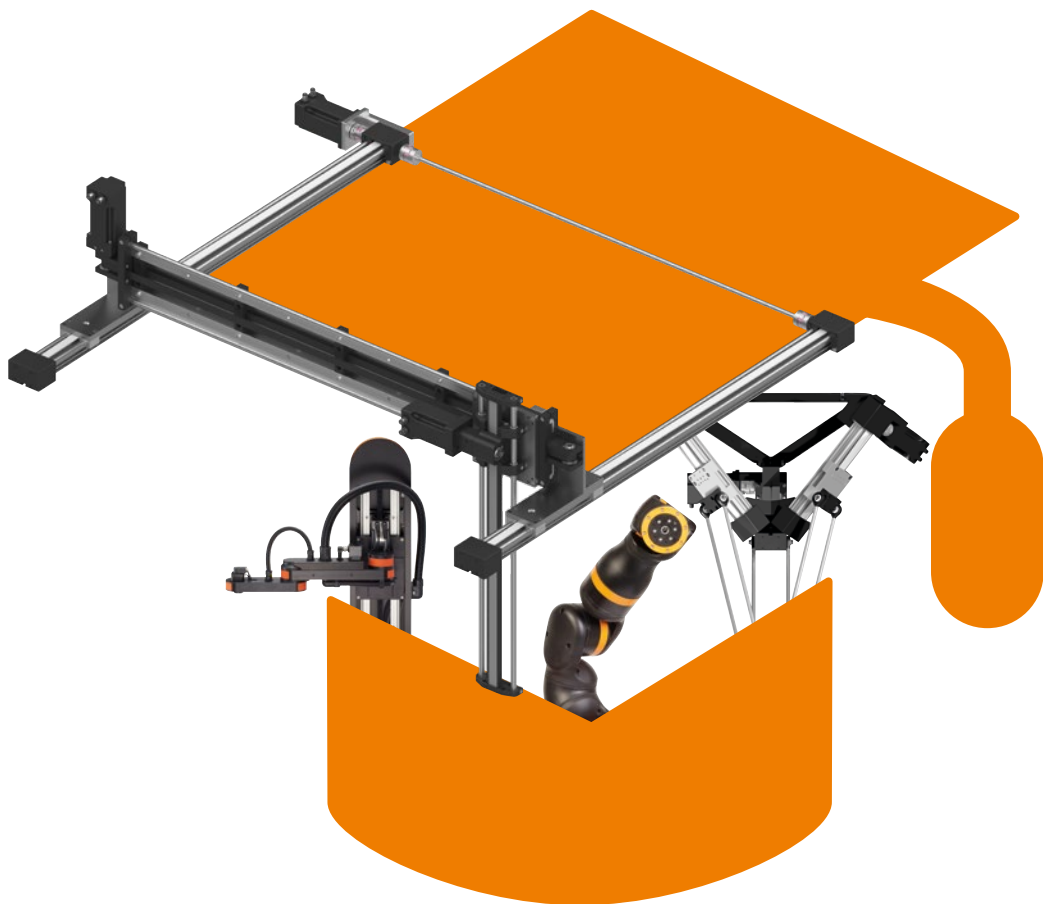


Laboratory automation for ...

Education

... school, labor, university and vocational college



[igus[®].eu/education](https://igus.eu/education)
Cost-effective automation with motion plastics[®]

Innovation as a company maxim

At igus®, there are three important corporate ideas:

1. The solar system

The customer is always at the centre of everything we do, the sun in our solar system. This means that you have a fast, reliable, committed partner at your side. It also means that we implement every customer request; individual solutions are a matter of course for us.

2. Improve what moves

Movement is everywhere. We are improving it all over the world with motion plastics®, or wear-resistant high-performance polymers. The solar system idea also relates to developments such as Industry 4.0 and IoT, issues affecting the entire industry. This lasting commitment to innovation automatically binds us to the education sector, a basic requirement for all innovation.

3. Tech up, Cost down

We set high standards for ourselves, offering cutting-edge technical products at cost-effective prices. This is essential for the education sector, with its perennially tight budgets.

The connection to the education sector is also reflected in our Young Engineers Support (YES) initiative, in which we assist students with their diverse projects and ideas, providing them with sponsorship, free samples and expertise. We also always offer factory tours, guest lectures, and workshops as part of the YES initiative and are constantly hiring interns, working students and young professionals.



Subsidiaries and distributors structures for internationally oriented education in the robotics sector



igus® Low Cost Automation

- Founded in 2009
- More than 20,000 customers
- Headquarters: Cologne
- More than 8,000 individual solutions per year

igus® GmbH

- Founded in 1964
- 4,500 employees worldwide
- Headquarters: Cologne
- Subsidiaries/distributors in more than 80 countries

Modern education and successful knowledge transfer are the basis of innovation and development.

This rapidly changing time has particular need of specialists trained in industry to guarantee a smooth production process. Technical knowledge of the latest technologies and machines is crucial. Germany's demographic development reveals the urgency of practice-oriented training, since young workers are needed and should be quickly deployable. This reduces staff training costs, among other benefits. Practical training therefore also requires practically equipping teaching companies, colleges, and universities to establish a direct connection between theoretical knowledge and practical skills. The situations, problems, and challenges encountered in professional life can thus be overcome in training, significantly simplifying the process of starting work. Teaching characterised by experience and participation increases knowledge transfer and student potential. We supply knowledge institutions with modern robots to allow this kind of teaching and simplify future-oriented education for Industry 4.0.

Robotics & automation technology for education and research

Low Cost Automation made in Germany.

Developments in industry are calling for change in the education sector. Automation is becoming increasingly important in industry. This development is also changing the demands placed on tomorrow's skilled workers. Industry 4.0 is full of issues related to automation and digitalisation, requiring adaptation of educational institution equipment to developments.

You should try our robotics if you're looking for industry and affordable robotics. You choose whether you prefer a ready-to-use solution or an open-source variant for individual integration. You can develop the latter with LabVIEW, ROS and DASyLab interfaces. In addition to the robot, the core is free programming software with a beginner-friendly control system. Our various robots enable you to demonstrate the entire range of robotics. Our learning content supports integration into the classroom.



Collaboration with more than 100 educational institutions



Interfaces with LabVIEW, ROS and DASyLab



Free robot software



Compatible with many industrial controllers such as B&R, Beckhoff and Siemens



Absolutely no lubrication or maintenance required thanks to motion plastics®

Why igus® Low Cost Automation?

- Maintenance-free thanks to motion plastics®
- Plug-and-play solution - immediately ready for use
- Open-source variants and interfaces with LabVIEW, ROS and DASyLab
- Cost-effective automation technology
- Industrial robotics
- User-friendly software, ideal for beginning programmers
- Comprehensive teaching material
- Different robot models, support in more than 80 countries
- Robotics designed and produced in Germany



Robotics and automation
from €30,000 – €250,000



Lightweight robot
from €5,000 – €30,000



igus® Low Cost Automation
from €1,000 – €5,000

All robot cells, to build yourself or ready-to-use

Integration

Interfaces for:



Compatible with these industrial control systems:

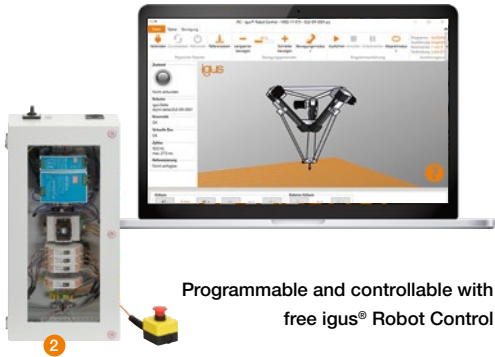
- Beckhoff
- Siemens
- B&R
- FastTech
- Servotronic

We offer:

- Training material
- Education
- Sample programs
- Trainee



Delta robot with two or three axes ...



Programmable and controllable with free igus® Robot Control



Dimensions [mm] L x W x H: 1.000 x 937,23 x 2.030,60

Price facts:

1 Kinematics	€4,446.40
2 Control system	€3,554.32
3 Pneumatic rotary union	€617.18
4 Cell + CE	€6,200.00
	€14,817.90

... for high speed applications

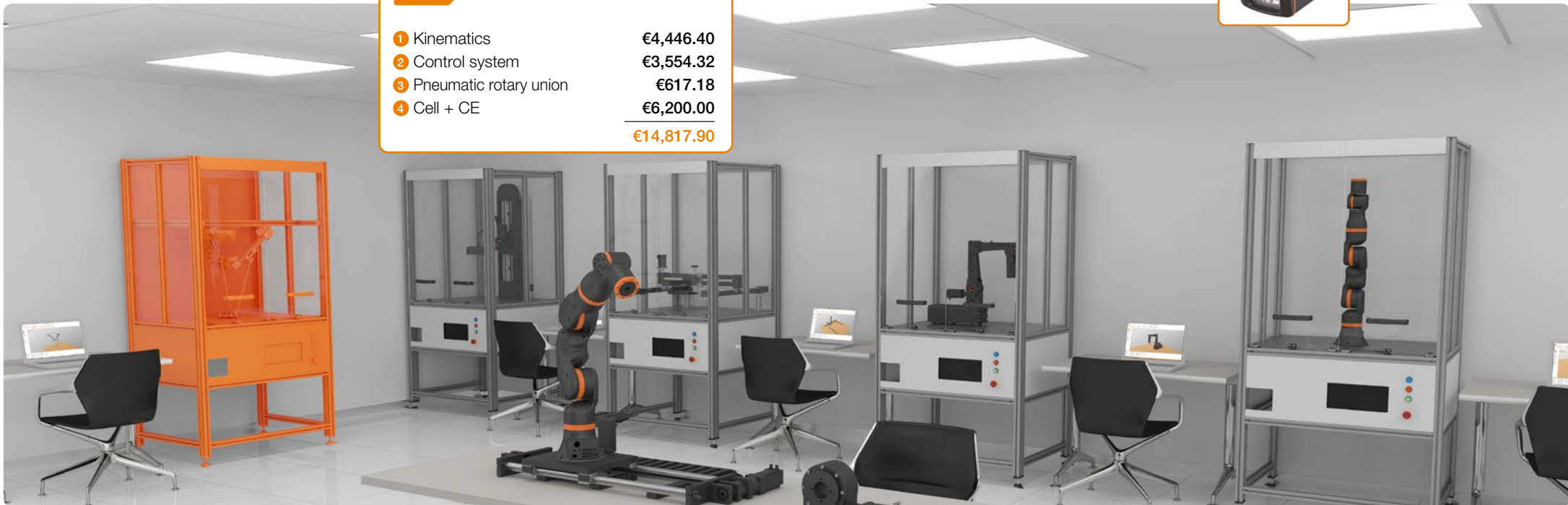
Based on a modular system, users can choose between a compact self-assembly modular kit or pre-assembled in a transport frame.

Tech facts:

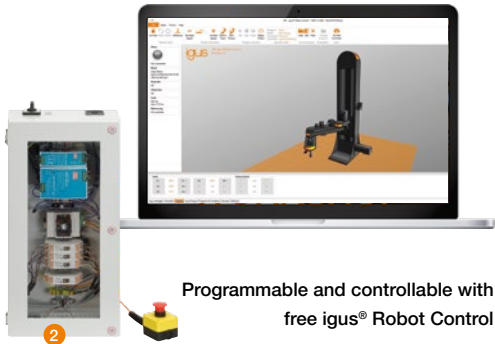
- Up to 100N payload
- Up to 660mm (three-axis) and up to 700mm (two-axis) working diameter
- Processes starting at 1s
- Repeatability: $\pm 0.3\text{mm}$



Accessories available:
various grippers and vision systems ... available at RBTX.com



SCARA robot ...



Programmable and controllable with free igus® Robot Control



Dimensions [mm] L x W x H: 1.000 x 937.23 x 2.030.60

Price facts:

1 Kinematics	€4,172.82
2 Control system	€3,554.32
3 SGW 40 angle gripper	€207.00
4 Cell + CE	€6,200.00
	€14,134.14

... for flexible applications

Fast, flexible and configurable: SCARA robot with four degrees of freedom. Ideal for simple robotics and assembly tasks

Tech facts:

- Up to 20N payload
- Up to 3,000mm x 560mm working space
- Processes from 1.5s
- Repeatability: $\pm 0.3\text{mm}$



Accessories available: various grippers and vision systems ... available at RBTX.com



Linear robots ...



... for individual applications

drylin® linear robots consist of various linear actuators that perform xyz linear movements. The lubrication-free components are corrosion-free, maintenance-free and lightweight.

Tech facts:

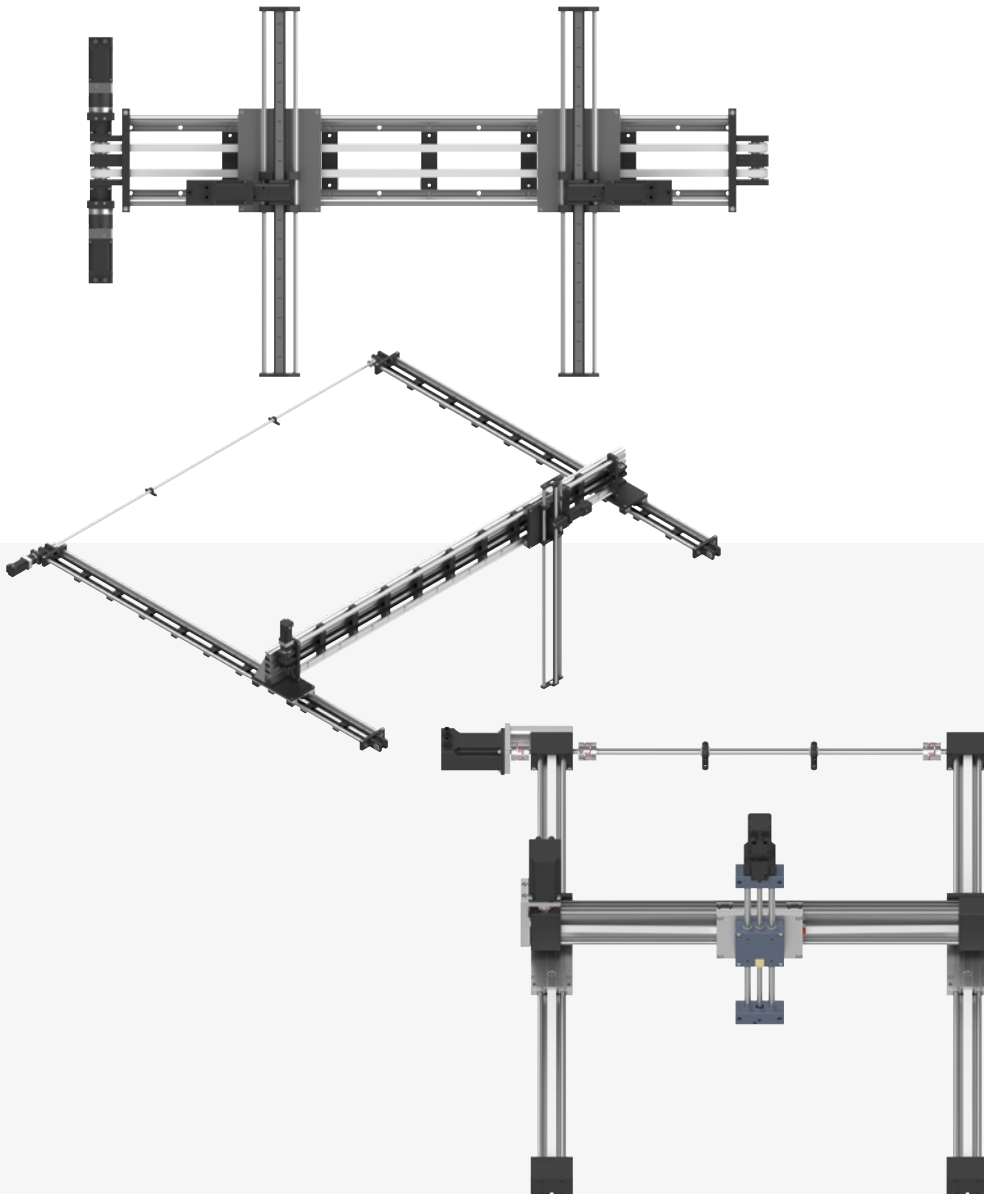
- Up to 200N payload
- Up to 3,000mm x 3,000mm x 750mm working space
- Processes starting at 2s
- Repeatability: $\pm 0.3\text{mm}$



Accessories available: various grippers and vision systems ... available at RBTX.com



Individual linear robots ...

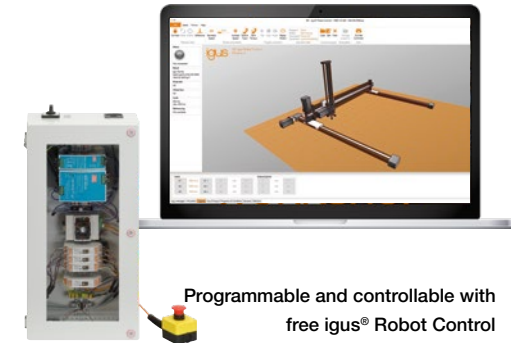


... no minimum order quantity

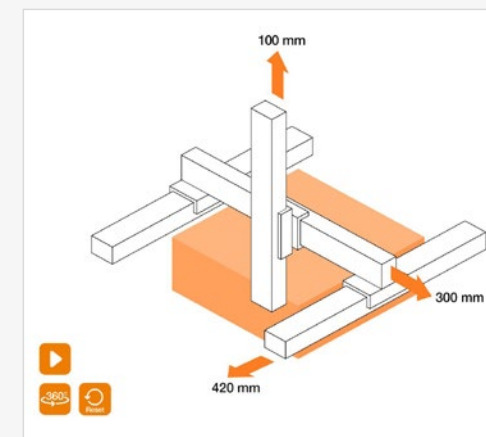
drylin® linear robots consist of various linear actuators that perform xyz linear movements. The lubrication-free components are corrosion-free, maintenance-free and lightweight.

Tech facts:

- Individual stroke of up to 6m
- Loads up to 85kg
- Configurable online, requested in five minutes



In addition to the two standard sizes in the online shop, special linear robots can be tailored to customer requirements. Contact us!



www.igus.eu/linear-robot-configurator



roboLink® articulated arm ...



Programmable and controllable with free igus® Robot Control

Dimensions [mm] L x W x H: 1.000 x 937,23 x 2.030,60

Price facts:

1 Kinematics + 2 Control system	€5,085.85
3 GPP1116CO-00-A parallel gripper	€204.20
4 Cell + CE	€6,200.00
	€11,490.05

... for flexible applications

Flexible and configurable: roboLink® articulated arm robot with five degrees of freedom. Ideal for pick & place and assembly tasks.

Tech facts:

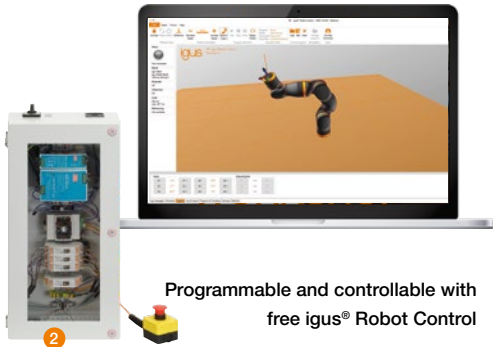
- Up to 5N payload
- Up to 680mm working radius
- Processes starting at seven seconds
- Repeatability: ± 0.5mm



Accessories available: various grippers and vision systems ... available at RBTX.com



ReBeL® ...



Programmable and controllable with free igus® Robot Control

Dimensions [mm] L x W x H: 1.000 x 937,23 x 2.030,60

Price facts:

1 Kinematics	€3,970.00
2 Control system	€1,000.00
3 CobotPump	€995.00
	€5,965.00
4 Optional*: cell + CE	+ €6,200.00

... for flexible applications

Cost-effective and compact: gearbox modular system for service robotics

- Tech facts:**
- Up to 20N payload
 - Up to 620mm working radius
 - Processes starting at 4s
 - Repeatability: ± 0.5mm
 - prepared for cobot function

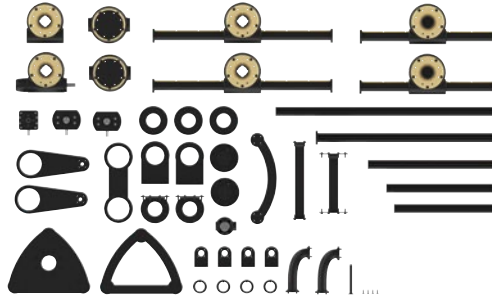


Accessories available: various grippers and vision systems ... available at RBTX.com



Apiro® starter kit one kit, eight systems

Individual applications can be implemented cost-effectively with the drygear® Apiro® modular gearbox system. Now available as a starter kit: assemble your own robot, instructions included.



The following assemblies can be constructed:



1. Apiro® room linear robot



3. Apiro® mini articulated robot



5. Apiro® two-axis-picker



7. Apiro® 360° picker



2. Apiro® flat linear robot



4. Apiro® pusher



6. Apiro® three-axis-picker



8. Apiro® SCARA

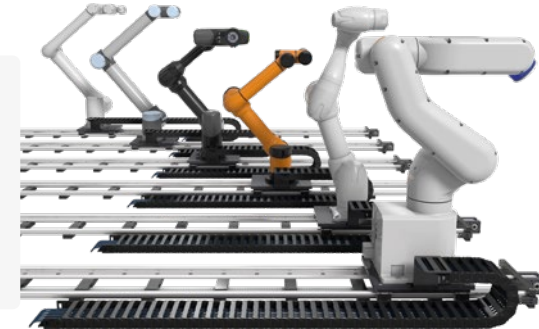
Starter kit **starting at €1,577.76**

Do you need a control system?
We look forward to hearing from you.

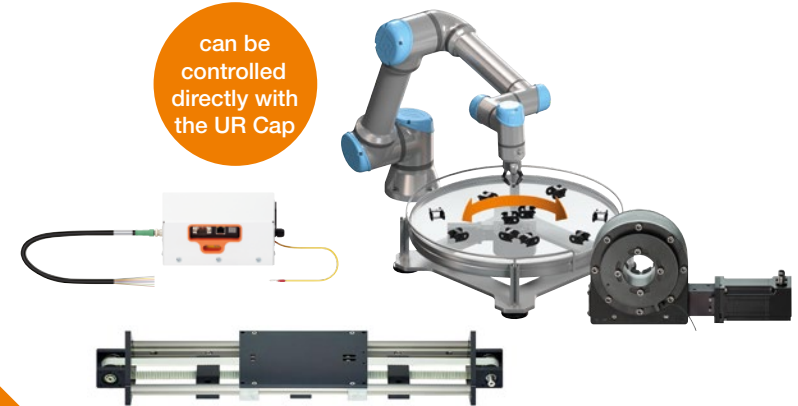


Linear axis for all robots more flexibility

A seventh axis as a linear adjustment extends robots' action radius, making them much more flexible in their applications. The external robotlink® D rotary axis allows circular workpiece movements.



can be controlled directly with the UR Cap



Axis **starting at €2,100.00**
Plug-and-play kit **€2,609.00**

Do you want integration for another robot?
Feel free to contact us.

igus[®] Robot Control: plug & play control system for all igus[®] kinematics

igus[®] Robot Control allows a simple, intuitive robot control and programming system giving easy entry into automation. The modular design makes it possible to control various igus[®] kinematics, such as linear robots, robolink[®], delta robots, SCARA robots, single axes and much more.

The free, no-license igus[®] Robot Control software is integrated into the control system, so it is based on a uniform operating concept and consistent communication services for many components of a system. This means less project planning effort and faster commissioning.



Motor control systems for linear and rotating applications ...

An alternative is to operate each axis individually with a control system – our igus[®] dryve D1 motor controller, for example. To control movement coordination, this control architecture requires a motor control system and an additional master control system for each linear axis or motor.

- drylin[®] D1 and D2 for stepper and EC/BLDC motors
- drylin[®] D3 for DC motors
- drylin[®] D7, D8, and D9 for stepper motors without encoders
- Set consisting of igus[®] dryve D1, including proximity switches and connecting cables.
- Assembly kit for two-axis kinematics; **AK-DR-0011**
- Assembly kit for two-axis kinematics; **AK-DR-0009**
- Prices starting at €1,150.00



Free firmware download



Application examples ...



Control robots with gloves and gestures

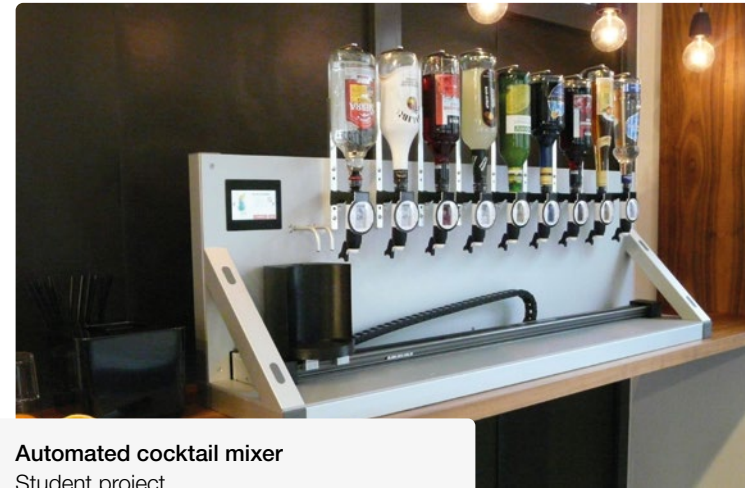
HTBLuVA Salzburg

► [igus.eu/rbtx-glove](https://www.igus.eu/rbtx-glove)

Similar products:



robolink®
RL-DCi-5S-M



Automated cocktail mixer

Student project

► [igus.eu/rbtx-mixer](https://www.igus.eu/rbtx-mixer)

Similar products:



DLE-LG-0001
room linear robot



igus® Robot
Control



Industry 4.0 demonstrator

Aachen University of Applied Sciences

► [igus.eu/rbtx-demonstrator](https://www.igus.eu/rbtx-demonstrator)

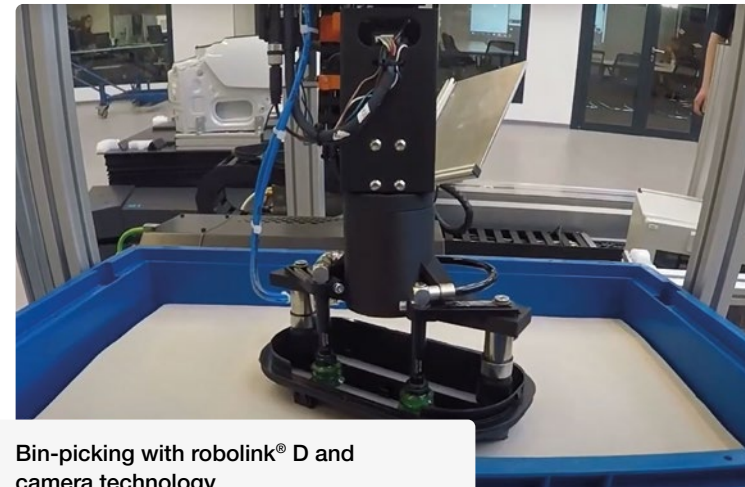
Similar products:



DLE-RG-0003
room linear robot



igus® Robot
Control



Bin-picking with robolink® D and camera technology

Emden Volkswagen plant

► [igus.eu/rbtx-bin-picking](https://www.igus.eu/rbtx-bin-picking)

Similar products:



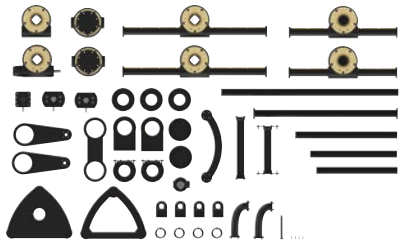
robolink®
RL-D-RBT-xx

Product overview ...

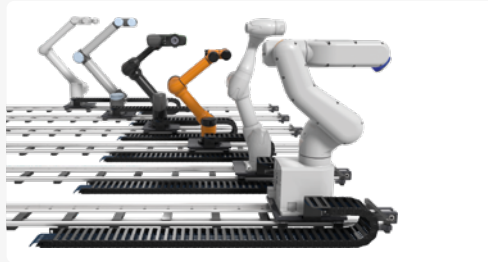


All robot cells, to build yourself or ready-to-use

- Delta robots with two or three axes
- SCARA robots
- Linear robots
- ReBeL®
- robotlink® DCI



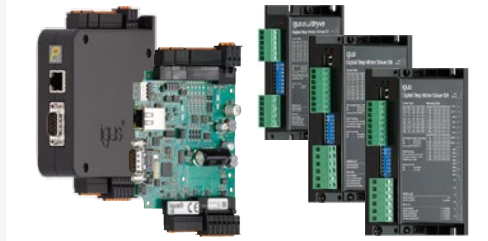
Apiro® starter kit



Seventh axis for all robots



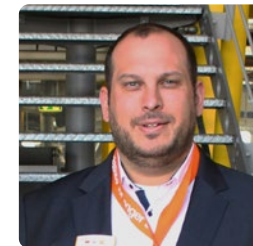
igus® Robot Control



Motor control systems

Our services ...

... affordable industrial robots
... learning content and on-site training



Do you have questions about Low Cost Automation?

Our experts will answer all your questions about automation. Specialist support by telephone or with video chat. Just make an appointment.

We look forward to meeting you!

Alexander Mühlens

Head of the Robotics Automation Technology Business Unit
e-mail: de-lowcostautomation@igus.net
Phone: +49 2203 9649 - 8255

/9001:2015 /16949:2016 /14001:2015

igus® is certified according to ISO 9001:2015 and IATF 16949:2016 in the field of energy chains, cables, harnessing, and plastic bearings. igus® is also certified according to ISO 14001, a recognised basis for environmental management systems.

/LCA

LOW
COST
AUTOMATION



by igus®

igus.eu

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Subject to technical alterations.
Issue: 10/2022

MAT0075324.20

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Low Cost Automation