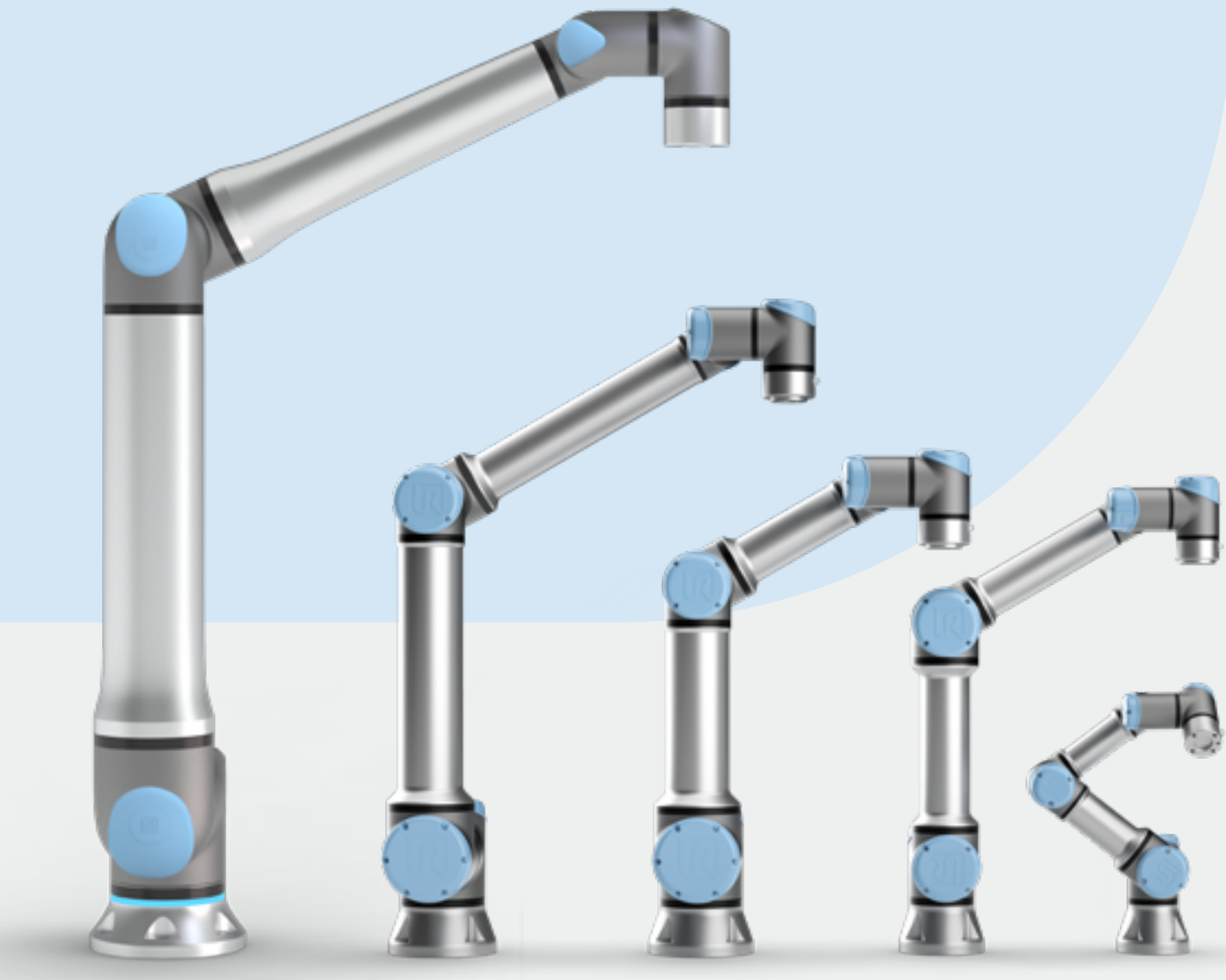
UNIVERSAL ROBOTS

General catalogue

Automate your tasks and increase efficiency with collaborative robots



UNIVERSAL 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.

UR16e

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

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

UR20

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

Payload: 20 kg / 44.1 lbs
Reach: 1750 mm / 68.9 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 / 22.55 lbs
Reach: 1300 mm / 51.2 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

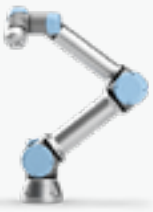
UR5e

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

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

Robot arm

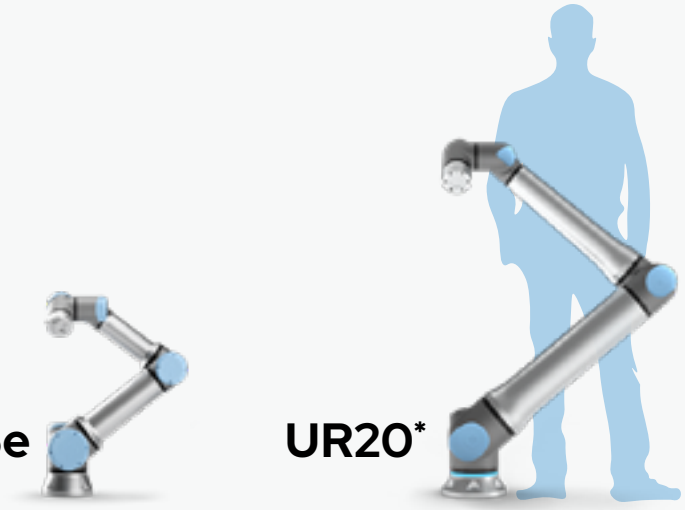
Technical specification



	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			
Power consumption			
Maximum power	300 W	570 W	615 W
Moderate operating settings	100 W	200 W	350 W
Safety functions	< 17 configurable safety functions >		
Certifications	< EN ISO 13849-1, PLd category 3, EN ISO 10218-1 >		

Force sensing, tool flange	**Force, x-y-z**	**Torque, x-y-z**	**Force, x-y-z**	**Torque, x-y-z**	**Force, x-y-z**	**Torque, x-y-z**
Range	30.0 N	10.0 Nm	50.0 N	10.0 Nm	100.0 N	10.0 Nm
Precision	2.0 N	0.1 Nm	3.5 N	0.2 Nm	5.0 N	0.2 Nm
Accuracy	3.5 N	0.1 Nm	4.0 N	0.3 Nm	5.5 N	0.5 Nm

Movement						
Pose repeatability per ISO 9283	± 0.03 mm		± 0.03 mm		± 0.05 mm	
Axis Movement	**Working range**	**Maximum speed**	**Working range**	**Maximum speed**	**Working range**	**Maximum speed**
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		IP54		IP54	
ISO 14644-1 class cleanroom	5		5		5	
Noise	< 60 dB(A)		< 65 dB(A)		< 65 dB(A)	
Robot mounting	Any Orientation		Any Orientation		Any Orientation	
I/O Ports						
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	
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)	
Operating temperature range	< 0-50 °C (32-122 °F) >					
Humidity	< ≤ 90% RH (non-condensing) >					



UR16e	UR20*
16 kg (35.3 lbs)	20 kg (44.1 lbs)
900 mm (35.4 in)	1750 mm (68.9 in)
< 6 rotating joints >	
< 12 inch touchscreen with PolyScope graphical user interface >	
585 W	750 W
350 W	500 W
< 17 configurable safety functions >	
< EN ISO 13849-1, PLd category 3, EN ISO 10218-1 >	

Force, x-y-z	**Torque, x-y-z**	**Force, x-y-z**	**Torque, x-y-z**
160.0 N	10.0 Nm	200.0 N	20.0 Nm
5.0 N	0.2 Nm	5.5 N	0.2 Nm
5.5 N	0.5 Nm	10.0 N	1.0 Nm
± 0.05 mm		± 0.05 mm	

Working range	**Maximum speed**	**Working range**	**Maximum speed**
± 360°	± 120°/s	± 360°	± 120°/s
± 360°	± 120°/s	± 360°	± 120°/s
± 360°	± 180°/s	± 360°	± 150°/s
± 360°	± 180°/s	± 360°	± 210°/s
± 360°	± 180°/s	± 360°	± 210°/s
± 360°	± 180°/s	± 360°	± 210°/s

IP54	IP65
5	5
< 65 dB(A)	< 65 dB(A)
Any Orientation	Any Orientation
2	2
2	2
2	2
12/24 V	12/24 V
2 A (Dual pin) 1 A (Single pin)	2 A (Dual pin) 1 A (Single pin)
Ø 190mm	Ø 245 mm
< Aluminium, Plastic, Steel >	
ISO-9409-1-50-4-M6 >	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)
< 0-50 °C (32-122 °F) >	
< ≤ 90% RH (non-condensing) >	

UR's e-series cobots are certified by TÜV NORD for ISO10218-1 and safety functions are rated as Cat.3 PL d according to ISO 13849-1. It is, however, crucial to perform a risk assessment to ensure all required safety measures are in place.

Find out more about our cobots and its use cases

3rd Edition published June 2023.
*Preliminary specification. Subject to change.

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	UR3e, UR5e, UR10e, UR16e	UR3e, UR5e, UR10e, UR16e, UR20
Software compatibility	PolyScope 5 and below	All PolyScope versions	PolyScope 5 and below	All PolyScope versions
IP classification	IP44	IP44	IP20	IP20
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)
I/O Ports				
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 PROFINET, PROFIsafe (optional) Ethernet/IP USB 2.0, USB 3.0 ROS/ROS2 driver support (optional, open source) Injection Molding Machine Interface (IMMI, optional)	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)	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)	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)
RAM	2 GB	4 GB	2 GB	4 GB
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: 1500 W	UR3e: 600 W UR5e, UR10e, UR16e: 1500 W	UR3e: 600 W UR5e, UR10e, UR16e, UR20: 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)

Control box and teach pendant

Technical specification

Teach pendant	Standard	3PE

Features

Robot types	e-Series (standard)	e-Series (optional), UR20 (standard)
IP classification	IP54	IP54
Incl. in certifications	EN ISO 10218-1 EN ISO 13849-1	EN ISO 10218-1 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 right and left handed 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 (inclding 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)

Cables	Standard		High-Flex	

Features

Part Number	105865	1006541	106547	1006548
Material	PVC	PVC	PVC	PVC
Color	Black	Black	Blue	Blue
Length	6 m / 19.7 ft	12 m / 39.4 ft	6 m / 19.7 ft	12 m / 39.4 ft
Diameter (d)	12.1 mm / 0.48 in	12.1 mm / 0.48 in	13.4 mm / 0.53 in	13.4 mm / 0.53 in
Bend Radius	-	-	4 x d (static) 8 x d (dynamic)	4 x d (static) 8 x d (dynamic)
Bend Cylce	-	-	5 milion	5 million

3rd Edition published June 2023. *Preliminary specification. Subject to change.

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, PROFIsafe and Ethernet/IP. Unlock the flexibility of PolyScope through the URScript API.

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

Challenge

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.

Solution

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.

Next step

Discover the UR+ showroom

Learn more about the available products

UNIVERSAL ROBOTS

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.

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.

In-person training

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

Education program

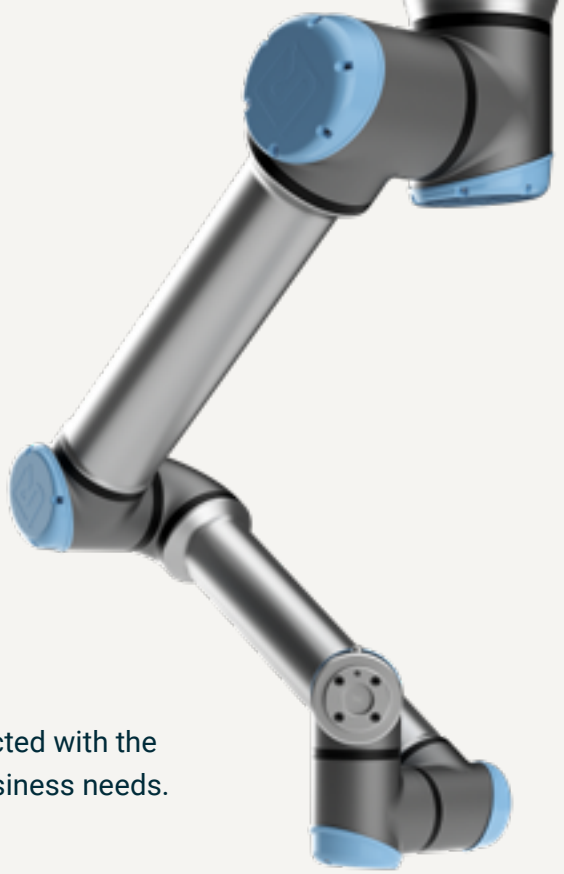
Educators receive the tools they need to provide students with hands-on experience in designing, implementing and maintaining automation solutions, without leaving the classroom.

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 in 2023

UNIVERSAL ROBOTS

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

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