2 m/s	

### Features

IP Classification	IP54	
ISO 14644-1 Class Cleanroom	5	
Noise	Less than 65 dB(A)	
Robot Mounting	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 6 x M10 60° 105 mm center	
Materials	Aluminum, Plastic, Steel	
Tool Flange	EN ISO-9409-1-80-6-M8	
Connector Type	M8   M8 8-pin	
Cable Length (Robot Arm)	6 m (236 in)	
Weight Including Cable	64 kg (141.1 lbs)	
Operating Temperature Range	0-50°C (32-122°F)	
Humidity	90%RH (non-condensing)	

## Control Box

### Features

IP Classification	IP44	
ISO 14644-1 Class Cleanroom	6	
Operating Temperature Range	0-50°C	
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	
<b>Communication</b>	500 Hz Control frequency	
	Modbus TCP	
	PROFINET	
	Ethernet/IP	
	USB 2.0, USB 3.0	
Power Source	100-240VAC, 47-440Hz	

### 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*

## 3-Position Enabling Teach Pendant

### Features

IP Classification	IP54	
Included in Certifications	EN ISO 10218-1:2011 EN ISO 13849-1:2015	
Humidity	90% RH (non-condensing)	
Display Resolution	1280x800 pixels	

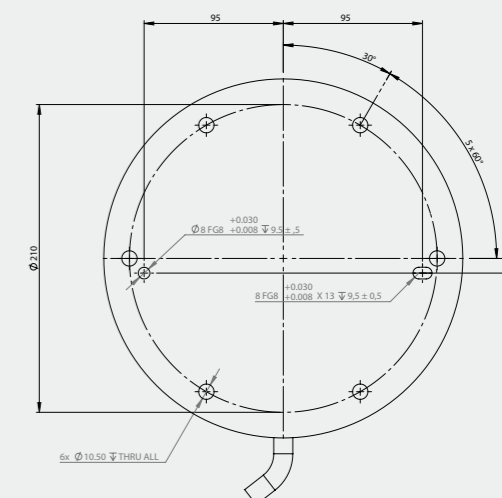
### Physical

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)	
Cable Length	including 1 m of teach pendant cable 4.5 m (177.17 in)	

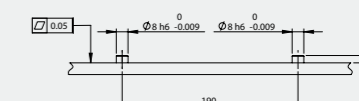


### Recommended hole pattern for Robot Base

Bottom View of Robot Base



Mounting Plate with Pins for Robot Base



UNLESS OTHERWISE SPECIFIED: Dimensions are in millimeters.  
 Tolerance ± 0.1mm ± 0.5°