



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.

2nd Edition Published January 2023.
Preliminary Specification. Subject to change.

UR20 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 |
| Power consumption (average) | |
| Maximum power | 750 W |
| Moderate operating settings | 500 W |
| Safety functions | 17 configurable safety functions |
| Certifications | EN ISO 13849-1, PLd Category 3, and EN ISO 10218-1 |

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 |

Features

| | |
|-------------------------------|----------------------------------|
| IP classification | IP54 |
| ISO 14644-1 class cleanroom | 5 |
| Noise | < 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 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) |

Contact

Universal Robots A/S
Energivej 25
5260 Odense
Denmark

+45 89 93 89 89
sales@universal-robots.com
universal-robots.com

3-Position Enabling Teach Pendant

Features

| | |
|----------------------------|----------------------------------|
| IP classification | IP54 |
| Included in certifications | EN ISO 10218-1 EN ISO 13849-1 |
| 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 |
| ISO 14644-1 class cleanroom | 6 |
| Operating temperature range* | 0-50°C (32-122°F) |
| 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 | Modbus TCP PROFINET Ethernet/IP USB 2.0, USB 3.0 |

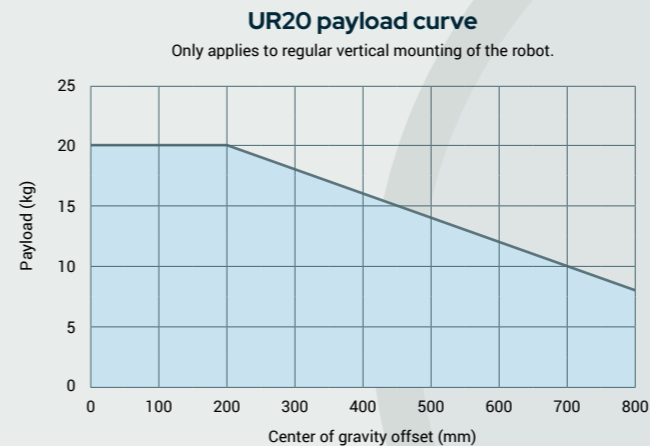
Power Source 100-240 VAC, 47-440 Hz

*Speeds might be derated at temperatures above 35°C depended on program tact time.

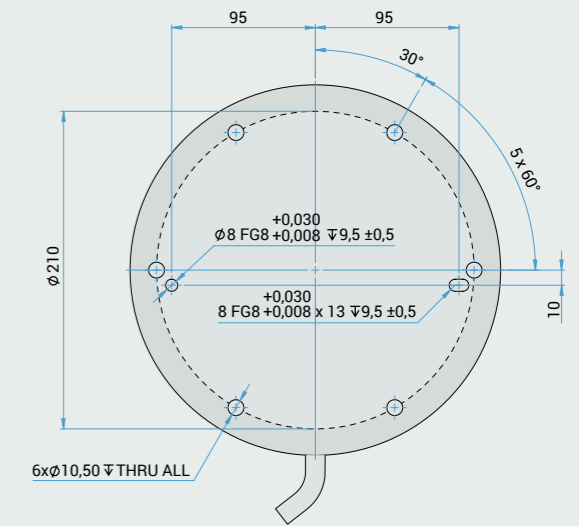
Physical

| | |
|------------------------------|---|
| 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 |

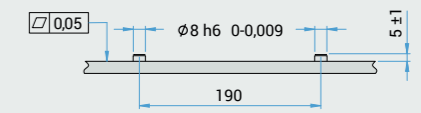
The control box is also available in an OEM version



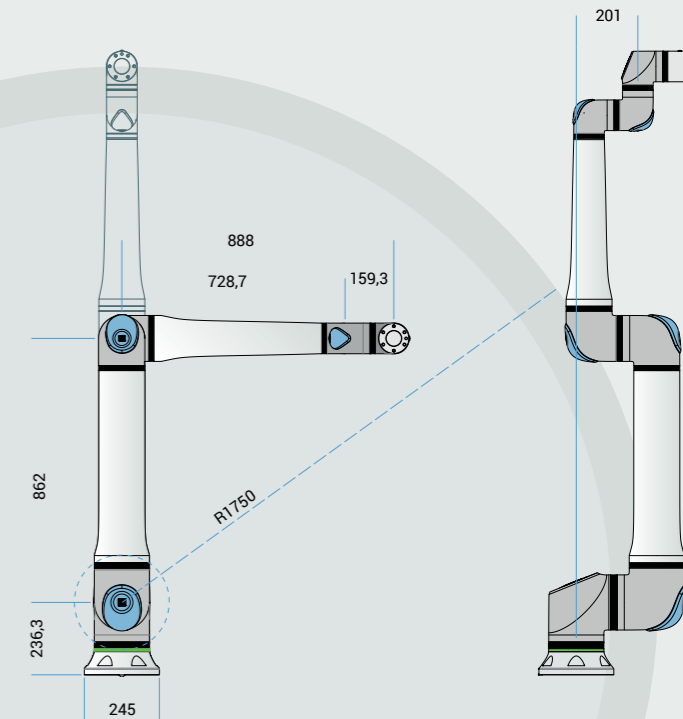
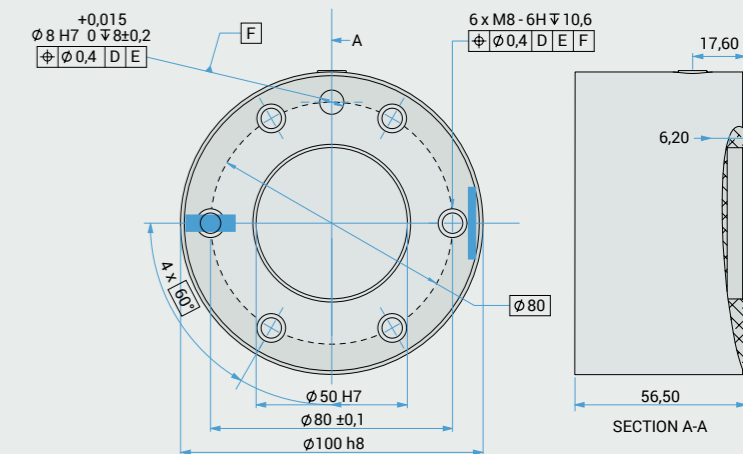
Recommended hole pattern for robot base



Mounting plate with pins for robot base



UR20 tool flange



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