

General catalogue

# Automate your tasks and increase efficiency with collaborative robots



# Automation for anyone. **Anywhere.**

Whether you are part of a small, family-owned business thinking about automation for the first time or a multinational company looking to improve automation processes in your facility, collaborative automation could be the answer for you.

## 1 Future-proof your business

Everyone has dealt with unknowns in the past few years, and versatility is more important now than ever. Universal Robots' collaborative robots (cobots) allow you to switch between applications or adapt to fluctuating order demand whenever you need.

## 2 Protect and upskill your workers

Automation is the solution to growing labor shortages. Cobots can fill the gaps in your company's workforce and work with your employees to perform dull, dirty, and dangerous tasks, ultimately contributing to greater job satisfaction and employee retention.

## 3 Become more sustainable

UR cobots require significantly less power than traditional robots and use as little energy as household appliances. Cobots also contribute to greater process precision and consistency, ultimately leading to less production waste.

**“ The cobots from Universal Robots are extremely compact, versatile, and, above all, easy to operate.**

Global Lead Manufacturing Electronics, Siemens Gerätewerk Erlangen



## What is a cobot?

Cobots are lightweight, collaborative robotic arms designed to work alongside people to perform tasks that may be too dangerous, strenuous, or tedious for them to accomplish on their own.

Cobots handle a wide range of applications including welding, palletizing and packaging, machine tending, pick and place, assembly, quality inspection, injection molding, glueing and dispensing, screwdriving and lab analysis.



# Discover our robot family

## Heavy payload

Our heavy-duty cobots are design to handle large, heavy workpieces and objects for both long and short reach, matching your task and available space.



### UR20

Built for heavier payloads, faster speeds, and superior motion control.

**Payload:** 20 kg / 44.1 lbs  
**Reach:** 1750 mm / 68.9 in



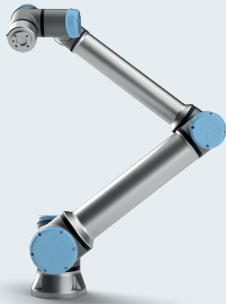
### UR30

Cobot with extraordinary lift in a compact footprint with superior motion control.

**Payload:** 30 kg / 66.1 lbs  
**Reach:** 1300 mm / 51.2 in

## Medium payload

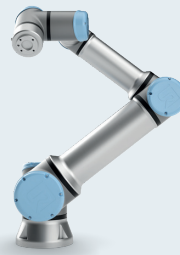
Our medium-duty cobot is incredibly versatile and best for a wide range of applications.



### UR10e

Flexible cobot designed for seamless integration into a wide range of applications.

**Payload:** 12.5 kg / 27.5 lbs  
**Reach:** 1300 mm / 51.2 in



### UR16e

Designed for bigger tasks where precision and reliability are most important.

**Payload:** 16 kg / 35.3 lbs  
**Reach:** 900 mm / 35.4 in

## Light payload

Our light-duty cobots take up minimal space in your production and are made to help with precise, meticulous tasks.



### UR3e

Compact cobot perfect for tight workspaces, such as bench-tops or within production machinery.

**Payload:** 3 kg / 6.6 lbs  
**Reach:** 500 mm / 19.7 in



### UR5e

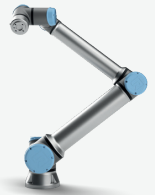
Lightweight, adaptable collaborative industrial robot that tackles applications with ultimate flexibility.

**Payload:** 5 kg / 11 lbs  
**Reach:** 850 mm / 33.5 in

# Robot arm Technical specification

**UR3e**

**UR5e**

**UR10e**


## Specification

Payload	3 kg (6.6 lbs)	5 kg (11 lbs)	12.5 kg (27.5 lbs)
Reach	500 mm (19.7 in)	850 mm (33.5 in)	1300 mm (51.2 in)
Degrees of freedom	< 6 rotating joints >		
Programming	< 12 inch touchscreen with PolyScope graphical user interface >		

## Performance

<b>Power consumption</b>							
Maximum power	300 W		570 W		615 W		
Moderate operating settings	100 W		200 W		350 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) EN ISO 10218-1 >						
<b>Force sensing, tool flange/torque sensor</b>							
	<b>Force, x-y-z</b>	<b>Torque, x-y-z</b>	<b>Force, x-y-z</b>	<b>Torque, x-y-z</b>	<b>Force, x-y-z</b>	<b>Torque, x-y-z</b>	<b>Torque, x-y-z</b>
Range	30.0 N	10.0 Nm	50.0 N	10.0 Nm	100.0 N	10.0 Nm	10.0 Nm
Precision	2.0 N	0.1 Nm	3.5 N	0.2 Nm	5.0 N	0.2 Nm	0.2 Nm
Accuracy	3.5 N	0.1 Nm	4.0 N	0.3 Nm	5.5 N	0.5 Nm	0.5 Nm

## Movement

Typical TCP speed	1 m/s	1 m/s	1 m/s			
Pose repeatability per ISO 9283	± 0.03 mm	± 0.03 mm	± 0.05 mm			
<b>Axis Movement</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>
Base	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 120°/s
Shoulder	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 120°/s
Elbow	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s
Wrist 1	± 360°	± 360°/s	± 360°	± 180°/s	± 360°	± 180°/s
Wrist 2	± 360°	± 360°/s	± 360°	± 180°/s	± 360°	± 180°/s
Wrist 3	Infinite	± 360°/s	± 360°	± 180°/s	± 360°	± 180°/s

## Features

IP classification	IP54 water protection	IP54 water protection	IP54 water protection				
	Cleanroom classification ISO 14644-1 classification of air cleanliness by particle concentration	Class 6 at 20 at max. speed and payload, Class 7 at 40% and 80% at max. speed and payload	Cleanroom classification ISO 14644-1 classification of air cleanliness by particle concentration	Class 4 at 20 at max. speed and payload, Class 5 at 40 and 80% at max. speed and payload	Cleanroom classification ISO 14644-1 classification of air cleanliness by particle concentration	Class 5 at 20 and 40 % at max. speed and payload, Class 6 at 80% at max. speed and payload	
Noise	< 60 dB(A)		< 65 dB(A)	< 65 dB(A)			
Arm mounting	Any orientation		Any orientation	Any orientation			
<b>I/O Ports</b>							
Digital in	2		2	2			
Digital out	2		2	2			
Analog in	2		2	2			
Tool I/O power supply voltage	12/24 V		12/24 V	12/24 V			
Tool I/O power supply	600 mA		1.5 A (Dual pin) 1 A (Single pin)	2 A (Dual pin) 1 A (Single pin)			

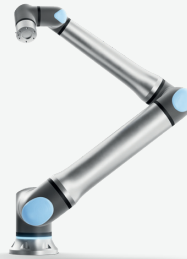
## Physical

Footprint	Ø 128 mm	Ø 149 mm	Ø 190 mm
Materials	< Aluminium, Plastic, Steel >		
Tool flange connector type	< M8   M8 8-pin (male), EN ISO-9409-1-50-4-M6 >		< M8   M8 8-pin (male), EN ISO 9409-1-50-4-M6 >
Cable length (robot arm)	< 6 m (236 in) >		
Weight including cable	11.2 kg (24.7 lbs)	20.6 kg (45.4 lbs)	33.5 kg (73.9 lbs)
Humidity	< ≤ 90% RH (non-condensing) >		

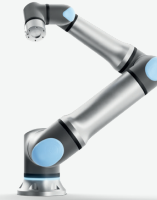
## UR16e



## UR20



## UR30



16 kg (35.3 lbs)

900 mm (35.4 in)

20 kg (44.1 lbs)

1750 mm (68.9 in)

30 kg (66.1 lbs)

1300 mm (51.2 in)

< 6 rotating joints >

< 12 inch touchscreen with PolyScope graphical user interface >

585 W  
350 W

750 W  
300 W

750 W  
300 W

< Ambient temperature: 0-50 °C (32-122 °F) >

< 17 configurable safety functions >

< EN ISO 13849-1 (PLd category 3) EN ISO 10218-1 >

**Force, x-y-z**

160.0 N

5.0 N

5.5 N

**Torque, x-y-z**

10.0 Nm

0.2 Nm

0.5 Nm

**Force, x-y-z**

200.0 N

5.5 N

10.0 N

**Torque, x-y-z**

20.0 Nm

0.1 Nm

1.0 Nm

**Force, x-y-z**

200.0 N

5.5 N

10.0 N

**Torque, x-y-z**

20.0 Nm

0.1 Nm

1.0 Nm

1 m/s

± 0.05 mm

2 m/s

± 0.1 mm

2 m/s

± 0.1 mm

**Working range**

± 360°

± 360°

± 360°

± 360°

± 360°

± 360°

**Maximum speed**

± 120°/s

± 120°/s

± 180°/s

± 180°/s

± 180°/s

± 180°/s

**Working range**

± 360°

± 360°

± 360°

± 360°

± 360°

± 360°

**Maximum speed**

± 120°/s

± 120°/s

± 150°/s

± 210°/s

± 210°/s

± 210°/s

**Working range**

± 360°

± 360°

± 360°

± 360°

± 360°

± 360°

**Maximum speed**

± 120°/s

± 120°/s

± 150°/s

± 210°/s

± 210°/s

± 210°/s

IP54 water protection

Cleanroom classification ISO 14644-1 classification of air cleanliness by particle concentration

< 65 dB(A)

Any orientation

2

2

2

12/24 V

2 A (Dual pin)

1 A (Single pin)

IP65 water protection

Class 5 at 20 and 40 % at max. speed and payload, Class 6 at 80% at max. speed and payload

< 65 dB(A)

Any orientation

2

2

2

12/24 V

2 A (Dual pin)

1 A (Single pin)

IP65 water protection

< 65 dB(A)

Any orientation

2

2

2

12/24 V

2 A (Dual pin)

1 A (Single pin)

Ø 190mm

Ø 245 mm

Ø 245 mm

< Aluminium, Plastic, Steel >

< M8 | M8 8-pin (male), EN ISO-9409-1-50-4-M6 >

M8 | M8 8-pin (female) EN ISO-9409-1-80-6-M8 >

M8 | M8 8-pin (female) EN ISO-9409-1-80-6-M8 >

< 6 m (236 in) >

33.1 kg (73 lbs)

64 kg (141.1 lbs)

63.5 kg (139.9 lbs)

< ≤ 90% RH (non-condensing) >

# Control box and teach pendant

## Technical specification



### Control box

### CB 5.2

### CB 5.5

### OEM 5.2

### OEM 5.5

### Features

Robot types	UR3e, UR5e, UR10e, UR16e	UR3e, UR5e, UR10e, UR16e, UR20, UR30	UR3e, UR5e, UR10e, UR16e	UR3e, UR5e, UR10e, UR16e, UR20, UR30
Software compatibility	PolyScope 5	PolyScope 5.12 and above PolyScope X	PolyScope 5	PolyScope 5.12 and above PolyScope X
IP classification	IP44 water protection	IP44 water protection	IP20 water protection	IP20 water protection
ISO 14644-1 class cleanroom	6	6	6	6
Operating temperature range	0-50 °C (32-122 °F)	0-50 °C (32-122 °F)	0-50 °C (32-122 °F)	0-50 °C (32-122 °F)
<b>I/O Ports</b>				
Digital In	16	16	16	16
Digital Out	16	16	16	16
Analog In	2	2	2	2
Analog Out	2	2	2	2
Quadrature Digital Inputs	4	4	4	4
I/O power supply	24V, 2A	24V, 2A	24V, 2A	24V, 2A
Communication	500 Hz Control frequency Modbus TCP USB 2.0, USB 3.0 Ethernet/IP USB 2.0, USB 3.0 PROFINET ROS/ROS 2 driver (optional, m open source) Euromap-67 (optional) SPI AN-146 (optional) Injection Moulding Machine Interface (IMMI, optional)	500 Hz Control frequency Modbus TCP USB 2.0, USB 3.0 Ethernet/IP USB 2.0, USB 3.0 PROFINET ROS/ROS 2 driver (optional, m open source) Euromap-67 (optional) SPI AN-146 (optional) Injection Moulding Machine Interface (IMMI, optional)	500 Hz Control frequency Modbus TCP USB 2.0, USB 3.0 Ethernet/IP USB 2.0, USB 3.0 PROFINET ROS/ROS 2 driver (optional, m open source) Euromap-67 (optional) SPI AN-146 (optional) Injection Moulding Machine Interface (IMMI, optional)	500 Hz Control frequency Modbus TCP USB 2.0, USB 3.0 Ethernet/IP USB 2.0, USB 3.0 PROFINET ROS/ROS 2 driver (optional, m open source) Euromap-67 (optional) SPI AN-146 (optional) Injection Moulding Machine Interface (IMMI, optional)
Power Source	100-240 VAC, 47-440 Hz	100-240 VAC, 47-440 Hz	AC model: 100-240 VAC, 47-440 Hz DC model: 24 - 48 VDC	AC model: 100-240 VAC, 47-440 Hz DC model: 24 - 48 VDC

### 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)	460 mm x 449 mm x 254 mm (18.2 in x 17.6 in x 10 in)	451 mm x 168 mm x 150 mm (17.6 in x 6.6 in x 5.9 in)	451 mm x 168 mm x 150 mm (17.6 in x 6.6 in x 5.9 in)
Weight	12 kg (26.5 lbs)	12 kg (26.5 lbs)	AC model: 4.7 kg (10.4 lbs) DC model: 4.3 kg (9.5 lbs)	AC model: 4.7 kg (10.4 lbs) DC model: 4.3 kg (9.5 lbs)
Power supply output	UR3e: 600 W UR5e, UR10e, UR16e: 1500 W	UR3e: 600 W UR5e, UR10e, UR16e, UR20, UR30: 1500 W	UR3e: 600 W UR5e, UR10e, UR16e: 1500 W	UR3e: 600 W UR5e, UR10e, UR16e, UR20, UR30: 1500 W
Materials	Powdered coated steel	Powdered coated steel	Aluminium	Aluminium
Humidity	≤ 90% RH (non-condensing)	≤ 90% RH (non-condensing)	≤ 90% RH (non-condensing)	≤ 90% RH (non-condensing)



## Teach pendant

### Standard

### 3PE

## Features

Robot types	e-Series (standard)	e-Series (optional), UR20 and UR30 (standard)
IP classification	IP54 water protection	IP54 water protection
Incl. in certifications	EN ISO 10218-1	EN ISO 10218-1
	EN ISO 13849-1	EN ISO 13849-1
Humidity	≤ 90% RH (non-condensing)	≤ 90% RH (non-condensing)
Display resolution	1280 x 800 pixels	1280 x 800 pixels
Freedrive	1 button	2 buttons to support for ambidextrous operation

## Physical

Materials	Plastic (PC/ASA)	Plastic (PC/ASA)
Teach pendant size	300 mm x 231 mm x 50 mm (11.8 in x 9.1 in x 1.97 in)	300 mm x 231 mm x 50 mm (11.8 in x 9.1 in x 1.97 in)
Weight (including 1 m TP cable)	1.6 kg (3.5 lbs)	1.8 kg (3.961 lbs)
Cable length (Teach pendant)	4.5 m (177.17 in)	4.5 m (177.17 in)

# PolyScope speeds up simple tasks and makes complex ones possible

An intuitive interface that connects operators to the cobot



## No need to code

Empowering operators to add, arrange, and edit tasks with graphical node programming.



## Built-in safety toolbox

PolyScope incorporates 17 different certified safety features to help you mitigate risks and automate safely.



## Map your robot's movements

Leverage PolyScope's manual Free Drive feature to quickly position your robot's waypoints, then finetune them through the positioning fields.



## Total solution integration

Use common industry standard connections like Modbus, PROFI-safe and Ethernet/IP. Unlock the flexibility of PolyScope through the URScript API.

# PolyScope X for machine tending

PolyScope X\* is purpose-built software providing shop operators with the ability to create, configure and adjust programs to handle ongoing changes and part variation during production. Automate shorter batches:

1. Run more batches in a single day, including during lunch or before you leave
2. Control multiple work cells instead of being constrained to one
3. Say yes to low run rate projects with a high mix of parts

“ I can now operate the saw and supply the rest of the shop with raw material while running the CNC Lathe. Before I was completely locked to the Lathe as most parts have 2-3 min. cycle times

– Machine Operator, LV Teknik



Find out more about PolyScope





# More than a cobot

Building your automation solution goes beyond selecting the right cobot. Within the Universal Robots' ecosystem of over 1000 trusted partners, which includes OEMs, Certified System Integrators (CSIs), end-effector manufacturers, and local distributors, you can find the products and services needed to create your complete automation solution.

Following a preliminary assessment of your project's specific needs and timeline, as well as your in-house resources, and robotics knowledge, UR will connect you with the partner(s) that are best suited to meet your needs, ensuring you get the best outcome from your solution.

## A solution for you

Our goal is for you to have a successful cobot deployment to reach your goals, protect your workers, and future-proof your business. Discover the ideal pathway to your project deployment and get ready for efficiency on a whole new scale.

Challenge

You have limited in-house resources and cobot knowledge and you are looking for a low-risk deployment with predictable costs, and on-site installation.



Solution

### Turnkey solution

Choose your solution from one of our partners, lean back, and watch your solution being integrated.



Next step

### Get your project going today

Talk to a UR expert who can answer all your questions



You know exactly what you need and you have the technical skills to install the solution, but you are unsure where to get the components to build it.



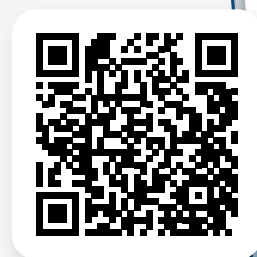
### UR+ showroom

Handpick each component or a bundled Application Kit from the more than 400 products in the UR+ showroom to design the exact solution you need.



### Discover the UR+ showroom

Learn more about the available products



# Strengthen your cobot knowledge with UR Academy

UR Academy provides a learning path for robot users of all levels. Explore interactive training, in-person or online, where you'll learn to deploy, program and set up your cobot for optimal performance.



## Free e-Learning

Kick-start your learning journey with this online training course, consisting of multiple interactive modules that will help you program your first robot.



## In-person training

Instructor-led classroom training sessions are available at one of our 100+ Authorized Training Centers worldwide.



## Online training

Remote cobot control and simulator-based trainings provide users with a unique opportunity to learn from the comfort of your home or office.

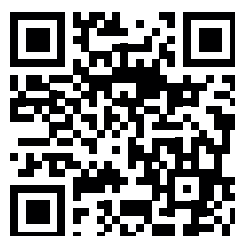


## Education program

Educators receive the tools they need to provide students with hands-on experience in designing, implementing and maintaining automation solutions, without leaving the classroom.

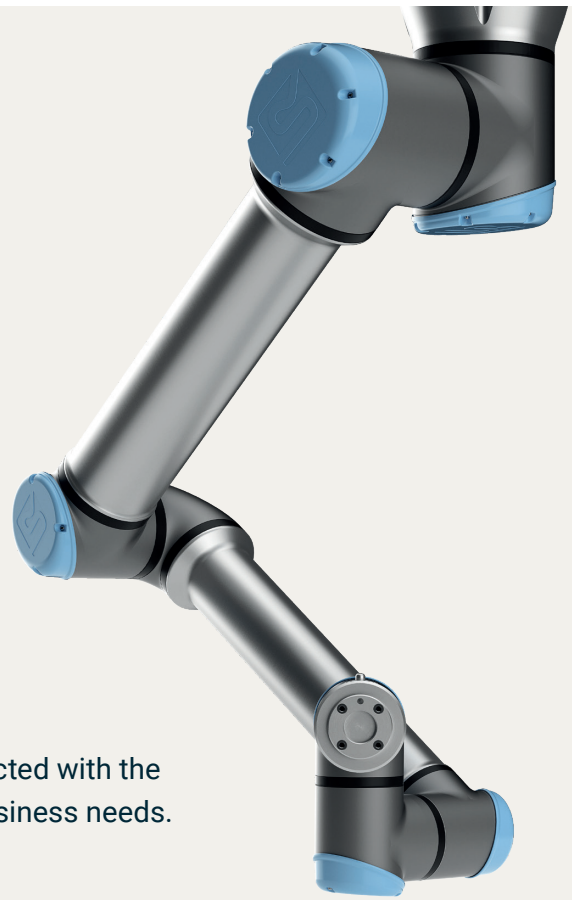


**Start learning today**  
and explore UR Academy's offerings here



# Supporting you every step of the way

From idea to implementation, UR provides service and support through each step of the robot journey.



1

## Getting started

Receive a preliminary assessment and get connected with the trusted partner(s) who can help you meet your business needs.

2

## Personalized support from a Customer Success Manager\*

Customer Success Managers work directly with you and your team from day one to ensure you have the tools and resources you need for a smooth deployment and continued optimization of your cobot.

3

## UR Academy training

From free e-Learning modules to hands-on training, certified trainers can provide you with the skills to deploy, program, and set up your cobot for top performance.

4

## Technical support with myUR

Register your cobot to access our customer portal: myUR. Download the latest software, submit a support ticket for virtual or on-site support, and review cobot data all in one place.

5

## Service offerings

Our core service offering – UR CARE – and add-on options, UR INSIGHT and UR PERFORMANCE, help your business perform at its best with service tailored to your needs.



Read about our  
Service Offerings  
and find the option  
that fits your needs



\* Limited geographic availability

# About Universal Robots

Universal Robots is a leading provider of collaborative robots (cobots) used across a wide range of industries and in education. Founded in 2005 and headquartered in Odense, Denmark, Universal Robots aims to create a world where people work with robots, not like robots. Its mission is simple: Automation for anyone. Anywhere.

Since introducing the world's first commercially viable cobot in 2008, Universal Robots has developed a product portfolio reflecting a range of reaches and payloads and has sold over 75,000 cobots worldwide. An extensive ecosystem has grown around the company's cobot technology creating innovation, choice for customers and a wide range of components, kits and solutions to suit every application.



- UR Corporate Headquarter
- UR Global Offices



## Contact us

Universal Robots A/S  
 Energivej 25  
 DK-5260 Odense S  
 Denmark  
 +45 89 93 89 89  
[sales@universal-robots.com](mailto:sales@universal-robots.com)

