UNIVERSAL ROBOTS

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.

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* 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
Range	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	
Axis Movement	**Working range**	**Maximum speed**
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
I/O Ports	
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 Lenght (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)
I/O Ports	
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
	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

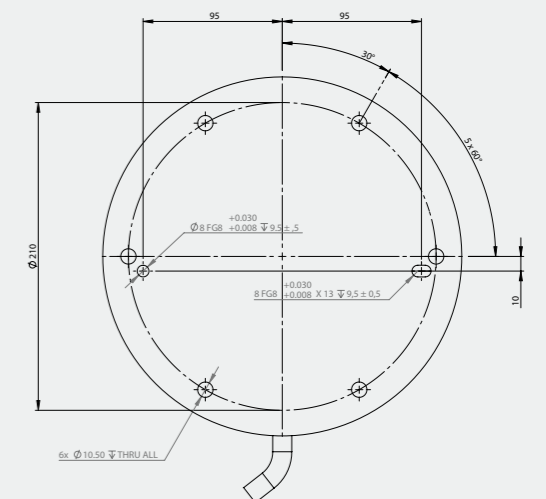|	
IP Classification	IP54
Included in Cerfitications	EN ISO 10218-1:2011 EN ISO 13849-1:2015
Humidity	90% RH (non-condensing)
Display Resolution	1280x800 pixels

Physical

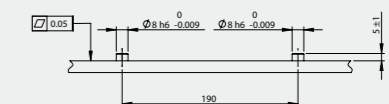|	
Materials	Plastic
Teach Pendant Size (W x H x D)	300 mm x 231 mm x 50 mm (11.8 in x 9.1 in x 1.97 in)
Weight	1.8 kg (3.961 lbs)
	including 1 m of teach pendant cable
Cable Length	4.5 m (177.17 in)

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°