



# 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.

4<sup>th</sup> Edition published September 2023.

### UR20

#### General specification

Payload	20 kg (44,1 lbs) 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	
<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	

### 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	0,1 Nm

#### Movement

Typical TPC 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 classification	IP65
Noise	< 65 dB(A)
Arm 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 female
Cable length (robot arm)	6 m (236 in)
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)

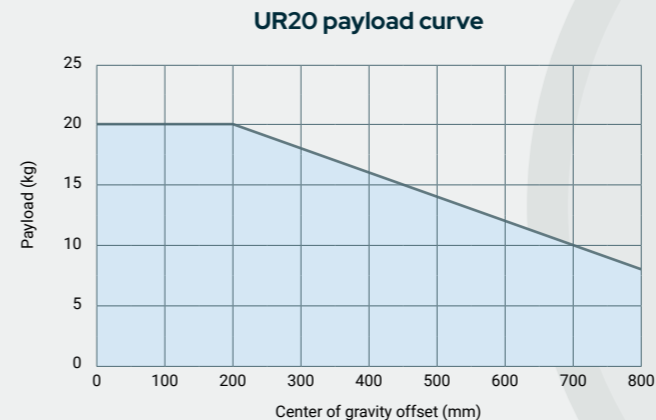
### Control Box

#### Features

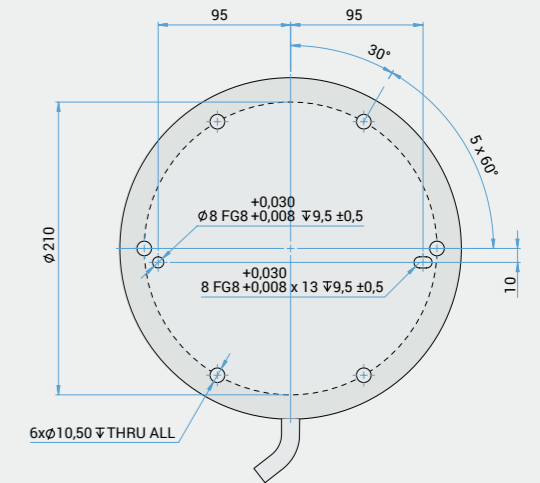
IP Classification	IP44
Humidity	≤ 90% RH (non-condensing)
<b>I/O Ports</b>	
Digital In	16
Digital Out	16
Analog In	2
Analog Out	2
Quadrature digital inputs	4
I/O Power Supply	24V, 2A
Communication	500 Hz Control frequency Modbus TCP PROFINET, PROFIsafe (optional) Ethernet/IP USB 2.0, USB 3.0 ROS/ROS2 driver support (optional, open source) Injection Molding Machine Interface (IMMI, optional)
Power Source	100-240 VAC, 47-440 Hz

#### Physical

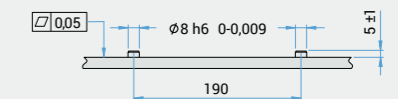
Control Box Size (W x H x D)	460 mm x 449 mm x 254 mm (18,2 in x 17,6 in x 10 in)
Weight	12 kg (26,5 lbs)
Materials	Powder coated steel



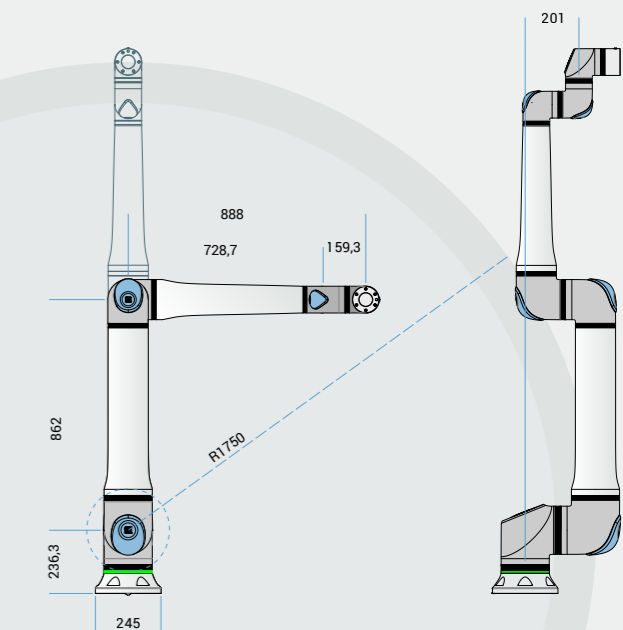
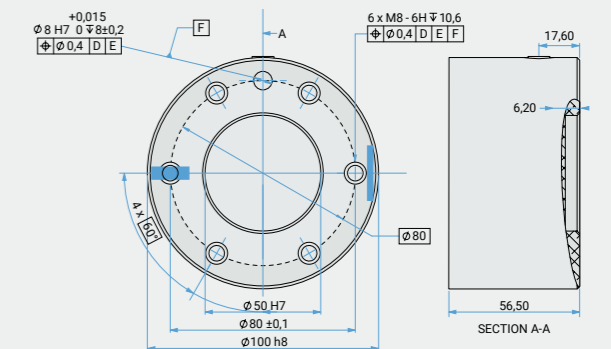
#### Recommended hole pattern for robot base



Mounting plate with pins for robot base



#### UR20 tool flange



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