

277 motion plastics® news

igus®

Spring 2025



Increase efficiency, bring costs down

Page 4

Innovative solutions for the
industry of tomorrow

From CAD to motion plastics®

Page 12

With the Free form hub service, faster
customised solutions are now possible

Award-winning motion plastics®

Page 17

Product of the Year and nomination
for the Hermes Award 2025

This is igus®

Facts & figures

Founded on October 15, 1964 by Margret and Günter Blase in Cologne (Mülheim).

- 33 locations and 50 distributors in over 80 countries
- 5,215 employees worldwide
- 165,000 customers
- 245,000 parts from stock
- 800 injection-moulding machines

The company is 100% family owned.



igus® factory building in Cologne.

The new 20,000m² building from 2023 in the foreground; behind it, the existing factory.

Entire igus® campus: 217,624m²

motion plastics® news spring 2025

Increase efficiency and bring costs down

Discover our innovative solutions for the industry of tomorrow.

Rising costs, new environmental regulations, pressure to automate - the challenges facing the industry are growing. However, these can be overcome with the right solutions and even turned into real opportunities.

We are presenting 277 new products that will help you reduce emissions, dispense with PTFE and lubrication, support recycling, make better use of machines and reduce routine work.

For example, the PTFE-free material iglidur® JPF, which was named Product of the Year 2025 by Kunststoff Magazin, the world's oldest continuously published periodical focused on polymer technology, or the igus® shore power system iMSPO (igus® Mobile Shore Power Outlet), which was nominated for the Hermes Award 2025. Not to forget: The first humanoid robot from igus®. We offer you solutions that pay off immediately in practice.

Innovative wishes from Cologne



Michael Blass,
CEO e-chain systems®



Tobias Vogel,
CEO dry-tech®
New Businesses



Dr. Thilo Schultes,
CEO dry-tech®
New Businesses



Frank Blase,
CEO & entrepreneur



Artur Peplinski,
CEO igus® International

motion plastics®



Bicycle components

Page 28



iglidur® plain bearings

Page 34



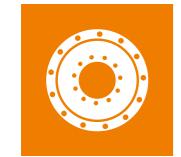
iglidur® rollers

Page 44



drygear® gear and gearbox technology

Page 48



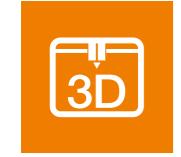
iglidur® slewing ring bearings

Page 54



iglidur® bar stock

Page 60



iglidur® 3D printing

Page 64



igubal® spherical bearings

Page 68



xiros® ball bearings

Page 80



drylin® linear technology

Page 84



dryspin® lead screw technology

Page 100



drylin® drive technology

Page 110



Low Cost Automation

Page 126



RBTX® marketplace

Page 148

news 2025



e-chains® and e-chain systems®

Page 162



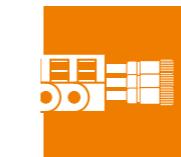
smart plastics

Page 214



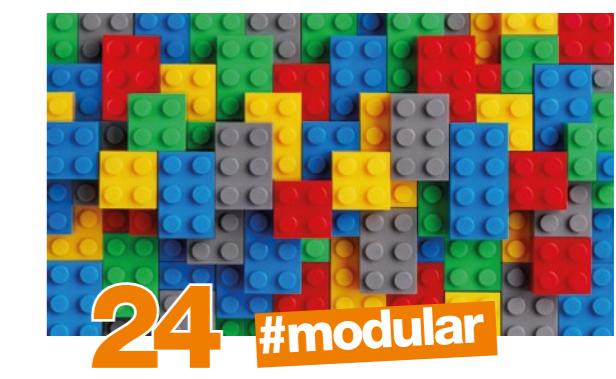
chainflex® cables

Page 224



readycable® readychain®

Page 234



Print2Digital made easy ...



GRS-A-0007

The screenshot shows the igus website's search results for the part number GRS-A-0007. The search bar at the top contains 'GRS-A-0007'. Below the search bar, the text 'Suchergebnisse zu: GRS-A-0007' is displayed. The results list shows 'Artikel-Nr. (313) Produkte (0) Downloads (1) Videos (0) Blog Artikel (0)'. A thumbnail image of a gear is shown with the text 'Home > iguflex A270 gears /info/gears-a270'.

Two ways to reach the same goal: a **QR code** takes you directly to the relevant page on the igus® homepage. No mobile device? No problem! You can also use the **text code** to go directly to the product page via the search function on our website.

Improve what moves

igus® answers ...

Solve the problems of tomorrow today with motion plastics®.



High maintenance costs and a lot of effort due to lubrication

Industrial customers are often presented with the challenge of keeping their machines and systems in good condition through regular lubrication and maintenance. This leads to considerable costs due to personnel, downtime, spare parts and the time spent on maintenance measures such as lubrication.

Legal requirements or regulatory factors: PFAS bans

The increasingly stringent legal requirements, such as the ban on PFAS, are a matter of concern for many industrial customers as common materials and lubricants often contain PFAS or PTFE additives.

Easier and faster with igus® online tools

There are intuitive online configuration tools for 95% of the igus® products and systems, which considerably simplify and speed up the design process. Our digital solutions demonstrably shorten the time required for design and development and enable less experienced engineers to work efficiently. Experience a proven increase in efficiency by using igus® online tools.



High personnel costs and considerable time spent during the development process

Product design and development require specialised engineers with years of experience. Long familiarisation periods and complex design processes are a burden on many companies in terms of personnel and finances.

Cost reductions and efficiency with igus®

igus® provides customised solutions that have been proven to save 20 to 80% otherwise spent on parts and systems. With over 300,000 catalogue products and individually configured systems, we offer maximum choice. Thanks to our fast delivery times (one to five days) and seamless ERP integration, procurement is easier than ever, including simplified administration and ordering. Experience optimised processes - proven in numerous projects around the world.

Sustainability with igus® products

With igus®, our customers make an active contribution to CO₂ reduction. Our live online tool makes it possible to verify the carbon footprint of our products. We also promote the circular economy with our change® recycling programme and the wide range of products containing a high percentage of recycled materials. Together, we are shaping a sustainable future.

... to current challenges

Innovation meets sustainability



Saving costs with motion plastics® for the industry and automation of tomorrow

igus® sets a positive example for innovation and sustainability and shows the latest product developments, which prove the innovative strength "made in Germany".

In times of economic uncertainty and growing pressure in terms of sustainability, igus® presents solutions that increase competitiveness and are eco-friendly at the same time. These products offer advantages such as being lubrication-free, which protects the environment and saves costs.

One example is the PTFE-free product range that igus® has created to offer alternative materials without harmful

compounds. In addition, an energy chain series made from recycled material was presented that reduces the CO₂ footprint by 80% without increasing costs or compromising quality.

In addition to these developments, igus® continues its research into pioneering solutions for specific applications. An example is the dry cleanroom for battery production, where the new igus® products are particularly durable and achieve the highest cleanroom classes.



Sustainability at igus®



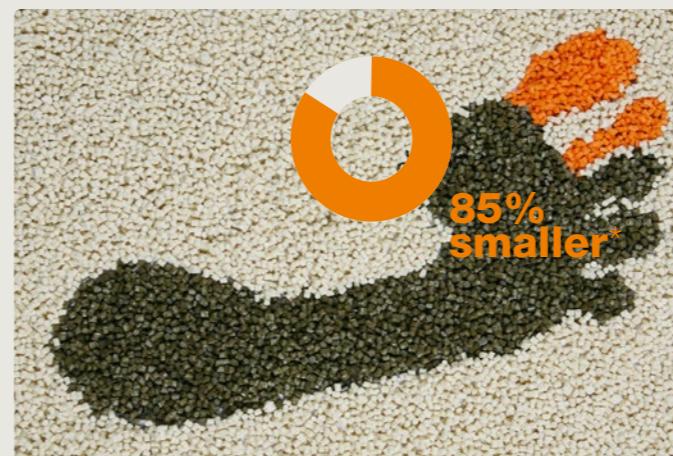
Sustainability well thought-out

1 Production and energy supply

On the road to climate neutrality

A lot has happened in recent years: In 2023, we caused 85%* fewer CO₂ emissions than in 2020, largely due to the switch to green electricity in mid-2021 and to green gas in October 2021.

Our goal of being CO₂-neutral with our buildings and production by 2025, in accordance with the requirements of Scopes 1 and 2, remains in place. The current status shows that we have already achieved **92%** of the target. Another step in this direction is the new multi-storey car park, which has been equipped with façade greening.



Solar energy

igus® currently generates 500,000kWh per year through photovoltaic systems, and more are planned.

Altogether, more than 2,000,000kWh per year are possible.

Would you have known? igubal® pillow block bearings are often used in the bearings of large solar panels.

Sustainability at igus®

"Everything we do for our environment is capital well invested. We save raw materials, especially in the recycling sector."

Helmut Rath
Head of Control Engineering
IBG Automation



2

Lubrication-free motion plastics®

High-performance polymers can do a lot

Long service life, no additional lubrication required and up to 70% lighter than metal products, also resistant to dirt, chemicals, corrosion, heat and cold.

Lubrication-free

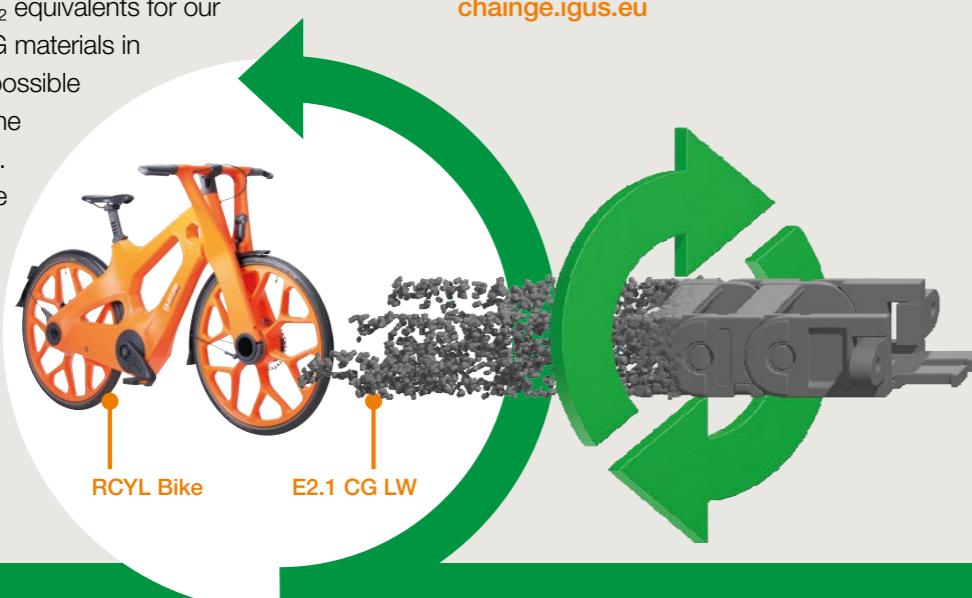
How much can be saved with motion plastics®? A joint study by RWTH Aachen University and igus® is the first to investigate how many kilogrammes of lubricant and associated costs can be saved in applications if conventional metal bearings are replaced with lubrication-free polymer solutions from igus®.

Improve what moves

In material and product development, we work on the continuous improvement of friction and wear properties in order to improve the durability of the products and thus conserve resources.

CO₂ equivalent calculator

Calculation of the CO₂ equivalents for our iglidur® and igumid® G materials in order to incorporate possible CO₂ reductions into the material development. Please do not hesitate to contact us.



Join now:

chainge.igus.eu

... and through partnerships

80% of plastic in the oceans comes from rivers



4

Plastic Fischer

8 to 12 million tons of plastic end up in the oceans every year, mostly via rivers. Plastic Fischer starts right here and collects the rubbish in the rivers, which is more cost-effective than fishing in the sea.

How does the project work? Local people use special devices to fish the rubbish out of rivers and receive a regular income in return. The collected plastic waste, which is mostly classified as non-recyclable, is forwarded to thermal treatment plants: it is incinerated with energy recovery.

igus® finances the collection of a total of 10,000kg of plastic waste. For the duration of the collection, at least 34 people in Kanpur and Mangalore (India) could be given a regular income, and on some days more people are employed.

"We prevent plastic from entering the oceans by stopping it in rivers."

Plastic Fischer

More about the project:
plasticfischer.com

Digital heroes

With enjoyneering® and our digital services and solutions, you can achieve top engineering performance with ease. Use our digital services to make your work easier, increase creativity or secure further benefits.

Revolutionary AI product search

Discover the optimisation potential for thousands of applications in just a few seconds

Discover optimisation potential in seconds - with igusGO®, our innovative app with artificial intelligence. Simply take a photo of your existing application and its environment and the app's intelligent technology will immediately show you which igus® products can make your machine lubrication-free, low-maintenance and more efficient. This not only saves costs, but also raises the technical performance of your application to a new level.

Best of all, igusGO® gives you an insight into hundreds of successfully implemented solutions for comparable machines and components - from robotics to agriculture to furniture. You benefit directly from proven application examples and best practices. The app takes you directly to the shop, where you can find all the information on the proposed products, order them conveniently or send a non-binding enquiry.

Take the opportunity to improve your machines quickly and specifically. With igusGO®, optimisation is not only easy, it's an experience. Test it now free of charge and discover the potential of your application!

igus.eu/igusgo



Collaborative engineering in the igus® metaverse

The virtual world of the iguaverse® makes the seemingly impossible become real

iguaverse® revolutionises engineering with digital twins and virtual 3D models. Replace physical prototypes, identify weaknesses early and reduce development times by up to 30%. The platform saves trade fair and transport costs, increases productivity by up to 25% and enables immersive presentations, repairs and training - without travel costs. Studies show 35% higher learning success and increased creativity. The iguaverse® offers sustainable product development and fast decision making in a user-friendly environment.

igus.eu/iguaverse



Low Cost Automation

The ReBel® Cobot is inexpensive, flexible and ideal for collaborative tasks, e.g. in gastronomy, production or assembly. The control system can be automated or virtual.



Industry 4.0 & internet of things

With our smart plastics for Industry 4.0 and the internet of things, you can extend product operating times and avoid system failures. i.Sense is used for condition monitoring and i.Cee for predictive maintenance.



Online configurator tools

With the Remote Scout, we offer you a personal online consultation or presentations as an alternative to visiting the trade show. Our experts will take you on a tour of our trade show stand - as if you were on site.



Marketplace & app for robots

RBTX® is our marketplace for Low Cost Automation, which connects users and suppliers and saves time and money. You can also use our App RobotCtrl to program robots from a wide range of manufacturers with universal software.



Individual special parts

motion on demand offers you the best solutions for your special parts: "speediPrint" 3D printing service with all igus® materials and manufacturing processes, CNC service for machined parts and tolerance checks.



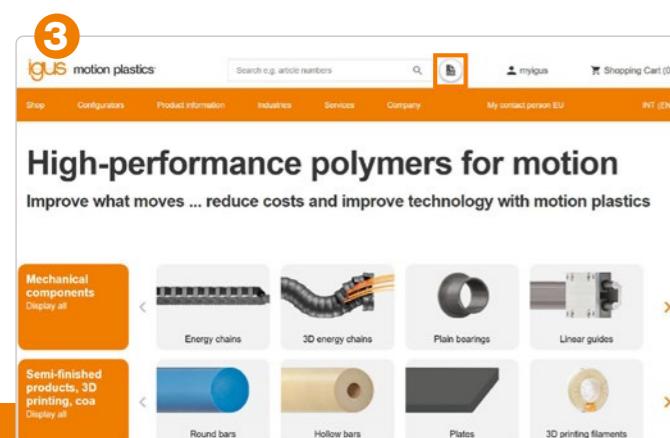
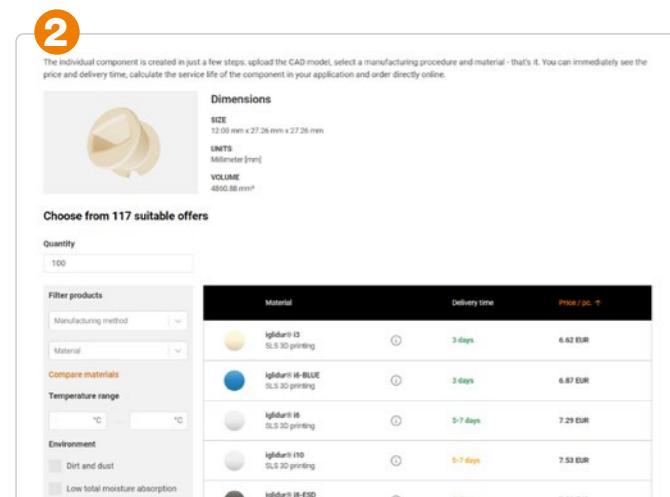
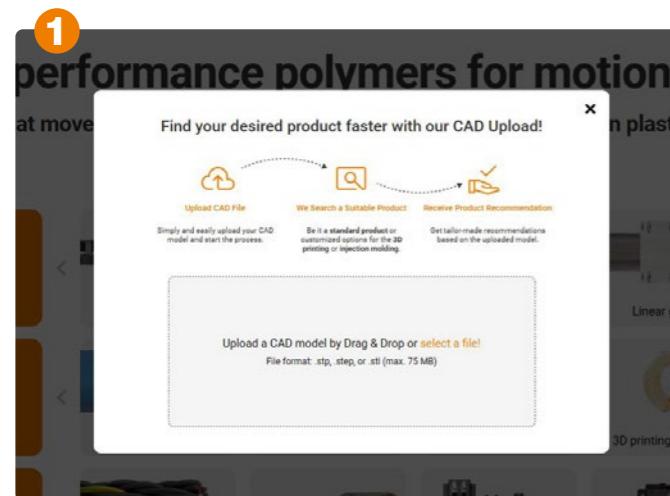
Online consultation at trade shows

With our online configurators, you can calculate the service life and other parameters of our motion plastics®. Thanks to the service platform kopla, you can now develop your own customised configurators in a fast and inexpensive way.



New online service Free Form Hub

From CAD directly to the motion plastics® solution in just a few seconds



KI service now with three manufacturing processes

After uploading the file ① the CAD part is analysed using artificial intelligence and compared with the igus® product range. If they match, suitable standard solutions are suggested from which you can select the best option for your application.

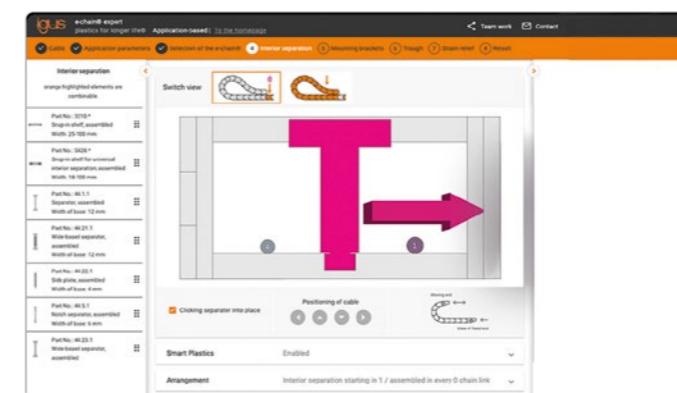
If no igus® standard product can be found, we can calculate the production of your individual component using 3D printing, injection moulding and now also CNC service in the new "Free Form Hub" service ②.

You can see the price and delivery time immediately and use filters to find the most suitable materials for you from over 62 motion plastics®. You can easily design your application to be lubrication-free and order or enquire about the solution online - with no minimum order quantity.

With motion on demand you get your igus® solution faster - as a standard version or customised for you. This saves time and money: igus.eu/motion-on-demand

You will find the service right on the home page - directly next to the search field ③.

Further improved digital tools and services



e-chain® expert smart configuration

When configuring energy supply systems for linear movements, include the appropriate **smart plastics** components (EC.P, EC.W, EC.WLC) for predictive maintenance right away.

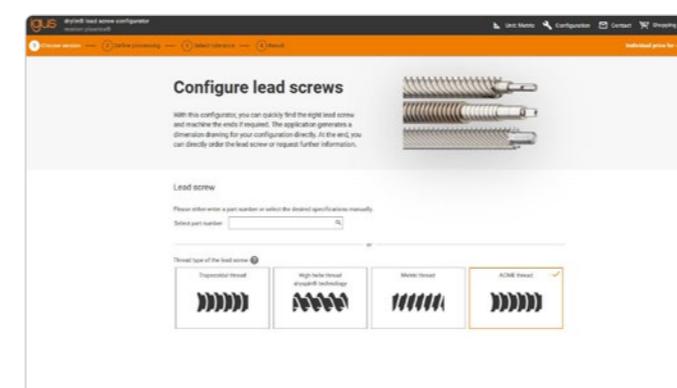
igus.eu/eke



chainflex® service life calculator Calculate faster

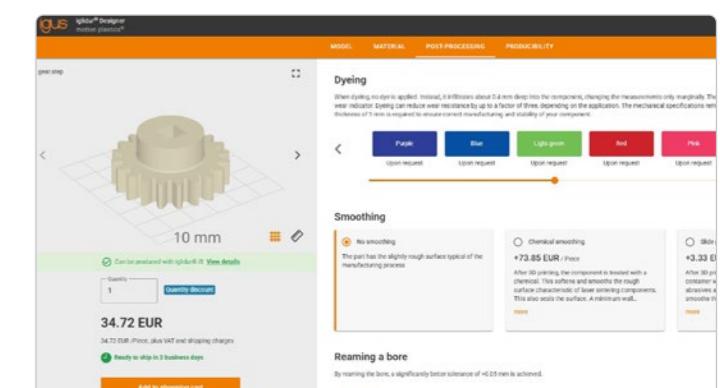
Faster calculation and modern design. Know exactly how long the cable will last in your application! Including certificate and price check of your selected cable to suit your individual application.

igus.eu/chainflexlife



Lead screw and shaft configurator Configure inches

Configuration of lead screws and shafts with imperial dimensions including automated creation of 2D drawings. igus.eu/dsk



3D printing service Choose from 12 colours

With the igus® 3D printing service, you can find your customised component in just a few steps. The components can now be dyed in 12 colours.

igus.eu/idd

60 years
igus®
Distance
6,000km
0g
Lubrication
90%
Plastic components



Follow the world tour in the igus® blog:

[blog.igus.eu/
rcyl-tour](http://blog.igus.eu/rcyl-tour)

The igus:bike®

The igus:bike® was presented for the first time at the Hannover Messe 2022: a bicycle made of over 90% plastic, 50% of which is recycled material. Thanks to many new products, the city bike is free from corrosion, lubrication and maintenance. In 2024, it was renamed RCYL.

The most important data at a glance:

- Frame: RCYL, plastic, 50% recycled
- Wheel size: 27.5"
- Number of gears: 1
- Handlebar-stem yoke unit: RCYL, plastic, 50% recycled
- Brakes: Disc brakes
- Toothed belt: Gates CDN 122
- Weight: 17kg

More about the bike:

www.rcyl.bike

RCYL
by igus & mtrI



"Hi, I am Rakshith, Digital Marketing Associate at igus® India and a national hockey player with a passion for sports. Lately, I've been having a lot of fun photographing the igus:bike® and capturing some great moments."

Our cyclist: Rakshith Rao, India

Once around the world

60 years of igus®

igus® was founded on 15th October 1964. To mark the big anniversary, the unique igus:bike® world tour started exactly 60 years later to the day: 6,000km across the globe with our igus:bike® for the following 12 months!

Stages to date

Each stage of the tour tells the story about the close cooperation with our customers and how igus® improves their applications. We are always fascinated by the many creative uses of our products.



Germany
19 stages
364.9km



Singapore
11 stages
226.5km



Vietnam
6 stages
68.3 km



Taiwan
9 stages
170.4km



India
12 stages
140.6km



The igus:bike® world tour started in Cologne and leads us along the Rhine to present innovative projects and sustainability initiatives such as the "Rhine Octopus". The journey continues through cities such as Gelsenkirchen, Erfurt and Berlin.

Off to Singapore: the tour starts in the lively city centre and leads to Marina Bay Sands and Gardens by the Bay, to name just a few landmarks. The trip explores the country's innovative power and culture and ends in West Coast Park.

The igus:bike® is now in Vietnam. At the harbour of Ho Chi Minh City, we visit our customers who use our iglidur® TX1 and TX3 plain bearings. We spend the next few days cycling through the city centre of Ho Chi Minh and along the coast of Mui Ne.

The igus:bike® tour through Taiwan leads us from north to south, from Taichung via Nantou and Tainan to Kaohsiung and Taipei. The trip takes us on customer visits, lets us explore Taiwan's landscape and historical sites and ends with local treats.

India. We travel to historic sites such as the 2,000-year-old Karla Caves and meet our customers, who tell us impressive stories about how motion plastics® optimise their machines. Almost 1,000km on the clock - off we head to Korea!

Recognitions, awards and honours

Excellent products and services



... 2023

[igus.eu/drive-chain 2.0](http://igus.eu/drive-chain-2.0)
igus.eu/e-tract



2023

Plastic bicycle
igus.bike



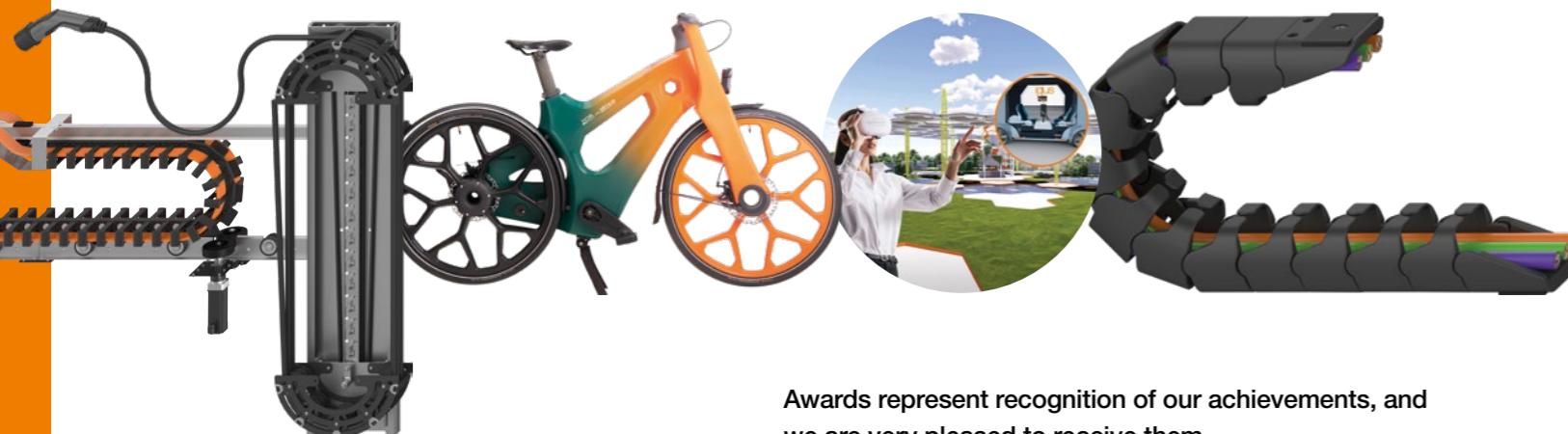
2023/2024

Industrial metaverse
iguverse.eu



2025

Office Chain OCO
igus.eu/oco



Awards represent recognition of our achievements, and we are very pleased to receive them.

The awards range from renowned design awards, such as those from iF since 1987, up to recognition as a family-friendly company. This is also the perfect way to describe our company. Innovation is what drives us and we continuously strive for improvement, both in our products and in our greatest asset, our employees.

igus.eu/awards



Product of the year
 Award in the materials category from Kunststoff Magazin for the PTFE-free material iglidur® JPJ

2025

Nominated for Hermes Award
 igus® Mobile Shore Power Outlet (iMSPO) has been nominated for the international technology award at Hannover Messe



2023

Employer of the Future
 Award from the German Innovation Institute for Sustainability and Digitalisation

Fair Company 2023

Award from the Handelsblatt newspaper and the Institut für Beschäftigung und Employability

Company with top career opportunities

Award from Focus Money, a German business magazine, and Germany's Test Seal

Most crisis-proof companies in 2023

In the SZ Institut rating, igus® placed 281 on the list of 300 most crisis-proof companies in Germany

German Brand Award Winner 2023

Award for our iguverse®

2021

The 500 secret world market leaders
 igus® in a special issue of WirtschaftsWoche

Cologne Business Award

Winner of the prize from Wirtschaftsclub Köln e.V.

Exemplary companies in the crisis

igus® among the 300 companies honoured by the IMWF and F.A.Z.-Institut

Highest reputation

1st place in the sector "Rubber and plastics industry companies", honoured by IMWF for DEUTSCHLAND TEST

Digital Innovators: the most innovative companies in Germany

igus® has 54% innovative strength according to CHIP.de

2020

Germany's top family business
 igus® in 17th place, awarded by WirtschaftsWoche

Potential savings

Does it have to be this way?

Improve what moves.

The world is moving constantly. And when something moves, that's where we come in and offer our customers technical innovations: **improve what moves!**

This is the guiding principle that drives our manufacturing efforts. We work with you to improve the technology of your applications or reduce your costs. Ideally, we achieve both: tech up, cost down. By developing products made from low-wear high-performance plastics, we improve motion worldwide, as our products always offer the following advantages:

- Long service life
- No additional lubrication necessary
- Up to 70% lighter than metal products
- Resistant to dirt, chemicals, corrosion, heat, and cold



Labelling 650,000 fewer bottles per year due to 13 hours of maintenance
Does it have to be this way?

The company Krones goes lubrication-free - filling and packaging systems

Problem: 650,000 fewer bottles labelled per year due to 13 hours of maintenance

igus® solution: lubrication-free, smooth-operating plain and linear bearings that require no maintenance. The use of lubrication-free bearing technology eliminates the costs for maintenance during the year and increases efficiency. The system can be serviced in a controlled manner at the end of the year and does not require any additional attention from the operating personnel.



Further savings potential in our video series.



For example with the chainge® programme:

- Recycling made easy - as a manufacturer of high-performance plastics, the sustainable and resource-saving use of plastic is very important to us at igus® GmbH. Therefore, with chainge, we have created a platform for the circular economy to make the recycling of engineering and industrial plastics very easy.



For example with RBTX®:

- The RBTX® platform brings users and suppliers of low-cost robotics components together quickly and easily. Users can find gantries, robot arms, end effectors, camera modules, control systems and much more centrally in one place - and can find individual components or assemble entire robots. At the same time, component suppliers can market their products on the RBTX® marketplace in a targeted and convenient way.



For example with e-chains®:

- Over 80% less installation space possible
- Energy chains are the most modular and probably the most compact form of energy supply system, especially if energy, data, air and fluids have to be transferred in one system.



For example with iglidur® plain bearings:

- Our self-lubricating plain bearings reduce your maintenance costs and completely save additional expenses for lubricants - with no minimum order quantity up to high volume. Our plastic plain bushes are up to 89% more cost-effective than plain bearings made of steel or bronze.
- Example: €2.37/piece versus €0.25/piece Composite bearing steel/PTFE, size 2020 against iglidur® MSM-2023-20 (Price for a purchase quantity of 100 pieces)



We are sure of one thing: our products last longer!

How do we know?

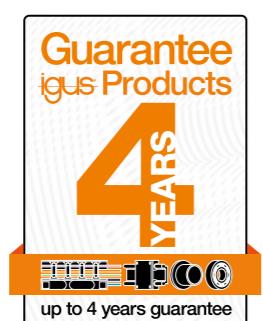
- From the more than 15,000 annual tests from our test laboratory, which we have been operating since 1985. From an increasing number of smart plastics that monitor material condition and notify us of replacement in good time. From our customers, who always give us valuable feedback.

- We therefore guarantee the long service life of our solutions and give you a guarantee of up to four years on all products that you can find in our online service life calculator.

Tested quality ...



Where machines are in continuous use, safety and tested quality are essential. Anyone using components here must be able to rely on them to deliver what they promise. We as a company and our products are tested and certified in accordance with many product-specific requirements, international standards and recognised procedures. Cables with UL approval, energy chains, bearing technology and cables for cleanrooms, tested materials for the highest demands - many of our products fulfil the required norms and standards from the very first use. But as every application is different, we still test our products ourselves, around the clock, under standard



up to 4 years guarantee

conditions and for specific customer applications. Every year, countless tests are carried out in our in-house test laboratory to make materials and products even better. The tests in the laboratory are the basis of our online tools, which includes an exact service life calculation. We give an igus® guarantee of up to 4 years on all products with a calculable service life.

igus.eu/certified



... certified safety



iglidur® standards without PTFE
Better sliding without PTFE



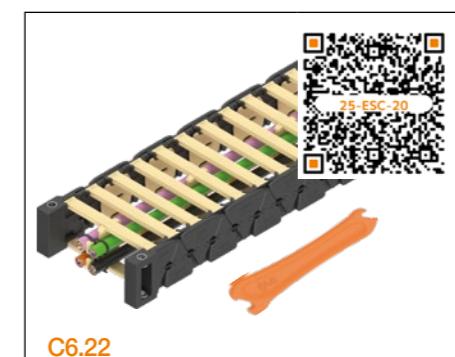
Slim carriage
for the food industry



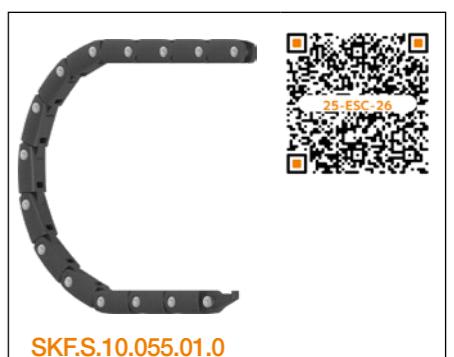
Motor control system D1
with PROFINET/PROFIdrive



Dry cleanroom certificates
Long service life of igus® e-chains® proven in the dry room



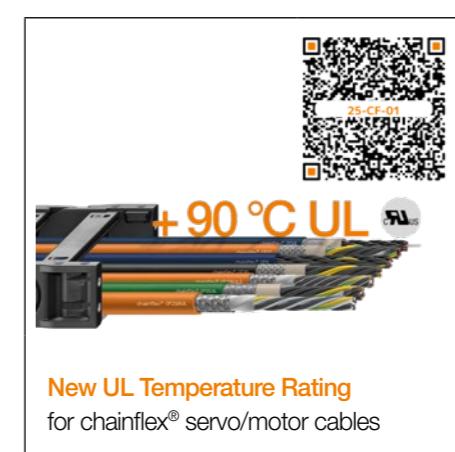
C6.22
Cleanroom e-chain® and assembly tool



SKF.S.10.055.01.0
Support chain for the e-skin® flat system



GLO.56.CRF roller supports
The lowest particle emission



New UL Temperature Rating
for chainflex® servo/motor cables

#esd #atex



A quiet crackle, a tiny spark - sometimes you don't even notice electrostatic discharge (ESD), but it can cause major damage. Uncontrolled ESD is particularly risky in electronics production or in potentially explosive atmospheres: it can destroy sensitive components, disrupt production processes or even lead to fires.

The cause often lies in the materials themselves. Many plastics are insulating by nature, which means that they do not dissipate electrical charges. If these build up and then discharge in an uncontrolled manner, the dreaded ESD damage occurs. The challenge: machine components made of plastic must be durable, lightweight and wear-resistant - but at the same time allow for controlled discharge.

This is exactly where we come in. With specially developed mixtures of high-performance plastics and additives, we offer plain bearings, energy chains and other components that are antistatic. They safely dissipate the electrical charge without losing their proven advantages such as freedom from lubrication or wear resistance. They make sure that no sparks fly.

igus.eu/esd igus.eu/atex



Conductive xiros® ball transfer unit
Ideal for the semiconductor industry



drylin® Z LW-1050-ES-EX
Narrow conductive toothed belt axis



e-skin® flat ESD
For ESD-sensitive parts in the cleanroom



e-skin® soft ESD
ESD protection for cleanrooms



ESD SCARA Cable Solution
Maximum reliability in ESD areas



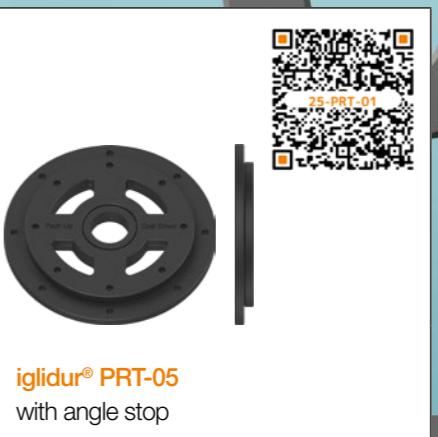
triflex® ESD product range
Dissipative dress packs

#lowcost

Cost-effective



iglidur® ECO A500 round bars
Cost-effective, for high temperatures



iglidur® PRT-05
with angle stop



igubal® sheet metal pillow block bearing
with split spherical insert bearings



drylin® W exchange bearings
made of zinc die-casting



E2C.48 one-piece e-chain®
For construction machinery



pull-e-cable
Cable guide without e-chain®



glide-chain G4.42
Easy, cost-effective gliding



ReBeL-Twist
Cost-effective rotation on axis 1



Pipetting robot
Cost-effective complete solution

Those who build machines think efficiently. Each component must do exactly what it is supposed to do. Nothing more, but also nothing less. Every gramme of material, every minute of installation time and every maintenance job costs money. Operators have to keep costs in check without compromising on quality.

We offer a wide range of product series from high-end to low-cost. The most cost-effective solution that works is the best for our customers. Whatever you need, you can rely on the tested quality of our products.

igus.eu/lowcost

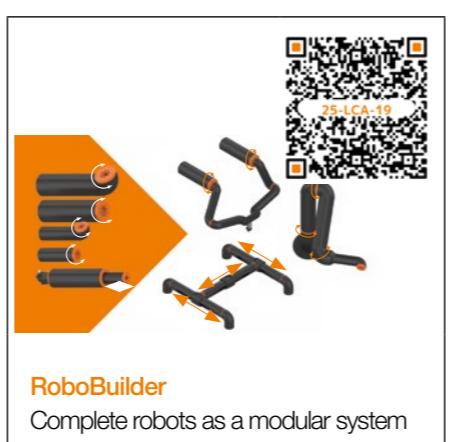
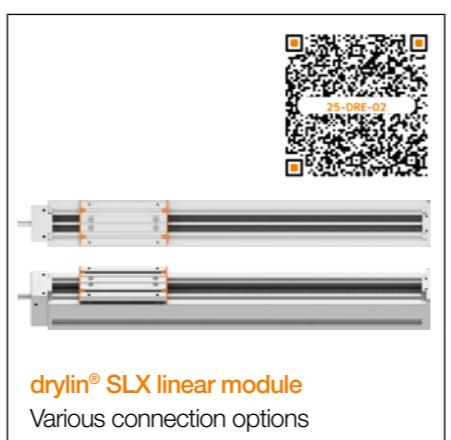
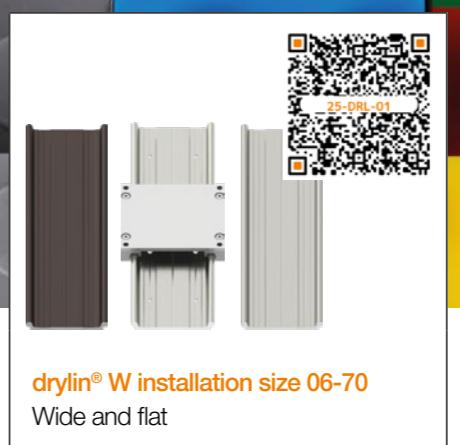
Customisable and flexible systems

Every project is different, every application has its own requirements. Instead of relying on rigid solutions, we need systems that grow with us, can be adapted and easily expanded. This is exactly what modular systems offer - they not only make designs more flexible, but also save time and costs in development and assembly.

Our linear system allows you to realise this flexibility. Whether manual or motorised adjustment, aluminium or stainless-steel rails, various bearing options - all components can be combined with each other and are

easy to add. This results in customised solutions that do not require special designs. Other motion plastics® are also modular, e.g. the new iglidur® universal sliding segments or the readychain® eco rack, which offers customised flexibility.

igus.eu/modular



Use even the smallest installation spaces



When space is at a premium, every detail counts. Less installation space often means more challenges for designs - but also more efficiency. Many locations require compact machines and units that take up little space and are powerful at the same time. The smaller a system needs to be, the less material can be used. But how do you manage to build a

compact system without sacrificing performance? The answer lies in the right components. We develop solutions for compact installation spaces. Delicate energy chains guide cables safely in the tightest of spaces, slender linear systems ensure precise movements, lightweight plain bearings replace metal and reduce weight. Our high-performance plastics are used in

durable and lightweight components that do their job reliably - even when things get tight. And the lighter the components, the less energy is required to move them. It is not size that characterises true innovation, but efficiency.

igus.eu/compact

<p>iglidur® PRT-04 compact version Compact high performer</p>	<p>Split flange mounted bearings Bearing change made easy</p>	<p>Slim Line linear carriages in installation size 06-70</p>
<p>Pre-load prism slide, size 20 save installation space and weight</p>	<p>Pre-load lead screw nut with dryspin® thread</p>	<p>Zero-backlash lead screw nuts with dryspin® threads</p>
<p>drylin® SLW linear system with left-hand/right-hand thread</p>	<p>drylin® SLW XY tables Clearance-free miniature XY table</p>	<p>Angular gearbox in size 60 For space-saving superstructures</p>
<p>ReBeL® Environment, gripper set Safety through self-locking mechanism</p>	<p>One-piece e-chain® E1 Flexible and strong</p>	<p>Fibre Optic Cable CFLG.LB 50 % smaller radii</p>



Bearings in derailleurs from SRAM

Our plain bearings are lubrication-free, resistant to mud, sand, dust, oil and water - perfectly suited for maximum shifting gears performance.



GO ZERO Lubrication ... save lubrication time and costs

Bicycle components



30

Innovative and sustainable
Bike frame made of plastic - made in Germany

32

Luminous, corrosion-free, 100% recyclable
Tribo-optimised plastic handlebar with light

32

Robust, corrosion-free, 100% recyclable
Tribo-optimised plastic handlebar

33

Corrosion-free, strong, easy to recycle
Rotomoulded wheels

33

Further highlights
igus® components for bicycles



Quick consultation anywhere at any time



In person

Jan Philipp Hollmann
+49 (0) 2203 9649-7027
jhollmann@igus.net



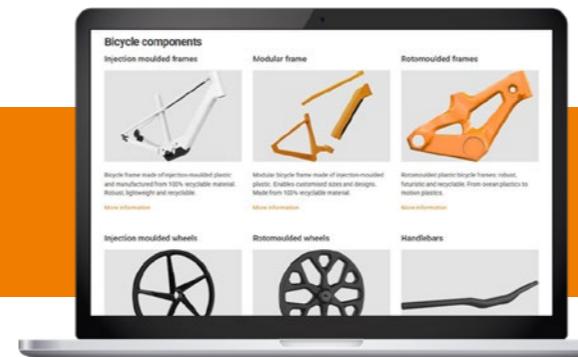
Chat

Online und WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move



All components at a glance

Find all about igus® expertise and our plastic components for the bicycle industry. Tech up, less maintenance, 100% recyclable: igus.eu/bike-components

igus.eu/news-bike-components

Bike frame made of plastic - made in Germany

Innovative and sustainable



New

Industrially manufactured carbon composite frame

Bike frame made of plastic - made in Germany

Whether a minimalist look, clear and sharp lines or eye-catching colours, the injection moulding process enables creative designs with 100% repeatable manufacturing tolerances. Various composites available.

- ▲ Vibration-damping and corrosion-free
- ▼ No weld seams thanks to the injection moulding process and therefore significantly less post-processing required
- The frame has been approved by the EFBE testing institute for a system weight of 140kg for ASTM 2 in accordance with DIN ISO15194
- Energy-saving injection moulding process and short transport paths (local supply chains)



From development

Bicycle frames made from thermoplastics



The injection moulded frame on the test rig in our test laboratory.

igus® relies on thermoplastics for bicycle components such as frames or handlebars - thanks to the latest injection moulding technology, these have many advantages over materials such as aluminium or carbon.

New design possibilities

Plastic injection moulding process enables bicycle manufacturers to create a new form of design that cannot be achieved with other materials. Thanks to the injection moulding process, bicycle frames are manufactured in one piece without unsightly weld seams. The targeted use of plastic results in products with pinpoint rigidity and flexibility.

Repeatable manufacturing tolerances

Injection moulding is a widely used manufacturing process for efficient and highly automated series production of plastic parts. A key advantage of this manufacturing process is the ability to maintain very high dimensional

accuracy. By using precise tools and machines, tight manufacturing tolerances can be maintained in order to realise the highest quality requirements and consistency in large quantities with repeat accuracy. Compared to aluminium frame production, the injection moulded plastic frame requires minimal reworking due to the one-piece production method.

Production in line with demand

Thermoplastic manufacturing processes enable just-in-time production, minimising storage capacities and paving the way for a demand-driven supply chain.

Sustainable production and 100 % recyclable products

Thermoplastics impress with their energy-efficient production compared to traditional bicycle materials. They can be processed at lower temperatures and in less time, reducing both energy consumption and production costs.

Our production processes are designed to be both energy-efficient and environmentally friendly. We rely on state-of-the-art manufacturing and recycling processes that minimise energy consumption while ensuring maximum efficiency. We only use materials that are 100% recyclable. This enables us to create products that not only meet the highest quality standards, but also make a positive contribution to environmental protection

Long service life and corrosion resistance

Thermoplastics are resistant to moisture, rust and weathering effects offering good corrosion resistance compared to metallic materials. They are more flexible and less prone to micro-cracking than carbon-based materials. Their toughness makes them ideal for bicycle frames and ensures a long service life.



Jan Philipp Hollmann
Head of the Bicycle Components Business Unit

Our products for bicycles in a box.

igus.eu/bikebox





Study

Luminous, corrosion-free, 100% recyclable

Tribo-optimised plastic handlebar with light

Bicycle handlebars made of high-performance plastic with light integration, 2x30lux. Safe, visible and elegant on the move.

- ▲ Light integration, diverse design options
- ▼ Design for easy assembly and maintenance
- Material tests in the igus® bicycle test laboratory
- Energy-saving injection moulding process and short transport paths (local supply chains)



Update

Corrosion-free, strong, easy to recycle

Rotomoulded wheels

26" wheels with strong spoke design, especially suitable for high loads. Manufactured using the energy-saving rotomoulding process.

- ▲ New rotomoulding technology
- ▼ Low tooling costs
- Tested in the igus® bicycle test laboratory
- Energy-saving production method and short transport paths (local supply chains)



Update

Robust, corrosion-free, 100% recyclable

Tribo-optimised plastic handlebar

Bicycle handlebars made of high-performance plastic. Robust, lightweight and comfortable. Vibration-dampening material. Various colours and designs available.

- ▲ Various design options, different colours
- ▼ Cost optimisation through just-in-time ordering
- The handlebar has been statically and dynamically approved by the EFBE testing institute up to 50% weight above the standard requirements in accordance with DIN ISO 15194
- Energy-saving injection moulding process and short transport paths (local supply chains)



Further highlights

igus® components for bicycles



Plain bearings



Flanged bearings



RCYL



Advanced MIDI controller

A specially developed click wheel offers an unrivalled feel for the user. The rotary knob is guided in linear and axial ways with iglidur® plain bearings.



GO ZERO Lubrication ... save lubrication time and costs

iglidur® plain bearings



Tech up



Cost down



Proof



Sustainability



Digital

36

Better sliding without PTFE
iglidur® standards without PTFE

38

High loads on low-cost shafts
iglidur® W300E multi-component plain bearings

39

Simply adjust and guide
Guide pads made of iglidur® GLW

40

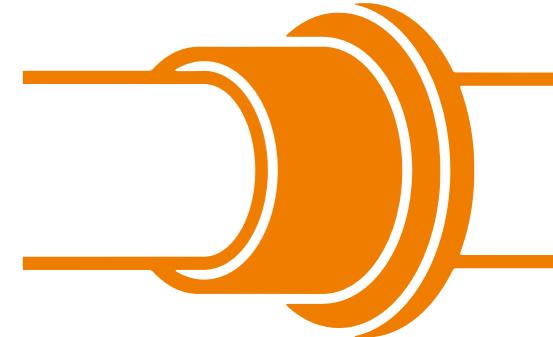
High accuracy
iglidur® G2

42

Flexible for large diameters
iglidur® universal sliding segments

43

Flexible and robust
Stainless-steel fabric with iglidur® coating



**Quick consultation
anywhere at any time**



In person

Lars Butenschön
+49 (0) 2203 9649-7167
lbutenschoen@igus.net



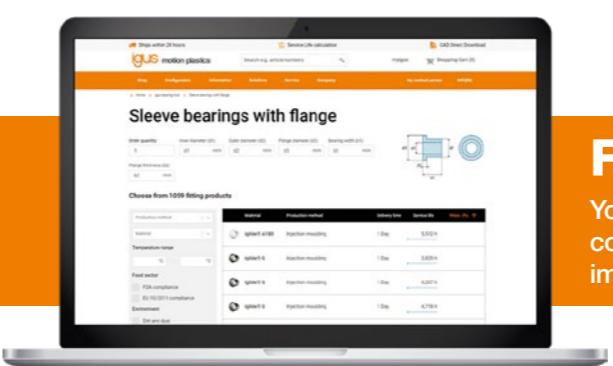
Chat

**Online and
WhatsApp**
igus.eu/chat



On site

**Sales representative
Roadshow/Trade show**
igus.eu/on-the-move

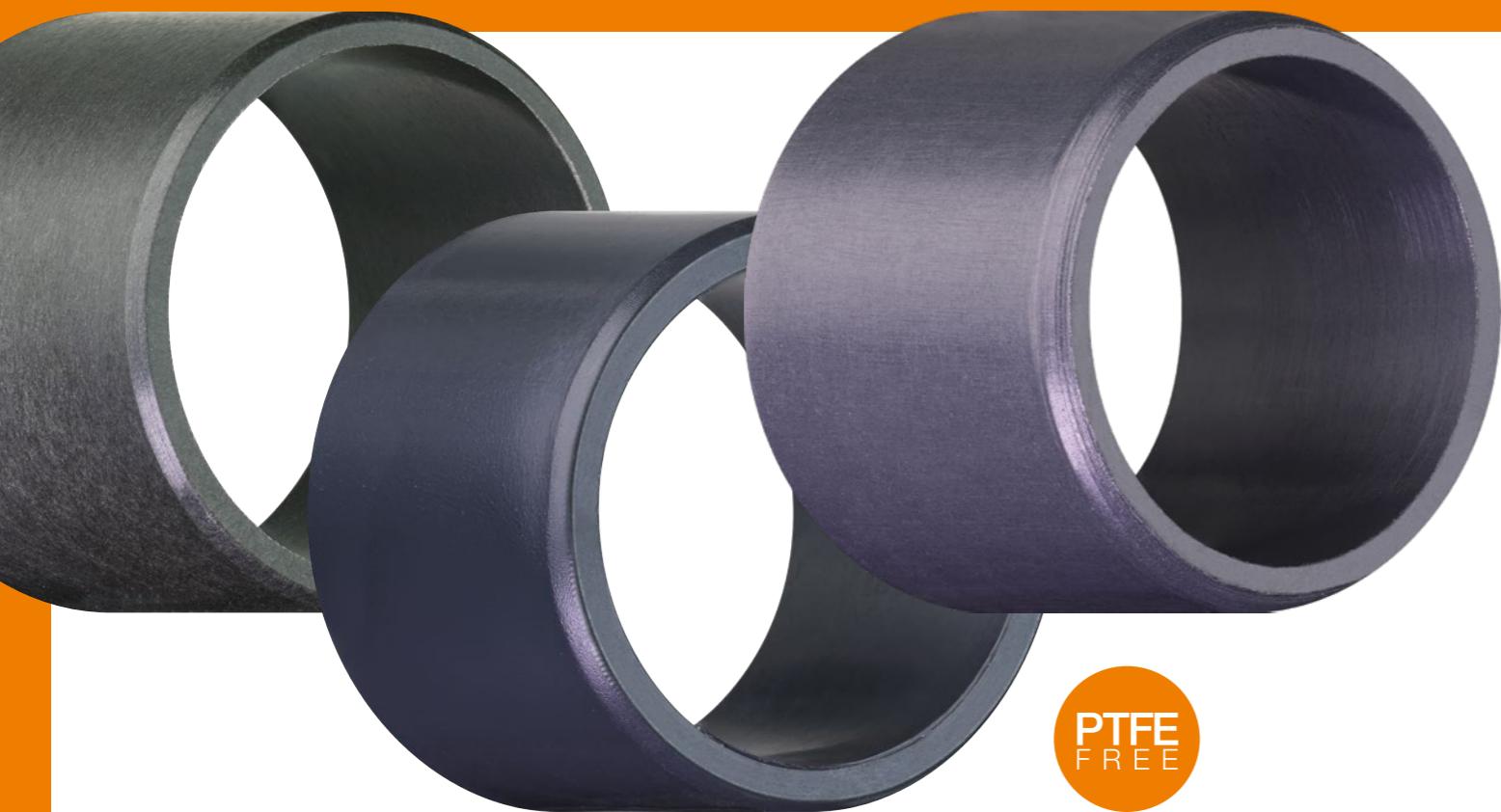


Find plain bearings easily

You will receive a real-time overview of existing and similar catalogue components for the information you have provided and - if necessary - immediate prices for your custom-made products: igus.eu/ibh

igus.eu/news-iglidur

Better sliding without PTFE



New #certified

Even more proven iglidur® materials now without PTFE

iglidur® standards without PTFE

The PTFE-free versions of the bestseller iglidur® G for universal applications as well as iglidur® X and H for high temperature and contact with chemicals.

- ▲ 100% comparable or better wear properties compared to PTFE-based solutions
- ▼ Only 10% more expensive than PTFE-based solutions
- Proven in over 15,000 wear tests in the industry's largest test laboratory
- Sustainable due to the absence of PTFE or perpetual chemicals



From development

Major advances in bearings without PFAS/PTFE

Magnus Orth, Head of Materials Development: How far along is igus® with the topics PFAS and PTFE?

We are continuing to develop PTFE-free alternatives to our most successful PTFE-containing materials at full speed. The main focus here is on expanding our top five plain bearing materials to include variants without the fluorine additive. The aim is to develop PTFE-free variants with the same or better specifications than the PTFE-containing originals. In 2024, we already presented the iglidur® JPF and iglidur® WPF materials. These are PTFE-free versions of the highly versatile and proven iglidur® J, as well as the iglidur® W300, which is optimised primarily for somewhat higher loads and wear requirements. We have also developed a recipe for a PTFE-free iglidur® F. Now, just in time for Hannover Messe 2025, we can announce a major breakthrough. We have made PTFE-free versions of the most successful iglidur® material - iglidur® G - and we can now also offer the high-temperature standard iglidur® X as PTFE-free. With iglidur® HPF, we also offer a variant especially for use in liquid media.

What was the biggest challenge during development?

Especially for the widely used iglidur® materials, it is very difficult to ensure that the products offer the same performance in practice as the PTFE-containing variants. As these are used in an extremely wide range of applications with very different requirement profiles and the design of plain bearings - if it is to be truly accurate - is based on a great deal of experience and empiricism and is difficult to simulate theoretically due to the many influencing factors, the testing effort is considerable. Our well-equipped wear laboratory and our experience help us to do this. PTFE really comes into its own when it comes to chemical-resistant and temperature-resistant bearings. It is not easy to find materials with similar specifications. Nevertheless, we succeeded.

Which applications or users particularly benefit from the new PTFE-free plain bearing materials?

The range is wide. Many manufacturers are currently looking for products that do not contain PTFE or even PFAS. In

addition to these aspects, resistance to corrosive cleaning agents and high temperatures are also important in food processing. In the automotive sector, price pressure is particularly high, while many other factors often play a role in consumer products such as electrical appliances and the like. With almost 30 plain bearing materials without PTFE and more than 40 materials in which we can already exclude the 96 PFAS that are considered critical, we offer a wide range of solutions.

igus.eu/ptfe-free



Dr. Magnus Orth
Head of Material Development

Further highlights of the PTFE-free materials



iglidur® JPF

The proven endurance runner - now without PTFE



iglidur® W300PF

For extreme endurance - now without PTFE



Further information on PTFE and PFAS

High loads on low-cost shafts



New

Inexpensive and extremely wear-resistant under high loads

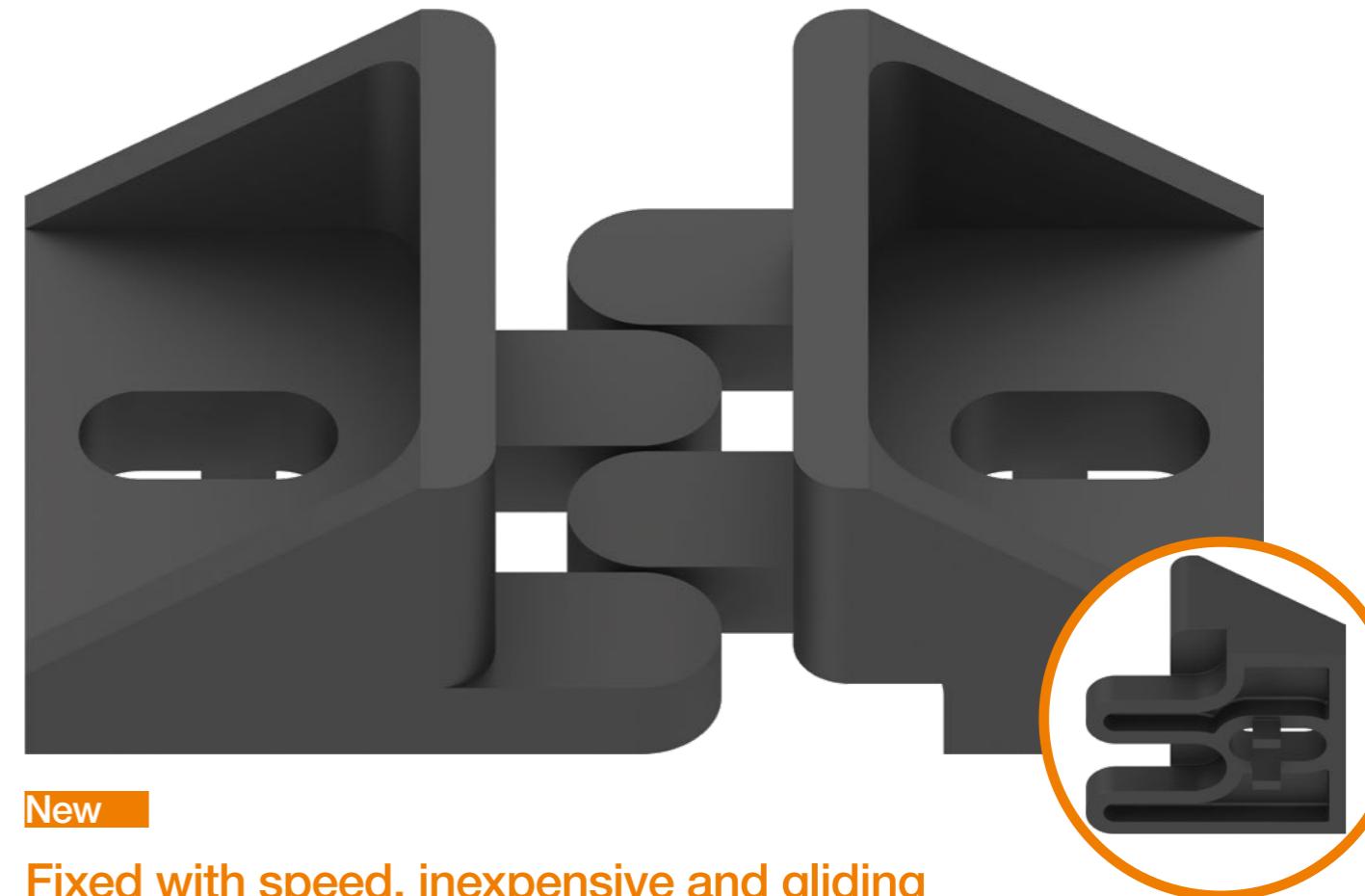
iglidur® W300E multi-component plain bearings

High-strength two-component injection-moulded plain bearing based on the universally applicable material iglidur® W300 - particularly strong and durable.

- ▲ Ideal for high loads from 75MPa with high running performance requirements on shafts such as HR carbon steel or 40Cr
- ▼ Up to 40% more cost-effective than comparable bearings made of steel with gliding layer
- Five times longer service life on gas-nitrocarburised (gnc) HR carbon steel and eight times longer service life on 40cr compared to Q3E (HR carbon steel gnc 55.9 μ m/100km, 40Cr 16 μ m/100km, p = 45MPa, v = 0.01m/s, pivoting)
- Lubrication-free dry operation



Simply adjust and guide



New

Fixed with speed, inexpensive and gliding

Guide pads made of iglidur® GLW

The new glide pads are perfect for guiding aluminium or steel rails. Thanks to their shape, they are flexible and can be customised.

- ▲ Easy to screw together and adjust to different rails thanks to its shape
- ▼ Cost-effective thanks to the use of iglidur® ECO G based on recycled regranulate
- Wear-resistant: 0.04 μ m/100,000 cycles, linear, 200mm stroke, 1MPa, 0.1m/s
- Sustainable thanks to the use of up to 97% regranulates



High accuracy



New

New material for particularly low bearing clearance

iglidur® G2

The particularly low moisture absorption and temperature expansion combined with high dimensional stability allow for very low bearing clearance (G9).

- ▲ Improved haptics due to tight bearing clearance
- ▼ Up to 40% more cost-effective than comparable metal bushings
- Clearance reduction of over 50% compared to iglidur® G (G9 vs. E10)
- Lubrication-free dry operation helps save on lubrication

Clearance reduction? Not child's play!

How we can reduce bearing clearance by 50%

Bearing clearance is an important factor in many plain bearing applications. Excessive bearing clearance manifests itself in the form of rattling and noise, particularly in end user products with moving parts such as bicycles or household appliances, but also toys and even machines. This haptics plays a major role in whether a device appears „high quality“ or not. At the same time, low bearing clearance also increases the quiet operation of plain bearing applications.

Reason enough, therefore, to strive for the lowest possible bearing clearance. A certain amount of bearing clearance is not only necessary for reasons of process-reliable manufacturability, for example to compensate for manufacturing tolerances. It also compensates for the expansion of the materials used due to heat or moisture. Materials expand or contract to varying degrees under the influence of temperature. At the same time, certain materials also absorb significant amounts of moisture - for example from air humidity.

Plastics often have a particular tendency to expand under the influence of temperature and moisture, which is why a certain amount of bearing clearance is required to compensate for this in bearing applications. Without this compensation, the shaft would jam in the bearing in some applications, which usually results in damage to the bearing or even the surrounding equipment.

Since not all plastics are subject to the same expansion, there are various fits within the iglidur® range from D11 to E10 to F10. These fits are achieved by press-fitting them into a housing bore with H7 tolerance. In combination with a shaft with H9 tolerance, they are suitable for most plain bearing applications.

However, users often require an even lower bearing clearance. These requirements can often be fulfilled within the scope of customised products by carefully matching the iglidur® material used in conjunction with the component's wall thickness

and length as well as the tolerances of the surrounding parts.

Based on the material iglidur® G2, which is specifically optimised for low moisture absorption, thermal expansion and processability, we can now offer a complete range of dimensions with reduced clearance. The new material is part of the range of iglidur® G materials and also offers good running performance on many different shafts in most application areas with low to medium loads and speeds, especially with pivoting or rotating motion profiles.



Lars Butenschön
Head of Business Division
iglidur® plain bearings

Part No.	d1 [mm]	d1 tolerance	d2 [mm]	b1 [mm]
G2SM-0810-08	8	+0.01 +0.05	10	8
G2SM-1012-10	10	+0.01 +0.05	12	10
G2SM-1214-12	12	+0.01 +0.05	14	12
G2SM-2023-20	20	+0.01 +0.05	23	20
G2SM-2528-25	25	+0.01 +0.06	28	25
G2SM-3034-30	30	+0.01 +0.06	34	30

iglidur® G2 product range



Flexible for large diameters



New #modular

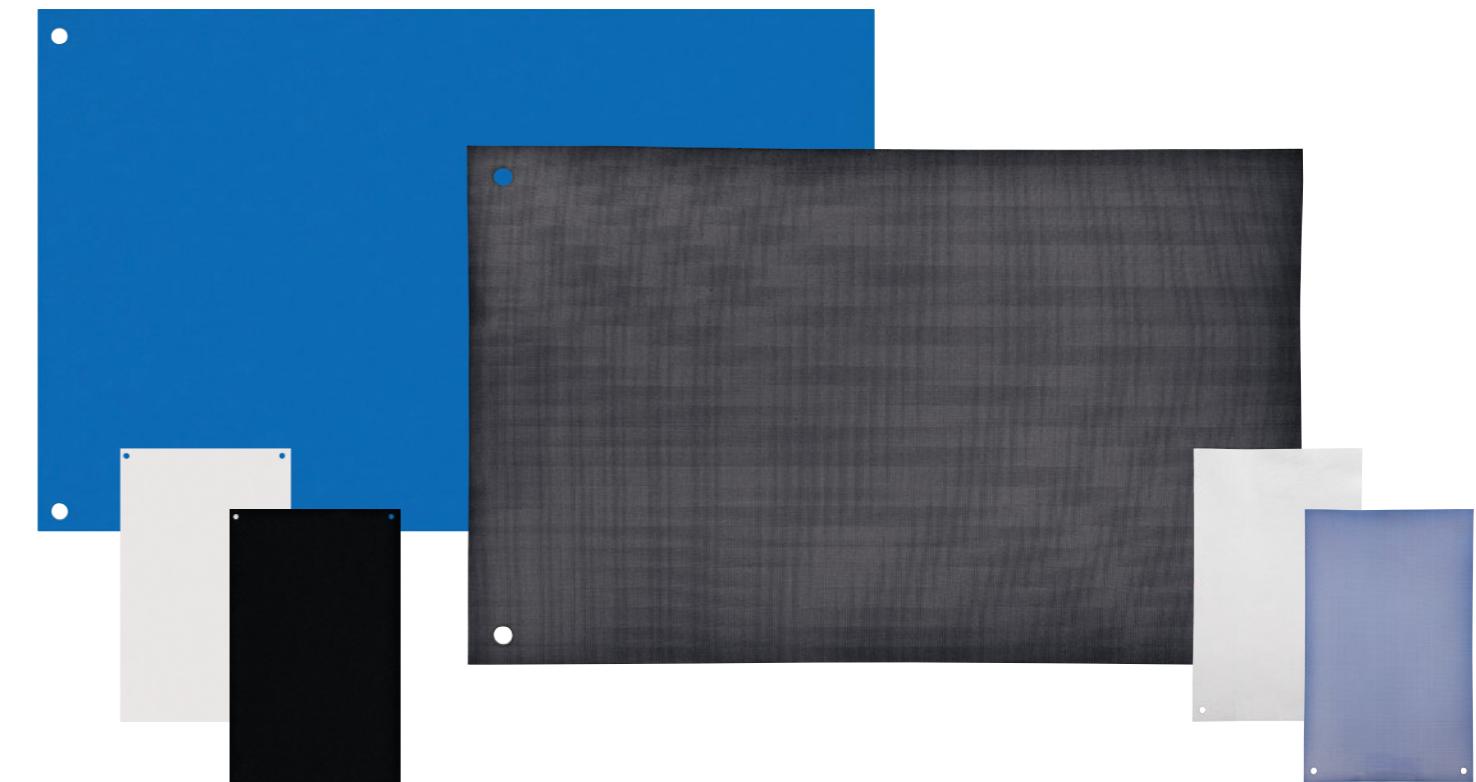
Universal sliding segments for all quantities

iglidur® universal sliding segments

The flexible sliding segments made of the heavy-duty wear-resistant material iglidur® Q3 permit any bearing diameter from 250mm.

- ▲ Customised bearing diameters possible for all quantities
- ▼ No expensive customised products thanks to universal installation size
- Low wear: 7.8 μ m/km, pivoting, $p = 76\text{ MPa}$, $v = 0.01\text{ m/s}$, shaft: Cf53
- Lubrication-free dry operation helps save on lubrication

Flexible and robust



New

Can be customised and used individually

Stainless-steel fabric with iglidur® coating

This flexible and robust stainless-steel fabric with iglidur® coating can be customised and is ideal for various industrial applications. Also available as a plate in the dimensions 1,200 x 800mm.

- ▲ Flexible, robust and durable
- ▼ Easy to machine and assemble, e.g. with wire cutters and screw connection
- Wear-resistant surface with a coefficient of friction against steel of $\mu = 0.15$
- Prolonged service life thanks to the wear-resistant surface





Maintenance-free conveyor belts

Thanks to the knife-edge rollers made of iglidur® P210, Krones AG's beverage plants operate failure-free worldwide.



GO ZERO Lubrication ... save lubrication time and costs

iglidur® rollers



Tech up



Cost down



Proof



Sustainability



Digital

46

Efficient pulley operation
Pulleys made of iglidur® JB

47

High-performance rollers
Roller adapters made of iglidur® P360 and A500

47

Durable, robust plastic rollers
Skate wheels made of iglidur® J

**Quick consultation
anywhere at any time**



In person

Lars Kleist

+49 (0) 2203 9649-8309

lkleist@igus.net



Chat

Online and
WhatsApp

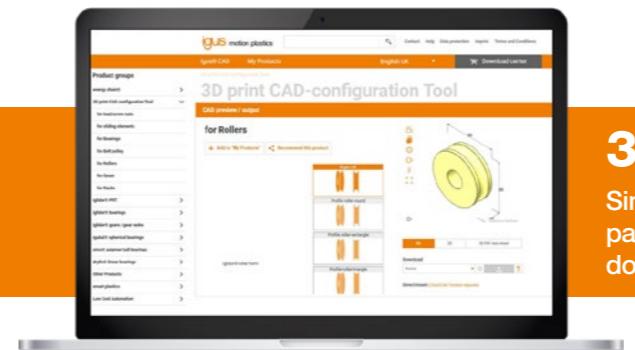
igus.eu/chat



On site

Sales representative
Roadshow/Trade show

igus.eu/on-the-move



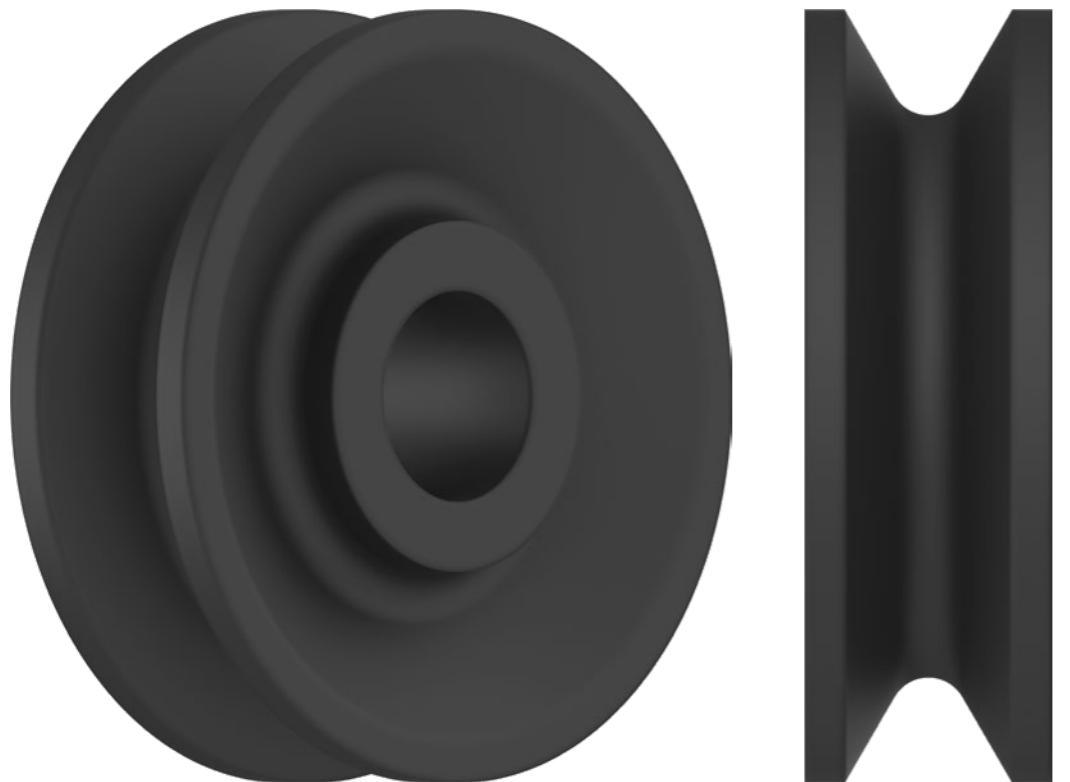
3 steps to your required product

Simply click on the configurator, select the roller design and fill in the parameters: the customised CAD model is immediately available for download: igus.eu/CAD-rollers

igus.eu/news-rollers

Pulleys made of iglidur® JB

Efficient pulley operation



New

Versatile load movement with little effort

Pulleys made of iglidur® JB

The pulleys made of iglidur® JB enable tensile forces deflection and a controlled movement. Lifting and moving loads, both horizontally and vertically, is also made easier. Special applications could include pulley blocks. iglidur® JB is characterised by wear resistance and is resistant to impacts and shocks.

- ▲ Optimised pulley geometry
- ▼ Long service life leads to extended maintenance intervals
- 4 times longer service life compared to POM pulleys
- Lubrication- and maintenance-free, so no environmental pollution



Plus

High-performance rollers

Roller adapters made of iglidur® P360 and A500

iglidur® roller adapters can be mounted on conventional ball bearings to minimise operating noise and wear. Depending on the material, they are designed for use at temperatures of up to +150°C and have a three times longer service life than that of PA roller adapters. Moreover, they are lubrication-free, maintenance-free and cost-effective.

- ▲ Quiet, wear-resistant, FDA- and EU10/2011-compliant for chemicals and food
- ▼ Less maintenance work due to running rail-friendly design
- Successful tests at radial load of up to 3,000N (A500) and 3 times longer service life compared to PA roller adapters (P360)
- Zero lubrication required

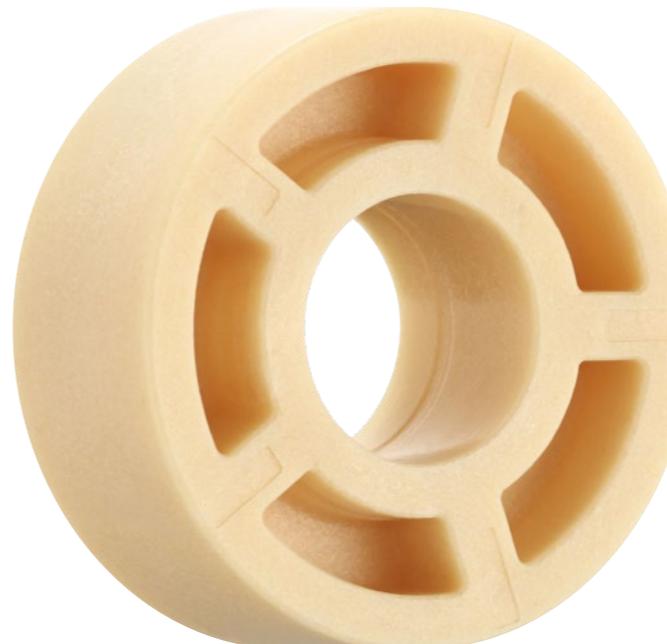


Plus

Durable, robust plastic rollers

Skate wheels made of iglidur® J

Durable, cost-effective and ideal for higher loads: the new plastic skate wheels are lubrication-free endurance runners when it comes to surface pressures of up to 10MPa. Now also available in three new dimensions between 19mm and 32mm.



- ▲ 1:1 substitute for ball bearings of the same size
- ▼ Resistance to dust, dirt and grime; less maintenance costs
- Tested in the igus® test laboratory: 6 times longer service life compared to standard POM skate wheels
- igus® has been an investor in Mura Technology from the very beginning, and is advancing chemical recycling. From plastic waste to crude oil in 20 minutes: igus.eu/hydropo





Efficient format adjustment

drygear® Apiro® gearboxes enable flexible adaptation of the food-compliant conveyor belt for efficient product channelling at I.B.srl from Italy.



GO ZERO Lubrication ... save lubrication time and costs

drygear® gear and gearbox technology



50

Easy to adjust

drygear® worm gear with hand wheel and manual clamp

51

Precise positioning

drygear® worm gear with hand wheel and position indicator

52

Articulated coupling for connecting two shafts

drygear® universal joint

53

Further highlights

for easy format adjustments and automation solutions

Quick consultation anywhere at any time



In person

Steffen Schack

+49 (0) 2203 9649-9827
de-drygear@igus.net



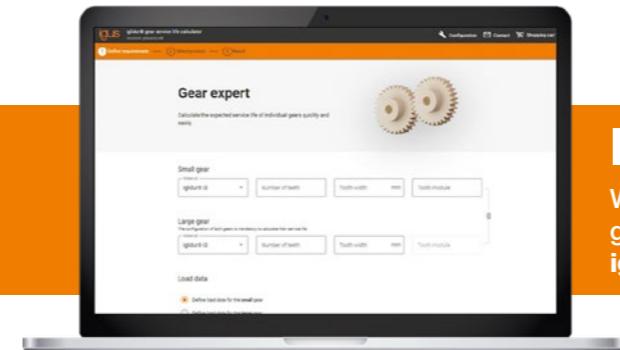
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move



Individual configuration

With our gear configurator you can configure straight-toothed helical gears (single and double) as well as straight-toothed double gears:
igus.eu/gear-expert

igus.eu/news-drygear

Easy to adjust



New

Positioning in no time

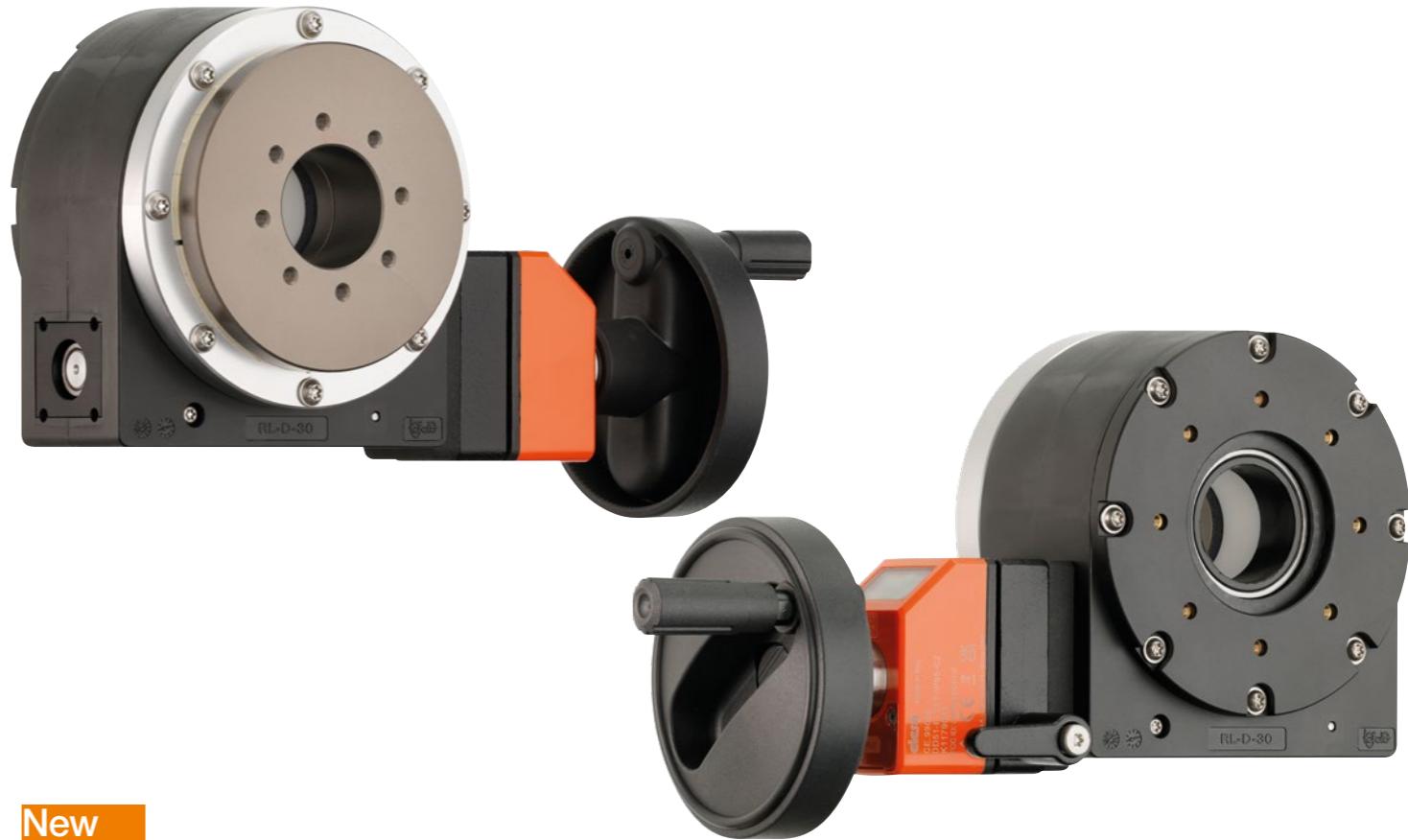
drygear® worm gear with hand wheel and manual clamp

The drygear® "RL-D" series worm gears are now available with hand wheel and manual clamping. Thanks to ball bearings, they enable precise, manual adjustments and permanently secure locking. They are available in three sizes (20, 30, 50) and with one-sided or double-sided output.

- ▲ Convenient operation thanks to hand wheel and clamping mechanisms for precise component positioning
- ▼ Ready-to-install complete solution for manual adjustment without additional tools
- Up to 1,000N axial load (horizontal possible)
- Lubrication and maintenance-free, so no environmental pollution



Precise positioning



New

Complete solution with plain bearings

drygear® worm gear with hand wheel and position indicator

The drygear® "RL-D" series worm gears have plain bearing supported PRT slewing ring bearings, a hand wheel, a manual clamp and a freely programmable position indicator. This innovative complete solution enables precise manual adjustments and fittings, ideal for exact positioning. Available in various sizes and configurations.

- ▲ The integration of the position indicator together with the hand wheel ensures user-friendly handling and high accuracy during adjustment
- ▼ Ready-to-install complete solution for precise adjustment without additional tools
- Up to 56 Nm of torque can be transmitted
- Environmentally friendly use in dry operation without lubrication





Plus

Articulated coupling

drygear® universal joint

The corrosion-resistant universal joints are suitable for a modular design to transmit the rotary motion between the gearboxes, e.g. for format adjustment. Now available in new size Ø12mm!

- ▲ Simple assembly and disassembly facilitates maintenance and component replacement
- ▼ Reduce maintenance costs through faster assembly
- Permissible torque transmission of up to 18.6Nm tested in the igus® laboratory
- Universal joints are resistant to corrosion and suitable for applications that require regular wet cleaning, among others.



Download the Conveyor iDeas booklet now!

Our 24-page booklet offers valuable insights into the numerous application possibilities of our products and shows you how you can benefit from them in your specific application. You will also receive a compact overview of all relevant information including direct links to suitable product recommendations.



igus.eu/conveyor-ideas

Further highlights

for easy format adjustments and automation solutions



drygear® Apilo® gearbox with manual clamp, position indicator and hand wheel



drygear® Apilo® rack gears



drygear® flexible shaft



robolink® D direct drive motor kit with stepper motor



drylin® D1 motor control system



Motor cable with M12 connector



igubal® compact two hole flange bearing with J spherical insert bearing



igubal® J3 spherical insert bearing



igubal® fixing collars made from plastic



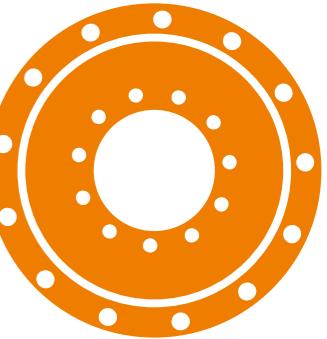
Adjustment of solar tracker

The lubrication-free, precise and durable PRT slewing ring bearings provide a reliable, maintenance-free and cost-effective solution.



GO ZERO Lubrication ... save lubrication time and costs

iglidur® slewing ring bearings



56

Low cost made of solid plastic
iglidur® PRT-05 with angle stop

57

Compact high performer
iglidur® PRT-04 compact version

58

Maximum control
iglidur® PRT-04 with angle stop

59

PTFE-free all-rounder
iglidur® PRT-04 with PTFE-free
sliding elements

**Quick consultation
anywhere at any time**



In person

Marc Trenkler
+49 (0) 2203 9649-268
mtrenkler@igus.net



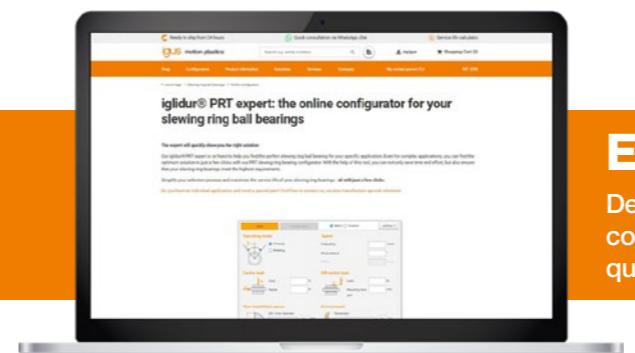
Chat

Online and
WhatsApp
igus.eu/chat



On site

**Sales representative
Roadshow/Trade show**
igus.eu/on-the-move

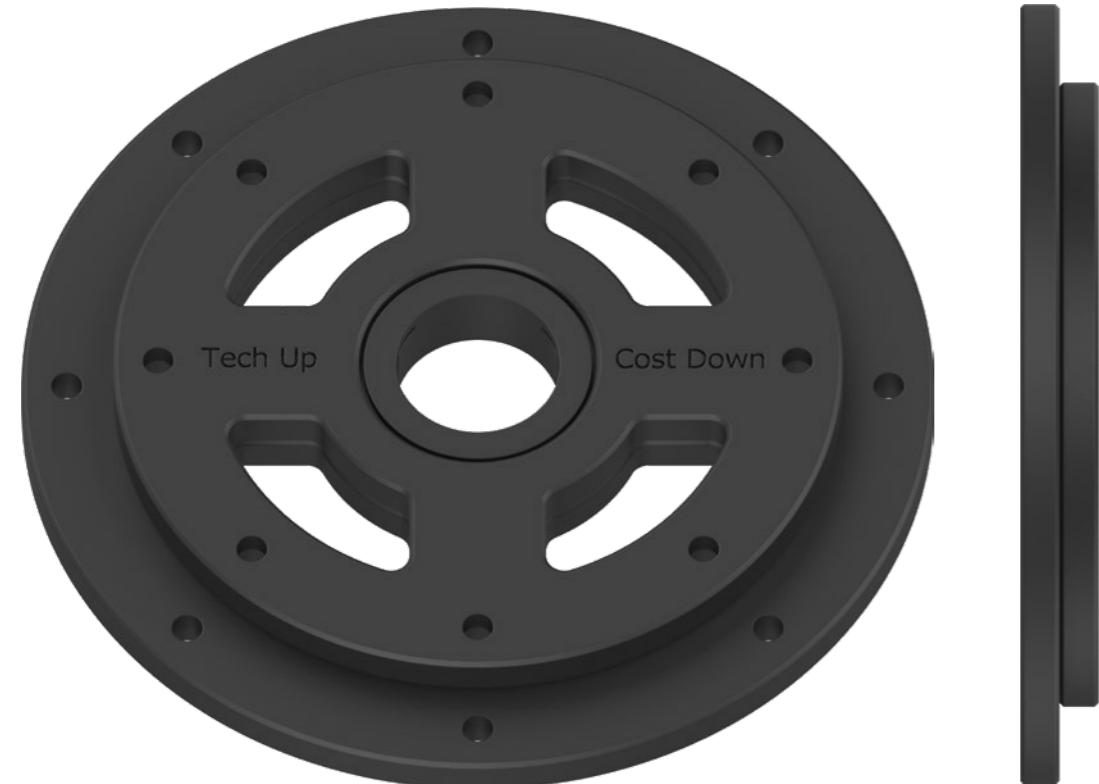


Easily configure slewing ring bearings

Determine the PRT slewing ring bearing for your individual application, the corresponding service life and the best price-performance ratio simply, quickly and effectively: igus.eu/PRT-expert

igus.eu/news-prt

Low cost made of solid plastic



New #lowcost

Adjust angle with hard stop

iglidur® PRT-05 with angle stop

The PRT-05-15-PC-TS-360 consists of injection-moulded components that are inexpensive to manufacture and easy to assemble. The simple design ensures a lightweight, strong construction. The integrated angle stop enables rotary movements as standard and can be customised upon request. The iglidur® P4 and iglidur® M260 materials offer a particularly long service life.

- ▲ Adjust stop positions quickly and individually: prevent the rotation of the PRT slewing ring bearing
- ▼ Inexpensive solid plastic slewing ring (up to 4 times more cost-effective than PRT-04-50-TS)
- Optimum combination of materials, coefficient of friction $\mu = 0.18$, axial tensile strength 200N, axial compressive strength 1,750N
- Made from at least 97% regranulate



Compact high performer



New #compact

Lighter, smaller, more cost-effective

iglidur® PRT-04 compact version

PRT-04-XXX-CP is the compact version of our high-performer PRT-04. This product is 60% lighter, offers 50% more space savings and is 20% more cost-effective than PRT-01. It has universal sliding elements made of iglidur® J and an extensive modular system.

- ▲ 60% lighter, 50% more compact compared to PRT-01
- ▼ 20% more cost-effective compared to PRT-01
- With our iglidur® J sliding elements, you can also use the PRT-04 in cleanrooms
- Easy replacement and extension: modular construction kit design



iglidur® PRT-04 with angle stop

Maximum control



New

Positional control

iglidur® PRT-04 with angle stop

The PRT-04-XX-TS-360 makes it possible to quickly and individually adjust stop positions to prevent rotation of the PRT slewing ring bearing at defined points. A new feature is that the stop can be realised over 360° and can even be extended up to 720° upon request.

- ▲ Adjust stop positions quickly and individually: prevent the rotation of the PRT slewing ring bearing
- ▼ 20% more cost-effective compared to PRT-01
- 60% lighter, 50% more compact compared to PRT-01
- Easy replacement and extension: modular construction kit design



PTFE
FREE

Update

PTFE-free all-rounder

iglidur® PRT-04 with PTFE-free sliding elements

iglidur® slewing ring bearings PRT-04 with aluminium body and iglidur® JPF sliding elements do not contain any PTFE.

- ▲ High wear resistance of PTFE-free iglidur® JPF materials
- ▼ 20% more cost-effective compared to PRT-01
- Proven PTFE-free, tested in the igus® laboratory for load and wear
- Environmentally friendly use in dry operation, 100% lubrication-free



Flexible, customised and precise

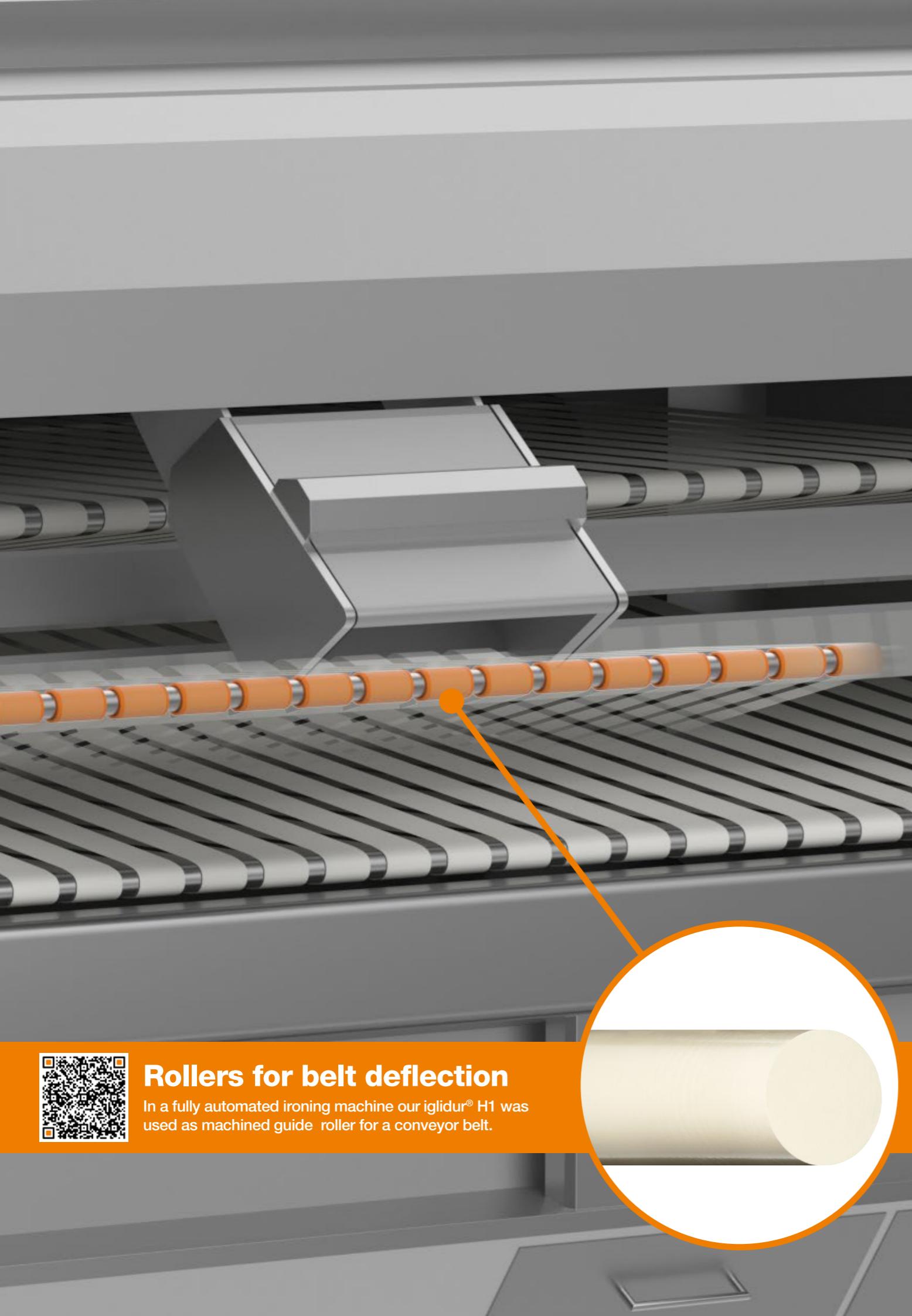
The PRT-04 modular system

The advantages at a glance:

- Slewing ring bearings tailored to your application
- Selection of outer and inner drive teeth
- Additional functions such as angle stop and snap mechanism
- Quick, easy assembly
- 100% free of maintenance and lubrication
- FDA-compliant and PTFE-free solutions
- Available in eight installation sizes

igus.eu/prt-modular-system





Rollers for belt deflection

In a fully automated ironing machine our iglidur® H1 was used as machined guide roller for a conveyor belt.



GO ZERO Lubrication ... save lubrication time and costs

iglidur® bar stock



Tech up



Cost down



Proof



Sustainability



Digital

62

Wear-resistant all-rounder
iglidur® W301 round bars

62

Cost-effective, for high temperatures
iglidur® ECO A500 round bars

63

Good media-resistance,
high impact resistance
iglidur® B250 round bars

**Quick consultation
anywhere at any time**



In person

Ansgar Clemens
+49 (0) 2203 9649-7464
aclemens@igus.net



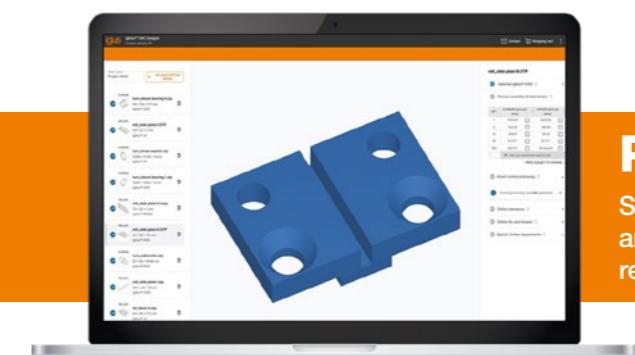
Chat

Online and
WhatsApp
igus.eu/chat



On site

**Sales representative
Roadshow/Trade show**
igus.eu/on-the-move



Price and service life in 3 minutes

Supported by helpful functions such as multi-part upload, feasibility analysis, tolerance check and express option, you will receive all the relevant information in just a few minutes: igus.eu/cnc

igus.eu/news-barstock

New

Wear-resistant all-rounder

iglidur® W301 round bars

Components made of iglidur® W301 bar stock round bars have a high media resistance and low wear rates. They are also resistant to shocks and impacts and are particularly suitable as a roller material.

- ▲ Low wear rates at 1MPa and 0.3m/s against 304 SS
- ▼ Maintenance-free properties reduce costs for lubrication and maintenance
- Up to 6 times more wear-resistant than iglidur® H1
- Environmentally friendly, no additional lubricants needed
- Request customised machined parts from the CNC service or order directly:
igus.eu/cnc



New #lowcost

Cost-effective, for high temperatures

iglidur® ECO A500 round bars

Components made of iglidur® ECO A500 bar stock round bars have an exceptionally good chemical resistance and are suitable as endurance runners at temperatures up to +250°C. In addition, the iglidur® ECO A500 round bars are cost-effective.

- ▲ For high temperatures (up to +250°C)
- ▼ Low-cost material
- Equivalent wear results to PEEK
- 100% lubrication-free
- Request customised machined parts from the CNC service or order directly:
igus.eu/cnc



New

Good media-resistance, high impact resistance

iglidur® B250 round bars

Components made of iglidur® B250 bar stock round bars are wear-resistant and have good media resistance. They are also insensitive to edge pressure, have a high impact resistance and are very well suited as a roller material.



- ▲ Up to 8 times more wear-resistant than POM

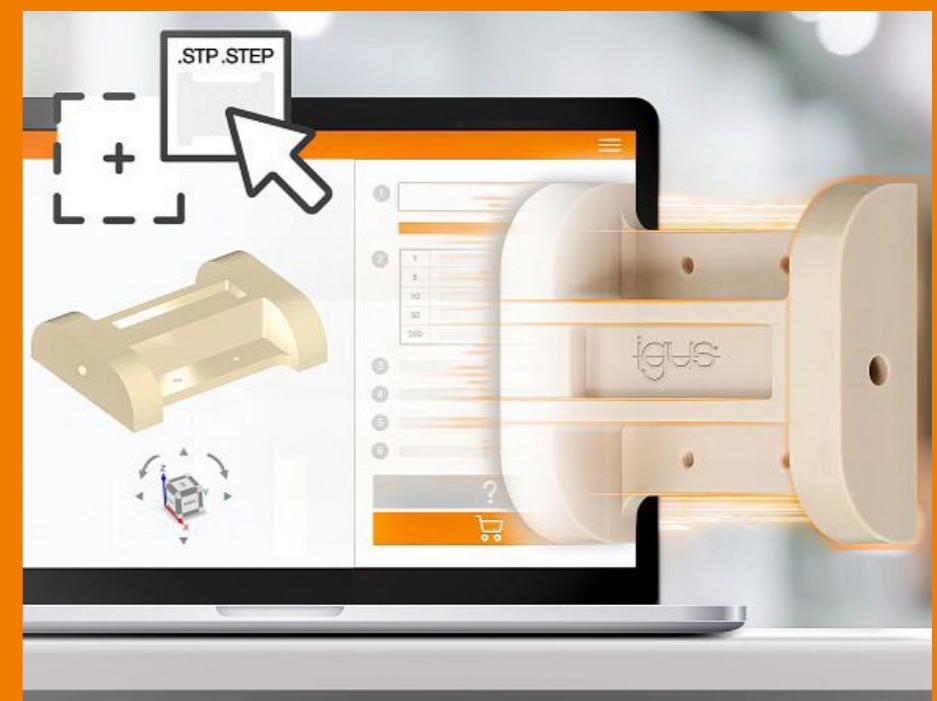
- ▼ No costs for lubrication
- Improved sliding properties at 1MPa and 0.3m/s against 304 SS
- Environmentally friendly, no additional lubricants needed
- Request customised machined parts from the CNC service or order directly:
igus.eu/cnc



Get price, delivery time and service life in no time

Order CNC special parts quickly and easily online. Supported by helpful functions such as multi-part upload, feasibility analysis, service life calculator, tolerance check and express option, you will receive all the relevant information you need to order your special part in just a few minutes.

igus.eu/cnc





Customised solution

Thanks to its high wear resistance and self-lubricating specifications, 3D-printed gears made of iglidur® i3 SLS powder enable maintenance-free operation in searchlights.



GO ZERO Lubrication ... save lubrication time and costs

iglidur® 3D printing



Tech up



Cost down



Proof



Sustainability



Digital

66

For high precision

iglidur® i4000 resin for DLP 3D printing

**Quick consultation
anywhere at any time**



In person

Jonas Burk

+49 (0) 2203 9649-7074

jburk@igus.net



Chat

**Online and
WhatsApp**

igus.eu/chat

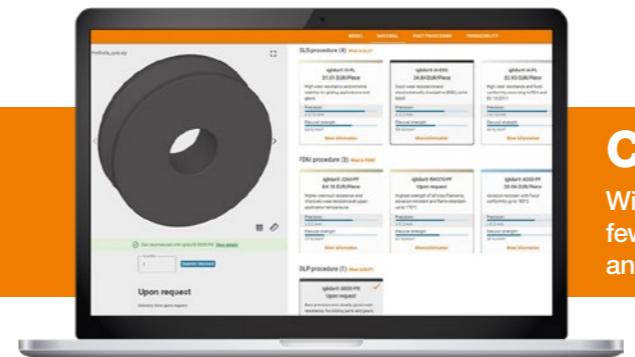


On site

Sales representative

Roadshow/Trade show

igus.eu/on-the-move



Customised components in 1-3 days

With the igus® 3D printing service, find your individual component in just a few steps: upload your CAD model and choose a manufacturing procedure and material. You can also calculate the service life - that's it: igus.eu/idd

igus.eu/news-3d-printing

For high precision



New

Perfect for fine gears with a long service life

iglidur® i4000 resin for DLP 3D printing

The new triboresin iglidur® i4000 has been specially developed for gear applications. The material is suitable for components with high precision (tooth module $m = 0.16$) and is therefore ideal for a wide range of applications at room temperature.

- ▲ Specially designed for gear applications: 13 times higher elongation at break than iglidur® i3000
- ▼ No minimum order quantity, no tool set up costs
- Up to 5 times longer service life than standard resin, high strength and good impact resistance
- No additional lubrication required due to integrated solid lubricants
- Available in the online 3D printing service: upload CAD files and order directly online: igus.eu/idd



From development

What is behind the new iglidur® i4000 resin?

Interviewer: Why was the new resin developed?

Expert: Our new iglidur® i4000 resin was specially developed for the production of gears. We focussed on creating a material that can be processed on commercially available 3D printers such as DLP, LCD and SLA printers. The main reason for the development was that a large proportion of the inquiries we receive are for gears in a wide variety of shapes and sizes.

Interviewer: Why are gears such a common request in 3D printing?

Expert: Gears are omnipresent in mechanics. They can be found in gearboxes, robots and vending machines. During development phases, customised and specially designed gears are often required in small to medium quantities, which are either too expensive or too time-consuming to produce using conventional methods. In such cases, 3D printing offers enormous flexibility to realise customised solutions quickly at low cost.

Interviewer: What makes the new resin particularly suitable for gears?

Expert: Our material combines several key properties. Firstly, it is extremely wear-resistant, which is important as gears are exposed to permanent loads during movement. Secondly, we have

significantly increased the material's elongation at break. This makes it less susceptible to tooth root breakage. And thirdly, the self-lubricating properties of the material make it possible to dispense with grease or oil in the application.

Interviewer: Why is 3D printing so advantageous in this context?

Expert: The biggest advantage is the freedom of design. With 3D printing, we can realise complex geometries that would be difficult or impossible to achieve with traditional manufacturing processes. There is also no need for tools such as moulds, which not only makes the process faster, but also more cost-effective. This is ideal for prototypes or small series in particular. Another advantage is that material resources can be used sustainably in 3D printing. We only use as much material as is actually needed and there is hardly any waste.

Interviewer: That sounds exciting. How does the material differ from other resin options on the market?

Expert: In addition to their mechanical properties, conventional resins are often not designed for the wear and friction in gear applications. Our resin has been specially formulated to meet the requirements in terms of performance, flexibility and stability.

Interviewer: How easy is it for companies or private individuals to use this material?

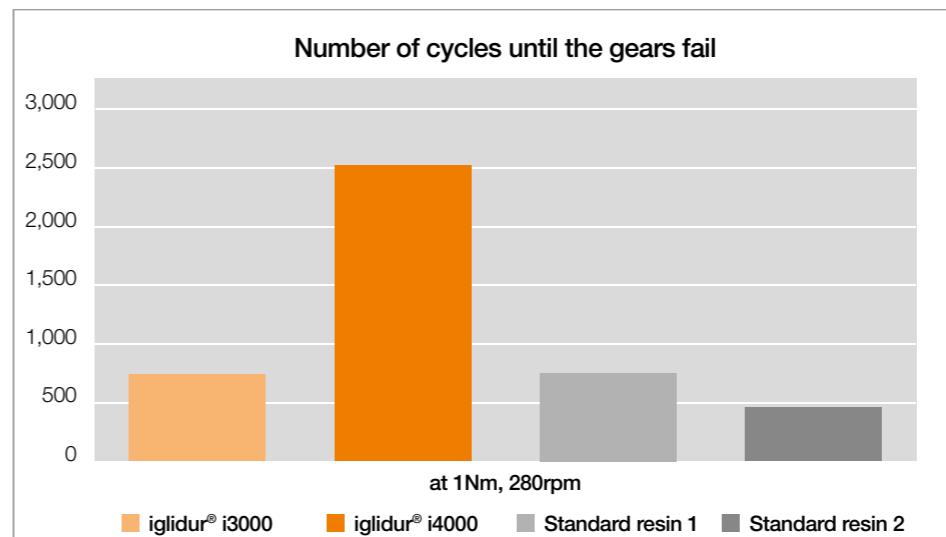
Expert: That's one of the big advantages. The resin can be used on standard DLP, LCD and SLA printers, which are very common. No special machines or adjustment are required. Processing is just as straightforward as with conventional resins, so the barrier to entry is low.

Interviewer: Are there already examples of successful applications?

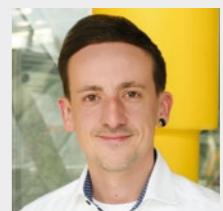
Expert: Yes, some of our customers have already produced their first prototypes and small series of gears with the new resin. One notable example is a medium-sized company that prints high-precision gears for robotics applications. By using our material, they were able to drastically reduce development time and costs.

Interviewer: How do you see the future of this material and gears from the 3D printer?

Expert: I believe that the trend towards customised solutions will continue to grow. Gears are just the beginning. Materials like our resin can also be used to manufacture other technical components efficiently and precisely. In the long term, such developments could even complement or replace traditional manufacturing methods in many areas.



Gear test on rotation test rig (in-house), steel mating partner



Daniel Cossu

Development Engineer
3D printing, Additive Manufacturing



GO ZERO Lubrication ... save lubrication time and costs

igubal® spherical bearings



70

Easy assembly
Pillow block bearing with quick-release fastener

72

Bearing change made easy
Split flange mounted bearings

75

Strong connection
Coupling joint with threaded ball stud

76

Solar bearing for high loads
Heavy duty pillow block bearing

78

Resistant to heat and durable
Metal rod ends with plastic inner ring

79

Making the square go round
Split fixing collar for square profiles

**Quick consultation
anywhere at any time**



In person

Thomas Preissner
+49 (0) 2203 9649-115
tpreissner@igus.net



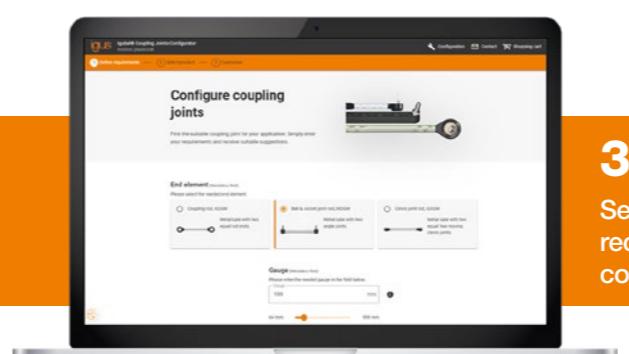
Chat

Online and
WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move



3 steps to customised coupling joints

Select type, determine material and specifications and immediately receive suitable options including price. Download data sheet, share configuration or order directly: igus.eu/gcc

igus.eu/news-igubal



Split flange mounted bearings

Ideal for bearing points that are difficult to access - users can fit it directly around the shaft without dismantling other components.

Easy assembly



New

Click and done!

Pillow block bearing with quick-release fastener

The pillow block bearing with quick-release for quick and easy installation offers stability and is ideal for applications that require frequent adjustments.

- ▲ Bearing change in less than 10 seconds
- ▼ Low maintenance costs due to time saving
- Up to 13.5kN stat. compressive force
- 100% lubrication-free



From development

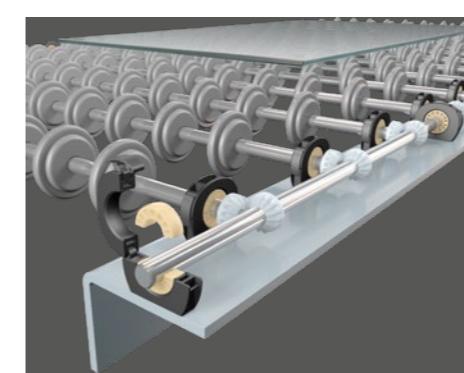
Revolution in bearing technology

In the past, our innovative products, including split pillow block and flange mounted bearings, created numerous possibilities for quick set-up changes. These developments significantly increased efficiency and flexibility in various industries. Now, however, we are setting new standards and presenting our latest highlight: the pillow block bearing with quick-release.

The pillow block bearing with quick-release takes efficiency to a new level. Users can now change the bearing without loosening a single screw or using tools. The mechanism is very simple: open the lock, remove the worn bearing, insert the new bearing and close the lock again. This process takes less than ten seconds and revolutionises the bearing's replacement process.

Pillow block bearings with quick-release show their strengths particularly in conveyor technology, where time and efficiency are crucial. Whether transporting boards, glass or concrete slabs - the fast and uncomplicated replacement of the bearing minimises downtimes and maximises productivity.

The pillow block bearing with quick-release is made of high-quality materials that ensure durability and reliability. The quick-release mechanism is robust and designed for daily use in demanding environments. The simple handling enables even less experienced users to



The quick-release pillow block bearing in glass production.



After the compression test on our quick-release pillow block bearing (with 3D-printed housing), we can specify a static compressive force of 13.5kN.

exchange bearings quickly and safely.

As with our flange mounted bearings, the spherical insert bearing is split, which further simplifies handling. Let's start with the particularly durable material iglidur® J3, which is characterised by its high wear resistance. This material has already proven its worth in other rolling applications for our pillow block bearings. Like with most of our parts containing housings, the housing is made of igumid® G, a robust and resistant material. If required, bearings can also be manufactured with other materials to meet specific requirements.

In addition to the transport industry, the pillow block bearing with quick-release also offers considerable advantages in other areas. In the manufacturing industry, where machines and systems require frequent maintenance and adjustment, rapid bearing replacement can significantly reduce downtimes. This innovative product can also increase efficiency and reduce operating costs in agriculture, food processing and the construction industry.



Julian Lewerenz
Development Engineer igubal®

Conclusion

We are setting new standards in bearing technology with the pillow block bearing with quick-release. The combination of easy handling, fast replacement and high reliability makes this product ideal for numerous applications, especially in the transport industry. We are looking forward to introducing this new product to the market and helping our customers make their processes even more efficient.

Bearing change made easy



New #compact

Fast installation minimises downtime

Split flange mounted bearings

Split flange mounted bearings allow quick assembly and easy replacement, which significantly reduces maintenance times. They are an efficient and cost-saving solution for example in conveyor belts in the packaging and beverage industry. Thanks to their design, they can be installed directly around the shaft without machine modification.

- ▲ Up to 80% time saving during assembly and 80% lighter than metal bearings
- ▼ Minimised maintenance times and costs
- Up to 14.8kN static load capacity
- No lubrication required
- ❖ White paper available: igus.eu/wp-split-flange-bearings

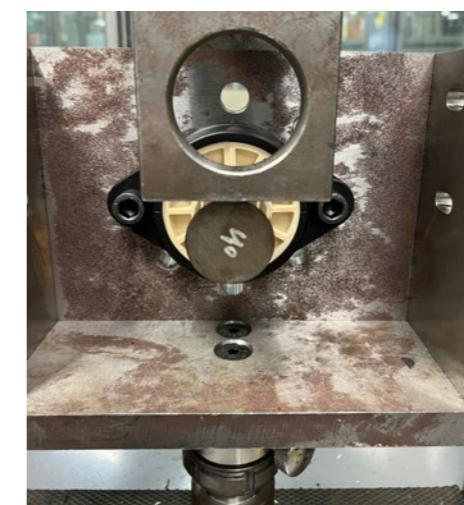


From development

Replaced in the blink of an eye

Flange mounted bearings are indispensable components in mechanical engineering and are used in numerous industries. They ensure a strong connection between machine parts and smooth movement. These bearings are crucial for extending the service life of machines and minimising downtimes. The requirements for flange mounted bearings vary considerably depending on the area of application. In the food industry, for example, they have to be particularly hygienic. In paper processing, they have to withstand high loads and are exposed to various types of dust.

As a specialist in high-performance polymers, we have managed to combine all these requirements in one plastic bearing. The igubal® spherical insert bearings are true lightweights - they are 80% lighter than metal alternatives. Despite their low weight, they are extremely robust and hard-wearing. Another advantage: the spherical insert bearings are up to 40% more cost-effective than conventional bearings and prove to be very economical in operation. Thanks to dry operation without lubrication, they are also completely maintenance-free. Each of our spherical insert bearings is made of one type of high-performance plastic, which offers particular specifications.



Pressure test on our compact two hole flange bearing.

In the past, the specifications of our products already set them apart from conventional flange mounted bearings and we now offer an innovative solution in the area of assembly. Worn bearings have to be replaced after a certain time, which requires enormous conversion measures depending on accessibility. With our split solutions, this is now a thing of the past. Users can install and dismantle the bearings directly on the shaft without removing other machine elements. A real step forward in terms of efficiency and time savings! In addition to the split housing and split spherical insert bearings, we also offer a split plastic fixing collar for the locating spigot of the shaft.

The igubal® series therefore provides a complete set with split versions.

After introducing the split four hole and two hole flange bearings last year, we are presenting the split bearings in the compact versions this time. They work with the centre distances of the 206 series and are available for 40mm and 30mm shaft diameters. As standard, we use iglidur® J3 for the spherical insert bearing. This can also be manufactured from other iglidur® materials upon request.

With us as a partner, companies can be sure that they will receive high-quality flange mounted bearings that meet the requirements of their application and are also economical and maintenance-free. Using our split bearings not only saves costs, but also increases the efficiency of machines and minimises downtimes.



Julian Lewerenz
Development Engineer igubal®

The world of split flange mounted bearings

Our white paper provides you with detailed insights and an informative video on replacing bearings.



igus.eu/wp-split-flange-bearings

Plus #lowcost



Quick replacement

Sheet metal pillow block bearing with split spherical insert bearings

Split spherical insert bearings in sheet metal pillow block housings allow users to replace spherical insert bearings quickly and easily on site without them having to dismantle other components.

- ▲ Simple and efficient installation
- ▼ Reduced costs of bearing replacement thanks to quick exchange
- Static tensile loads up to 5,000N
- No additional lubricants necessary



Coupling joint with threaded ball stud

Strong connection



Plus

High speeds

Spherical insert bearings made from iglidur® H3

We have added further sizes of our spherical insert bearings made of iglidur® H3 to our product range. They can realise speeds of up to 200rpm.

- ▲ Speeds up to 200rpm
- ▼ Avoid regular bearing changes
- Customer references with run times of over two years and load tests in the igus® laboratory, max. 21kN static radial load (safety included)
- No lubricants necessary



New

100mm long, lightweight, free from corrosion and maintenance

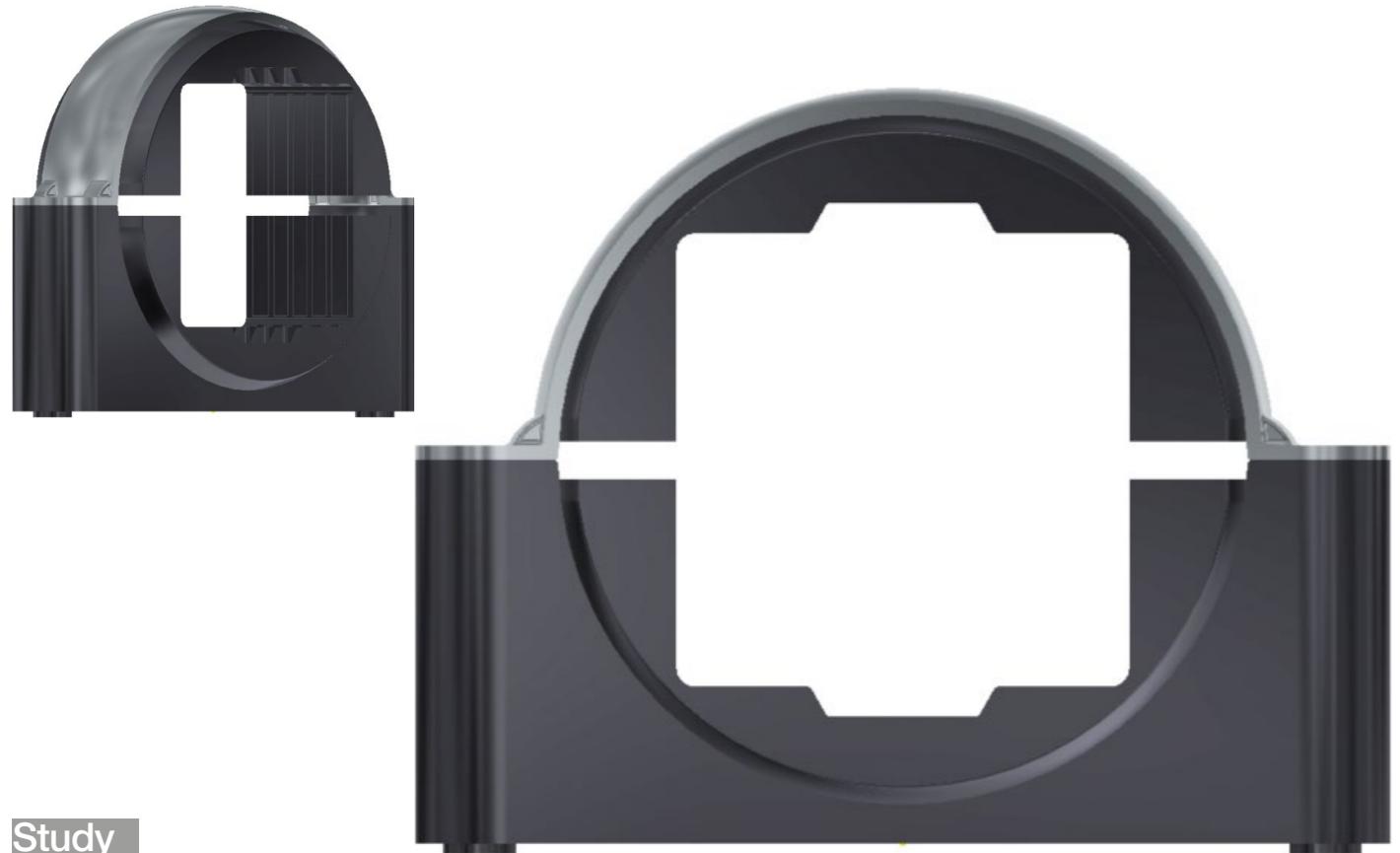
Coupling joint with threaded ball stud

Coupling joints with threaded pins connect undercarriage parts, ensuring stability and precision. They are robust, durable, lubrication-free, insensitive to dirt and easy to install.

- ▲ No readjustment necessary
- ▼ No maintenance costs
- Static tensile strength up to 1,300N
- 100% lubrication-free, no need to use additional lubricants



Solar bearing for high loads



Study

Heavy fun with the sun

Heavy duty pillow block bearing

Our innovative ESQM bearings made of heavy-duty plastic are developed specifically for solar modules in harsh environments. They are extremely resistant to corrosion and wear. The new heavy-duty ESQM, optimised for extreme weather conditions, is 50% stronger than the ESQM-2.0.

- ▲ Greater strength through optimised wall thickness
- ▼ No bearing failures, even in very stormy districts
- 50% stronger than ESQM-2.0-120
- No lubrication required



From development

Innovative solar bearings for every challenge

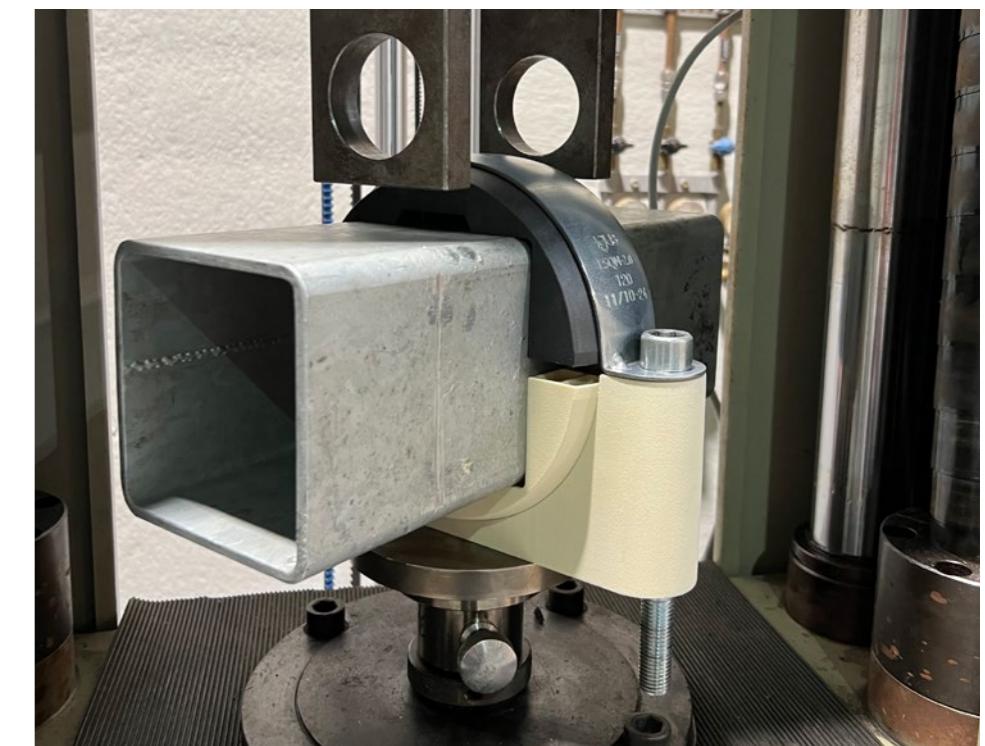
Our ESQM bearings are innovative pillow block bearings that have been specially developed for use in solar modules to track sunlight - where conventional metal bearings often fail. These bearings are made of heavy-duty plastic materials that are extremely resistant to corrosion and wear and operate smoothly. For several years, we have been working with many well-known tracker manufacturers from all over the world who use products from our ESQM portfolio.

Our customers take centre stage and we work closely with them at all times. It is very important for us to find out how they get on with our products. We are particularly interested in first-hand experience from those who use them on a daily basis. We are also in regular contact with our international subsidiaries, who communicate directly with our customers as well. The enquiry from various countries with extreme weather conditions arose from just such an exchange of information. We needed to design an ESQM pillow block bearing that could withstand extreme weather situations such as tropical storms.

The aim of this study is to test the performance and applicability of the heavy-duty ESQM, which has been specifically developed for solar energy.

The heavy-duty ESQM is a split pillow block bearing that allows for easier assembly due to a split housing and two spherical half shells. A square profile is attached to the housing, which serves as a support for the solar modules. The spherical ball is made of a tribopolymer that is resistant to wear and chemicals.

At first, we carried out tests with the proven ESQM 2.0 pillow block bearings. Here we found out where there was potential for optimisation in terms of stability and load absorption. The approach was to develop a parallel product to the ESQM-2.0, which allows



3D-printed prototype of the ESQM-2.0-120-HD put to the test.

use in extreme weather areas that push our current ESQM-2.0 to its limits. After that, optimised samples of the heavy-duty ESQM were produced with 3D printing. This optimisation meant reinforcing the wall at load points and increasing the thickness of the extender crossbar from 2mm to 4mm. These tests showed that the heavy-duty ESQM is twice as strong as our current ESQM-2.0.

Another version that we tested was the use of a so-called hard stop on the upper edge of the half shell. We attached a metal pin to the upper half shell. We also added a recess to the extender crossbar so that the metal pin could run in the guide. At the two lateral ends of the recess, the metal pin then locks into the ends of the recess, preventing any movement than goes further than 120°. This prevents unauthorised rotation of the tracker axis, which protects both the axis with the panels and the motor from damage.

With this development, we are currently the only manufacturer of spherical

bearings on the market that has succeeded in combining reinforcement with a hard stop. This has created opportunities for us to set ourselves apart from competitors and position ourselves even more broadly on the market.

All in all, we have once again made huge progress in the field of solar bearings. With the heavy-duty ESQM and our version with the hard stop, we have managed to develop excellent additions to our existing product range. It will be interesting to see which projects our customers can realise with the heavy-duty ESQM and the hard stop ESQM.

Heavy fun with the sun!



Jakob Fußbroich
Development Engineer igubal®

Metal rod ends with plastic inner ring

Resistant to heat and durable



New

Two new all-rounders for your applications

Metal rod ends with plastic inner ring

The new inner rings made of iglidur® X and iglidur® G have been added to the range of metallic igubal® 2.0 rod ends. The iglidur® X inner ring is suitable for high temperatures. iglidur® G is a proven all-rounder for alternating loads.

- ▲ Larger selection of materials to realise even more applications
- ▼ Cost-effective due to the use of plastic inner rings
- Temperature resistance up to +250°C
- No additional lubricants necessary

Split fixing collar for square profiles

Making the square go round



New

Locating spigot without dismantling other components

Split fixing collar for square profiles

A corrosion-free fixing collar with stainless-steel screws for the locating spigot of square profiles in a split design - ideal for use in confined installation spaces.

- ▲ Easy installation in confined installation spaces
- ▼ More cost-effective compared to metallic solutions
- Axial holding force of up to 650N
- More energy-efficient production method



FX-7



Lubrication-free 3D printer

Liqtra GmbH relies on xiros® conveyor rollers to achieve economical and sustainable multi-nozzle 3D printing processes with increased productivity.



GO ZERO Lubrication ... save lubrication time and costs

xiros® ball bearings



82

Temperature and chemical expert
xiros® ball bearings made of ceramic and high-performance plastic

83

Low installation depth and easy fitting
xiros® Saturn ball transfer unit

83

Ideal for the semiconductor industry
Conductive xiros® ball transfer unit

Quick consultation anywhere at any time



In person

Marcus Semsroth
+49 (0) 2203 9649-202
msemsroth@igus.net



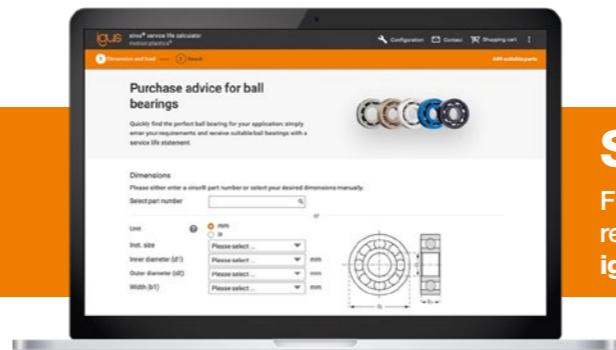
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move



Service life calculation in seconds

Find the perfect solution for your application quickly: simply enter your requirements and get the suitable ball bearing with a service life statement: igus.eu/XLR

igus.eu/news-xiros

xiros® ball bearings made of ceramic and high-performance plastic

Temperature and chemical expert



New

High wear resistance

xiros® ball bearings made of ceramic and high-performance plastic

The ball bearings made of zirconium oxide (white) and silicon nitride (black) with a PEEK cage fulfil the highest industrial requirements, e.g. at extreme-temperatures and in contact with chemicals. Thanks to minimal thermal expansion, precision is maintained even with temperature fluctuations. The material offers excellent electrical insulation properties and prevents electrostatic charging, making it safe and reliable.

- ▲ Suitable for high temperatures up to +250°C and resistant to chemicals and corrosion
- ▼ High mechanical wear resistance prevents costly downtimes
- Tested in the igus® laboratory: silicon nitride has up to 65 times longer service life than standard PEEK ball bearings
- No environmental pollution thanks to lubrication-free components

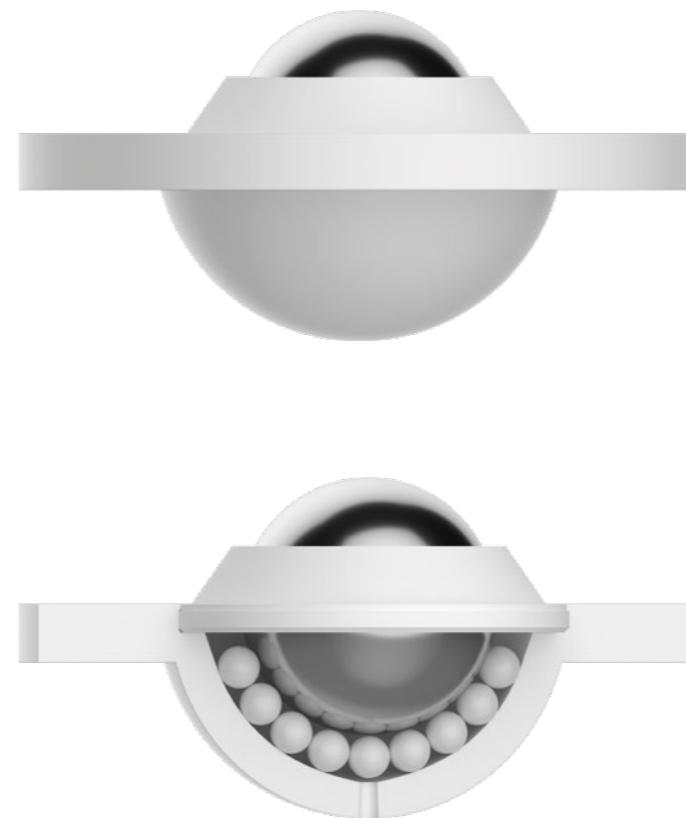


New

Low installation depth and easy fitting

xiros® Saturn ball transfer unit

Not only does this ball transfer unit look out of this world, it is also ideal for conveyor technology where space is limited and goods need to be moved smoothly from A to B. Flexible and easy mounting thanks to additional holes on the flange.



- ▲ Low installation depth (9.1mm), easy mounting and smooth operation
- ▼ Additional reduction in unplanned downtime saves time and money
- Tested in the xiros® test laboratory: wear rate 30 times better than the standard version
- 100% lubrication-free



New #esd

Ideal for the semiconductor industry

Conductive xiros® ball transfer unit

Effective protection against uncontrolled discharge when transporting sensitive goods on roller ball tables. The new conductive ball transfer units made of xirodur® F182 transport loads smoothly and lubrication-free in any direction. The new material is particularly durable and has already proven its electrostatic discharge capacity in tests.





GO ZERO Lubrication ... save lubrication time and costs

drylin® linear technology



86

Stable in small installation spaces
drylin® W installation size 06-70

90

Ergonomic adjustments in small spaces
Curved guide in installation size 06

92

Low-cost quick change bearings directly on the rail
drylin® W exchange bearings made of zinc die-casting

94

Bacteria and germs don't stand a chance
Narrow linear carriage for food technology

96

Flexible positioning
Pre-loaded hybrid roller bearings

Quick consultation anywhere at any time



In person

Michael Hornung
+49 (0) 2203 9649-156
mhornung@igus.net



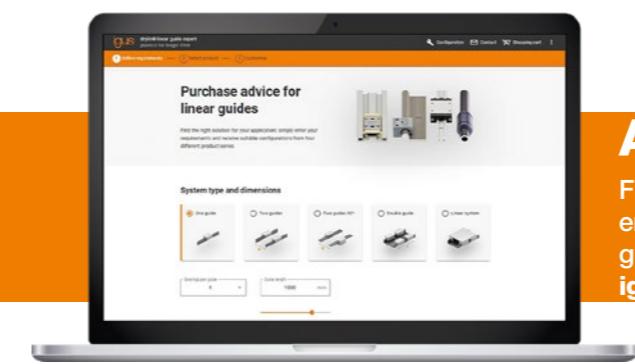
Chat

Online and WhatsApp
igus.eu/chat



On site

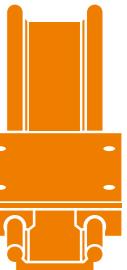
Sales representative
Roadshow/Trade show
igus.eu/on-the-move



Advise, calculate, buy

Find the right solution for your application: select the installation position, enter application parameters, select the system and order. Comes with a guarantee on the calculated service life for up to max. four years.
igus.eu/dlx

igus.eu/news-drylin-linear



Wide and flat



New #modular

Stable in small installation spaces

drylin® W installation size 06-70

The new WS-06-70 rail width offers designers a high degree of flexibility as it adapts perfectly to standard aluminium construction profiles with a width of 80mm. Low-profile design, discreet appearance, fast connection plus the diversity of the drylin® W linear construction kit for all desired functions.

- ▲ Linear carriages in three lengths (60/80/100mm), different housing materials, variable pretension, manual clearance adjustment or manual clamp - everything is possible
- ▼ All rails with a fixing hole pattern for quick connection or completely without for customised hole patterns
- Tested service life: drylin® W installation size 06, rail length 200mm, shaft distance 70mm, four bearings WJ200UM-01-06, weight 150N, speed 0.002m/s, acceleration 0.1m/s², service life at 20°: 358,361 double strokes (1,362km)
- 100% lubrication-free
- Service life predictable online igus.eu/dlx



Wide load-bearing surface, low system height, large modular system

New installation size in the drylin® W modular system

How do I realise a pick & place application? How do I move a robot to extend the workspace? How do I glue the cardboard? How do I check material layer thickness? How do I water plants, whether vegetables or fruit, in vertical farming? How do I bake the pizza in a machine and how do I transport it to the desired delivery slot? How do I get a fresh smoothie at the touch of a button? What all these tasks have in common is that something is constantly moving ... hardly anything is static. A lot of things move around the clock, as much as possible without personnel - for the products used, this means fail-safe operation, with as little maintenance as possible and, if necessary, as in food technology, with fast, efficient cleaning processes. drylin® linear guides are at the heart of all these motion sequences. Robust linear technology for every installation space, whether miniature or heavy-duty. Whether smooth-running or pre-loaded or with snap function. For indoor or outdoor use, in dirty

environments or in cleanrooms or hygienic design applications. All linear guides operate 100% without external lubrication, are dry-running, clean and quiet. Function and service life can be calculated online with one click for a guarantee of up to four years.

With the new installation size 06-70 for drylin® W, we are meeting customer requests for greater compatibility with standard 80mm aluminium construction profiles. For simple installation to realise automation tasks. The fixing holes of the linear rails are designed to match the profile grooves. The linear carriages offer a wide support with an extremely low system height of just 18mm. Upon request, the narrow linear carriages can also be installed flush with the profile without any overhang. The bearing housings are available in inexpensive zinc die-casting or lightweight aluminium, both with individual clearance adjustment or pretension.

Linear carriages in three different lengths 60/80/100mm



Linear carriage, silver or black, 60/80/100mm



Linear carriages with bearings made of zinc die-casting or aluminium 60/80/100mm



Fixed bearing/floating bearing



Spring pre-load



Clearance adjustment



Michael Hornung
International Product Manager
drylin® linear and drive technology

New #compact

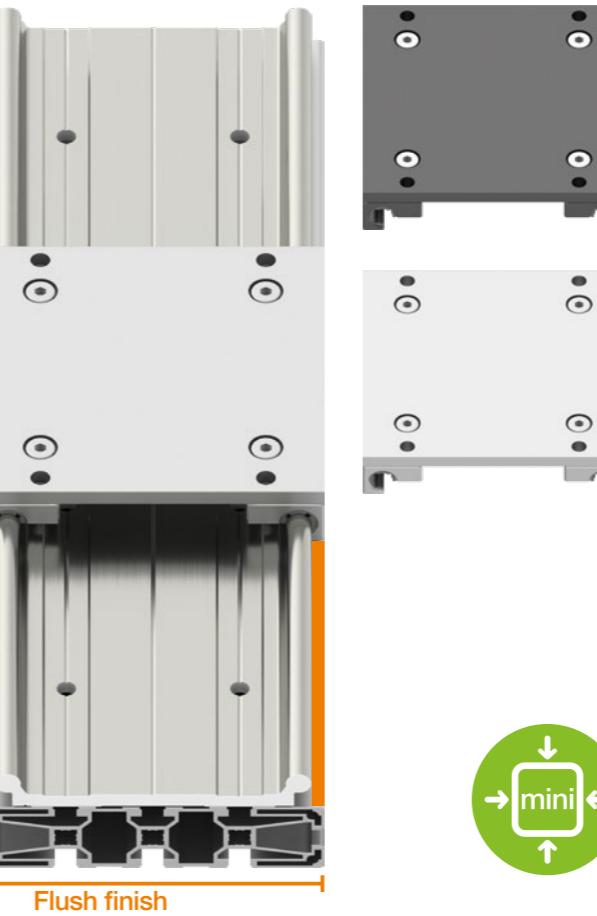


15% narrower design

Slim Line linear housing in installation size 06

The drylin® W Slim Line linear housings are available individually to make the assembly of customised linear carriages possible. Lightweight aluminium with internal mounting holes.

- ▲ Narrow design saves up to 15% system width
- ▼ Variable liners, also FDA-compliant versions available
- Tested service life: installation size 06, rail length 1,000mm, carriage length 150mm, load 75N, vertical alignment, parallel synchronous drive, speed 0.02m/s, acceleration 0.2m/s², result 21,071,115 double strokes (35,821km)
- 100% lubrication-free
- Service life predictable online igus.eu/dlx



New #compact

Efficient use of installation space

Slim Line linear carriages in installation size 06-70

Narrow drylin® W linear plain bearings can be installed on the inside of the profile. The design of the linear system saves up to 15% of overall width. When installed on aluminium construction profiles that are 80mm wide, the system does not even protrude a millimetre to the side.

- ▲ Flush finish, almost invisible in the profile environment in automation cells. Width of 79mm corresponds to an installation space gain of 15%
- ▼ Discreet appearance, reduced risk of collision included
- Tested service life: installation size 06, rail length 1,000mm, carriage length 150mm, load 75N, vertical alignment, parallel synchronous drive, speed 0.02m/s, acceleration 0.2m/s², result 21,071,115 double strokes (35,821km)
- 100% lubrication-free
- Service life predictable online: igus.eu/dlx



Axis all areas

Your key to design freedom ...
drylin® linear systems



The most versatile linear axis drylin® W is opening up more and more areas of application. As a modular system. With the widest range of different versions. Always lubrication-free, lightweight and inexpensive. That's why drylin® linear technology has long since revolutionised our everyday lives. It can also do so with your application.

igus.eu/drylinW



Zero Lubrication on a world tour ... in Taiwan



Mechanical presses

motion plastics® in use:
drylin® linear guides - no lubrication required,
savings on lubrication costs, no grease is
released into the environment



Follow us: igus.eu/blog

Experience it for yourself and order the igus:bike® at: igus.bike

Curved guide in installation size 06

Even tighter curves



New

Ergonomic adjustments in small spaces

Curved guide in installation size 06

Curved rail profiles are a major challenge in small installation spaces. Less space means tighter bend radii for the rail profiles and even more flexible adaptation of the linear carriages to the curve profiles. Thanks to the new double rails in installation size 06, round and ergonomic adjustments are now also possible for smaller installation spaces.

- ▲ Curved rails for small bend radii, concave up to 75mm
- ▼ Standard radii available in sizes 06 and 10
- Miniature size for compact requirements
- 100% lubrication-free



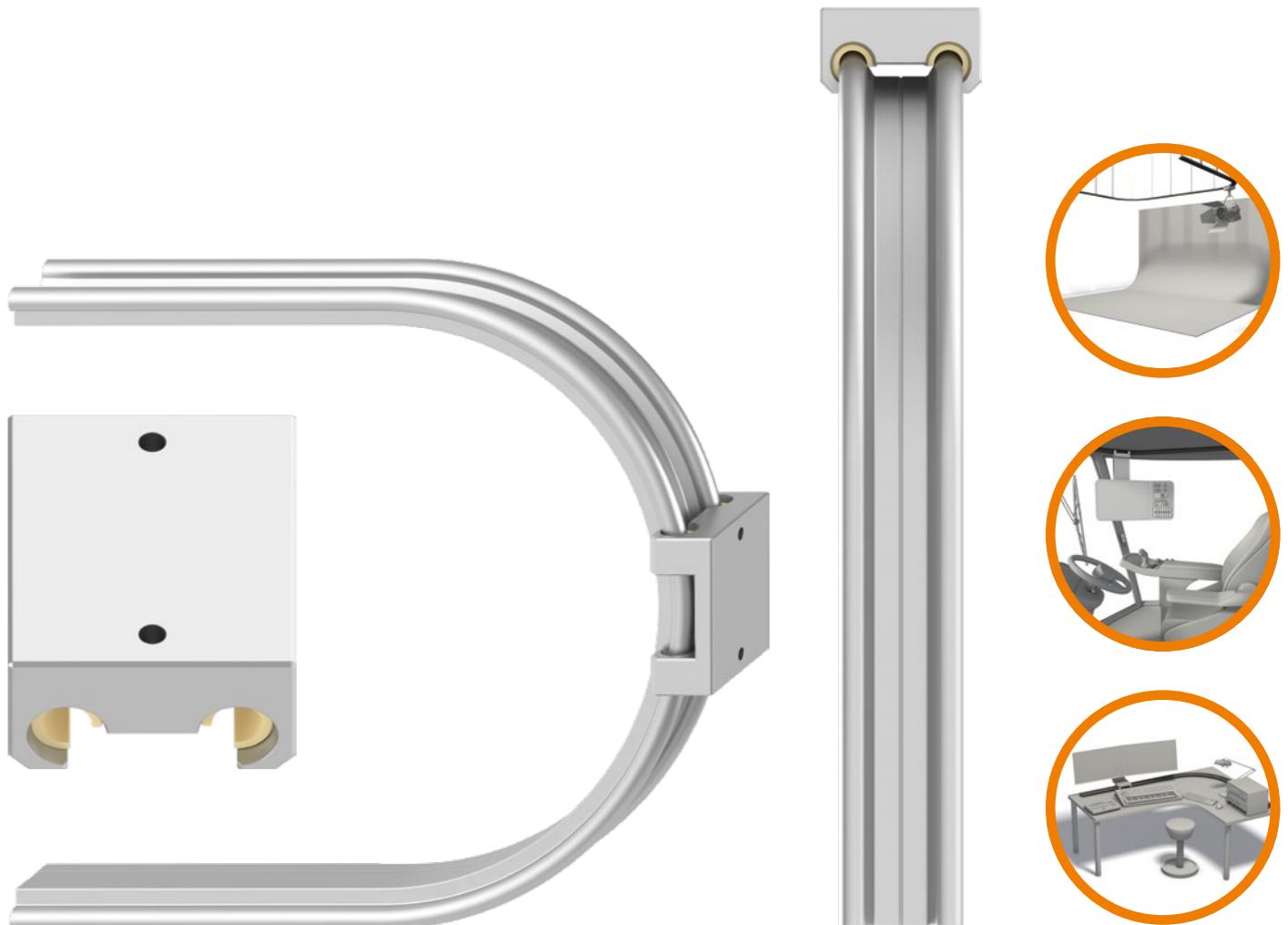
Curved drylin® linear guide profiles

Down to 75mm radii

igus® provides customised curved rails for the drylin® W product range. Monitors and control elements, for example, are guided in a radius to ensure easy and safe accessibility, particularly where ergonomic requirements apply. Even in stage technology or in the driver's cab of commercial vehicles, where monitors need to be easily accessible, completely new standards can be set in terms of design and construction.

The new curved guides in installation size 06 are available as a semicircle. For cornering, you can achieve small radii thanks to the carriage's flexible three-point bearing. Radii as low as 75mm are possible for concave rails. A slim monobloc linear carriage with four bearing points ensures easy adjustment. Convex guides in this size will be available from June.

In larger dimensions, the igus® curved guides prove their worth, e.g. in in-house trade show construction. Last year, igus® designed a trade show machine with large screens that move around a circular base. The screen provided information about exhibits and - like the igus® GO app - showed miniatures and their optimisation potential using igus® products. igus.eu/trade-show-machine



drylin® W exchange bearings made of zinc die-casting

Simple bearing replacement



New #lowcost

Low-cost quick change bearings directly on the rail

drylin® W exchange bearings made of zinc die-casting

With the drylin® W quick-change bearing, the linear plain bearing can be replaced in just a few simple steps and in less than 30 seconds. Whether linear guides, toothed belt axes, linear robot structures or in delta robots - the linear plain bearings can be replaced directly on the rail without users having to dismantle any kinematics.

▲ Replace linear bearing on the rail without dismantling

▼ Save up to 50% in costs by manufacturing the linear housing with zinc die-casting

■ Tested service life: exchange bearing with iglidur® J200 liner in linear module SLW-1040 with dryspin® thread system Ds10x25, stroke length 300mm, load 50N, horizontal system alignment, speed 0.01m/s, acceleration 0.1m/s², operating time 50%, service life at 20°C: 1,947,000 double strokes

● Existing linear carriages in installation size 10 can be retrofitted at any time

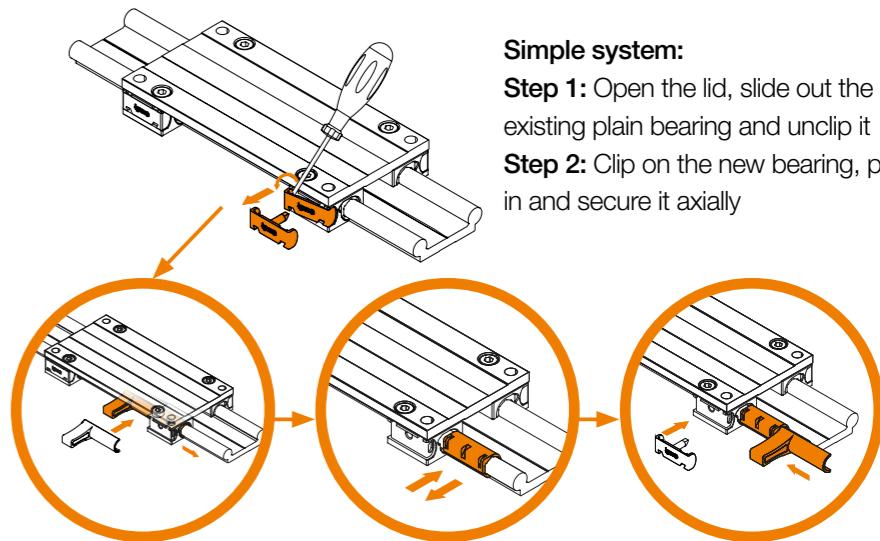
● Service life predictable online: igus.eu/dlx



Simple bearing replacement, no system disassembly, low-cost production

Reduce costly maintenance times

- Reduce costly maintenance times
- And brand new: save up to 50% in costs with zinc die-casting
- Available as individual linear housings WJ200UMA-01-10 (same connecting dimensions as standard bearings)
- Fully assembled as linear carriage WWA in various lengths and widths (30, 40, 80, 120)
- Tip: existing linear carriages in installation size 10 can be retrofitted at any time



Simple system:

Step 1: Open the lid, slide out the existing plain bearing and unclip it

Step 2: Clip on the new bearing, push it in and secure it axially

Smart bearing replacement

Clever linear plain bearings can be changed directly on the guide rail. Simply loosen the lid at the side and slide the liner out of the housing with a handy assembly tool or a conventional screwdriver. The new liner is then clipped on and pushed into the bearing. The housing lid serves as a locating spigot. The change takes less than 30s and can be carried out in the linear carriages directly on the unit. Complete disassembly of the linear unit is not required and in a few minutes the system is like new and ready for use. All other components can be reused. Any changed settings, such as belt tension, are kept. Quick-change linear plain bearings ensure 24/7 operation, increase running time and minimise machine downtimes.

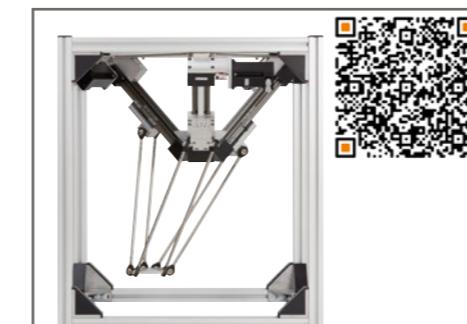
In use in linear axes

The Chocomatic from Roose Automation is a real eye-catcher in the sales area. The customer uses a tablet or smartphone to control an igus® robot, which selects individual chocolates for the customer from a range of different types.



Exchange bearing in the 7th robot axis

Bearings in use in other igus® products



Delta robot

Exchange bearings in ZLW toothed belt axes on delta robots



Workspace extension

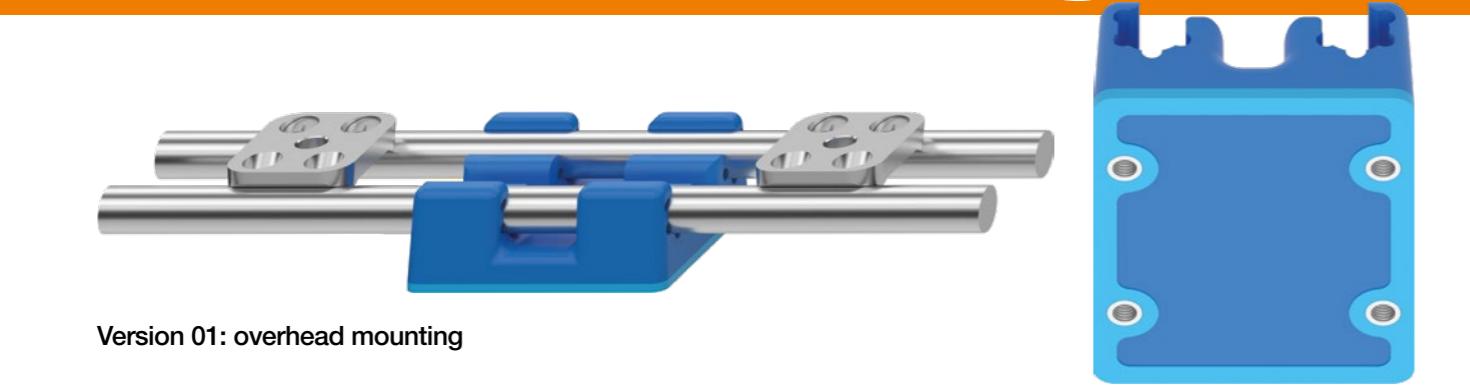
Bearing replacement on the rail for the 7th robot axis



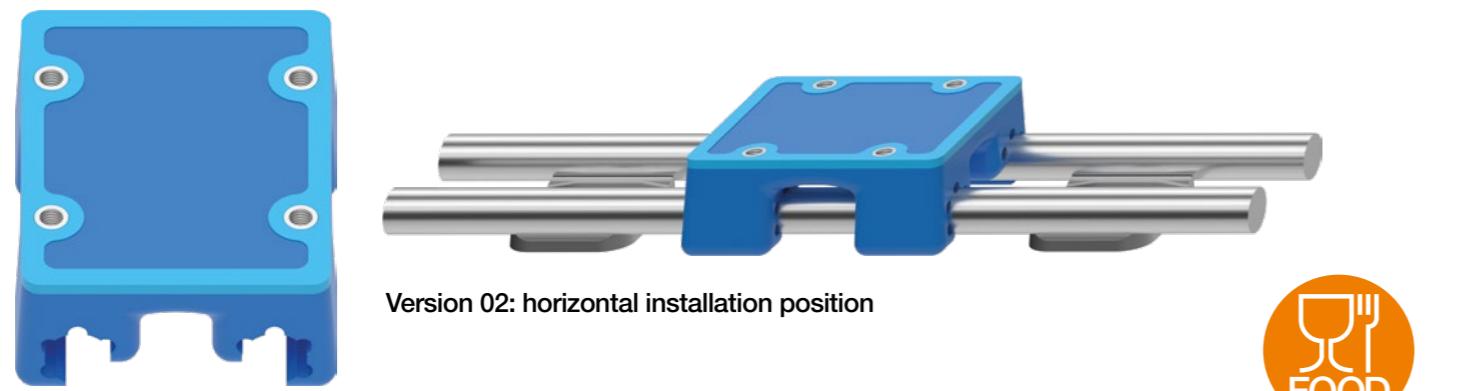
Predictive maintenance

Wear status display via LED with smart plastics

Efficient and fast cleaning



Version 01: overhead mounting



Version 02: horizontal installation position



New #certified

Bacteria and germs don't stand a chance

Narrow linear carriage for food technology

drylin® W linear carriages with hygienic design offer as little space as possible for bacteria and viruses. Thanks to consistent compliance with the EHEDG production guidelines, the linear carriages can be rinsed without any problems; there are no dead spaces and bevels and radii prevent dirt particles and germs from adhering.

- ▲ Surfaces can be rinsed, easy cleaning and germ-free design in a compact type
- ▼ The monoblock design can be slid onto the rail in one easy step and is ready for immediate use
- Tested service life: rail WS-10-40-ES-HYD2 in hygienic design, length 350mm, stroke length 270mm, carriage WV-10-40-T20-HYD1 in hygienic design, force 400N, horizontal installation position, speed 0.1m/s, acceleration 0.0143m/s², running performance 278,000 double cycles
- Simply wash off with water or use automated cleaning processes (high-pressure or sterilisation processes, dishwashers etc.)

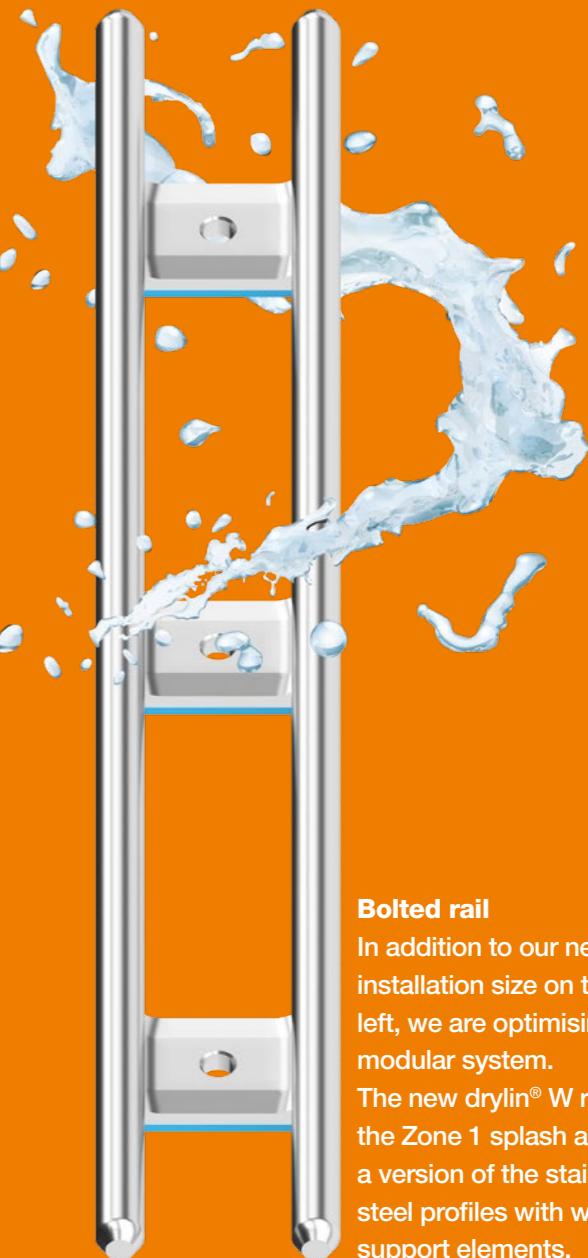


igus

Updates in modular system with hygienic design

Design study: SHT linear module for hygienic positioning tasks

A new development status of the SHT linear axis will be presented at the HMI. It is ideal for filling stations, for example, to position bottles and tins in a precise and hygienic way.



Bolted rail

In addition to our new installation size on the left, we are optimising our modular system. The new drylin® W rail for the Zone 1 splash area is a version of the stainless-steel profiles with welded support elements.

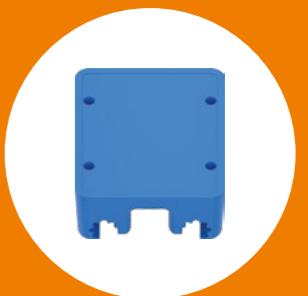
Modular system in hygienic design



Pre-assembled carriages
Linear system consisting of four hygienic-design individual bearings and stainless-steel carriage plate for customised centre distance.



Single bearing for variable bearing spacing
The bearing, the seal and the M4 threaded insert are made from FDA-compliant materials.



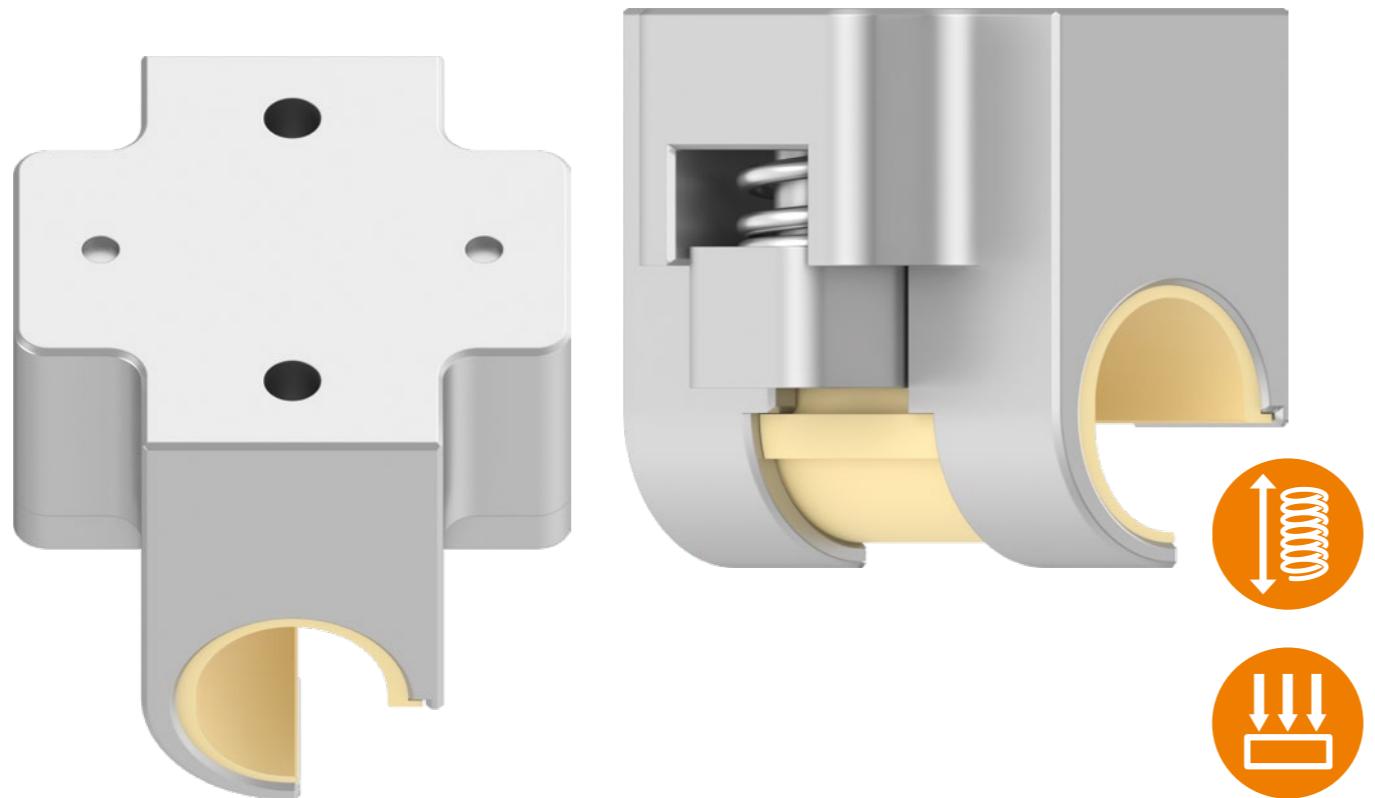
Linear carriage in hygienic design
The carriages are clean systems with components that comply with FDA and EU10/2011. They are dimensionally identical to recirculating ball bearing guides.



igus.eu/hygienic-design

Pre-loaded hybrid roller bearings

"2 in 1" a world's first



New

Flexible positioning

Pre-loaded hybrid roller bearings

drylin® W hybrid roller bearings are very often used for manual adjustments as they combine the smooth running of polymer rollers with robust plain bearing technology for absorbing loads. All that without a drop of lubrication in the system.

▲ Robust and resistant under static load, smooth-running in the dynamic state

▼ No external lubrication

■ Tested service life: roller bearings series 01 installation size 16, horizontal mounting position, rail length 1,500mm, rail spacing 500mm, four bearings with a 200mm spacing in between, weight 250N, result 76,923 double strokes at 20°C

● Dry operation, clean and hygienic

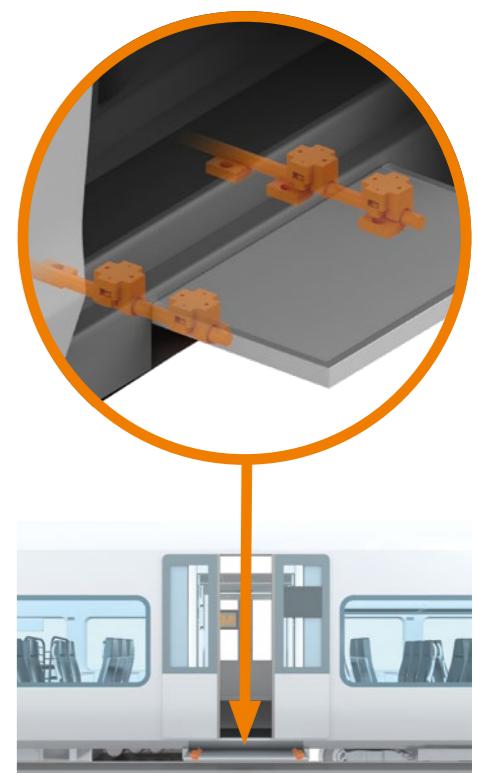
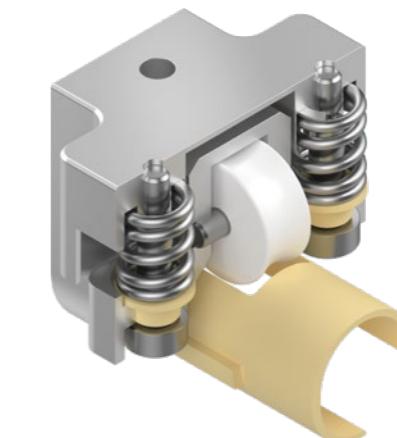
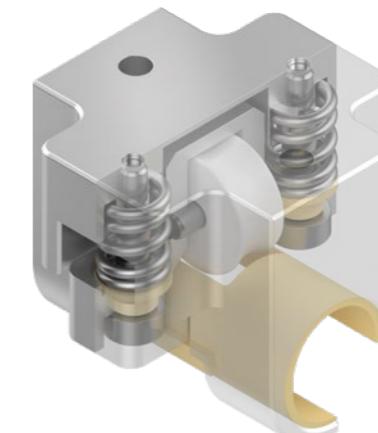
● Service life predictable online: igus.eu/dhc



From the customer's request to the product

Smooth running when unloaded, heavy duty with load

With the new drylin® W roller bearing WJRM-71, we are fulfilling a customer request. During overload the rollers retract and the wide contact surfaces of the plain bearing take over. Until now, the hybrid roller bearings in this installation size were suitable for low to medium loads of up to 400N, where particularly smooth and quiet running could be achieved. In the event of impacts or higher static loads, the optimised design now offers more protection for the load-bearing roller. The new functional principle protects the rollers from point loads and the wide contact surfaces of the liners absorb radial loads of up to 2,100N per bearing. The WWH roller carriage combines four WJRM-71 bearings with a robust, corrosion-resistant aluminium plate.



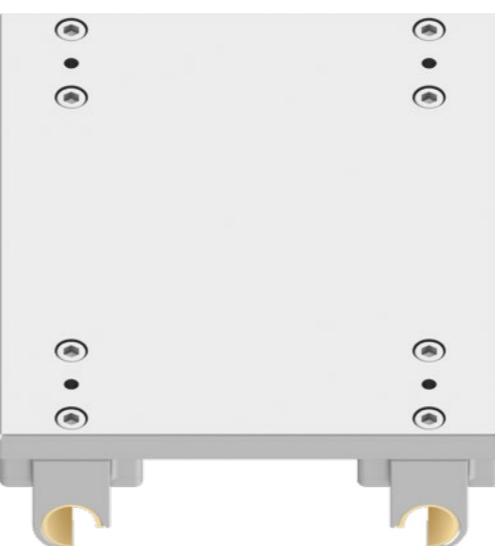
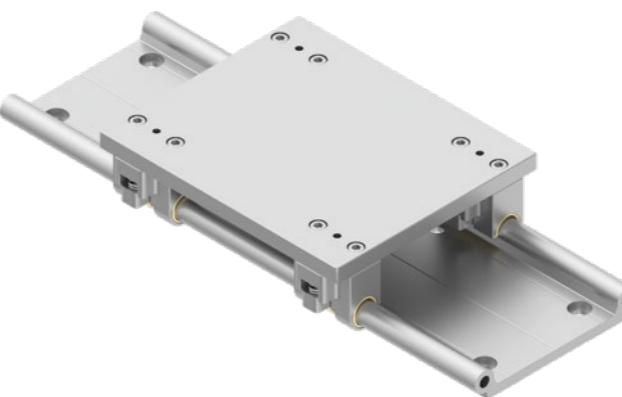
Interesting, for example, for steps on trains

New

Ready to install

Linear carriages with pre-loaded hybrid roller bearings

The WWH roller carriage combines four WJRM-71 bearings with a robust, corrosion-resistant aluminium plate. Possible areas of application are, for example, seat adjustments or steps that are not subjected to load when in motion, but have to bear high loads when stationary.



▲ Robust and resistant under static load, smooth-running in the dynamic state

▼ Linear carriages delivered ready-to-install

■ Tested service life: roller carriage series 01, installation size 16, length 200mm, double rails WS-16-60, length 2,000mm, horizontal installation position, centre of gravity 300N, result: 52,665 double strokes at 20°C

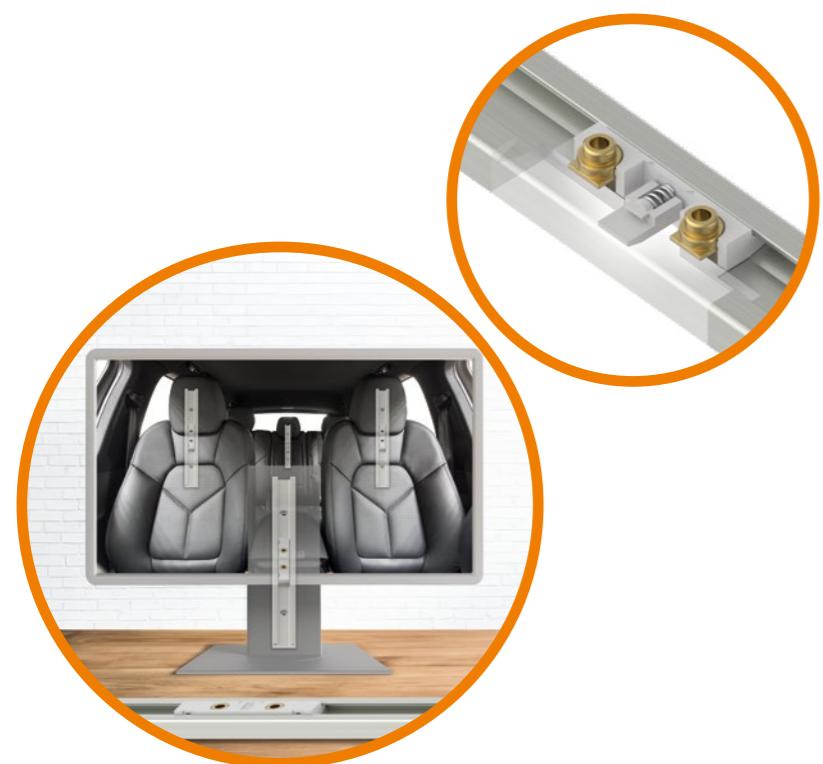
● 100% lubrication-free

● Service life predictable online: igus.eu/dlx



Pre-load prism slide in installation size 20

25% narrower



New #compact

Save installation space and weight

Pre-load prism slide in installation size 20

With a width of just 20mm and an overall installation height of only 8mm, igus® now offers the new pre-load prism slide in miniature format 20. Whether for medical technology or the automotive sector, the systems are PTFE-free, PFAS-tested and meet low-fogging requirements. In addition, they save 25% installation space and 40% system weight.

- ▲ Robust prism rail for defined displacement forces
- ▼ Corrosion-resistant anodised aluminium profile
- Save 25% installation space and 40% weight compared to installation size 27
- Rails (silver/black anodising), springs and threaded inserts are REACH/RoHS-3-compliant; matching polymer sliders are PTFE-free and PFAS-tested. Find out more about PTFE at igus.eu/ptfe-free



New #compact

Defined driving forces

drylin® NSV pre-load prism slide in installation size 20

Whether for cameras and sensors in measurement and testing technology or headrests, backrests and interior extensions: all adjustments are customised and, above all, take up as little installation space as possible. The spring pre-load ensures a constant pretension during the entire service life. The linear carriages remain in place. Controlled, stepless adjustment without any stick-slip effect.

- ▲ The spring pre-load can be selected and determines the desired displacement force
- ▼ Save up to 25% installation space
- Guaranteed holding forces: short carriage 1.0N/2.0N/4.0N, long carriage 2.0N/4.0N/8.0N
- PTFE-free, PFAS-tested and meets low fogging requirements. Find out more about PTFE at igus.eu/ptfe-free



Pre-load prism slide in measuring device

Radlabor GmbH from Freiburg im Breisgau builds a so-called Smartfit laser metre to make precise adjustments to bicycles. The designers use a lubrication-free prism rail (NSV-01-27) from the drylin® N series to move the measuring device. The new installation size 20 is a further 25% narrower than in this example.

igus.eu/laser-metre





Bio-mechanic hand prosthesis

High helix lead screw with nut for precise adjustment of the thumb position. It is controlled via EMG signals that come from the patient's muscles.



GO ZERO Lubrication ... save lubrication time and costs

dryspin® lead screw technology



102

Saving through universal exchange
New dryspin® lead screw nut geometry

103

Lead screw nuts machined precisely
New pitches DS16x5 LH and DS16x10 LH

105

Maximum positioning accuracy
Pre-load lead screw nut with dryspin® thread

105

Precise and quiet - ideal for positioning movements
Zero-backlash lead screw nuts with dryspin® threads

108

Reverse movements for synchronised adjustments
LH/RH lead screws

Quick consultation anywhere at any time



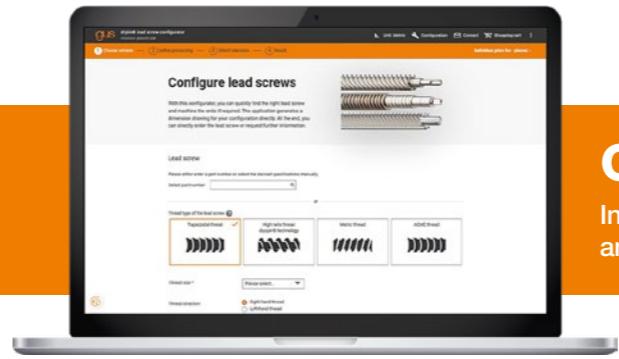
In person
Thorben Hendricks
+49 (0) 2203 9649-9809
thendricks@igus.net



Chat
Online and WhatsApp
igus.eu/chat



On site
Sales representative
Roadshow/Trade show
igus.eu/on-the-move

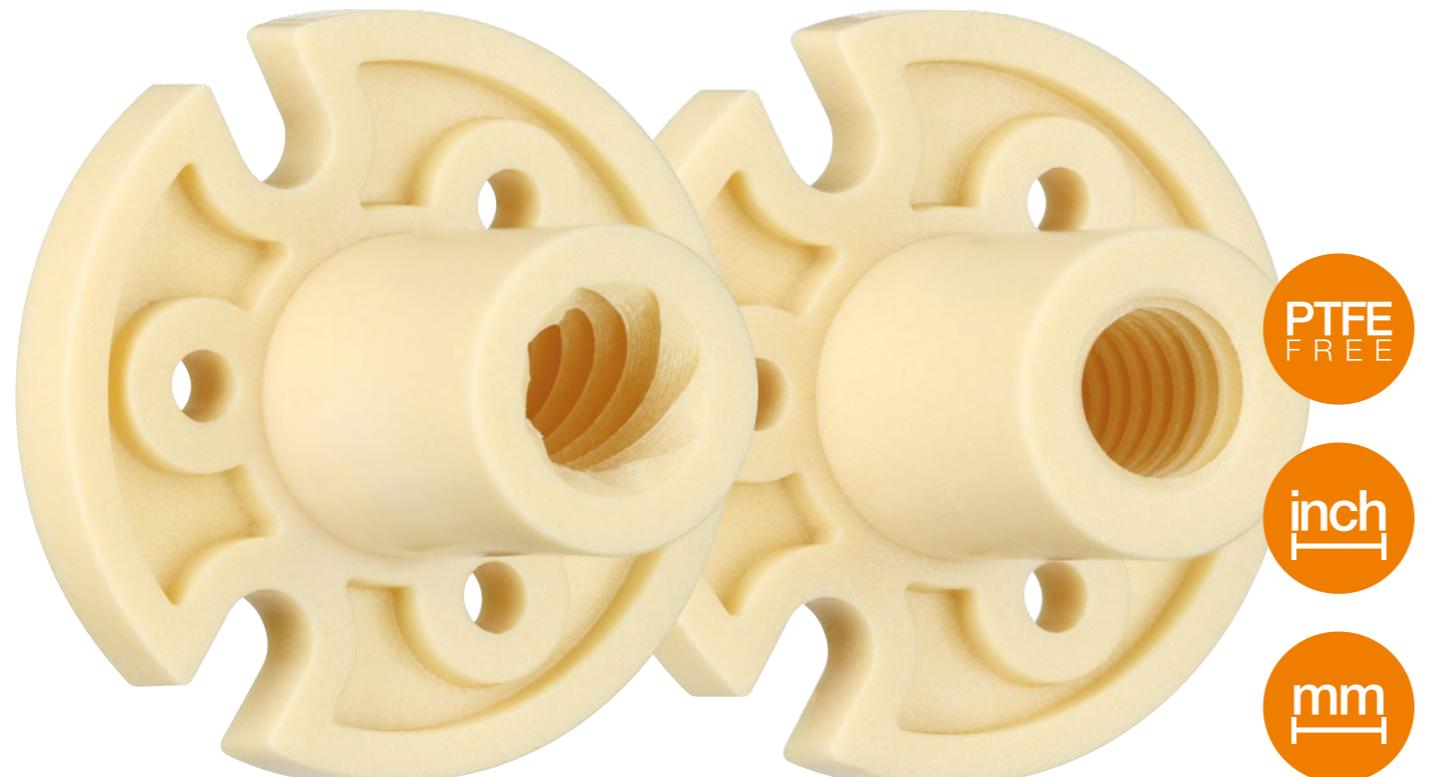


Configure lead screws online

Individual machined end without CAD software. 2D dimensioned drawing and 3D step file, generated directly online. igus.eu/dsk

igus.eu/news-dryspin

PTFE-free, interchangeable



New

Saving through universal exchange

New dryspin® lead screw nut geometry

The lead screw nut made of iglidur® JPF is characterised by its versatile fixing options on the flange. Manufactured via injection moulding, it ensures high precision and load capacity. The iglidur® JPF material is particularly environmentally friendly, as it is PTFE-free and PFAS-tested. These properties make the lead screw nut ideal for applications where both high mechanical requirements and environmental aspects need to be taken into account. For more specific applications or technical details, please visit our website or contact our experts. We can then provide a quick quotation.

- ▲ Quiet due to thread geometry and longer service life due to the dryspin® asymmetrical thread geometry.
- ▼ Up to 30% longer service life - same coefficient of friction and wear as our all-rounder iglidur® J
- Ongoing test program in the in-house test laboratory igus.eu/dryspin-testreports
- Lubrication-free operation, PTFE-free and PFAS-tested. Find out more about PTFE at igus.eu/ptfe-free



Lead screw nut made of iglidur® JPF: combination of versatility and environmental friendliness

dryspin® universal lead screw nut with flange

The lead screw nut made of iglidur® JPF represents an innovative solution for numerous industrial applications. Manufactured using a precise injection moulding process, it offers a wide range of fixing options on the flange, which considerably expands its range of applications. This versatility makes them a favoured choice in various industries, from the packaging industry to medical technology.

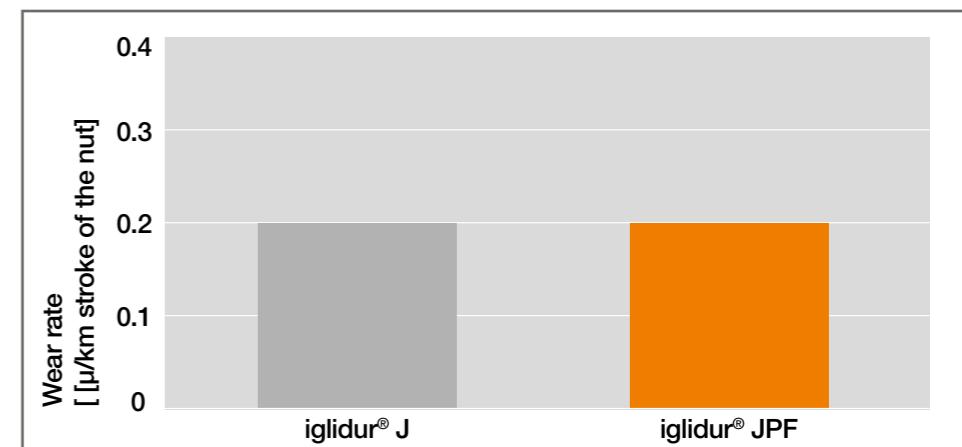
Let us take a closer look:

An outstanding feature of this lead screw nut is the material used: iglidur® JPF. This material is not only known for its excellent mechanical properties, but also for its environmental friendliness. It is PTFE-free and PFAS-tested, which means that it does not contain any per- and polyfluoroalkyl substances. These substances are suspected of being harmful to health and polluting the environment. By dispensing with PTFE and PFAS, iglidur® JPF contributes to more sustainable production and fulfils the increasing requirements for environmentally friendly materials.



The material took first place in the competition for the products of the year 2025 in the materials category.

The mechanical properties of iglidur® JPF are impressive. It is characterised by high wear resistance and low friction, which extends the service life of the lead screw nut and reduces maintenance costs. The material is also chemically resistant and can be used in demanding environments without corrosion or material fatigue. These properties make the lead screw nut made of iglidur® JPF particularly suitable for applications where reliability, the absence of external lubrication and durability are crucial.



Same coefficient of friction and wear as our all-rounder iglidur® J:
Wear test iglidur® J vs. iglidur® JPF (DS10x2)
Stroke length 200mm / Force 250N / 200rpm / 0.8MPa / 20,000 cycles)

Further highlights with iglidur® JPF



iglidur® bar stock
Lead screw nuts made from iglidur® JPF bar stock upon request



iglidur® plain bearings
Sleeve bearings and flanged bearings



New
PTFE-free all-rounder
iglidur® PRT-04 with PTFE-free sliding elements **Page 59**

Plus



Lead screw nuts machined precisely

New pitches DS16x5 LH and DS16x10 LH

The new dryspin® lead screw nuts made from bar stock in a cylindrical, flange or spanner flat version.

- ▲ Quiet operation due to tighter manufacturing tolerances and rounded tooth geometries by default
- ▼ Up to 50% lower cost than metallic lead screw nuts
- Up to 25% less wear compared to POM+PTFE
igus.eu/dryspin-testreports
- No lubricating grease or oil in the lead screw drive
- Lead screw drive service life can be calculated online



Plus #compact

Maximum positioning accuracy

Pre-load lead screw nut with dryspin® thread

The new pre-load lead screw nut convinces with minimal axial clearance and highest positioning accuracy. It is the cost-effective alternative to the zero-backlash lead screw nuts and perfectly suited for small pitches. This is the proven pre-load principle from SHT-PL. This product range will be expanded with the new dimensions DS3.5x1 and DS4x2.4.

- ▲ Consistent minimum axial clearance for high positional accuracy
- ▼ More cost-effective compared to zero-backlash lead screw nut due to fewer components and injection-moulding manufacturing process
- Less axial clearance due to lead screw nut spring pre-load
- No lubricating grease or oil in the lead screw drive



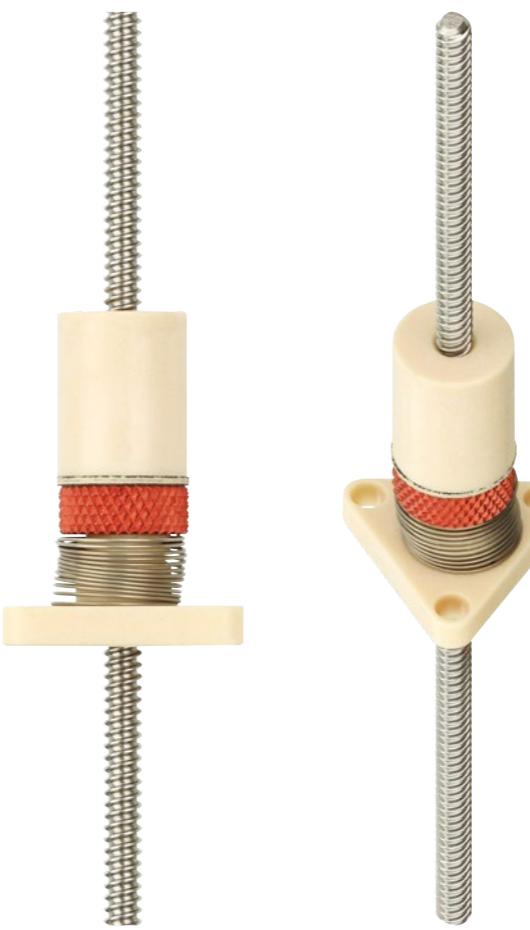
Plus

Injection-moulded lead screw nuts with machined thread

New pitches DS16x5 LH and DS16x10 LH
(machined thread)

The new dryspin® injection-moulding lead screw nuts in cylindrical or flange version including spanner flats.

- ▲ Quiet operation due to tighter manufacturing tolerances and rounded tooth geometries, lead screw nuts including spanner flats by default
- ▼ Cost-effective production with injection moulding
- Up to 25% less wear compared to POM+PTFE
igus.eu/dryspin-testreports
- No lubricating grease or oil in the lead screw drive
- Lead screw drive service life can be calculated online



Plus #compact

Precise and quiet - ideal for positioning movements

Zero-backlash lead screw nuts with dryspin® threads

To reduce axial clearance, one of the most precise solutions is the zero-backlash lead screw nut. It consists of several components and adjusts itself to the service life. It is particularly suitable for lead screw drives with high helix threads for quick adjustment of small loads. The zero-backlash lead screw nut is available in two new dimensions (DS3.5x1 and DS4x2.4).

- ▲ Load-independent, lifelong minimum axial clearance thanks to self-adjusting zero-backlash functional principle
- ▼ No maintenance work due to self-adjusting zero-backlash principle
- Less axial clearance due to the radial lead screw nut spring pre-load of the lead screw nut parts
- No lubricating grease or oil in the lead screw drive



Smooth, quiet, long service life



Plus

Save costs with lead screw systems

Extension of the product range

New dryspin® dimensions DS16x5-LH and DS16x10-LH. All dryspin® lead screws can be custom-machined. Configure online or send us your drawing. We can then provide a quick quotation.

- ▲ Quiet due to thread geometry, longer service life
- ▼ Up to 30% longer service life
- Ongoing test program in the in-house test laboratory igus.eu/dryspin-testreports
- Lubrication-free operation and clean
- Free online tool for lead screw machining without previous CAD knowledge, including 2D dimension drawing and live price igus.eu/dsk



Smooth operation, less vibration - THE alternative to trapezoidal threads

dryspin® thread geometry

What does lead screw technology mean and what can I imagine it to mean?

The lead screw technology is a sub-area of drive technology and, roughly speaking, describes the repetitive conversion of a rotating movement into a linear movement within regular cycles. The dryspin® lead screw technology was patented in 2014 by the development team. Particular emphasis was placed on increasing service life and improving efficiency. The dryspin® product portfolio includes high-helix lead screws made of stainless steel or aluminium and the matching lead screw nuts made of igus® high-performance polymers. They are available from 1mm to 100mm pitch. The dryspin® thread geometry is an extension of conventional thread technologies such as metric and trapezoidal threads. dryspin® lead screw technology has many advantages over conventional lead screw geometries.

Let us take a closer look:

In contrast to a metric or trapezoidal thread, the high helix thread has a higher pitch. Thus, a significantly increased linear feed is carried out with one revolution of the lead screw. dryspin® offers better efficiency due to the specifications and geometries tailored to the plastic nut and lead screw. Efficiencies of up to 82% and a longer service life are achieved compared to metal lead screw drives. In combination with an igus® lead screw nut, clean and dry operation is possible, without dust and dirt sticking.

We have tested it!

Our dryspin® lead screw geometry is an excellent alternative to conventional trapezoidal threads. The specifications and geometries of our dryspin® lead screw technology, which are tailored to the iglidur® plastic nut and lead screw, guarantee the well-known advantages: tighter manufacturing tolerances, rounded teeth geometry, optimised flank

angle and the asymmetry ideal for plastic nuts compared to DIN 103.

Our dimensions are suitable for 1:1 replacement: DS10x2, DS10x3, DS12x3, DS14x4 and DS18x4.

Tighter manufacturing tolerances - improvement by a factor of three

Trapezoidal threads according to DIN 103 (TR18x4) are tolerated with up to -0.3mm on the outer diameter. Excessive radial clearance can lead to noise and vibration.

Our dryspin® technology guarantees a maximum tolerance of -0.1mm with the same diameter and identical pitch. We improve the outer diameter tolerance by a factor of three and thus optimise smooth operation and precision, especially at high speeds.

Quiet and vibration-free operation and higher speeds thanks to the rounded tooth flanks of the dryspin® thread geometry

The rounded tooth flanks and tighter manufacturing tolerances of the dryspin® thread geometry reduce noise between the lead screw and the nut. This is due to the fact that the greater the contact of two surfaces moving against one another, the more vibrations are transmitted, which can be perceived as a rattle or squeak. This means that higher travel speeds can be achieved without causing the corresponding noise.

Up to 30% longer service life

Due to the larger distances between the individual dryspin® thread pitches, the thread perfectly adapts to the specifications of the lubrication-free igus® high-performance polymers. The proportion of tribologically optimised polymer in the thread pitches can be increased by a factor of 1.3. More wear-resistant material and higher efficiency are crucial for a service life that is up to five times longer compared to standard thread geometries.

igus.eu/dryspin-test-reports

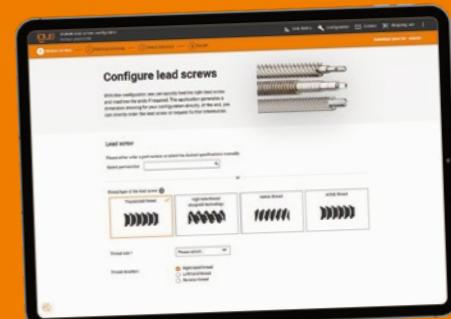
Lead screw configurator

With this configurator, you can quickly find the right lead screw and individually machine the pins at both ends. The application generates a dimension drawing for your configuration directly. At the end, you can directly order the lead screw or request further information.



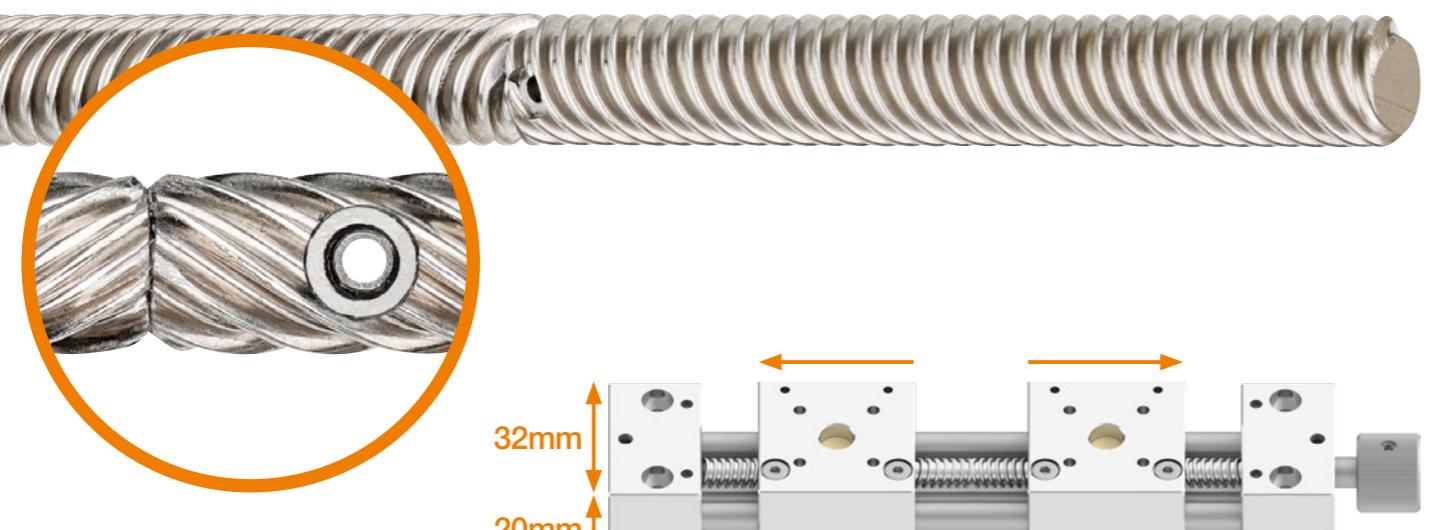
Now new:

configuration of lead screws and shafts with imperial dimensions including automated creation of 2D drawings.



igus.eu/dsk

Pinned, dual direction



Miniature linear module with reverse lead screw DS6.35x2.54, page 119

Plus **#compact**

Reverse movements for synchronised adjustments

LH/RH lead screws

New dryspin® dimensions ØDS6.35, ØDS8 and DS12x25. Reverse lead screws convert rotary movements into linear motion. They consist of a lead screw with right-hand and left-hand threads. We are expanding our dryspin® product range with the diameters 6.35mm, 8mm and the dimension DS12x25. Both lead screws with different directions of rotation are connected to each other by their pinned machined end. Thanks to their design, they save space and offer flexibility for format adjustments. These lead screws are often used in automation technology and mechanical engineering.

- ▲ Quiet due to thread geometry, longer service life
- ▼ Up to 30% longer service life
- Ongoing test program in the in-house test laboratory igus.eu/dryspin-testreports
- Lubrication-free operation and clean



Get to know the variety of dryspin®



**Simply request a
free sample card.**

igus.eu/dryspin-sample-request





GO ZERO Lubrication ... save lubrication time and costs

drylin® drive technology



112

Electric telescopic extension
drylin® NTM telescope with motor

114

Lead screw axis with various
connection options
drylin® SLX linear module

119

Format adjustment in miniature design
drylin® SLW with left-hand/right-hand thread

120

Simple integration in conjunction
with Siemens control systems
Motor control system D1
with PROFINET/PROFIdrive

124

Encoder compatible with Siemens,
Beckhoff and B&R
Stepper motors with 24V encoder

**Quick consultation
anywhere at any time**



In person

Stefan Niermann
+49 (0) 2203 9649-283
sniermann@igus.net



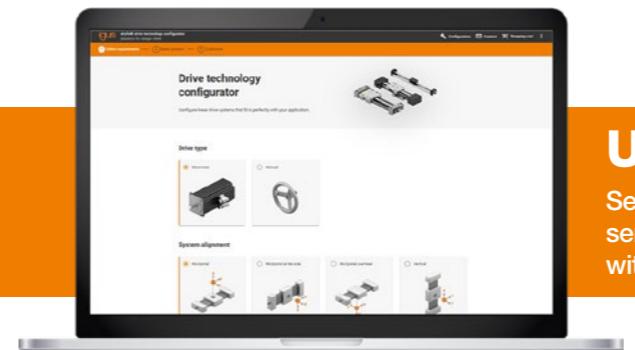
Chat

Online und
WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/drylin-roadshow

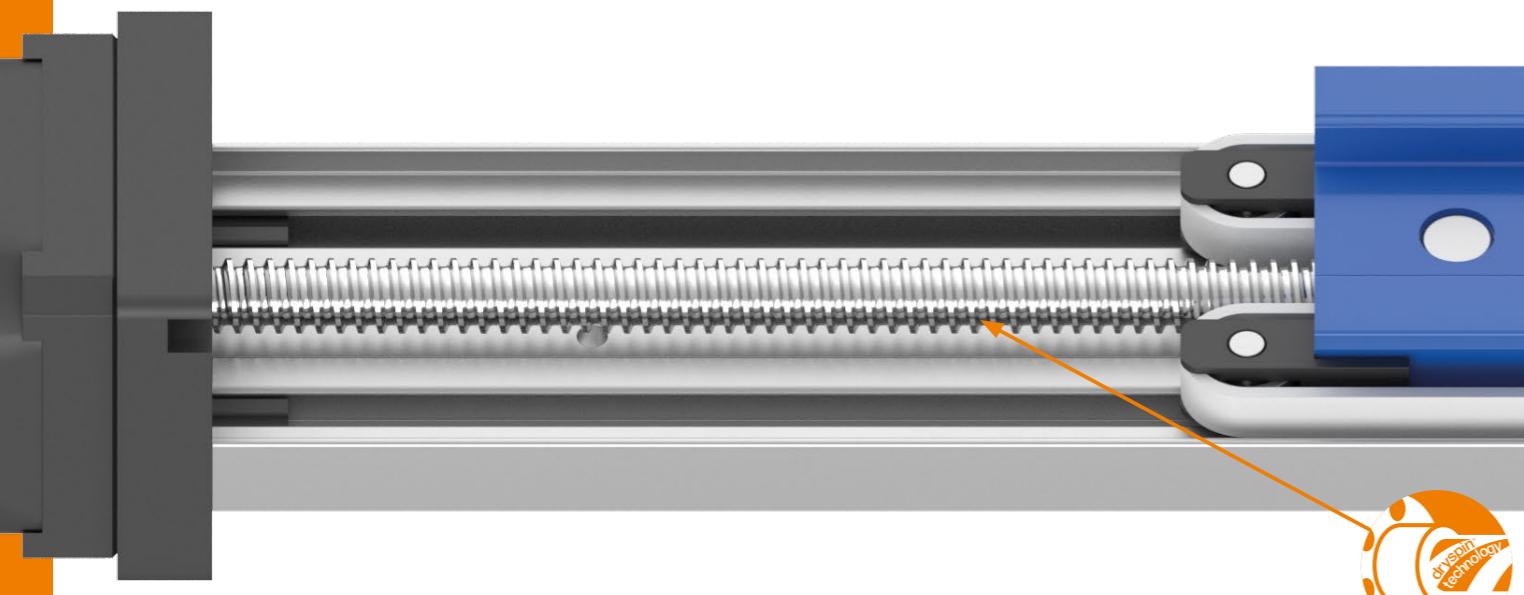


Up to 4-year guarantee

Select the suitable linear module and receive information on function, service life or used motor capacity. Click on the shopping cart and order, with a guarantee certificate if required. igus.eu/ddx

igus.eu/news-drylin-drive

Efficient use of installation space



New

Electric telescopic extension

drylin® NTM telescope with motor

With the drylin® telescopic system NTM-45, igus® is offering an electrically driven extension system for the first time. Supplied ready for installation with an electric motor, drawers, tables or shelves can be extended and retracted at the touch of a button. With a maximum stroke length of up to 500mm (extended length 1,000mm), the NTM-45 has been added to the drylin® portfolio.

- ▲ Robust telescopic extension combined with a drylin® E electric motor
- ▼ Infinitely variable extension length of up to 500mm (extended length 1,000mm)
- Tested service life: NTM-45, horizontal installation position, extension length 200mm, load 75N, speed up to max. 0.05m/s, dryspin® thread DST 8X10, result: 300,000 cycles
- 100% lubrication-free



igus® expertise in the application

Electric telescopic guides for automated applications

Telescopic extensions with electric motors offer reliable movements in automated systems, from self-opening drawers in service robotics or extendable landing platforms. The NTM-45 is the first ready-to-install and ready-to-connect motorised telescopic system from igus® and ideal for mobile applications.

Lightweight, corrosion-resistant aluminium provides the basis of the system. It is available with an extension length of up to 500mm and can be used to realise drawers with an extended length of up to 1,000mm - whether for deliveries of goods, drinks, food or medicines.

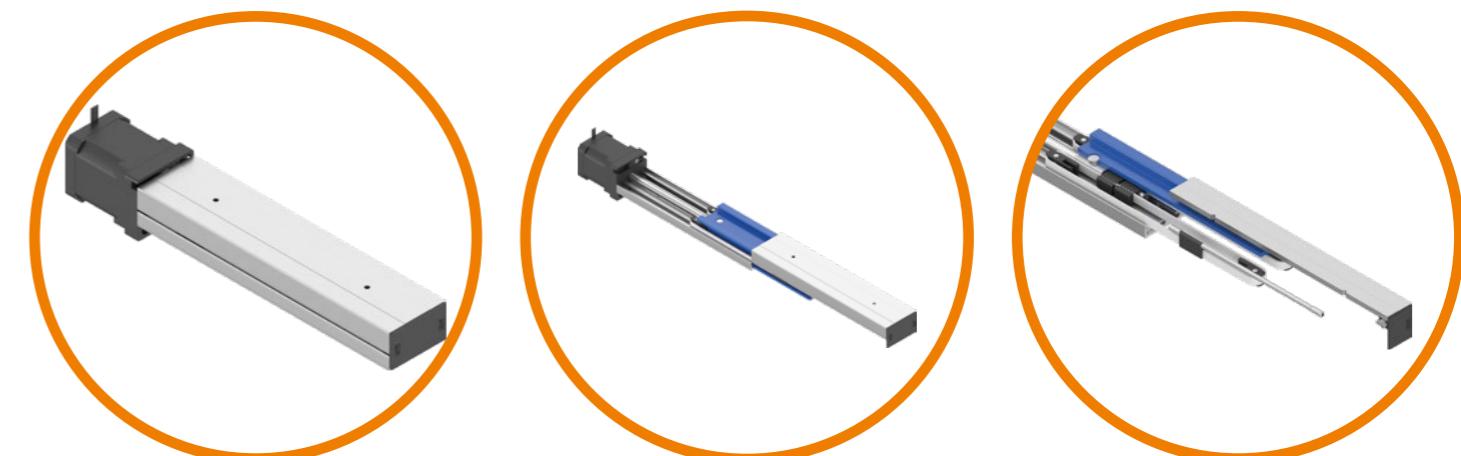
The system combines the wide range of igus® know-how, from the coating of the aluminium, the integrated drive technology via dryspin® threads and toothed belts to the drylin® electric motors and control technology. For the product, this means continuous operation without lubrication or maintenance for a lifetime of quiet, low-vibration running. It is ideal for drone garage platforms.



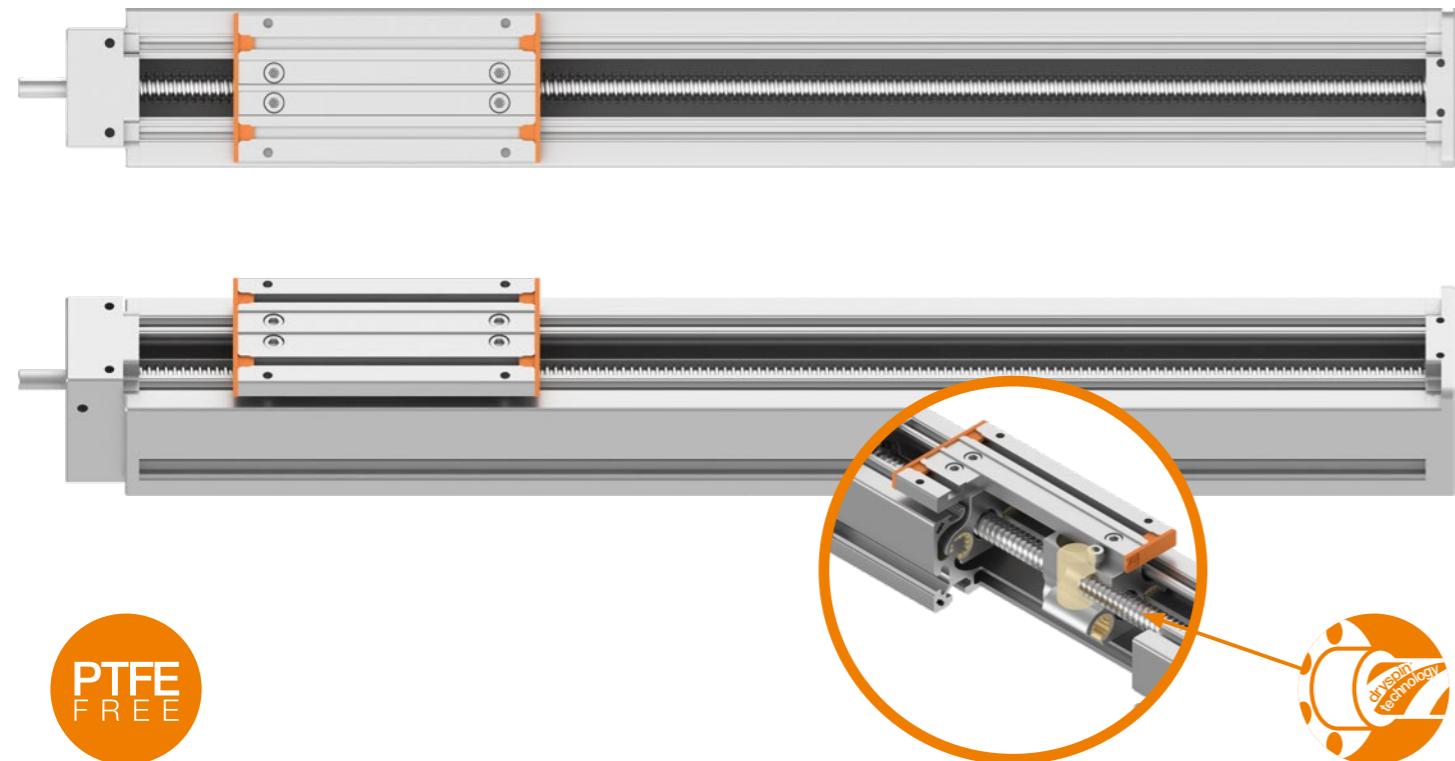
In the endurance test: Two NTM-45 systems in horizontal installation position
System length 200mm, speed 0.015m/s



Ideal for drone garage platforms



Quick assembly



New #modular

Lead screw axis with various connection options

drylin® SLX linear module

The lead-screw-based equivalent to our ZLX-8060 toothed belt axis. Using the same multi-functional profile, a dryspin® lead screw system moves inside the profile instead of a toothed belt. The advantages remain the same: simple installation on aluminium construction profiles, many connection options and therefore fast assembly of linear robot systems. With its three completely closed sides the profile offers high rigidity, low deflection and high protection. The drylin® W linear guide is located inside the profile, the carriage moves on it. drylin® e-motor kits offer a wide range of drive options.

▲ Suitable for manual adjustment and electrical operation

▼ Easy installation thanks to a lot of grooves (groove 10 type B) and fastening options

■ Tested service life: dryspin® thread Ds16x5, right-hand thread, stroke length 500mm, dynamic axial load 300N, feed rate 0.08m/min., speed 16rpm, result: 113,232 double strokes

● 100% lubrication-free, PTFE-free lead screw nuts available



More safety



New #atex

Narrow conductive toothed belt axis

drylin® ZLW-1050-ES-EX and ZLW-1050-ES-HYD

The drylin® ZLW-1050-ES is THE linear axis for demanding environments. Both an FDA-compliant version (ZLW-1050-ES-HYD) and a new conductive version of the compact design are available. The latter combines highly corrosion-resistant stainless steel with lubrication-free and conductive igus® plain bearings in addition to an equally conductive, tension-resistant toothed belt. The electrostatic conductivity of the toothed belt axis were tested by TÜV Rheinland in Test Report No. 331/Ex269366879.00/25 (rating of the electrostatic charge). In its assessment and statement, TÜV Rheinland confirms: "Based on the measured electrical resistance values, no dangerous electrostatic charging is to be expected when operating the ZLW-1050-ES-EX conductive toothed belt axis. The toothed belt axis must be integrated into the equipotential bonding of the installation site."

▲ Suitable for applications that require a conductive toothed belt axis (e.g. powder coating or measuring technology)

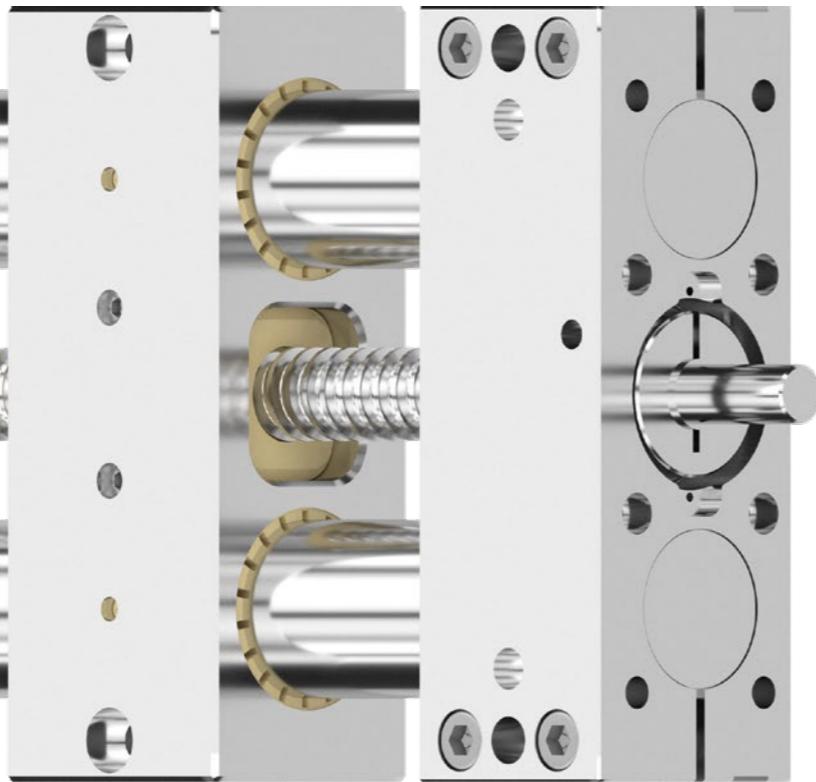
▼ Supplied ready for installation with a desired stroke length of max. 2,000mm

■ Tested service life: drylin® ZLW-10 stainless steel, toothed belt RPP3, stroke length 800mm, load 500N, speed 0.5m/s, acceleration 2m/s², result: 1,018,000 double strokes

● 100% lubrication-free operation



Easy to align



Plus #modular

High stability with great flexibility

drylin® SLR linear system new in installation size 30

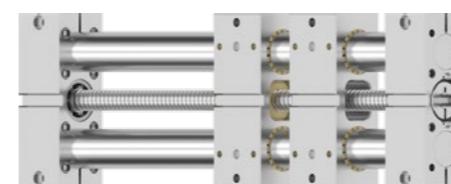
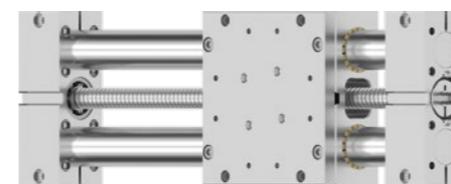
Numerous possible combinations in one design. Whether with one linear carriage, as a multi-carriage system or by combining different travel directions - the powerful linear module is now available in installation size 30 and impresses with its dirt-resistant drylin® R round shaft guide.

- ▲ Alignment is straightforward using dowel pins, without the need for additional bottom clamps. Limit switches are attached directly to the shaft end support so that additional spacers are not required
- ▼ A modular system for single and multi-axis systems
- Tested service life: SLR-40, stroke length 400mm, load 250N, horizontal installation position, stepper motor NEMA 34, speed 0.002m/s, acceleration 0.3m/s², 50% duty cycle, result: 689,000 double strokes at 14% used motor capacity
- Thanks to the dry-running operation without external lubrication, the module is completely maintenance-free
- Can be configured online: igus.eu/ddx



drylin® SLR linear modules for high loads

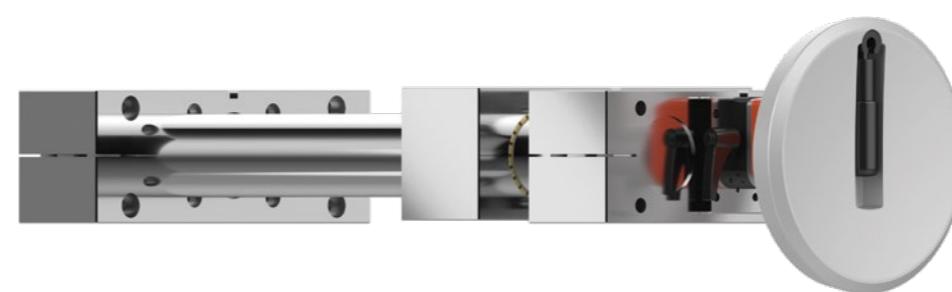
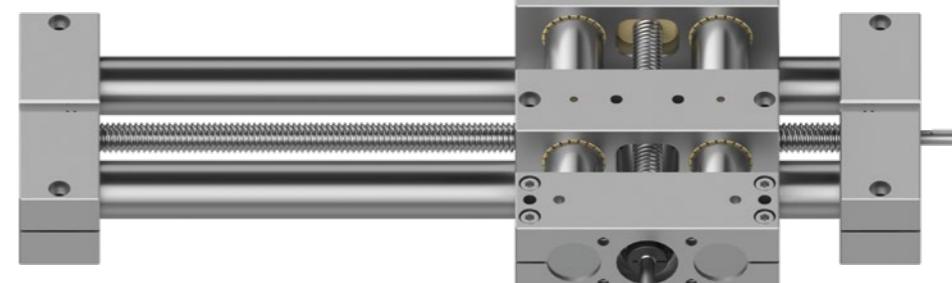
More rigidity, more combination options



The new SLR linear systems offer a modular design, quick assembly, various carriage options and greater rigidity. Thanks to high-performance polymers, they are free from lubrication and maintenance. They consist of guide shafts, a lead screw, shaft end supports and linear carriages. The maximum load capacity amounts to max. 1,600N (axial) and 6,400N (radial).

Assembly is time-saving as accessories can be integrated quickly. An electric motor is easy to connect, and igus® supplies the linear module ready for connection on request.

The SLR heavy-duty linear module is a further development of the SHT series

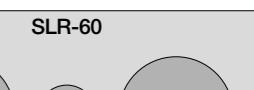
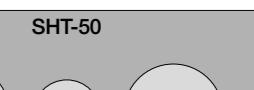
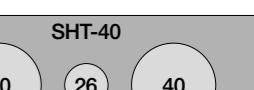
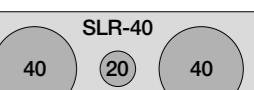
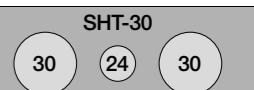
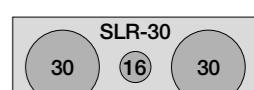
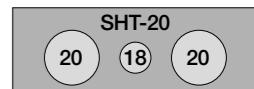


and offers greater load capacity and robustness. At 72mm, the SLR-30 is just as wide as the SHT-20, but offers up to 50% higher load capacity. It was developed in the igus® laboratory and has a space-saving design. The linear carriages allow for flexible configurations and easy maintenance.

Characteristics:

- Ball bearing system for high loads
- Compatible with EC/stepper/gearbox combinations
- Limit switch directly on the shaft end support
- Replaceable lead screw nut
- Holders for centring sleeves
- Greater rigidity with the same installation space

New
Identical dimensions with up to 50% more load capacity



Wide range of combination options and extensive accessories

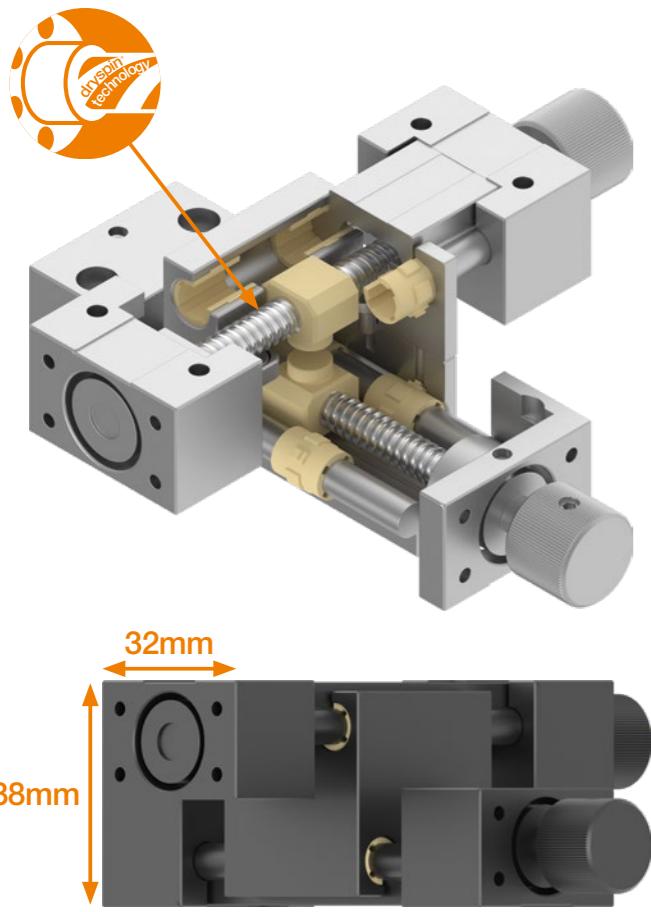
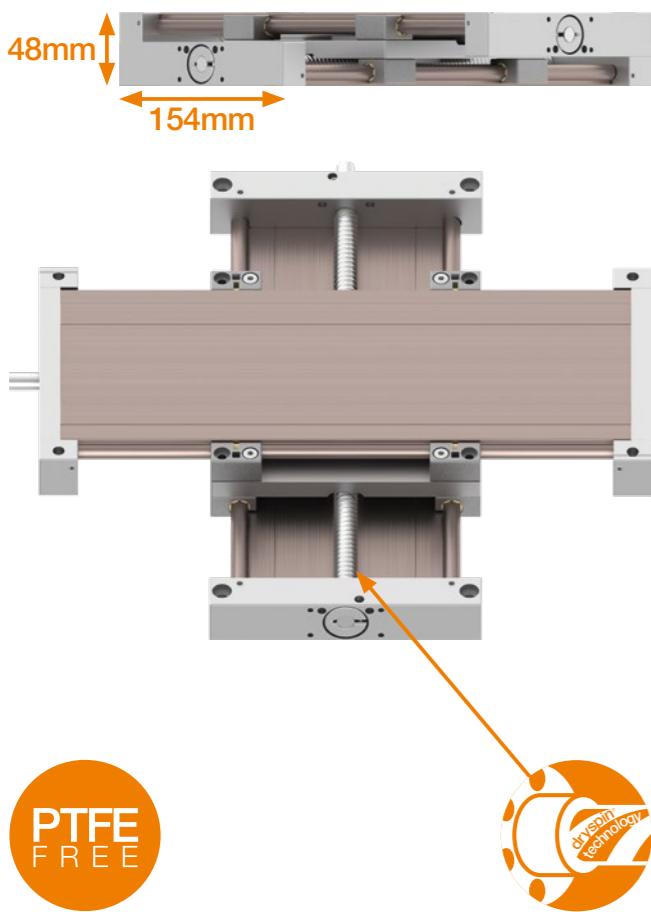
New

Wide XY table for a working area of 750 x 750mm

drylin® SLW XY table

The wide drylin® W linear rail profile WS-10-120, which we already use as basis in the linear module SLW-10120, offers a robust, wide load-bearing surface. igus® has now developed a torsion-resistant XY table design - which originated from a customer requirement - in the same width and incorporated it into the product range.

- ▲ Two travel directions combined in one module for a working area of 750 x 750mm
- ▼ Supplied ready to install with a lot of operating elements
- Tested service life: SLW-10120, horizontal installation position, stroke length 200mm, load 150N, dryspin® thread Ds10x3, right-hand thread, speed 0.005m/s, result: 168,000 double strokes
- Free from lubrication and maintenance, PTFE-free lead screw nuts available



New #compact

Clearance-free miniature XY table

drylin® SLW XY table

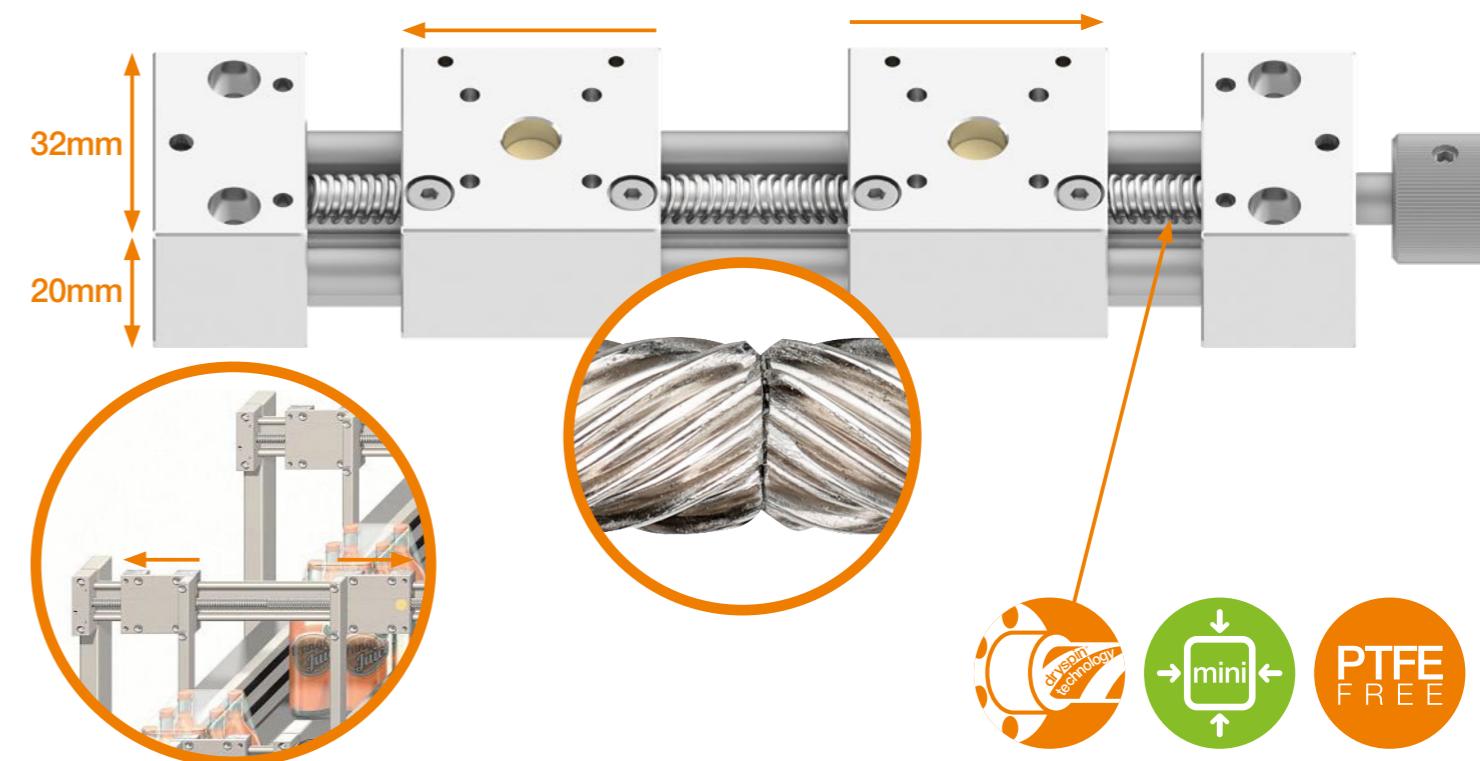
In small installation spaces such as laboratory automation, there is hardly any room for two linear modules that have to be moved in different directions. For this, igus has developed the SLW-XY-0620-FLZ, a compact XY table with individual stroke lengths. Whether operated manually or with a drylin® E electric motor, it impresses above all with its pre-loaded cross slide with zero bearing clearance.

- ▲ For a workspace 100 x 100mm
- ▼ X and Y travels in a linear module
- Tested service life: SLW-0620, horizontal installation position, load: 20N, dryspin® thread 6.35x2.54, stroke length 50mm, speed 0.004m/s, acceleration 0.1m/s², result 2,160,000 double strokes
- Lubrication-free operation



drylin® SLW with left-hand/right-hand thread

Towards the centre and back



New #compact

Format adjustment in miniature design

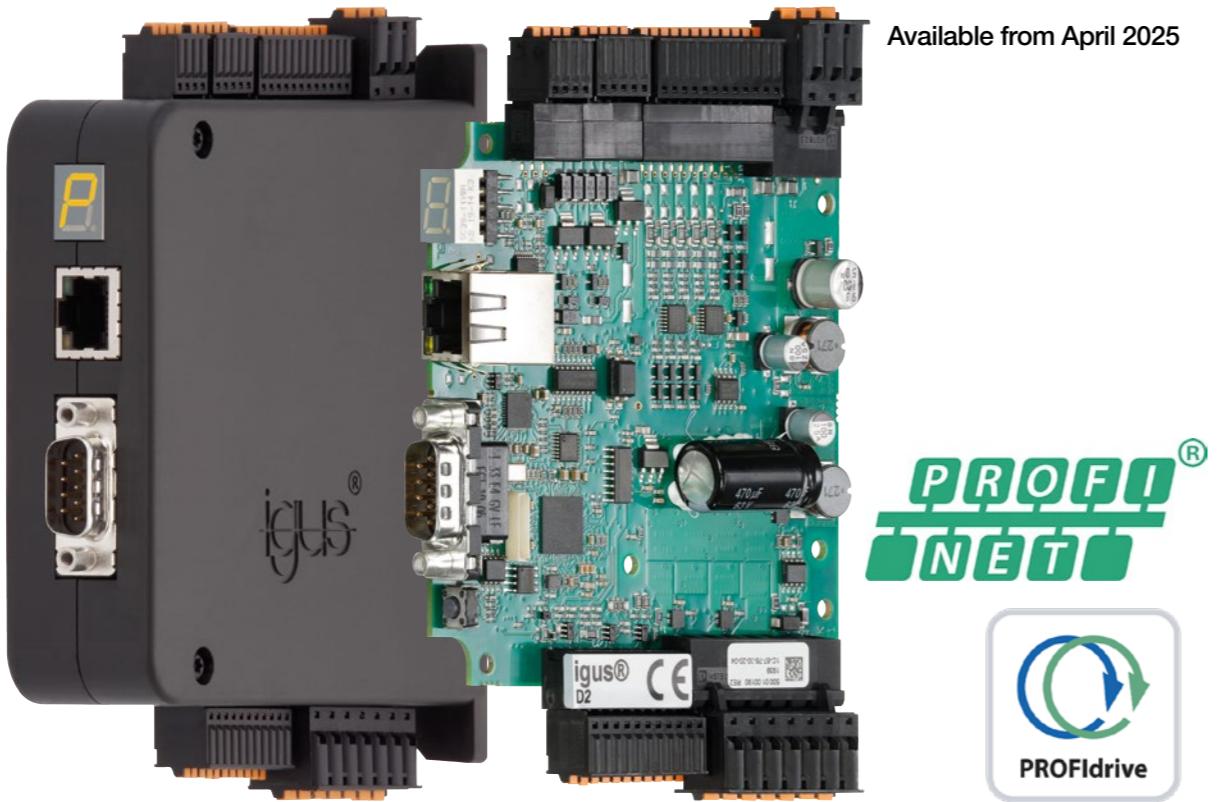
drylin® SLW with left-hand/right-hand thread

Thanks to the new "pinned" dryspin® lead screw Ds6.35 with combined left-hand and right-hand thread, the clearance-free miniature linear modules SLW-0620-FLZ can now be configured as reverse lead screw systems.

- ▲ Two carriages move synchronously in a linear module, on a central stroke, towards or away from each other with one turn
- ▼ Supplied ready for installation with operating elements such as manual clamp, position indicator and hand wheel
- Tested service life: SLW-0620, horizontal installation position, stroke length 150mm, load 125N, dryspin® thread Ds6.35x2.54, Right-hand thread, speed 0.005 m/s, result: 99,000 double strokes
- 100% lubrication-free, PTFE-free lead screw nuts available



Networking with PROFINET



Available from April 2025

Update **#certified**

Simple integration in conjunction with Siemens control systems

Motor control system D1 with PROFINET/PROFIdrive

The D1 motor control system for stepper DC and EC/BLDC motors is extended with the time saving certified PROFINET field bus integration. D1 is compatible with control systems from Siemens, Beckhoff, Wago and other manufacturers. The integration time in a Profinet network can be reduced to a minimum.

- ▲ Compatible with many control systems using PROFINET
- ▼ Fast integration
- D1 compatible with PROFINET with 18% market share
- Previous D1 series can be upgraded to PROFINET with a free firmware update
- Receive free firmware updates: igus.eu/d1



Background information on PROFINET

D1 motor control system in the PROFINET world

Integration of the igus® D1 motor control system with PROFINET for a seamless automation solution

igus® D1 - smart drive technology for maximum flexibility

The igus® D1 is the powerful and versatile control solution for demanding drive applications. With comprehensive PROFINET and PROFIdrive support as well as fast cycle times, the D1 is a reliable and flexible option for controlling motors in various application scenarios. It impresses with its simple commissioning, intuitive operation and high system compatibility.

Supported protocols - future-proof integration

The control system is compatible with most important industrial communication standards:

- PROFINET
- PROFIdrive

This wide support allows simple integration into existing automation systems and secures long-term investments.

Application classes - flexible use for a wide range of requirements

The igus® D1 is suitable for a variety of applications and can fulfil different functions depending on the application class:

- AC 1 - standard operation > Speed control for simple applications
- AC 3 - positioning > Speed and position regulation for precise motion control

Thanks to this wide range of application classes, the D1 can be used in various industrial sectors, from automotive production and packaging lines to simple robotics.

Fast and reliable cycle times
The igus® D1 impresses with short cycle times and high performance:

8ms to 16ms, depending on application

These short cycle times ensure fast response times, which is a major advantage especially in dynamic applications.

Conclusion - D1 The ideal control system for demanding applications

The igus® D1 provides users with a powerful control system for a wide range of automation applications, from simple speed controls to high-precision positioning. The combination of short cycle times, flexible application classes and broad communication support makes the D1 a future-proof solution for modern drive technology.

Thanks to its high flexibility and simple handling, the D1 is suitable for both new installations and for retrofitting existing systems. It provides a perfect balance between performance, reliability and easy integration, allowing companies to rely on efficient and economical production processes.

You can find a comprehensive cable range suitable for PROFINET online: igus.eu/chainflex

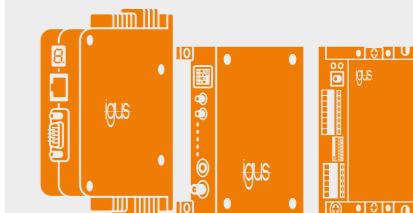


Rene Erdmann
Head of Product Area drylin® E -
Electric Drive Technology

Free video instructions

In the dryve experience, you will find information on applications already implemented for the respective motor control system, detailed tutorial videos of all functionalities as well as a selection guide for the motor control system that is right for you.

igus.eu/dryveXP



New

Control unit for igus® motor control systems

Control unit for inching and jog mode

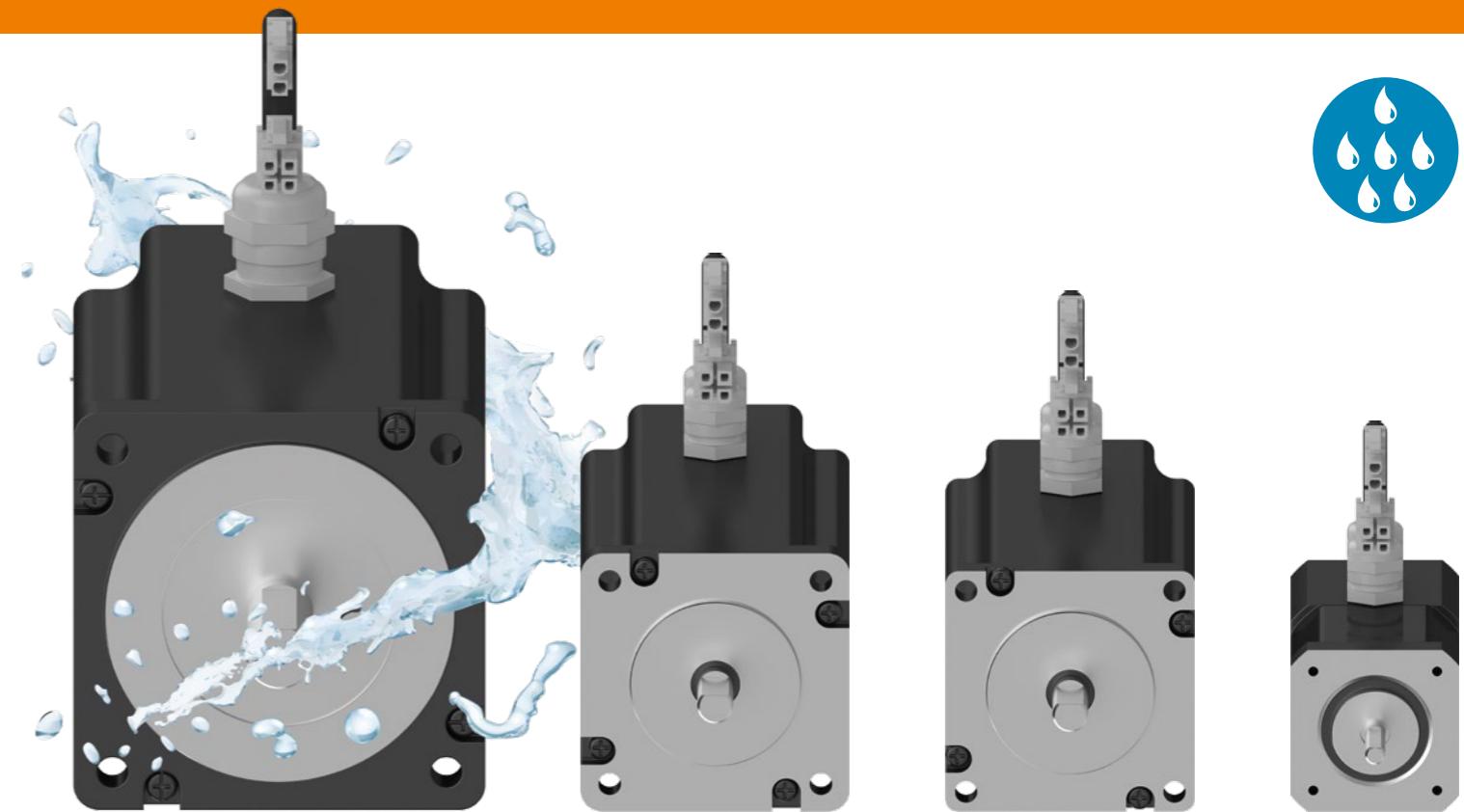
The new control unit now also allows the stepper motor drives D7,8,9 and the DC drives D5/6 to be operated in inching/jog mode. The motor control is unlocked (switched on) with the enable switch and the two buttons are used to move the motor in left-right rotation. This means that the simplest movements, such as height adjustments or stop edges, are easy to realise.

- ▲ Perform movements without prior knowledge or programming
- ▼ Control unit suitable for D1, D5/6, D7/8/9
- 14 additional control systems can be operated via control unit
- CE according to ROHS



Stepper motors with brake in IP65

Safe and secure

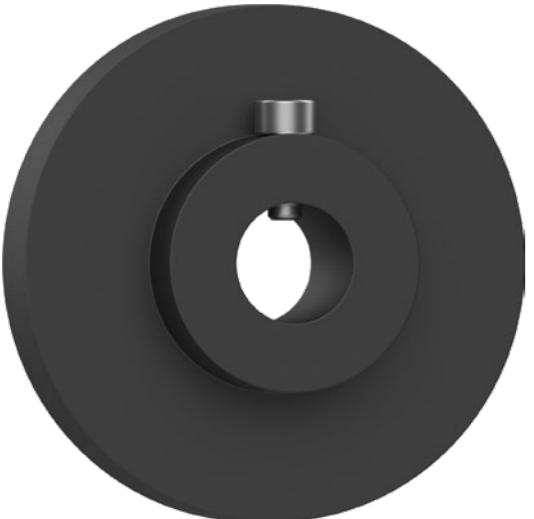


New

Adjusting or referencing drives and motors

Hand wheels for double-shaft motors

The hand wheels can be installed on the second machined end of double-shaft motors or drive axes. With the easy-grip hand wheels it is possible to adjust motors/linear drives precisely, which is typically used as a reference point or zero point. Furthermore, electric motors can be adjusted manually in the event of a power failure, for example to release jammed or locked objects.



- ▲ For shafts with D-cut (5/6.35/8/14mm)

- ▼ Set the reference point by hand instead of using a reference switch

- 400% more cost-effective than electric reference/homing drives

- CE according to ROHS



New

Stepper motors with brake for humid environments

Stepper motors with brake in IP65

The new stepper motors in IP65 with integrated brake are designed for applications in damp areas where a load must be held securely. The holding brakes are activated when unpowered and thus block the motor shaft. The series includes motors in installation sizes NEMA 17 to 34. Connection cables with a length of 1m and a terminating Molex connector are already installed on the motor.

- ▲ Stepper motor series (0.5 to 5.9Nm) with brake (0.5 to 2Nm) for humid environments

- ▼ With 1m connection cable and inexpensive Molex connectors

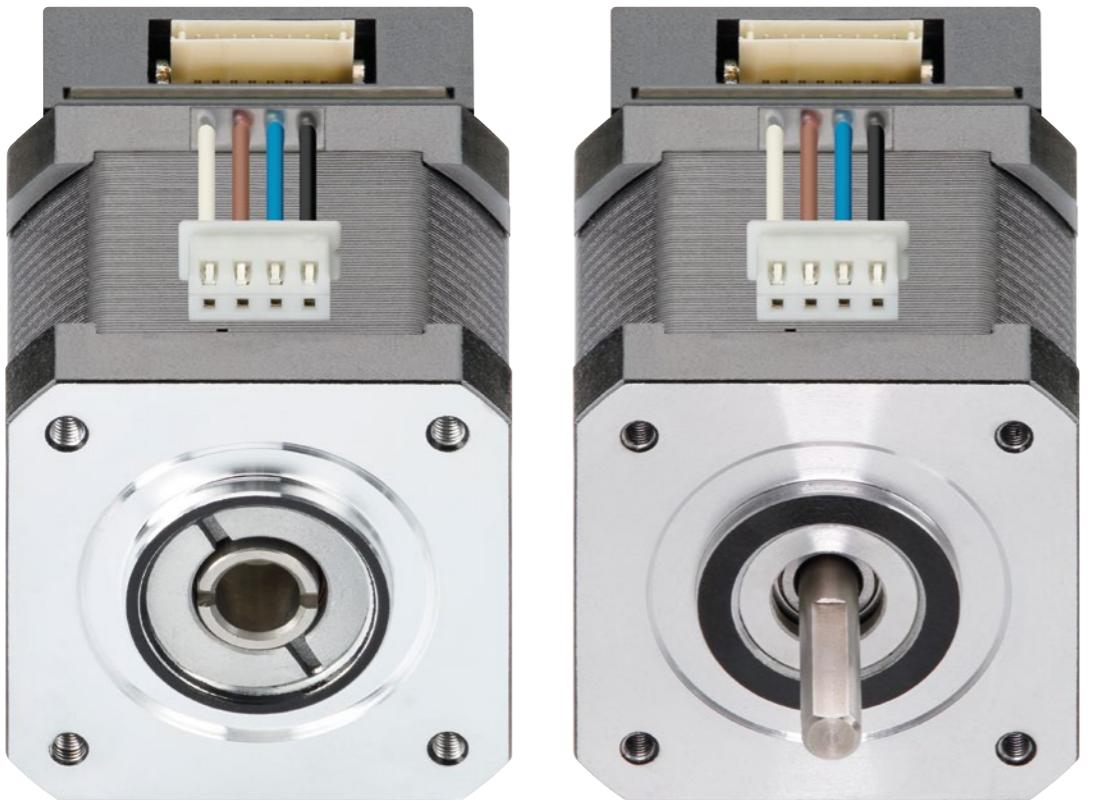
- 16% gain in overall length compared to motors with metric connector

- CE according to ROHS

- Find motors online: igus.eu/dmx, configurable online with linear drive: igus.eu/ddx



Precise and compatible



Siemens

Beckhoff

B&R

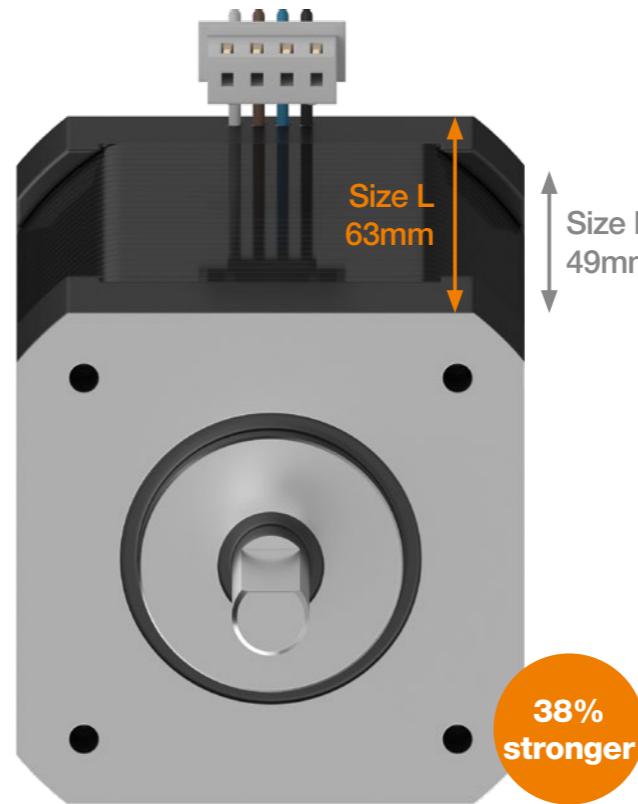
New

Encoder compatible with Siemens, Beckhoff and B&R

Stepper motors with 24V encoder

The new stepper motors are equipped with a three-channel 24V encoder. The encoder is compatible with control systems from Siemens, Beckhoff or B&R, for example, which also work with a 24V supply voltage. The high pulse output allows for safe and precise positioning in automation technology.

- ▲ Stepper motor and spindle motor (0.5Nm) with encoder (24V three-channel/1,000 pulses)
- ▼ With 0.3m connecting wires and cost-effective JST connectors
- 480% higher supply voltage
- CE according to ROHS
- Find motors online: igus.eu/dmx, configurable online with linear drive: igus.eu/ddx



38%
stronger

New

Powerful stepper motors with encoder

Stepper motors in long version

The new stepper motors with an overall length L are up to 38% more powerful than the motors in with an overall length M, with the same flange dimensions. They are easy to exchange thanks to identical fixing dimensions. All motors are also available from stock with a three-channel 5V/500 pulse encoder as an option. All motors are compatible with igus® motor control systems.

- ▲ Stepper motor series (0.8 to 4.0Nm) with optional encoder (5V three-channel/500 pulses)
- ▼ With 0.3m connecting wires and cost-effective JST and Molex connectors
- 38% stronger compared to motors with overall length M
- CE according to ROHS
- Find motors online: igus.eu/dmx, configurable online with linear drive: igus.eu/ddx

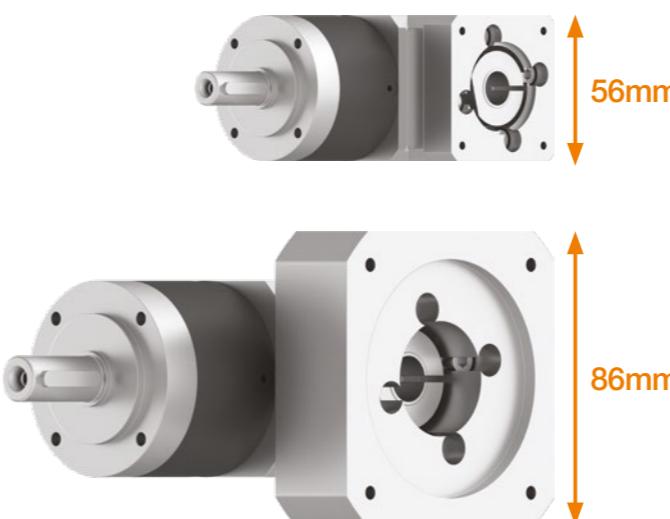


New #compact

Angular gearbox for confined installation spaces

Gearbox in installation size 60

Angular gearbox for motorised applications in confined installation spaces. The gearbox is available in six gear reductions, which are suitable for igus® stepper and EC/BLDC motors. With the angled gearbox, it is possible to realise superstructures in a more space-saving manner, which saves costs.



- ▲ Suitable for all igus® NEMA23/24/34 stepper & EC/BLDC motors
- ▼ For space-saving superstructures
- Up to 150% less installation space compared to GEA-60
- CE according to ROHS





igus® in-house automation

2,500 automation systems at igus®: from autonomous robots to injection-moulding automation - let us inspire you!

GO ZERO Risk ... lubrication-free & cost-effective automation

Low Cost Automation



133

Training with real industrial robotics
ReBeL® EduLab

134

Autonomous mobile robot (AMR)
ReBeLMove

137

The next step in the robotics revolution
Iggy Rob: the first humanoid robot from igus®

136

Think big, lift bigger!
XXL linear robot for up to 25kg

139

Dazzling performance:
the new stainless-steel delta robot
Stainless-steel delta robot



Quick consultation anywhere at any time



In person

Alexander Mühlens
+49 (0) 2203 9649-8255
amuehlens@igus.net



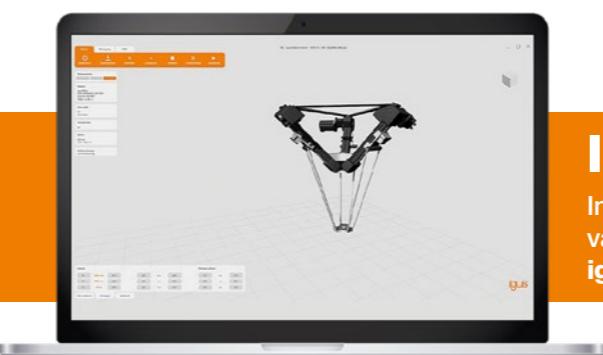
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/lca-roadshow



Intuitive robot programming

Intuitive software for programming and controlling robots that supports various kinematics such as delta, linear and multi-axis articulated robots.
igus.eu/irc

igus.eu/news-LCA

Shh ... behind the scenes



New

igus® automates igus® - over 2,500 own solutions in production

In-house automation at the motion plastics® specialist igus®

We use our cost-effective robot solutions in production to automate monotonous tasks and reduce the workload of our employees. This allows them to concentrate on more demanding activities. Let us inspire you - perhaps we have the right solution for your production.

- ▲ More consistent results and increased product quality
- ▼ Cost-effective automation solutions with a fast return on investment (ROI)
- Over 2,500 internal solutions in the areas of injection moulding, tapping, assembly and much more.
- Reduced consumption of resources and minimisation of waste
- ◆ Easy integration and programming of processes thanks to free igus® Robot Control



igus® production system: application of lean principles

No boring jobs: we make short work of routine tasks

What if robots could take over the boring, repetitive tasks - and we could concentrate on exciting activities? This is exactly our vision at igus®! And we don't just talk about automation - we live it. In our own production facilities, we use over 2,500 robot solutions to automate our production and support our employees. The origins of automation at igus® lie in our endeavours to make processes more efficient. However, the robot solutions available on the market were too expensive. The pressure to find a solution was high, so we started developing our own products and systems.

Robots in action - how we relieve our employees

What does that mean specifically? Let's take a look behind the scenes of the factory together. We will show you what automation looks like in practice and present some exciting examples from our production, including ROI, i.e. the time it takes for the investment to amortise. Spoiler alert: it's not as expensive as you might think, but incredibly useful for your production!

Injection moulding: robots remove sprue

One example of cost-effective automation at igus® is the removal of sprue from around 1,000 injection-moulding machines. What was originally done by hand has been automated with solutions such as the standard sprue picker and gantry robots. Sounds expensive? Not at all! A complete solution costs just €10,000 - only a fraction of the usual automation costs. ROI is usually achieved after just six months.

Price: €10,000
ROI: 0.5 years

ReBeL® cobot: the saviour for "boring jobs"

The ReBeL® cobot is a real game changer and used in various areas of the company. A prime example of a "boring job" is downstream thread cutting. Here, the cobots safely handle the workpieces and drill the threads - over 20,000 times a day. What used to be monotonous manual labour is now done by cobots. The best thing about it is that programming is child's play thanks to the igus® Robot Control software! Without any programming knowledge! The result is improved work safety, increased production speed and less scrap. The cost of this automation is €50,000 with a payback period of just 0.7 years.

Price: €50,000
ROI: 0.7 years

Delta robot Robofeed: faster than any human hand

Attention, here comes a special insider: Did you know that we originally developed our own robots because conventional solutions were simply too expensive? Exactly, we wanted to automate the assembly of our famous energy chains. That's how igus® Low Cost Automation came to life. Today, our delta robots support the assembly process by guiding the chain links to the automatic assembly machine, which connects the individual chain links. The price for the system is just under €40,000. The highlight? ROI is usually achieved after just 0.9 years.

Price: €40,000
ROI: 0.9 years

Room linear robots: no more waiting times at the injection-moulding machine

Inserting drylin® linear carriages into injection-moulding machines used to be a real ordeal for our employees. They had to be inserted hundreds of times a day, followed by a waiting time of 40s per cycle. Today, our low-cost linear robot iSPEL performs this task in record time. The project costs for this robot solution, including step conveyor, camera and suction gripper, total around €22,000. ROI is 0.7 years.

Price: €22,000 ROI: 0.7 years

Fancy benefiting from low-cost automation yourself? Take a look at our products and solutions and discover how easy automation can be - even for small budgets! One thing is clear: boring jobs are a thing of the past.

Feel free to contact us if we have inspired you for your production: igus.eu/lca-contact



Alexander Mühlens
Head of the Low-Cost-Automation Business Unit
+49 (0) 2203 9649-8255



Update

ReBeL® 03: new features and improvements

ReBeL® Environment

The ReBeL® 03 comes with new encoder technology and improved gearing. These innovations ensure an increased repeatability of at least ± 1 mm. The ReBeL® 03 also works more quietly, offers LED feedback and is equipped with a connector in the base for a seventh axis. Efficiency has been increased by 30%.

- ▲ Referencing accuracy improved by a factor of six
- ▼ Most cost-effective cobot - made in Germany
- Over 1,000 robots in use by customers
- Service life has been increased six-fold through the use of new materials and optimised components
- Over 50 digital interfaces



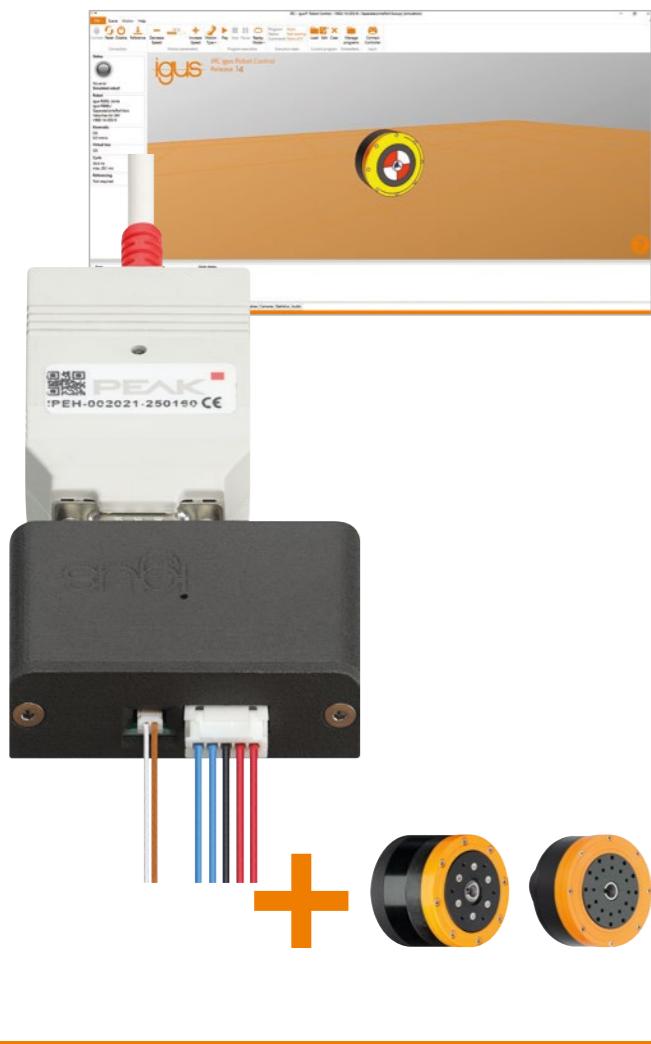
Update #compact

Firm grip guaranteed!

ReBeL® Environment

The new "plug & program" ReBeL® gripper set with the GEP2006IO1 Zimmer ensures a secure hold. Thanks to the self-locking mechanism, the gripper does not lose components even in the event of a power failure.

- ▲ Safety through self-locking mechanism
- ▼ Plug & program set for direct installation and control via the ReBeL®
- Compatibility tested by RBTX®
- Flexible use thanks to different gripper fingers
- Control via the igus® Robot Control



Update #modular

Plug them together and get started!

ReBeL® Environment

The RL-EC-SE-0118 adapter kit is the ideal solution for anyone who wants to easily connect ReBeL® shaft gearboxes in sizes 80mm and 105mm. It makes programming child's play: Simply plug them together and control them via the igus® Robot Control software or directly via CAN Bus.

- ▲ New plastic adapter in 3D-printed housing for greater stability
- ▼ Free igus® Robot Control software
- 24-hour use in the individual gearbox test rig of the Low Cost Automation test laboratory
- Durability thanks to replaceable individual parts
- Free advance testing in the software



As easy as planning a wardrobe

Plan your machine around the ReBeL® online

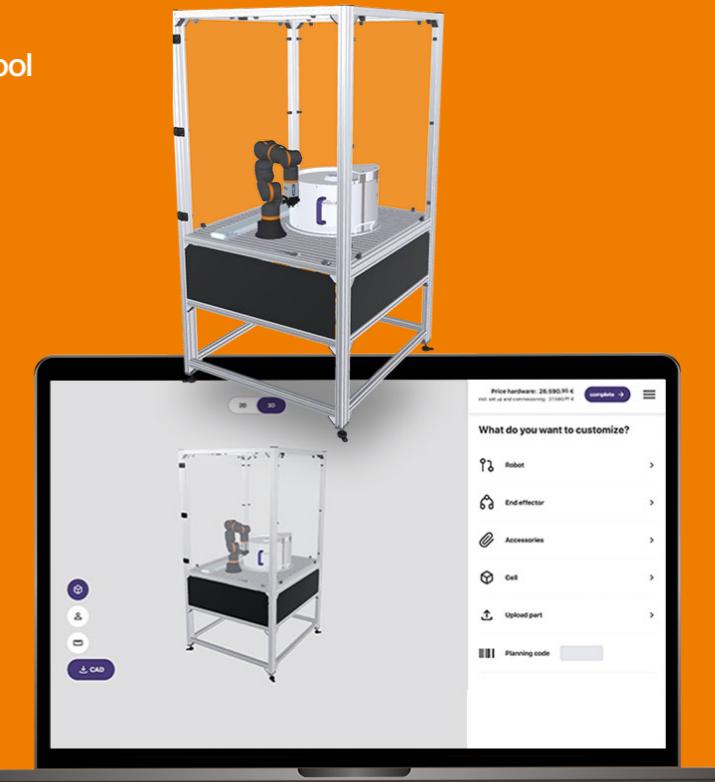
- CE documentation
- Directly in the browser, without an expensive CAD tool
- Always with instant price



Free
CAD download



CE



igus.eu/machine-planner

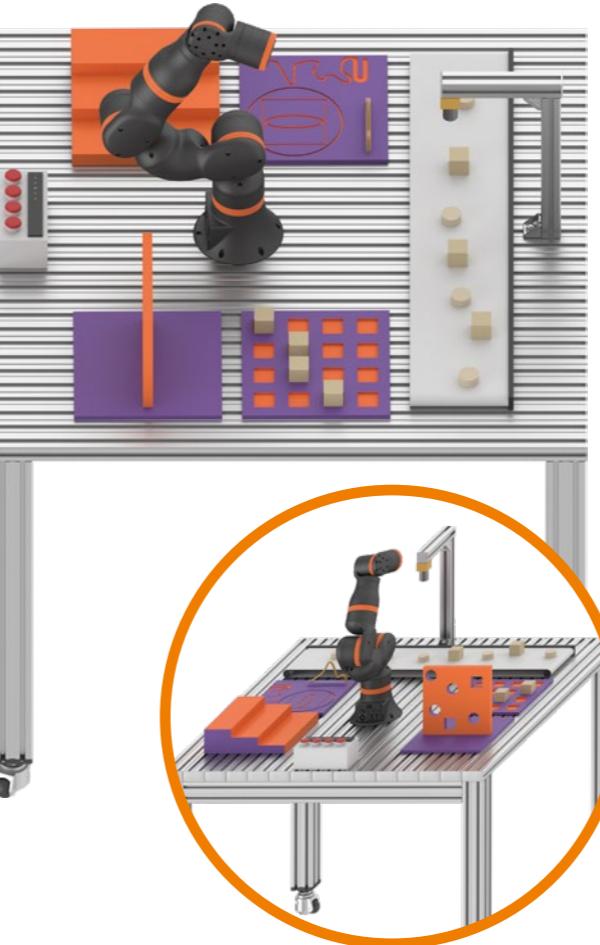
Study

Imitation allowed: Show to program

ReBeL® Environment

The Cobot ReBeL® can be teleoperated and programmed using a hand-controlled miniature version. The movements of the miniature ReBeL® are transmitted to the robot control system of the life-size ReBeL® via an interface.

- ▲ Programming without prior knowledge
- ▼ No time-consuming learning of programming languages or environments required
- Study presentation at the Hannover Messe
- Simple teaching of new applications
- Interface to the igus® Robot Control (iRC)



Plus

Training with real industrial robotics

ReBeL® EduLab

The new EduLab provides a fun way to get started with robotics. Program a realistic cobot with a user-friendly interface to give your facility a technological edge.

- ▲ With real-life relevance for perfect integration into lessons, also suitable for larger groups
- ▼ Free-of-charge, licence-free software for learning robotics skills effortlessly
- Other education kits, learning materials, programming tutorials etc. are already being used successfully at schools and universities
- 100% lubrication-free robot
- Free learning resources, programming tutorials and training software online



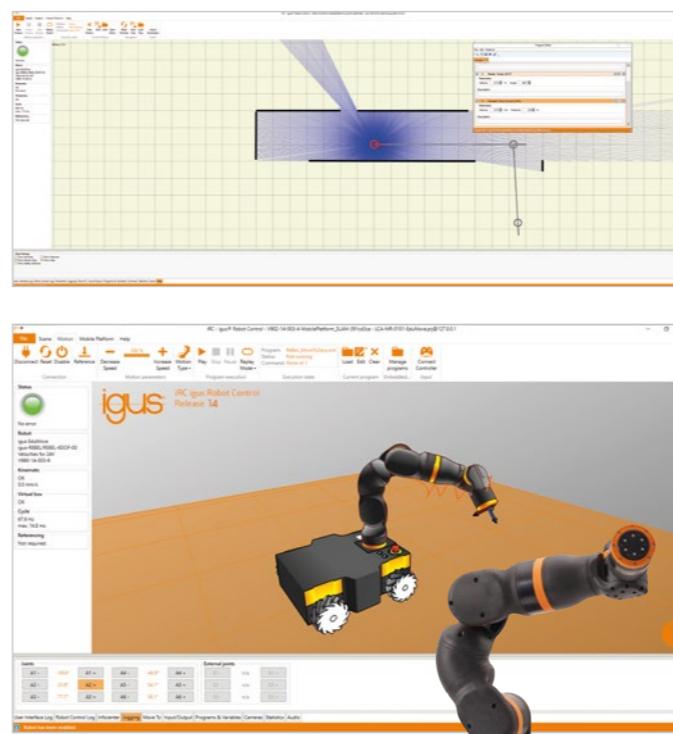
Plus

Sample programs and integration

ReBeL® Environment

The integration of the ReBeL® is made even easier by sample programs for Matlab and Simulink.

- ▲ New sample programs for ROS, ROS 2, Java Script, Ethernet, CANopen and Unity Package
- ▼ Reduce time and costs with easy integration
- Tested in the Low Cost Automation test lab and already used by customers
- Saves development resources



Update

Map and navigate: Just keep mapping!

ReBeL® EduMove

The ReBeL® EduMove maps its surroundings with an optional LIDAR sensor, precisely determines its position and navigates on this map. Simpler and clearer planning of missions.

- ▲ SLAM technology makes it easy to create maps and routes
- ▼ Easy programming of complex tasks
- Extensive test drives in rooms with a static environment
- Another platform can be added to ReBeL®
- Mobile programming and mission planning via integrated WLAN



I like to move it, move it ...



New #modular

Autonomous mobile robot (AMR)

ReBeLMove

The ReBeLMove offers a cost-effective and flexible solution for optimising logistics processes. It performs tasks such as supplying and emptying machines, supporting manual workstations, transporting empties and picking trolleys as well as quality and replenishment processes and the provision of tools. The LIDAR technology ensures precise navigation and safe logistics processes.

- ▲ Optimise logistics processes, ready for use in 30 minutes
- ▼ Cost-effective solution without great effort and with rapid amortisation
- 40% cost advantage compared to other mobile robots
- Enables employees to concentrate on more value-adding activities
- Intuitive app for quick set-up and simple operation



Versatile helper for modern production environments

Getting started in a cost-effective way with automating logistics processes

Imagine a well-organised production environment in which the ReBeLMove transports small load carriers (SLCs) completely independently. It glides through the hall, loads and unloads machines, supplies manual workstations or transports order picking trolleys. Its greatest strength? Flexibility. Whether transporting empties, providing tools or carrying out quality processes - the ReBeLMove adapts easily to every new task.



By reliably taking over time-consuming transport tasks, it allows employees to concentrate on more value-adding activities. This represents a considerable competitive advantage, especially in times of a shortage of skilled labour and increasing cost pressure.

Get an insight into the many possibilities that ReBeLMove offers you.



you can program the ReBeLMove within half an hour and use it immediately.



With its combination of flexibility, cost efficiency and simple operation, the ReBeLMove is a forward-looking solution for your company if you want to organise your logistics processes more efficiently.



ReBeLMove	Standard	Pro
Speed	1.2m/s	2m/s
Payload	50kg	200kg
Weight	35kg	60kg
Tensile weight	up to 100kg	up to 900kg

ReBeLMove compared to ReBeLMove Pro, more information on the following page.



Smart software for maximum integration

A real team player: the integrated software allows intelligent fleet management and simple integration into existing systems. Virtual interfaces (REST API) ensure efficient communication between robots, machines and the infrastructure - from automatically opening doors to replenishment requests. The integrated fleet management is compatible with VDA5050 and works seamlessly with platforms such as Idealworks fleetexecuter, Kinexon or Naise without incurring additional licence costs for the software and fleet management.



Sebastian Thorwarth-Kienbaum
Product Manager ReBeL®
Low Cost Automation
+49 (0) 2203 9649-8255
stkiensbaum@igus.net

New

ReBeLMove Pro: more load capacity and higher speed

ReBeLMove Pro

More power for your applications: the ReBeLMove Pro impresses with a speed of 2m/s, 200kg load capacity and 900kg tensile weight. Precise navigation thanks to LIDAR technology increases safety and efficiency in logistics.

- ▲ Optimisation of logistics processes with numerous expansion options
- ▼ Cost-effective solution without great effort and with rapid amortisation
- 25% cost advantage compared to other mobile robots
- Enables employees to concentrate on more value-adding activities
- Intuitive app for quick set-up and simple operation



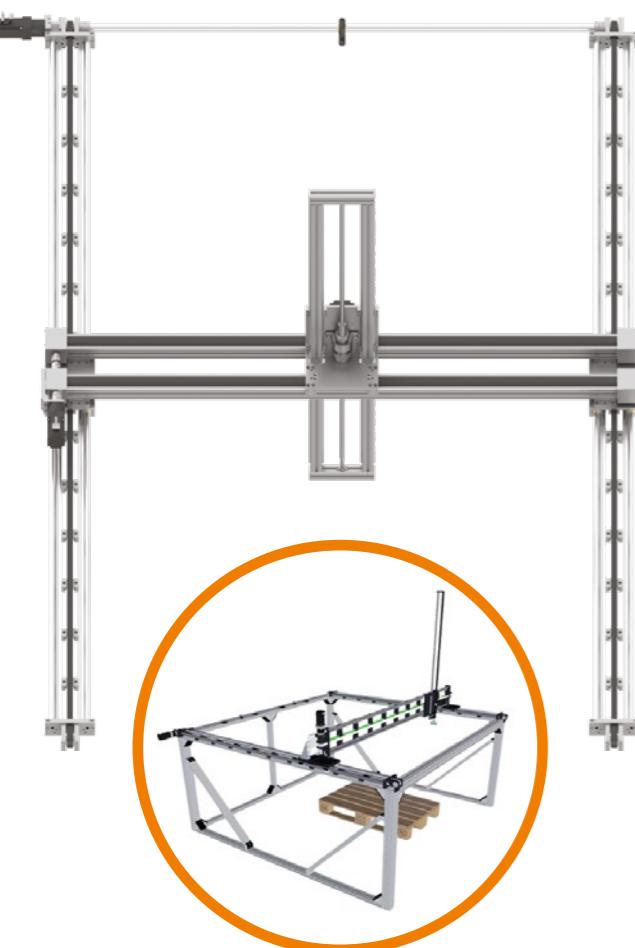
New

Think big, lift bigger!

XXL linear robot for up to 25kg

For reliable and flexible palletising applications with a lifting weight of up to 25kg. Build your own robots with the plug & program-ready palletising robot set and save integration costs.

- ▲ The working area can be configured with a max. stroke of 5.5m, ideal for Euro pallets
- ▼ Up to 60% more cost-effective than conventional linear robots, lower maintenance costs and reduced downtimes
- Consists of drylin® linear axes that our customers have been using for 25 years. Service life predictable online
- Replaceable linear bearings
- Plug & play solution with the igus® Robot Control software (iRC)



Iggy Rob: the first humanoid robot from igus®

Flexible, intelligent, humanoid



ROI
<1 year

Study

The next step in the robotics revolution

Iggy Rob: the first humanoid robot from igus®

We are currently working on developing of our first humanoid robot. This robot integrates ReBeL® cobots for the robot arms and uses the mobile robot® ReBeLMove as a basis to allow for smooth movements and interactions.

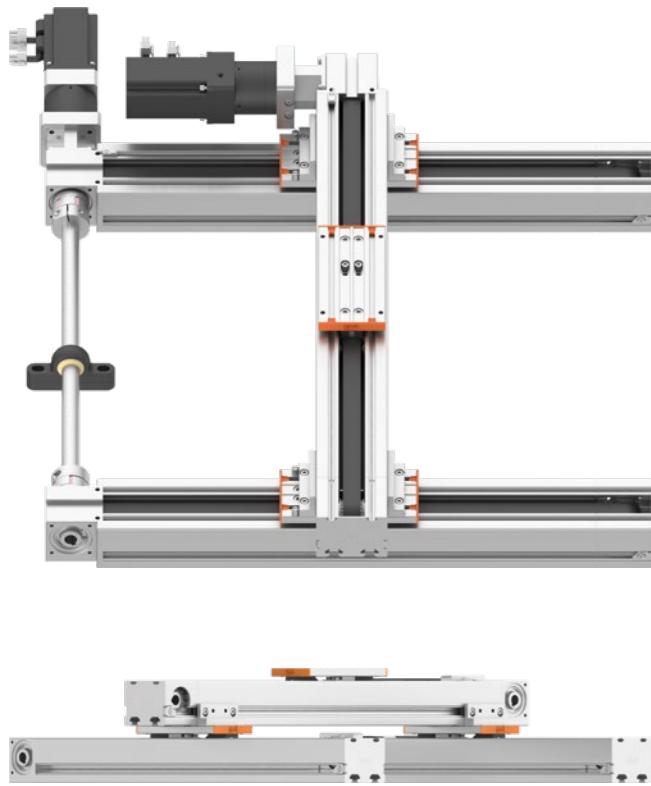
- ▲ Flexible and location-independent use at different workstations
- ▼ ROI within one year
- Have your application tested in advance. Please feel free to contact us
- Can be used individually
- Test humanoid robots and other mobile robots in the online tool RBTXmobile: rbtx.de/link/mobile



Study

Robust and versatile assembly

Profile axes for linear robots



Thanks to the compact design and the use of T-slots profiles, the linear robot can be easily integrated, which makes it an integral part of the overall construction.

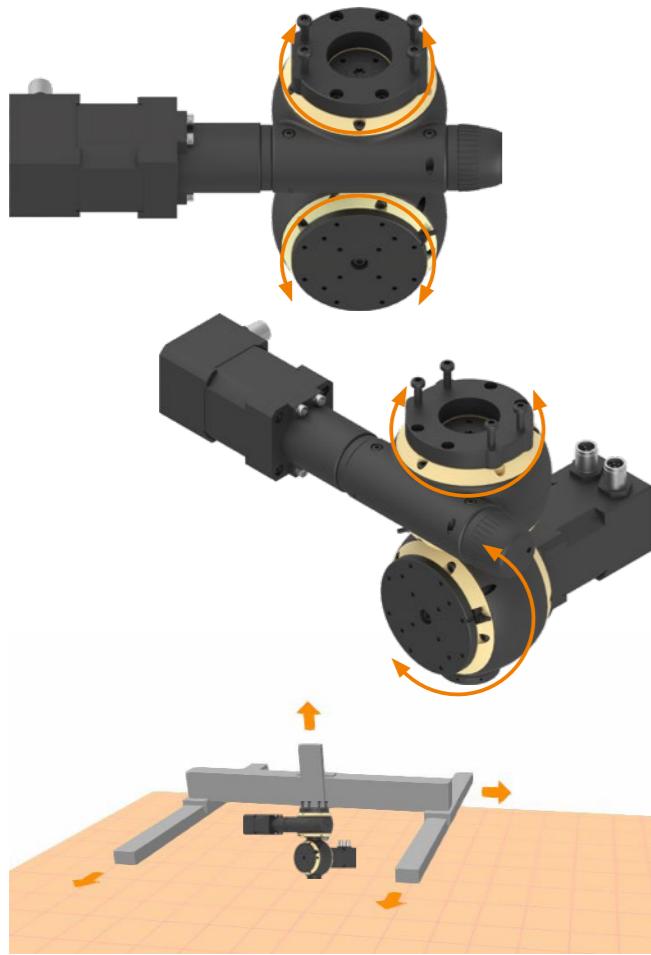
- ▲ Higher performance thanks to internal drive pulleys
- ▼ Simple and cost-saving installation options directly on the axis thanks to T-slots
- Extensive tests in the Low Cost Automation test lab
- 100% lubrication-free



New #modular

Rotary-drive unit for linear robots

Extending linear robots' degrees of freedom



Cost-effective option for adding more degrees of freedom to multi-axis linear robots. These axes permit end effectors and components to be rotated and swivelled around their own axis.

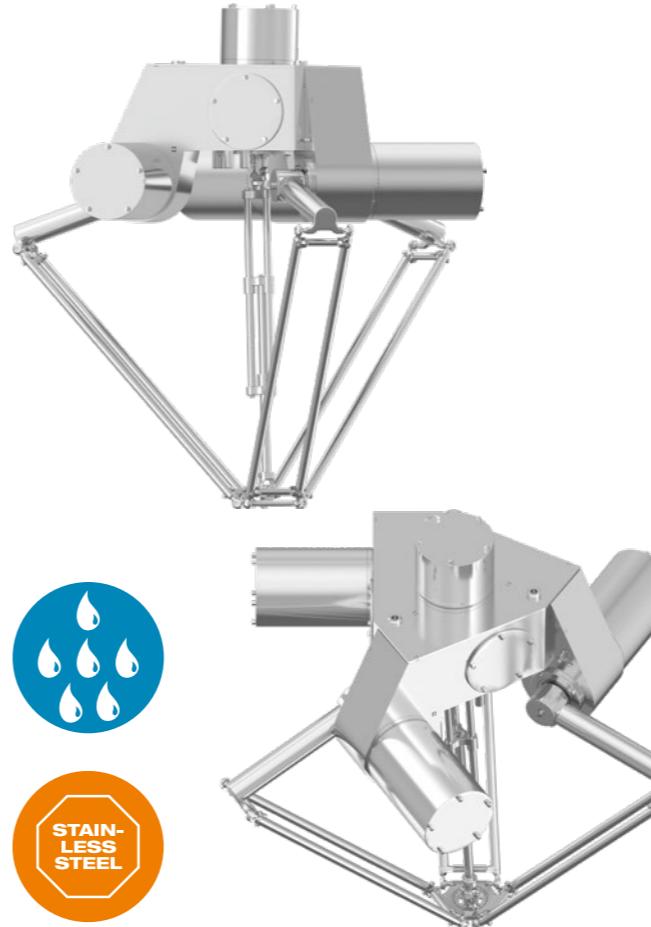
- ▲ Extension of existing linear robots by 1 to 2 degrees of freedom
- ▼ Cost-effective axes due to plastic components
- Performance data confirmed by extensive tests in the igus® laboratory
- Lightweight construction reduces energy consumption
- With the igus® Robot Control, these axes can be operated in combination with an additional motor module and integrated into the program flow



Study

Dazzling performance: the new stainless-steel delta robot

Stainless-steel delta robot



A stainless-steel version of the delta robot is now also available. Ideal for fast pick & place tasks.

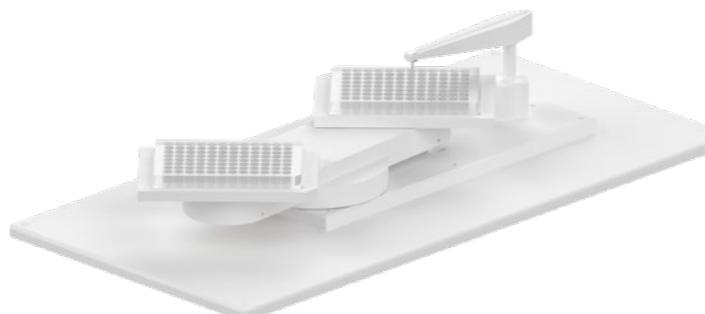
- ▲ The stainless-steel delta robot offers increased resistance to corrosion and is ideal for sensitive environments
- ▼ The robust stainless-steel construction extends the service life and reduces maintenance costs
- Long service life and replaceable wear-resistant parts
- The use of stainless steel in combination with plastic reduces material wear and extends the robot's service life



Study #lowcost

Drop by drop

Pipetting robot



The market for automated diagnostics has developed dynamically in recent years - partly due to the corona pandemic. We are therefore developing a low-cost and easy-to-operate pipetting robot for standard applications. Please feel free to contact us if you have questions.

- ▲ Precise approach to the grid positions of a well plate
- ▼ Favourable complete solution, can be configured individually
- Innovative kinematics, patent pending
- Long service life and replaceable wear-resistant parts
- Simple programming with igus® Robot Control software (iRC) or igus® Joint Control (iJC)



Build the world to your liking



New #modular

Build your robot: 10 new Apilo® robots

Modular robotics: endless possibilities

Apilo® is a modular gearbox system. Combine Apilo® gearboxes according to your individual requirements or choose from over 20 pre-constructed Apilo® robot systems in our shop.

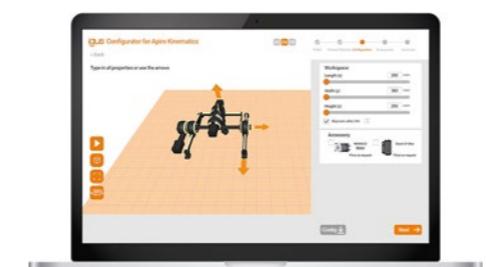
- ▲ Countless combinations and individual, space-saving kinematics can be implemented
- ▼ Cost-efficient solid-plastic gearboxes with modular design - ideal for retrofitting
- High product compatibility and gearbox performance data thanks to extensive testing
- Lubrication-free with wear-resistant parts that are easy to replace
- Configure modular robots in the Apilo® configurator igus.eu/apilo-configurator



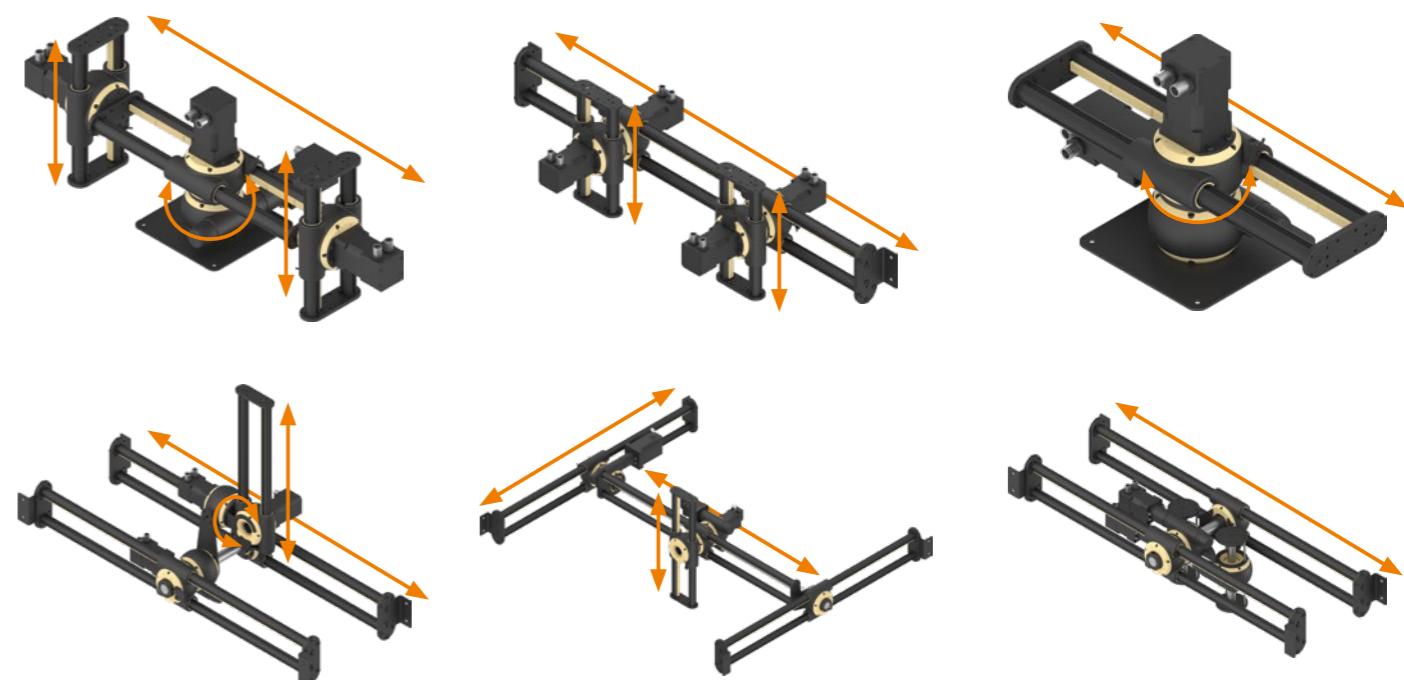
A construction kit for industry: modular, flexible and configurable

The name "Apilo®" is Greek and means "infinite" - and that's exactly what it means: an infinite number of possible combinations for individual applications that can be realised in a modular and cost-effective way with the Apilo® construction kit. Think of a modular system: different gearboxes, axes and connections that are easy to combine and customise - not for toys, however, but for customised motion sequences in industry. Thanks to interchangeable modules, companies can develop their automation quickly and precisely without having to set up completely new systems.

The wide range of possible applications: modular, customisable, efficient
Thanks to Apilo®, several challenges for Seco's frozen-food vending machines have been solved at once: maintenance requirements were minimised, durability maximised and costs significantly reduced compared to similar kinematics. The powerful worm gear made it possible to integrate the opening of the cooling area into the process, eliminating the need for an additional mechanism.



igus.eu/apilo-configurator



Build your robot



Study #modular

Complete robots as a modular system

RoboBuilder

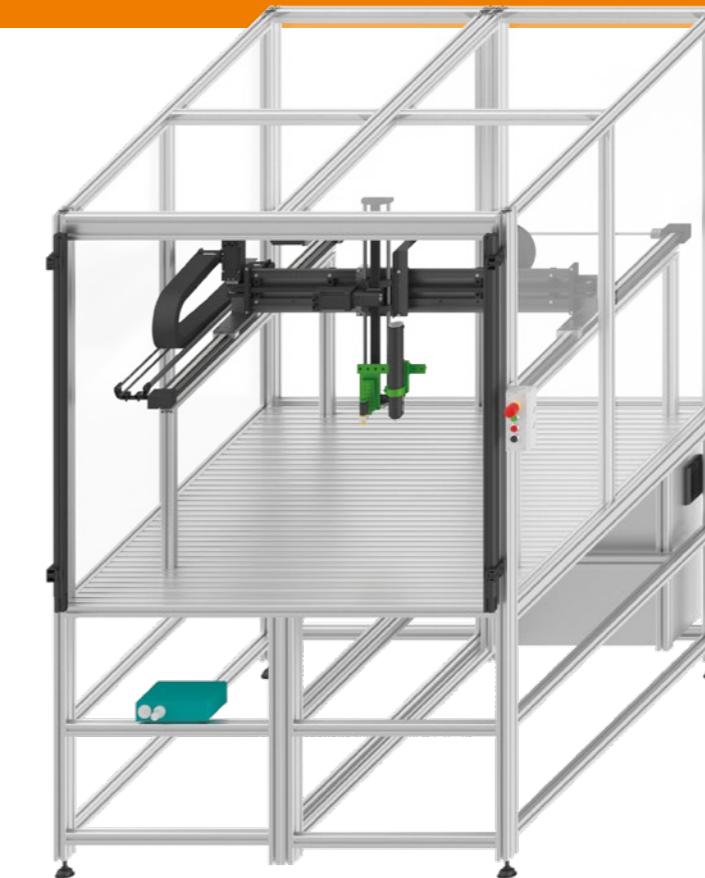
This is a robot construction kit. While Apipro® is a gearbox construction kit, it can be used to assemble entire robots. The flexible system consists of gearboxes, drives, bearings and rails that can be individually combined to create customised robot solutions.

- ▲ Allows for realising individual robots
- ▼ Quick and easy conversion possible
- High product compatibility thanks to the use of igus® standard components
- Lightweight design of components reduces energy consumption



Complete automation cells including CE service

Carefree and safe with CE



Plus

CE service for machines

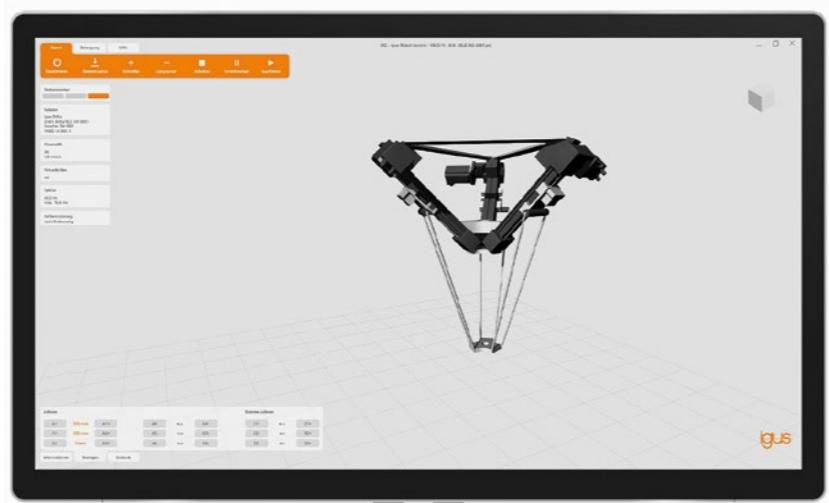
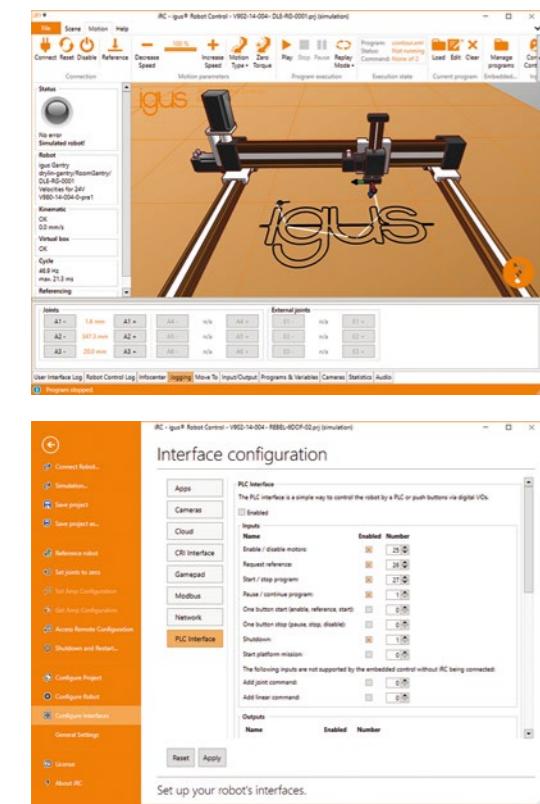
Complete automation cells including CE service

We now offer CE documentation as a service for all complete robot solutions from the machine planner. This service covers all legally relevant topics and is provided in an uncomplicated, cost-effective and secure manner.

- ▲ Fulfils safety standards through complete documentation and CE certification
- ▼ Always with price transparency
- 2,500 automation solutions in use at igus®
- Complete solutions with all components from one source
- Configure your robot solution with the Machine Planner: igus.eu/machine-planner



Control robots? Child's play!



New design from summer 2025

Update

Simply program over 100 igus® robots - free of charge and licence-free

igus® Robot Control

With the free robot software, you can now control more than 100 different robot kinematics. The igus® Robot Control enables you to program and test the digital twin even before you buy a robot. The software is compatible with over 250 different grippers, cameras and other sensors.

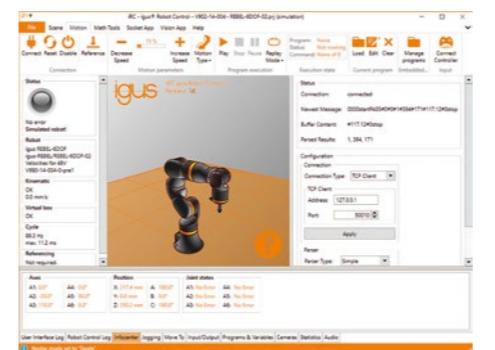
- ▲ Programming and integration for everyone, even without prior knowledge
- ▼ Simulate and test robots in the iRC software before purchase
- Over 4,000 robot control systems in use by customers
- One control system for all robots, which can also be retrofitted
- Download and test free software at igus.eu/irc



Click, code, even more control with the igus® Robot Control

Perfect movement with just a few clicks: the igus® Robot Control software makes robot operation easier than ever. More than 100 different robots - from SCARA to delta to mobile robots - can now be programmed intuitively. Thanks to the user-friendly 3D interface, movements can be simulated, prefabricated projects used and grippers, cameras and other components integrated. The expandable I/O modules and powerful communication interfaces permit both simple and sophisticated machine concepts. To make the application even more efficient and accessible, we have introduced numerous innovations.

The **path generation from DXF data** makes working with the software particularly efficient: simply upload your desired file and the software automatically calculates the optimum motion sequence. Forget complicated programming with thousands of lines of code for complex contours. The path generator makes programming child's play and efficient. This function is particularly useful for precise welding or gluing applications, for example. The **revised program editor** provides an even better overview and control - instructions can be grouped, scheduled and managed more quickly with a new search function for comments and variables. The **variable explorer** also helps keep track of all relevant parameters at a glance.



The control system has also been further improved. The new **iRC modules**, now also available in the XC version, permit the use of more powerful motors, including NEMA 34 stepper motors. The new **app interface** via Python opens up additional possibilities with maths and timing tools for more precise processes. At the same time, the **AutoConnect function** allows the system to automatically recognise the IP address, even if it has been changed - a real plus for easy commissioning.



Error messages and analyses are now even more precise. The new **error analysis function** helps identify and rectify problems more quickly. Detailed information on the source of the error and possible solutions make the process even more efficient. In addition, the **self-help tools** have been improved so that diagnostics and configurations are more intuitive and downtimes are minimised.

In addition to the software, we have also extended the hardware compatibility.

The control system can now control both BLDC and stepper motors, which provides greater flexibility in the choice of drive technology. There is a **SLAM** (Simultaneous Localisation and Mapping) specifically for the ReBeL® Edumove, which makes training applications for the education sector even easier.

SLAM is a technology that enables a robot or vehicle to simultaneously orientate itself in an unknown environment and create a map of the surroundings. This means that the robot knows where it is and at the same time creates a map that helps it move better and complete tasks more efficiently.

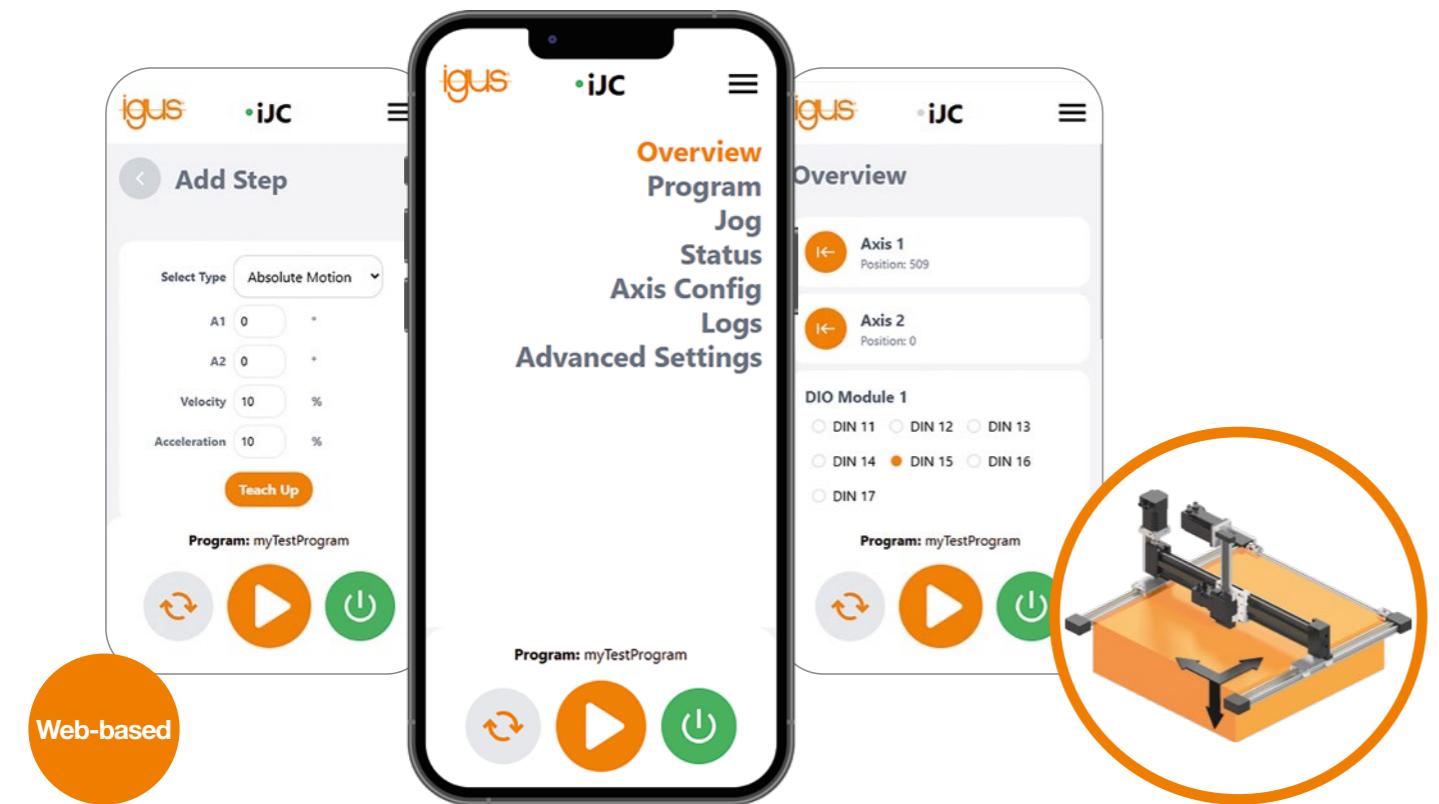


The update is rounded off by a revised design. The software offers improved user guidance so that functions can be found more quickly, processes can be controlled more efficiently and the overall operation is even more intuitive. With all these innovations, we are making automation more powerful, more flexible and easier than ever before. Try it out now and unlock the full potential of the robot control system!



Julian Ruwe
Technical Sales
Low Cost Automation
+49 (0) 2203 9649-8255
jruwe@igus.net

Smarter control in the browser



Update

Press play: quick start thanks to PLC interface

igus® Joint Control (iJC) for kinematics with one to three axes

With the new PLC interface, it is easy to select and start programs on the iJC using a PLC, switch or button. The inputs of a digital IO module are used for this purpose. The status of the control system can also be displayed via LEDs that are connected to the unit.

- ▲ Select and start programs via PLC, button or switch
- ▼ Quick and easy integration and communication between the iJC and a PLC
- Extensively tested in the Low Cost Automation test laboratory
- Optimised processes allow for more efficient use of resources
- Intuitive user interface for smartphone, tablet or PC



Direct control - without detours

The igus® Joint Control (iJC) is a compact robot control system that has been specially developed for the simple and intuitive programming of kinematics with one, two and three axes. It is the ideal solution for simple tasks and can be programmed quickly via a browser interface. It is perfect for applications such as vending machines or modular robotics projects without inverse kinematics. We are constantly working on further improving the iJC and its user-friendliness and update it regularly. Get an overview of the latest updates:

Simple programming and integration
The iJC is programmed via Wi-Fi, which is established by the control system. This means it can be connected to almost any smartphone, tablet or PC. Programming can then be carried out conveniently via the browser. You can choose the name of the Wi-Fi yourself, which makes it very easy to find your control system in the network.

Various playback modes: single or endless loop

Programs can be started via the browser, a button or the joystick. However, if you want a program to start again and again as soon as it has been terminated, this can become very tedious. It is therefore now possible to set the playback mode of the program: either one cycle or repeated cycles for recurring movements. This reduces the effort considerably as programs no longer have to be restarted manually.

Smarter thanks to "if-then-else" logic

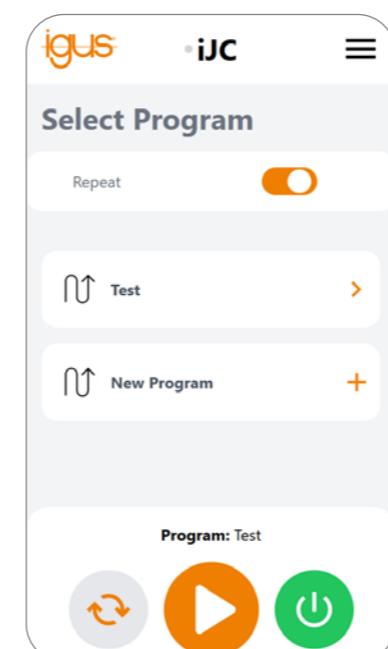
The new if-then-else program step opens up completely new areas of application. Different steps can be carried out depending on the status of a digital input. Thanks to colour coding and clear indentation, the program always remains clear and easy to follow. Complex, expensive control systems are thus now a thing of the past.

Referencing via joystick without Wi-Fi search

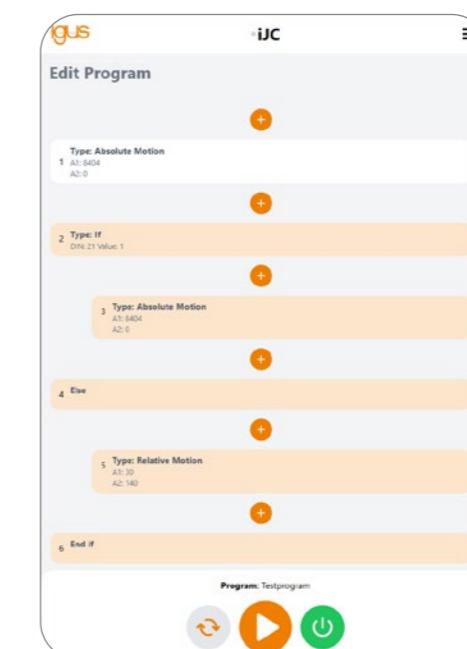
After restarting the control system, some axes must first be referenced again. With the convenient little joystick on the module, this can now be done at lightning speed and without the hassle of connecting to the Wi-Fi. A few clicks and your axes are ready to go again.

Teach-in programming redefined

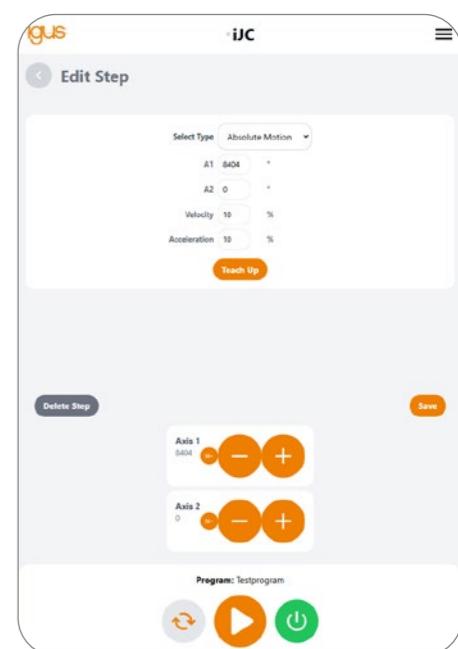
Our improvements also make teach-in programming even more intuitive by allowing the current position to be saved via a button when creating programs. The axes can be moved with a button and the point approached can be added to the movement program without having to switch between different pages. This means that a program can be created or improved quickly and easily via smartphone.



Setting the playback mode



"if-then-else" as a logistics instruction



Simplified teach-in programming



Automated handling of small parts

ReBeL® cobot and Schmalz suction pads in use

GO ZERO Risk ... automate your factory from €2,000

RBTX®



Tech up



Cost down



Proof



Sustainability



Digital

150

Programming robots of different brands with a single software
RobotCtrl - Control Any Robot

154

Ready for automation? Take off with ready-made robot solutions!
Complete solutions between €2,000 and €49,970

156

Robot training courses for all levels of experience
RBTX® Academy

159

Play before you pay:
test robots interactively
RBTX® online tools

160

AI robot expert:
your robot solution is waiting
RBTX® online tools

Quick consultation anywhere at any time



In person

Jens Klärner
+49 (0) 2203 9649-9449
j.klaerner@igus.net



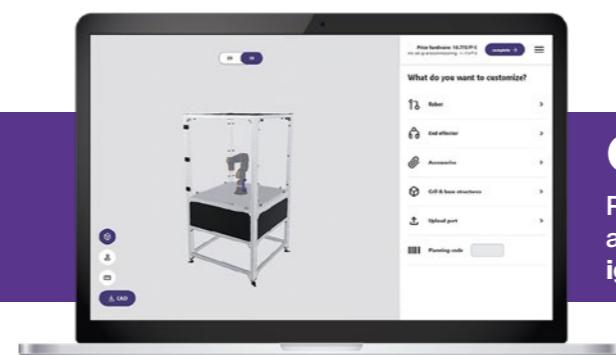
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/lca-roadshow

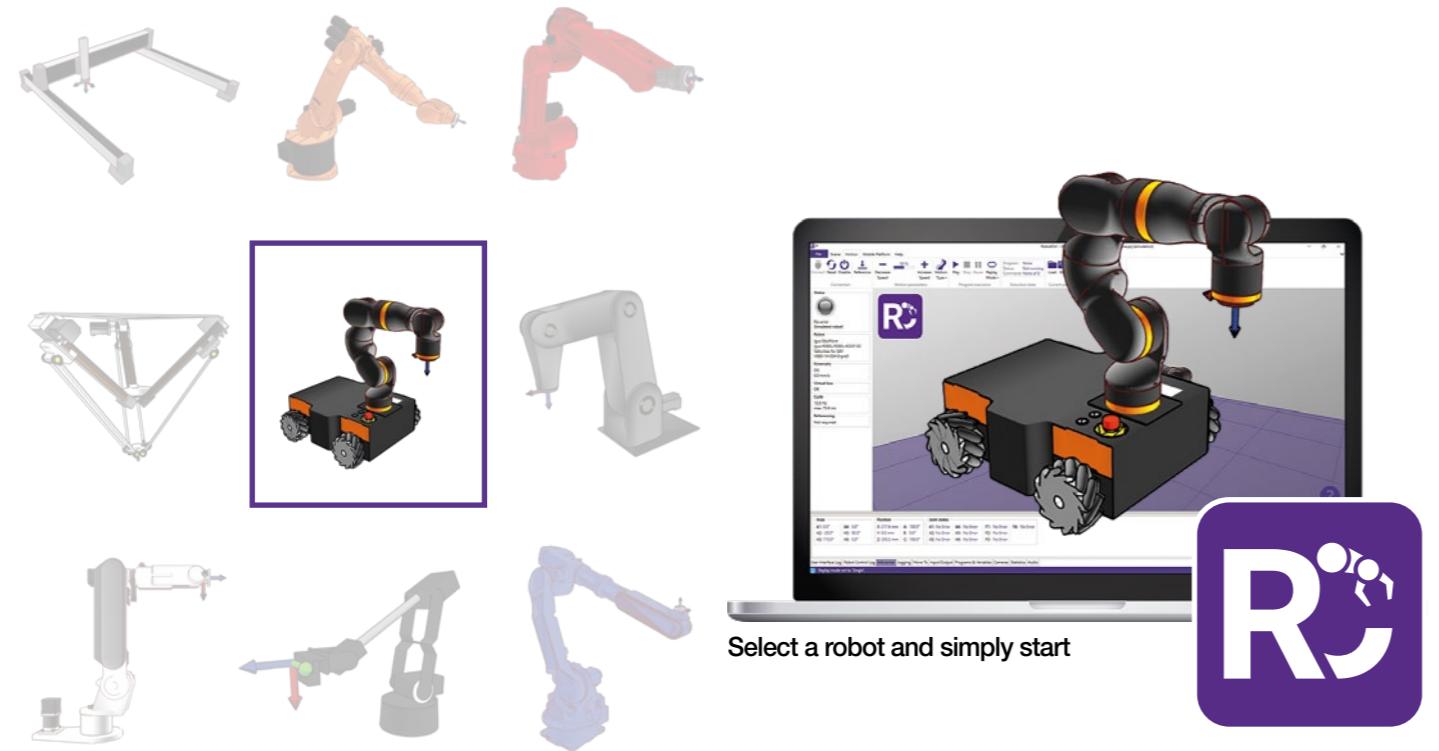


Configure robot in five minutes

Plan a complete machine consisting of cell, robot, gripper and accessories to realise your individual application.
igus.eu/machine-planner

igus.eu/news-LCA

One control system for all robots



Update

Programming robots of different brands with a single software

RobotCtrl - Control Any Robot

With the RobotCtrl control software, robots available on RBTX® can be operated in a standardised manner, regardless of the manufacturer. The software also allows integration with accessories such as cameras, grippers or robot cells. The robot models from Lebai, Hitbot and Lynx Motion have now also been added. For you, this means only one control system for all robots.

- ▲ Programming robots from a wide range of manufacturers with just one software
- ▼ Reduce integration cost and effort
- Successfully tested with leading manufacturers
- Counteracts fragmented software landscape due to uniform design and centralised control system
- Reduces programming effort as users only need to master a single software

rbtx.com/link/robotctrl



Step by step to automation with RBTX®

Imagine you are standing in your production hall and observing a monotonous, time-consuming work step. Perhaps the sorting of components, a simple assembly or quality control. You think to yourself: "A robot should be able to do that ..." But where do you start? And what does it cost? Don't worry - we will make your automation process simple and transparent! As the leading marketplace for robotics and automation, RBTX® brings together over **175 suppliers** and more than **850 robots** and components in one place. Whether grippers, sensors or complete robot systems - you will find everything you need for your automation system. Let's go through finding the perfect solution step by step:

Your first step: let us inspire you!
Browse around online on RBTX.com and find over **650 successfully implemented automation projects**. Perhaps another company with similar challenges has already found a solution? Click through use cases and watch videos of real robots - you'll soon realise: "Yes, that could work for us too!"

The free RBTXpert call - your direct line to expert knowledge
You've got an idea, but which components do you need exactly? Which robot, which gripper, which sensors? Instead of conducting endless research, simply book a free consultation appointment: rbtx.de/rbtxpert

The automation expert understands your requirements and makes specific suggestions. Within a few minutes, you will not only have a concrete idea of which solution might be suitable, but also an estimation of costs.

Gain security: test before you invest
Before you make a decision, you want to be sure: "Can a robot really perform this task the way I want it to?" No problem - with our "test before you invest" service,



Your RBTXpert in the Customer Testing Area when testing your application

you can have your application tested under real conditions in our Customer Testing Area and receive a detailed evaluation including video and cycle time.

RBTX® stands for

- 100% compatibility: tested solutions, ready for immediate use
- Test before you invest: free feasibility tests with video and fixed price offer
- Everything from one source: consultation, integration, service

Always up to date: the future of automation

You have taken the first step towards automation - but this is just the beginning! You may soon discover other processes that can be optimised. Stay up to date with the RBTX® newsletter: new robotics developments, exciting projects and exclusive discounts straight to your inbox: rbtx.de/link/newsletter



€13,500



Jens Klaerner
Teamlead RBTX® Marketplace
+49 (0) 2203 9649-9449
jklaerner@igus.net
RBTX.com

Seventh axis for a reach of up to 6,000mm

For more flexibility



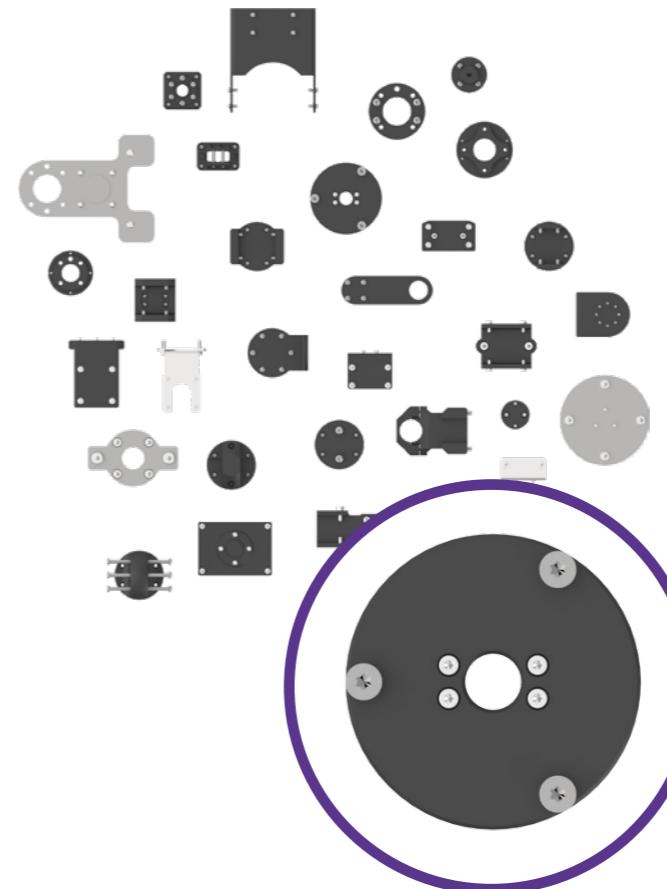
Update

Now compatible with UR 20, UR 30 and Fanuc CRX series

Seventh axis for a reach of up to 6,000mm

The seventh axis can be used flexibly and extends the operating radius of standard lightweight robots by up to 6,000mm, with further lengths available upon request. Thanks to its IP40 protection rating, it is ideal for precise and fast movements in industrial applications. This axis significantly increases the flexibility and range of your robot solutions and offers an accuracy of $\pm 0.1\text{mm}$.

- Flexible robot use instead of rigid kinematics with a speed of up to 0.6m/s
- Ready-to-connect delivery and installation possible
- Up to 6x larger workspace by using the 7th axis
- Lubrication-free toothed belt axis
- Combine robots from a wide range of manufacturers with a seventh axis in the configurator with just a few clicks rbtx.de/link/7thaxis



Plus

Connected in the blink of an eye

Adapter plates for easy connection of grippers and robots

Compatibility guarantee: over 180 adapter plates available for different robots to simplify the integration of robots with grippers.

- Large selection of adapter plates for various robots and applications
- Cost-effective solutions from €69 per adapter plate
- High-quality and reliable, tested in customer projects worldwide
- Accelerates integration and reduces material costs
- Simple ordering thanks to automatic selection of suitable adapter plates in the RBTX® marketplace



New

Robotics consultation: your questions, our answers

Live webinar with tips and tricks for your automation project

The regular online consultations provide you with an overview of our product range, expert tips and an opportunity to compare notes.



- Expert tips and sharing information about your automation projects

- Free engineering

- Experience robots live in action

- No dispatch of samples and no travelling necessary

- Register here for the next robotics consultation (in German): rbtx.de/link/sprechstunde



Complete solutions between €2,000 and €49,970

Plug and Play



New

Ready for automation? Take off with ready-made robot solutions!

Complete solutions between €2,000 and €49,970

Why go through the hassle of sifting through individual suppliers and components when everything can come from one source? From dosing, drilling, screwing and palletising to quality-checking - a complete package that is ready for immediate use. Efficient, cost-saving and easy to implement.

- ▲ CE-compliant machine systems for immediate "plug and play" use
- ▼ No compatibility problems or downtimes
- Compatibility and security check by the RBTX® team
- Save resources and only buy the components you need
- Complete solutions in the marketplace: rbt.de/link/complete-solutions



Ready-made complete solutions for your requirements

Automate your factory from €2,000

In a world where every second counts, efficiency is the key to success - and automation is the key to efficiency. State-of-the-art robot technology opens up new possibilities: production processes are not only faster, but also more precise, reliable and flexible.

However, the road to perfect automation can be rocky. Different suppliers, countless components, time-consuming compatibility checks - sounds exhausting, doesn't it? Don't worry, our complete solutions will get you to your destination without any detours. Whether palletising, gluing, welding, integration into injection-moulding machines or even laboratory applications, we combine all relevant components in well-thought-out, ready-to-use packages. No complicated integration, no nerve-wracking tests, just simple automation. And the best thing is: the product range is constantly growing. New solutions? Are already in the works!

**Why make life difficult for yourself?
Here are your advantages:**

- **Time savings:** no more searching for components - everything is already integrated and ready to use.
- **Cost savings:** compatibility problems and downtime? Not with us. You save money in the long term.
- **Simple implementation:** you don't need to be a technical genius. Our solutions are user-friendly and we will advise you in advance free of charge via RBTXpert video call.
- **Reliability:** durable, powerful and always ready to drive your business forward.

Flying high with palletising solutions for €17,745.51

If your production is looking for a highlight, we will take you to the heights - quite literally! The palletising solutions are the turbo for your logistics. Stacking products, packing pallets, optimising processes - all with ease. Whether you want to move 10, 20 or 25kg, we have the right solution. Prefer linear or collaborative robots? It's up to you!

Bonding and welding - connections that last for €13,699.40

In the world of bonding and welding technology, every detail counts. The gluing solutions create even, reliable connections that not only hold, but also meet the highest quality standards. Ideal for minimising errors and standardising processes. And for welding? We go the extra mile. With precise control and innovative software, the robots master even complex arc or laser-welding applications.

Efficient automation of injection-moulding machines for €2,688.12

Small but powerful! The sprue picker puts things in order in small injection-moulding machines. 1.25 seconds - sorting couldn't be faster. And yes, we speak from experience: over 330 of our own injection-moulding machines at igus® use the sprue picker successfully every day.

Laboratory automation in style: pipetting made easy for €1,974

Precision is a top priority in the laboratory and this is exactly what the pipetting solution offers. Drop by drop, it makes your processes efficient. And if you want to make an impression at a trade show, they are also unbeatable. Easy to use, simply impressive!

Missing something? No problem!

Put together your own customised robot solution: the Machine Planner makes it possible. Or simply contact us and we will develop a customised complete solution together with you.

rbt.de/en-GB/components/complete-solutions



Jens Klaerner
Teamlead RBTX® Marketplace
+49 (0) 2203 9649-9449
jklaerner@igus.net
RBTX.com

100% practice-orientated



Update

Robot training courses for all levels of experience

RBTX® Academy

After the training course, we want you to be able to program your robot independently, build your robot solution yourself and put it into operation.

- ▲ Practical exercises on industrial robots from different manufacturers
- ▼ Small learning groups to focus on individual progress
- Over 500 users have already benefited from training courses
- Sustainable integration of specialised knowledge into your company and, if desired, a special practical focus on your own application



Made in Cologne

Robot knowledge to go

Whether you want to learn the basics or advanced techniques of robot programming, the new training courses at the RBTX® Academy will give you the expertise you need to realise the full potential of your automation solutions. At the modern training centre in Cologne, you will learn in a relaxed atmosphere and in small, personal groups. You will experience industrial robots live in everyday production and visit our Customer Testing Area, where we check customer applications on a daily basis. Upon request, you can also take an exclusive look behind the scenes at the igus® factory.

You will put your newly acquired knowledge directly into practice in various hands-on exercises as we believe in practical experience. After successfully completing a training course, you will receive a certificate.

Basic training

You will learn the fundamentals of robot programming and apply your newly acquired knowledge directly to a real robot. At the end of the training, you can connect a gripper and create your own program. The training lasts one day.

Expert training

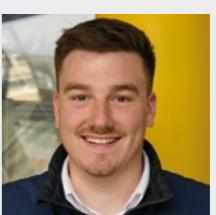
Extend your programming knowledge and learn advanced programming techniques such as loops, conditions, functions and variables. The training is ideal for anyone with basic knowledge. Upon request, the trainer team can also discuss interfaces and/or vision systems. The training is designed for two days.

Application training

You will develop customised solutions for specific applications and integrate various robot components such as grippers and cameras. The training provides in-depth knowledge of robot programming. The duration of the training depends on the specific application.

We are also happy to offer training courses for people who do not have a professional background in automation technology. We would like to warmly welcome pupils, students and senior citizens to join us in exploring the exciting world of robotics. We also provide informative entertainment as part of a team event.

Please contact us if you have questions about contents, dates and offers. We look forward to sharing our robotics knowledge with you!
rbtx.eu/academy



Sebastian Stukenborg
RBTX® Academy Trainer
+49 (0) 2203 9649-8255
sstukenborg@igus.net
RBTX.com



Sena Esen
RBTX® Academy Trainer
+49 (0) 2203 9649-8255
sesen@igus.net
RBTX.com

Certificate RBTX Academy

This certificate is awarded to

First Name Last Name

For successful participation in the igus® robot control | Basic training organised by the RBTX Academy.

Cologne,
Management Trainer

Course contents RBTX Academy

Congratulations, you have successfully completed the course.

Your training course "igus® robot control basic training" contained the following topics.

- Fundamentals of robotics
- igus® robot control interface
- Creating programs in the igus® robot control
- Movement types (joint, linear, rotation)
- Logic commands (digital inputs & outputs, wait commands)
- Logic operations (loops & if, then, else)
- Practical exercises on robots

With this content, you will be able to create your own robot programs in the igus® Robot Control and successfully implement them in practical applications and processes.

Cologne, 19.02.2025



Study

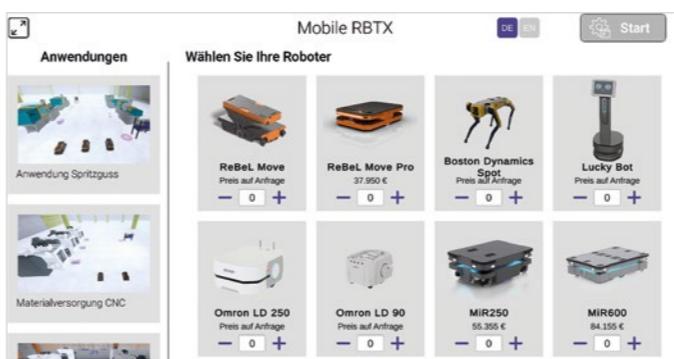


Things are no longer topsy-turvy

Universal step conveyor for separating small parts

You can program the step conveyor's settings as required (speed, pause times, I/O signals). Different small parts can be separated and conveyed from a depot.

- ▲ Particularly simple separation solution
- ▼ Cost-effective complete solution
- The step conveyor is already being used successfully in many automation processes at igus®
- Modular design for separating individual parts by type
- Simple control via igus® D1



New

Play before you pay: test robots interactively

RBTX® online tools

The new online tool Mobile RBTX® makes it possible to select robots and test them in a real production environment. Cruise around interactively and try before you buy!

- ▲ Choose from over 15 humanoid and mobile robots, robot dogs, cobots and much more.
- ▼ Real production environment including high-bay warehouse, injection-moulding machines and much more.
- Always with live price and compatibility guarantee
- Make informed decisions before buying expensive hardware
- Try it out for yourself: rbtx.de/link/mobile



New

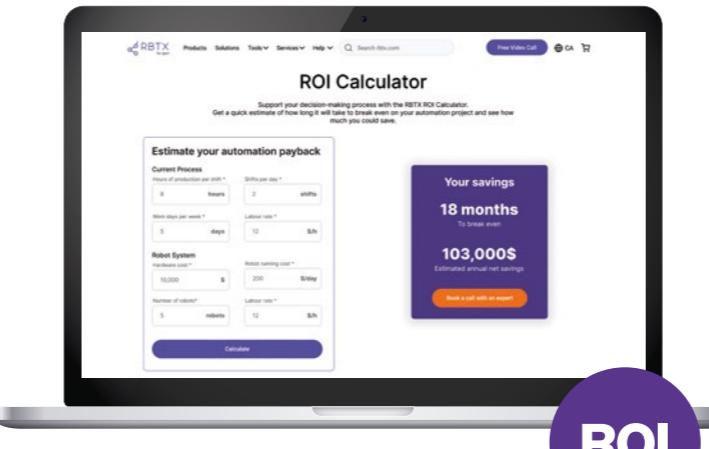
Five clicks to your recommended price offer

RBTX® online tools

Answer just five questions and receive customised automation proposals, a recommended price range and three similar applications for comparison.



- ▲ Customised automation solutions based on your requirements
- ▼ Transparent recommended price range after just five questions
- Display of three specific examples of realised applications
- Reduced resource consumption thanks to efficient automation solutions
- Available soon on rbtx.com



ROI

New

ROI calculator: calculating instead of puzzling

RBTX® online tools

With the ROI calculator for automation solutions, you can quickly and easily calculate how long it will take for your investment to pay off and what long-term savings you can expect.

- ▲ Helps you make informed decisions for automation projects
- ▼ Consideration of acquisition costs, operating costs, savings through increased efficiency and reduced error rates
- The calculator provides concrete facts and figures that demonstrate the benefits and savings of automation
- Helps you optimise energy consumption and use of resources
- Available soon on rbtx.com



Chat. Click. Automated!

What can the ReBel® cobot do?

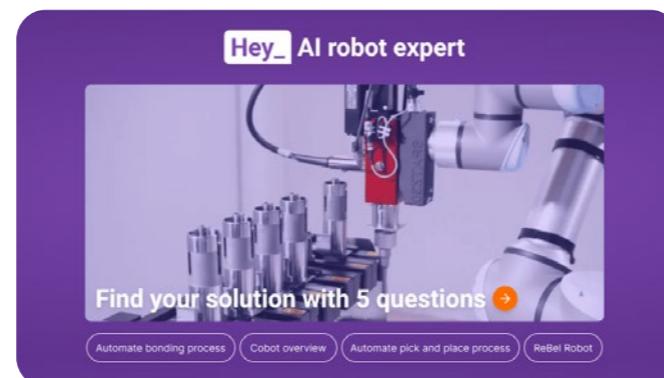
The ReBel® cobot is a cost-effective six-axis robot with a reach of 664mm. It is versatile, safe for human interaction and easy to program with the igus® Robot Control software. Ideal for catering, automation, trade shows and more.

Can I use it for pick & place tasks for small parts above a conveyor belt?

Yes, it is perfect for pick & place tasks above a conveyor belt, such as transferring products in a fast-food restaurant. It has a maximum load capacity of 2kg and can be assembled on a seventh axis. Programming is easy with the igus® Robot Control software.

Perfect, thank you very much!

✉ Enter message ...



New

AI robot expert: your robot solution is waiting

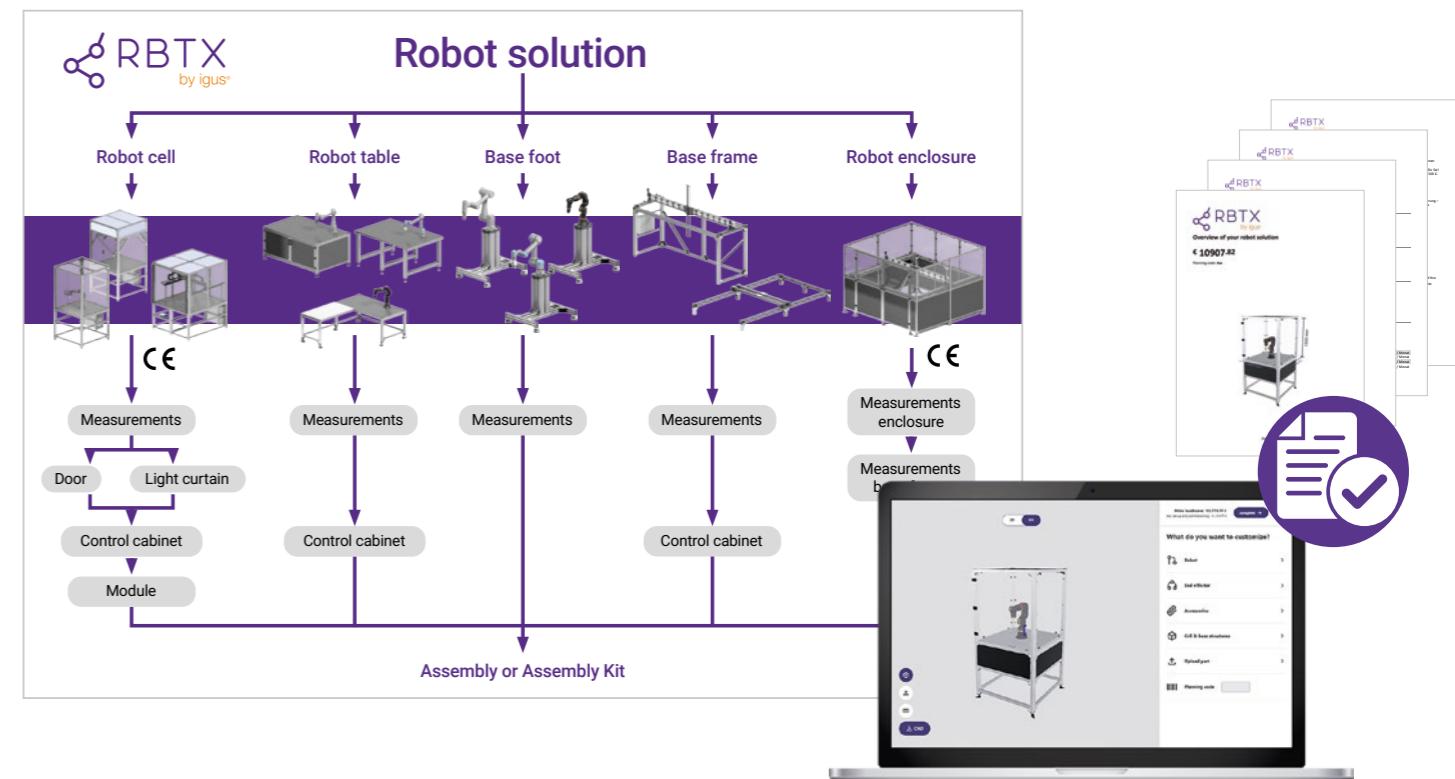
RBTX® online tools

The AI robot expert on RBTX.com helps you find cost-effective automation solutions quickly and easily. It uses empirical data from successful projects to suggest the ideal components and facilitate the search.

- ▲ AI chatbot finds the best parts for your application
- ▼ The ideal and affordable automation solution with just a few questions
- Draws on information and data from successful projects
- Minimises wrong purchases, conserves resources, allows for environmentally friendly automation
- Start the chat via chat.rbtx.de



Robots planned in five minutes



New

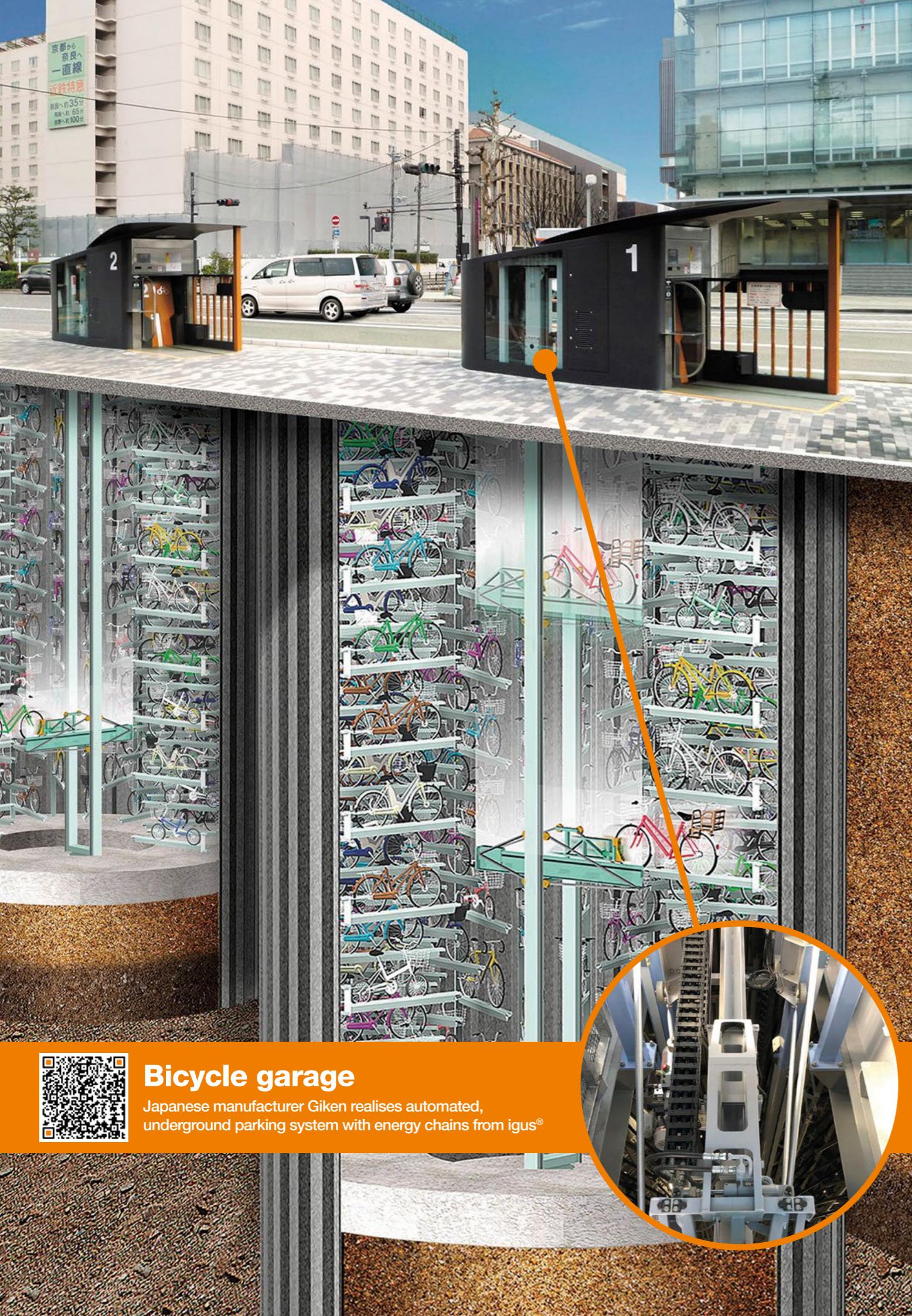
Machine Planner - everything at a glance

RBTX® online tools

We are constantly adding new features to the Machine Planner to offer you even more options. Once you have configured your robot solution, you can now easily download your project folder. It contains all the important information in a clear format and makes it easier for you to realise your project.

- ▲ Plan your robot solution online with CE certification
- ▼ With a live price that is up to five times cheaper than classic robot solutions
- Already in use by over 5,000 igus® customers
- Systems expandable at any time
- Configure your own robot solution here within five minutes: rbtx.com/link/mp





Bicycle garage

Japanese manufacturer Giken realises automated, underground parking system with energy chains from igus®

GO ZERO Waste ... sustainable energy supply

e-chain systems® and accessories



164

Power supply for height-adjustable desks
Office Chain Oval and accessories

166

80% lower CO₂ footprint
E2.1 e-chain® product range made from igumid® CG LW

169

Extends service life for cables in extremely small installation spaces
One-piece e-chain®

172

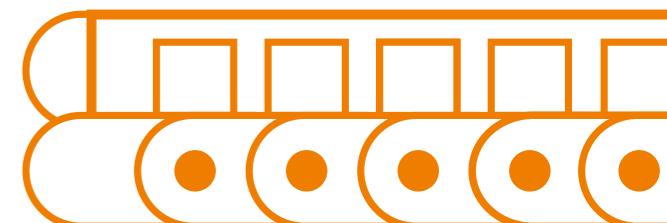
Innovative plastic-carbon hybrid chain
YC.56

174

For confined installation spaces
guidelok slimline GLSL.P.S.2

176

Long travels without an e-chain® pull-e-cable



Quick consultation anywhere at any time



In person

Dieter Reitz

+49 (0) 2203 9649-7464
dreitz@igus.net



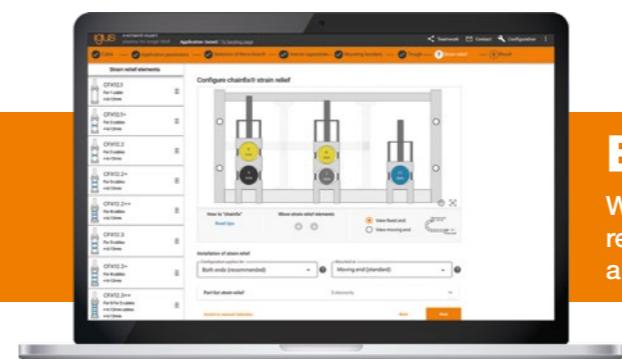
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move



Even quicker and easier

With the "e-chain® expert", you can put together your customised, ready-to-connect energy chain system in just a few steps, including a new strain relief configuration: igus.eu/ece

igus.eu/news-ecs

Beautifully functional



New #modular

Energy supply for height adjustable desks

Office Chain Oval OCO.32.37.0 and accessories

Organised cable guidance is a must for height-adjustable desks. The new OCO.32.37.0 makes this very easy. With its simple but elegant design, it fits unobtrusively into any office. When unfolded, it is closed on one side, which allows for a discreet look. In addition, the office chain can be extended or shortened quickly and flexibly in just a few simple steps. The one-piece design with concealed pin/hole connection also ensures a tidy appearance.

- ▲ New RBR chain links make the chain flexible in both directions and new intermediate links provide even more stability.
- ▼ Quick and easy filling thanks to igus® easy design
- Functional design honoured with the German Design Award 2025
- Have your energy chain recycled at the end of its service life with the igus chainge® programme - regardless of the manufacturer: chainge.igus.eu



igus® Office Chain Oval

Office Chain OCO wins the German Design Award

Our Office Chain OCO was honoured with the German Design Award! With the OCO, you hide what you do not use every day and show your love of order because organised cable guidance is essential for mobile desks in the office.

Jury statement: "The oval energy chain impresses with its elegant, matt surface and simple design, which integrates unobtrusively into all office environments. Thanks to the closed links on one side and the soft magnetic attachment, it is not only easy to use but also makes the working area neat and tidy."



Katja Wild and Kira Weller accept the German Design Award.



80% lower CO₂ footprint



New

Conserve resources, extend product life cycle

E2.1 e-chain® product range made from igumid® CG LW

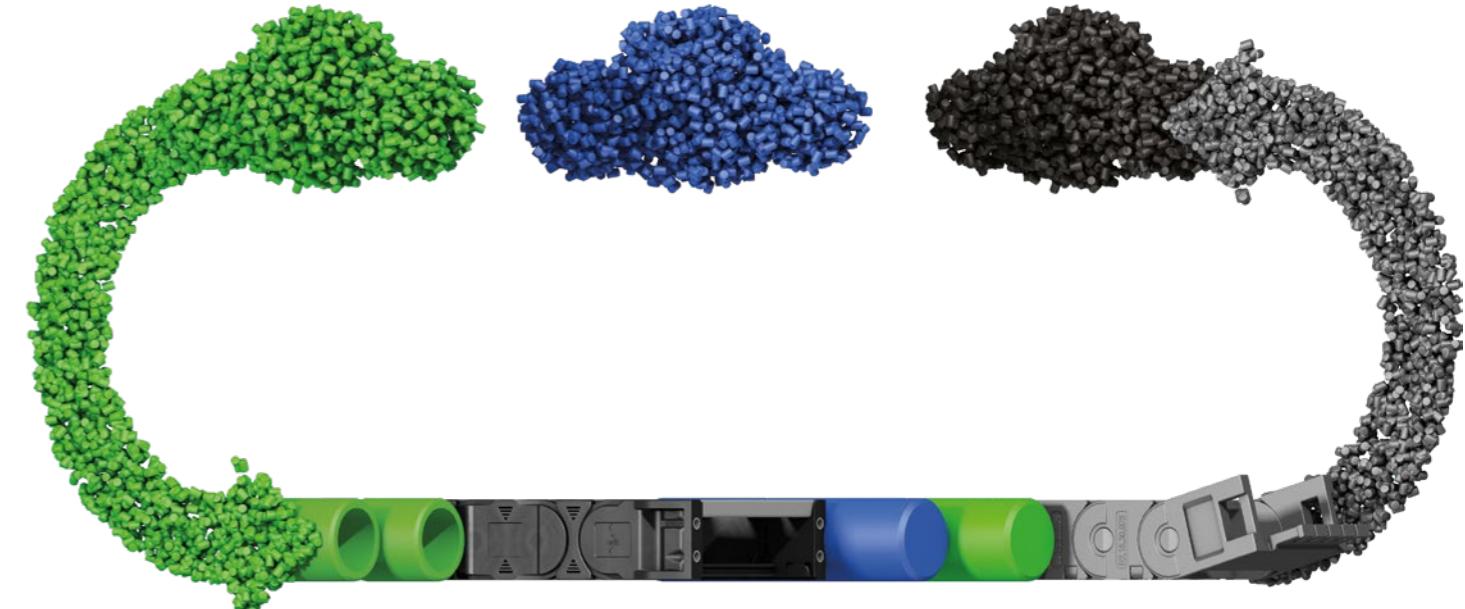
With igumid® CG LW, our recycling material igumid® CG has been further developed. It now forms the new base material in our complete E2.1 standard product range. This sustainable material has the same specifications, incorporating both "end-of-life" energy chains collected as part of our chainge® programme and other recycled plastic, e.g. from fishing nets.

- ▲ Comparable mechanical specifications
- ▼ Recycled E2.1 series available at the same price as the e-chains® made from standard material
- By default, the plastic component of the e-chains® is made from 100% recycled material
- The material has an 80% lower CO₂ footprint than the standard material
- ❖ Recycling made easy with the online platform: chainge.igus.eu



Background

First e-chain® series made from recycled material



With chainge®, we have launched an online platform that accepts recycled material and offers recyclate. Recycling companies, those willing to recycle, regranulate users and suppliers come together here.

Following the successful development of the first energy chain made from recycled material in 2022, igus® is now converting the entire catalogue range of the standard energy chain series E2.1 to the new recycled material igumid® CG LW. This is made from old energy chains that are recycled via the company's own "chainge®" programme, as well as old fishing nets. "With this recycled chain series, we enable customers to contribute to the circular economy for

plastics together with us," says Blass. "It is also our proof that sustainability does not have to be expensive. The recycled E2.1 series will be available at the same price as the previous e-chains® made from standard material." That's not all, though: it also has identical mechanical specifications and an 80% lower CO₂ footprint compared to the energy chain series made from standard material.

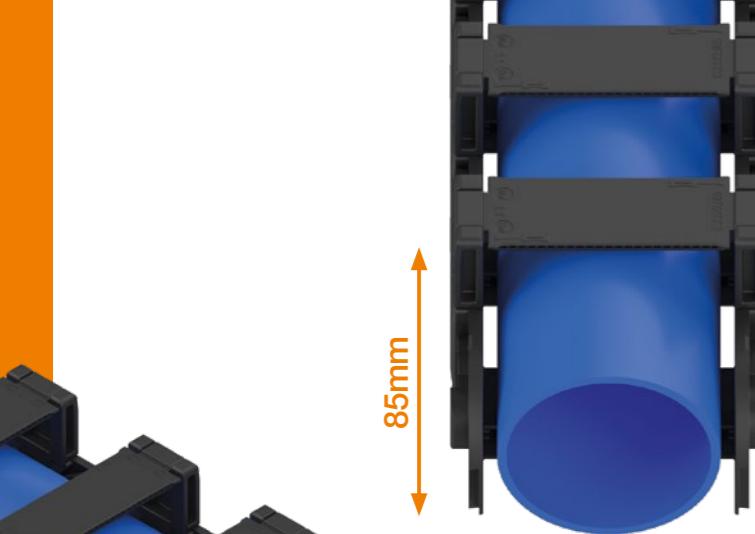


Michael Blaß
CEO
e-chain systems®
Lena Engel
Head of chainge®
Business Unit



Our sustainability measures 2025

igus® focusses on sustainability in all three areas: direct emissions (Scope 1), indirect emissions from purchased energy (Scope 2) and emissions in the supply chain (Scope 3). These include using process waste heat, adding new e-charging stations, modernising buildings, using green electricity and recycling production waste. We present all measures in detail under the following link: igus.eu/sustainability-measures



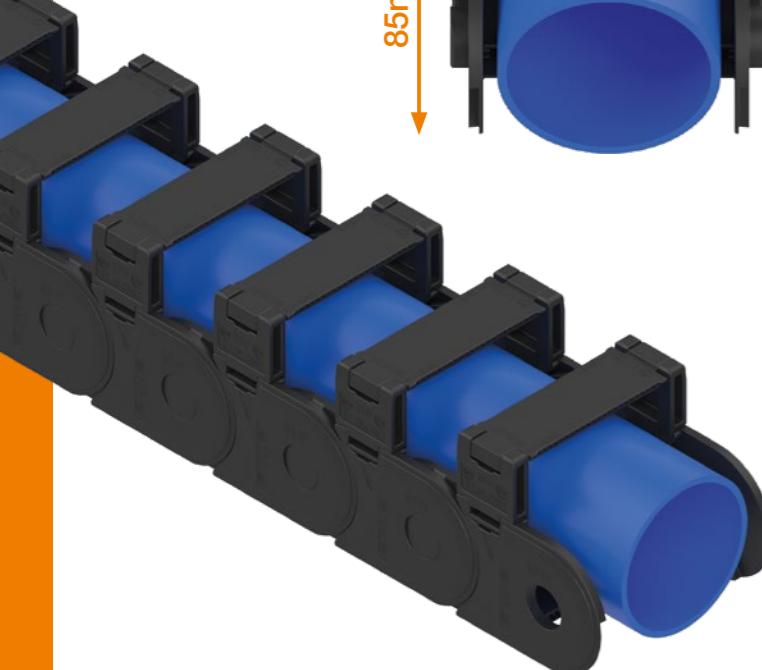
New

Optimum hose guidance

Extender crossbar clip for E2(i).26/ E2(i).38 / E2(i).48 series

To extend the inner height and for guiding oversized hoses. The extender crossbar clip can also be retrofitted to existing applications if required.

- ▲ Extender crossbar available for every chain width
- ▼ Backwards compatible: existing systems can be retrofitted
- Extension of the inner height of the e-chain® by up to 77% (extender crossbar clip E2(i).48)
- Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling program. No matter from which manufacturer: chainge.igus.eu



Study #lowcost

More space for hydraulics

E2C.48 one-piece e-chain® for construction machinery

Addition to the successful E2.1 product range. Closed (non-openable) versions now also with a new inner height of 48mm. Cost-effective with increased fill weight, hence ideal for guiding hydraulics. Available widths: 75 and 100mm.

- ▲ One-piece, non-openable, integrated brake
- ▼ More cost-effective than the E2.1 series (up to 33%)
- 20% more fill weight and 25% more unsupported length than the E2/000 series
- Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling program. No matter from which manufacturer: chainge.igus.eu
- Online tools for digital configuration and individual service life calculation



One-piece e-chain® E1

Let cables live longer



New #compact

Flexible and strong for extremely small installation spaces

One-piece e-chain® E1

Cables are also required for short movements, such as shifting electrical objects. We have developed our one-piece chain with integrated connecting elements to ensure the cables' longest possible service life. It gives them stability in very small installation spaces and thus provides a longer service life for the system.

- ▲ Flexible and strong guidance of individual cables in extremely small installation spaces of up to 40mm
- ▼ Particularly cost-effective due to one-piece design and quick filling with proven easy design
- Service life tested in the igus® laboratory
- Sustainability thanks to a longer service life of cables is practical resource protection



Fitted in the blink of an eye



New #modular

Strong, lightweight, swarf-resistant

R4Q.64L

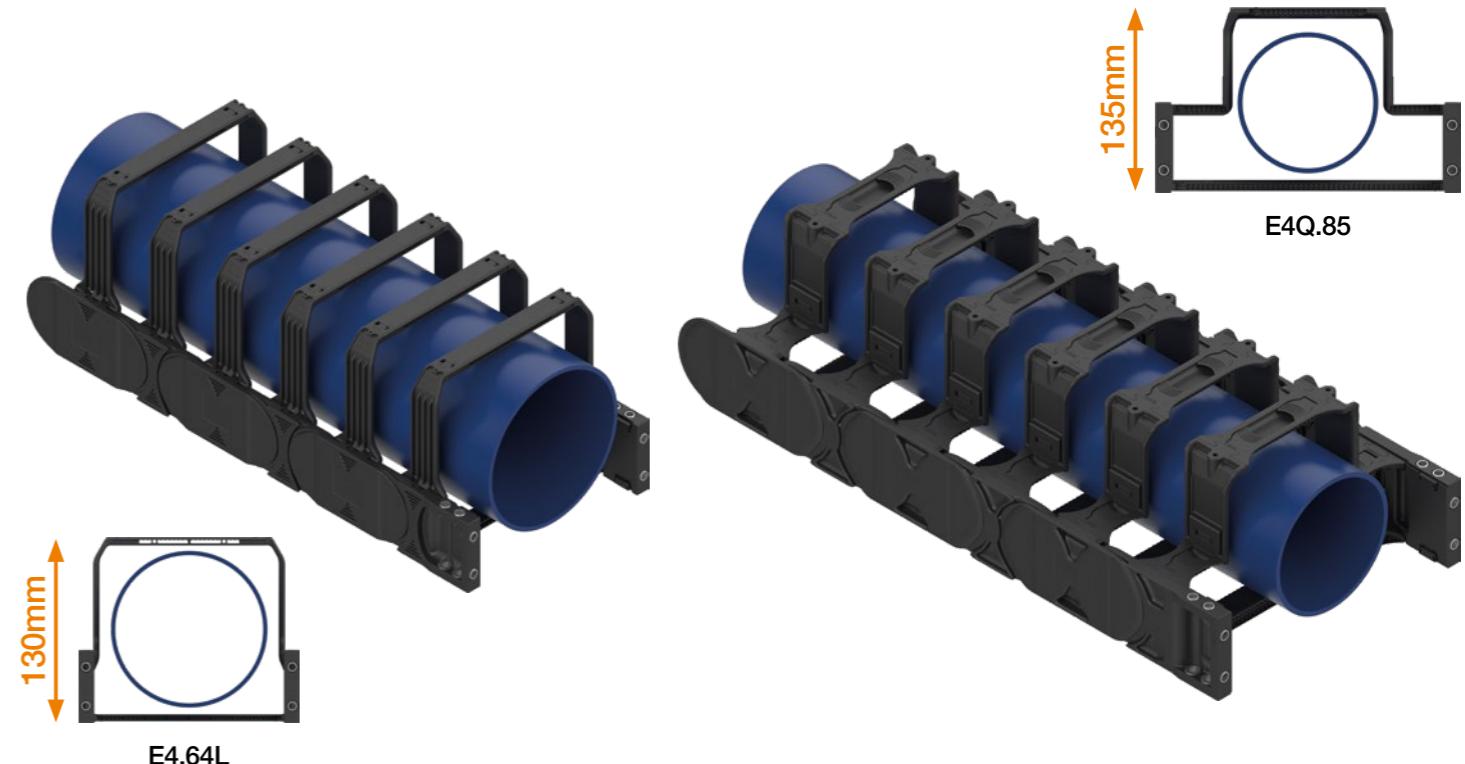
The new L version E4Q.64L, which is a further development of the successful E4Q series, is easy to make swarf-resistant with the new lids/bases. Thanks to the click fastener, the lid and base can be fitted effortlessly and without tools.

- ▲ Swarf-resistant due to lid/shelves with a new click fastener
- ▼ Tool-free and quick installation due to easy fitting mechanism
- Tested in the igus® laboratory
- Reduced use of materials thanks to L design (about 15% lighter than E4Q.58 with the same width)
- Online tools for digital configuration and individual service life calculation



Extender crossbar clip for series E4.64L and E4Q

Optimum hose guide



New #modular

Guide large hoses and cables efficiently

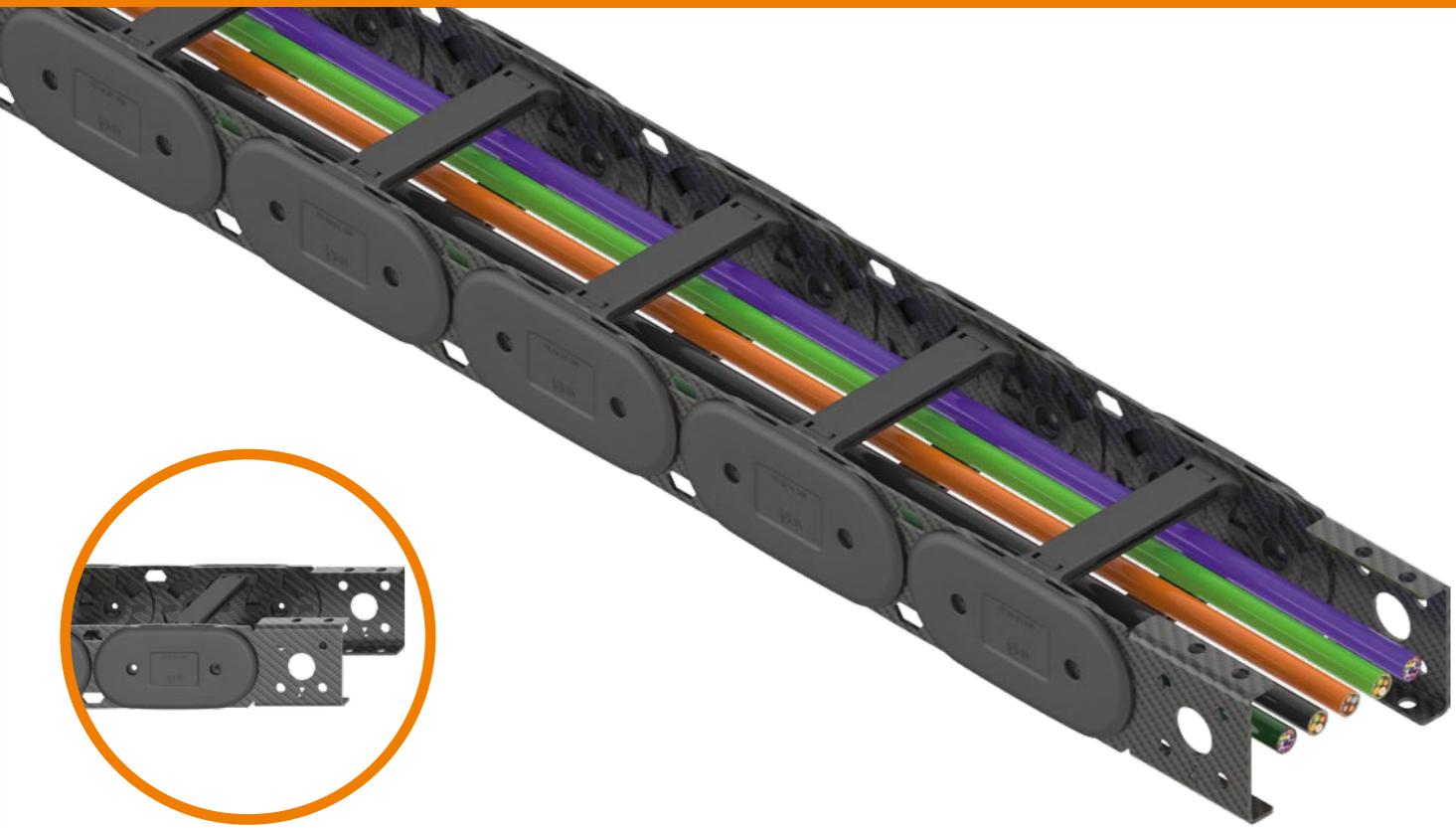
Extender crossbar clip for series E4.64L and E4Q

Adapt energy chain to hose diameter. Simply install without tools and replace hoses as needed. Using extender crossbars instead of crossbars enlarges the interior of the energy chain greatly, allowing oversized hoses to be safely guided. Cables with a diameter of up to 130mm can be guided.

- ▲ Guide large hoses efficiently
- ▼ Use of smaller, more cost-effective chains
- Extension of the inner height of the e-chain® by up to 200% (extender crossbar clip E4.64L)
- Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling program. No matter from which manufacturer: chainge.igus.eu



Incredibly strong, extremely light



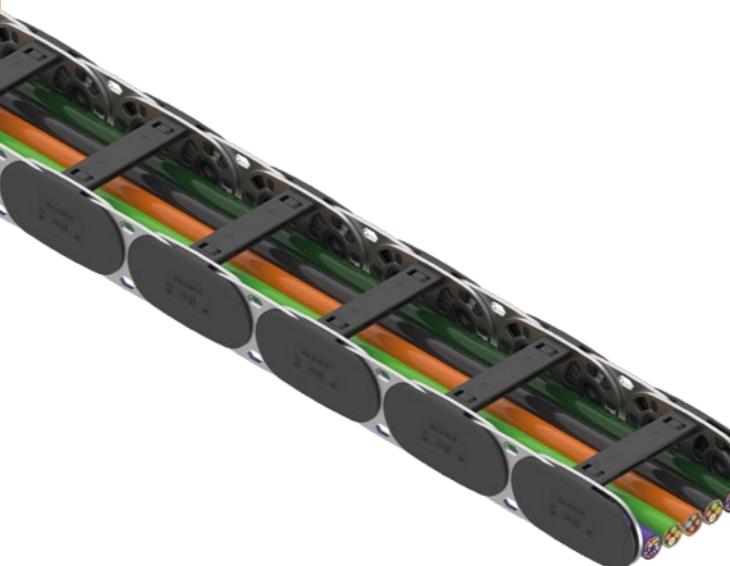
Study

Ideal weight/strength ratio

Plastic-carbon hybrid chain YC.56

In contrast to standard hybrid chains with steel components, the links of this energy chain are made of carbon and plastic, which ensures an exceptionally low weight. Despite its low weight, carbon is very robust and can withstand high loads.

- ▲ Hybrid construction made of plastic and carbon, therefore particularly light and yet robust
- ▼ 60% lighter than the standard YE series
- Carbon fibre link is 80% lighter than the steel link
- Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling program. No matter which manufacturer: chainge.igus.eu



Study #compact

Maximum stability for smaller installation spaces

YE.32

Expansion of the successful YE product range. igus® compact hybrid chains (the best mix of plastic and steel) in a size with an inner height of 28mm and 32mm. YE e-chains® and e-tubes are ideal energy supply systems for machines with inclined axes.

- ▲ Maximum strength: steel links absorb the force of the fixed plastic inner/outer link stop-dogs
- ▼ Quick and easy installation thanks to the strain relief solution. No screws or rivets are required
- YE(HD): additional loads of up to 50kg/m
- Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling programme, irrespective of the manufacturer: chainge.igus.eu

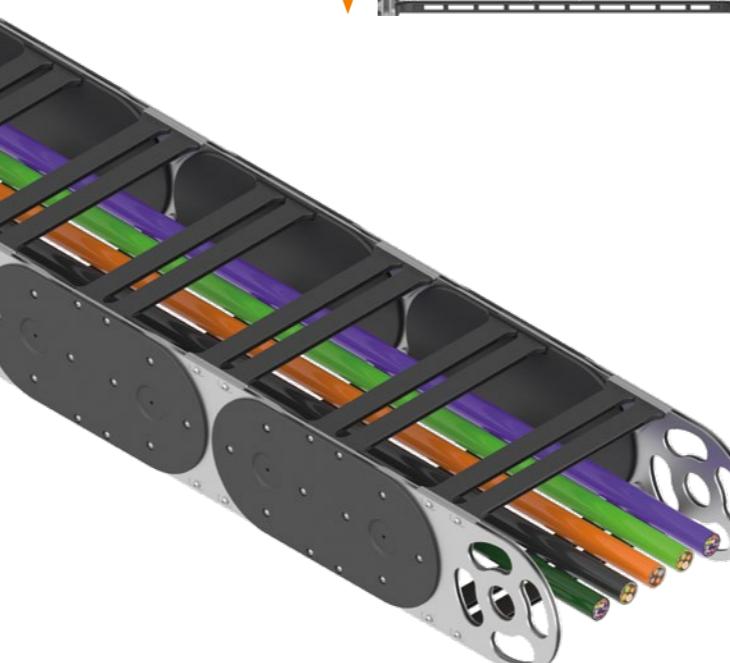


Study

Greater inner height for extreme loads and maximum strength

YE.200

Based on the successful YE product range of igus® hybrid chains (best mix of plastic and steel) in a new size with an inner height of 200mm. The new steel sleeve stop-dogs (instead of plastic) ensure high force absorption in the e-chain® and higher strength.



- ▲ Guide extreme loads with an inner height of 200mm
- ▼ Guide hydraulic hoses safely with reinforced stop-dogs
- YE series successful in customer applications with high fill weights
- Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling programme, irrespective of the manufacturer: chainge.igus.eu



Compact packaging



Plus **#compact**

For confined installation spaces

guidelok slimline GLSL.P.S.2

The new plug-in guidelok guide trough system for energy chains in vertical applications and tight installation spaces. Thanks to the small bend radii of 100mm and 125mm, the system can now also be installed on very compact storage and retrieval units where space is limited. Proven lock mechanism holds the e-chain® in position so that it moves safely even under lateral acceleration.

▲ Compact for small installation spaces

▼ At least 30% shorter installation time thanks to plug-in system (compared to screw variant GLSL.F+, depending on stroke)

■ Functional principle has proven successful in hundreds of GLSL.P applications in the field

● Recycle previously installed energy chains for free with the igus® chainge® recycling programme, irrespective of the manufacturer: chainge.igus.eu



Plus

More space, more cables, more distance

guidelok swing for 038 width

New width for 13mm more space in the chain so that more cables can be guided in the application. Additional 10mm space between e-chain® and crane girder. This means that the system can also be used on crane girders with larger bend radii of up to 30mm.

▲ Larger bend radii possible thanks to additional space of 10mm between crane girder and energy chain

▼ Save up to 70% assembly time compared to festoonings or energy chains with guide troughs

■ Already successfully in use in various customer applications and in the igus® factory

● igus® supports the circular economy of plastics and invests in chemical recycling. Find out more: www.igus.eu/plastic2oil



Study

Guiding long distances safely

plane-chain mini



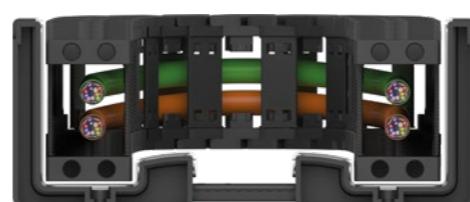
Safe guidance on the side of gliding e-chains® on travels of up to 100m. Thanks to the design of the guide channels, speeds of up to 5m/s and mileages of over 200,000km are possible even on long travels. Further advantages are the low-profile design, the easy adjusting and the smooth running of the system.

▲ Smooth operation and high speeds of up to 5m/s

▼ Low installation height, very space saving

■ Tested in the igus® laboratory

● Have your energy chain recycled at the end of its life cycle with the igus® chainge® recycling programme, irrespective of the manufacturer: chainge.igus.eu



Flat, compact, cost-effective



Study #compact #lowcost

Long travels without an e-chain®

pull-e-cable

Low profile and compact for guiding up to two cables on long travels without an energy chain. The cables are held in position by deflection rollers and slide in the guide channel of the pull-e-cables. Also available with drive as an option; this allows for driven linear camera movements or screens that move electrically, for example.

- ▲ Very compact and lightweight system, also available with motor drive as an option
- ▼ Omitting the energy chain reduces costs
- Current tests in the igus® laboratory
- Fewer raw materials required due to the elimination of energy chains

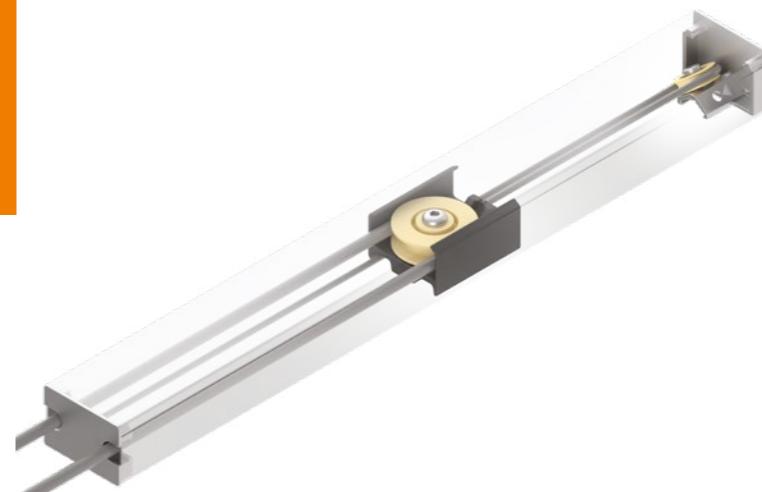


Study #compact

Compact cable protection

e-tract mini

Compact low-cost cable retraction without sliding contact ring for small cables. The elongated and flat design makes it ideal for use under desks or on walls as a cable extension for charging cables.

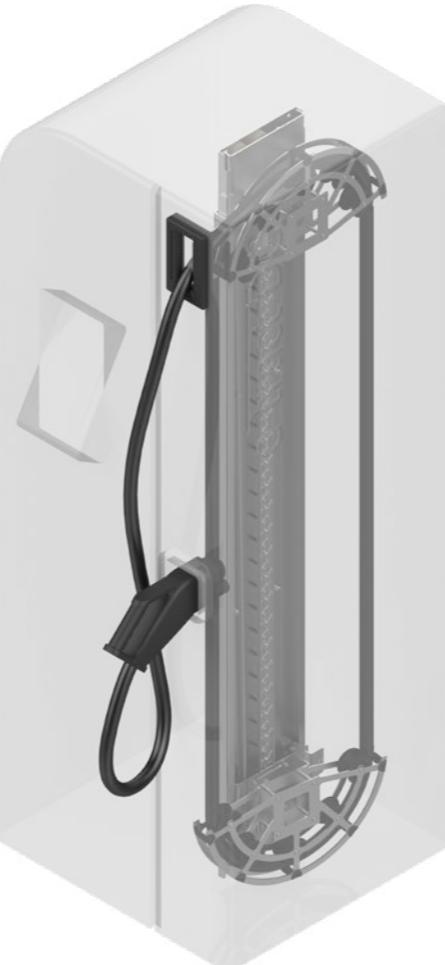


New

Optimum protection for charging cables

e-tract DC

Effective protection of charging cables, which are safely retracted into the charging station instead of being run over or trapped between car tyres and the curb. The risk of cable damage is minimised. By moving the cable extensions upwards, e-tract DC requires less retraction force, making handling much more convenient. Extension lengths of up to 5m.



- ▲ Charging cable is retracted into the charging station without reeling (without any heat build-up!) and protected from external influences

- ▼ Cables last longer, damage is effectively avoided

- Tested in the igus® laboratory

- Use of recycled or recyclable raw materials



Easy, cost-effective gliding



Study #lowcost

For simple applications over long travels

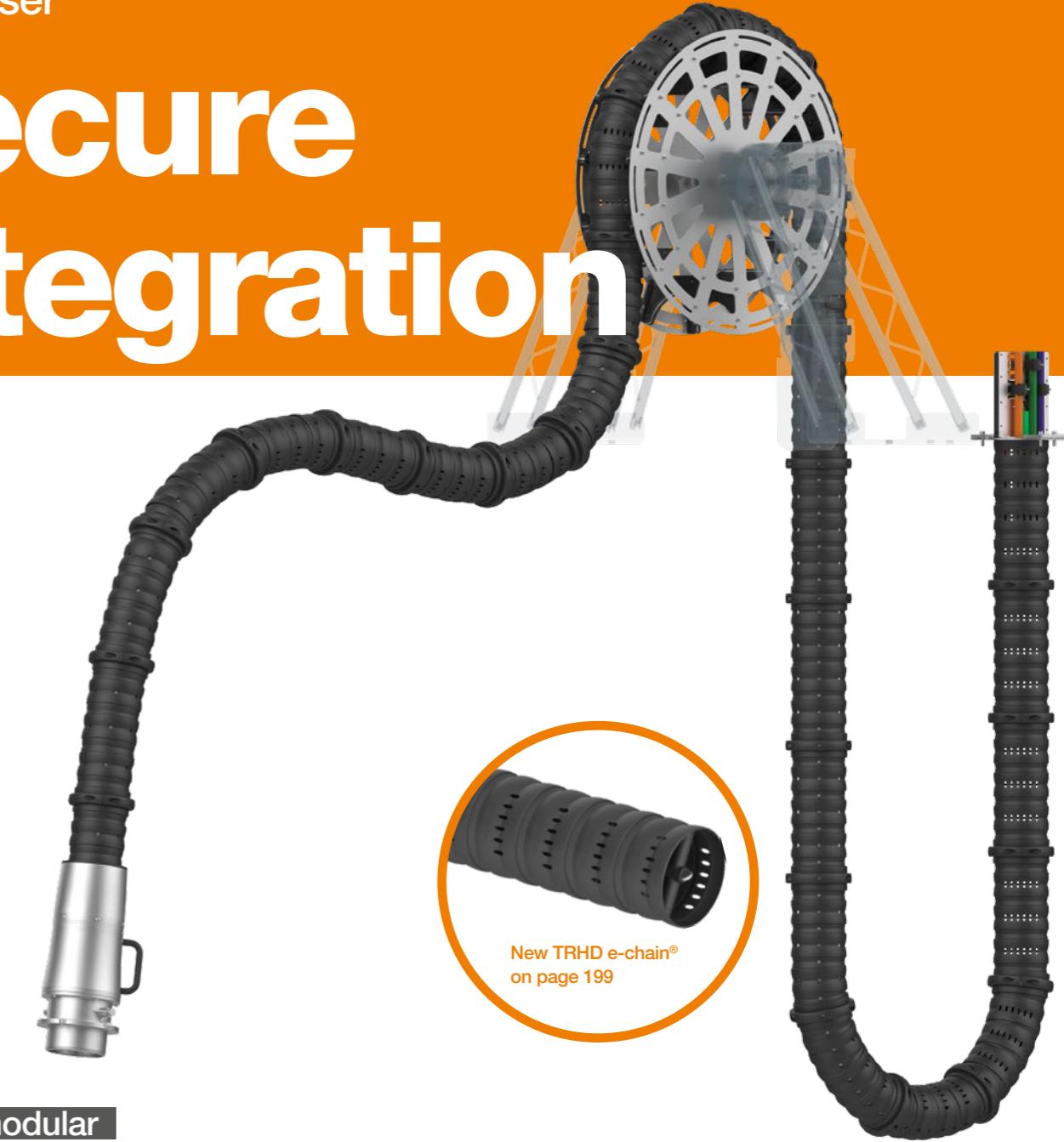
glide-chain G4.42

Particularly cost-effective e-chain® especially (and exclusively) for simple gliding applications with travels of up to 30m. Its extra-large gliding surfaces and thicker wear pads make the new G4.42 an excellent e-chain® for simple applications over long travels.

- ▲ Uncompromising design especially for gliding applications with travels of up to 30m
- ▼ Approx. 30 to 40% more cost-effective than a product with comparable width from the series E2.48 or E4.42
- Approx. 12 to 25% less weight than a product with comparable width from the E2.48 or E4.42 series.
- Have your energy chain recycled at the end of its service life with the igus® chainge® recycling program, regardless of manufacturer: chainge.igus.eu



Secure integration



New #modular

Easy to use in existing systems

e-dispenser

The e-dispenser is the conveyor unit for the TRHD.142.300.0. It can be integrated into various customer structures and into igus® dispenser solutions. With the e-dispenser, the TRHD.142 including charging plug can be safely lowered onto the vehicle that has to be charged - whether on land or water. More than twice the breaking strength with the TRHD.142.300.0 compared to the next smaller size 125.

- ▲ Safe, electrical operation of TRHD.142.300.0
- ▼ Easy integration into existing structures/systems/installations
- The dispenser principle is already being used successfully in many shore power applications
- Less raw material required due to partial repair option instead of total replacement





Workpiece transfer machine

e-skin® flat energy chains with chainflex® CFCLEAN cable cores were used to minimise abrasion of energy and data cables

GO ZERO Waste ... sustainable energy supply

e-chain systems® for cleanroom



182

Long-term tests, high cleanliness
Fraunhofer IPA Certification

184

Expansion of the C6 series
C6.22 and strain relief
C6.29, C6.38, C6.22

186

Minimum particle emissions
GLO.56.CRF roller supports

187

For ESD-sensitive parts
in the cleanroom
e-skin flat® ESD

188

Variable strain relief and straight
run guaranteed
e-skin flat® accessories

189

High dynamics in the e-skin® flat
cleanroom system
SKF e-skin® flat with support chain with 55mm radius

**Quick consultation
anywhere at any time**



In person

Bastian Lenz

+49 (0) 6262 9162-982
blenz@igus.net



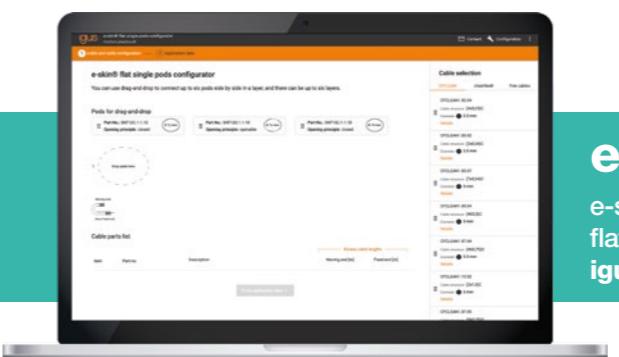
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move

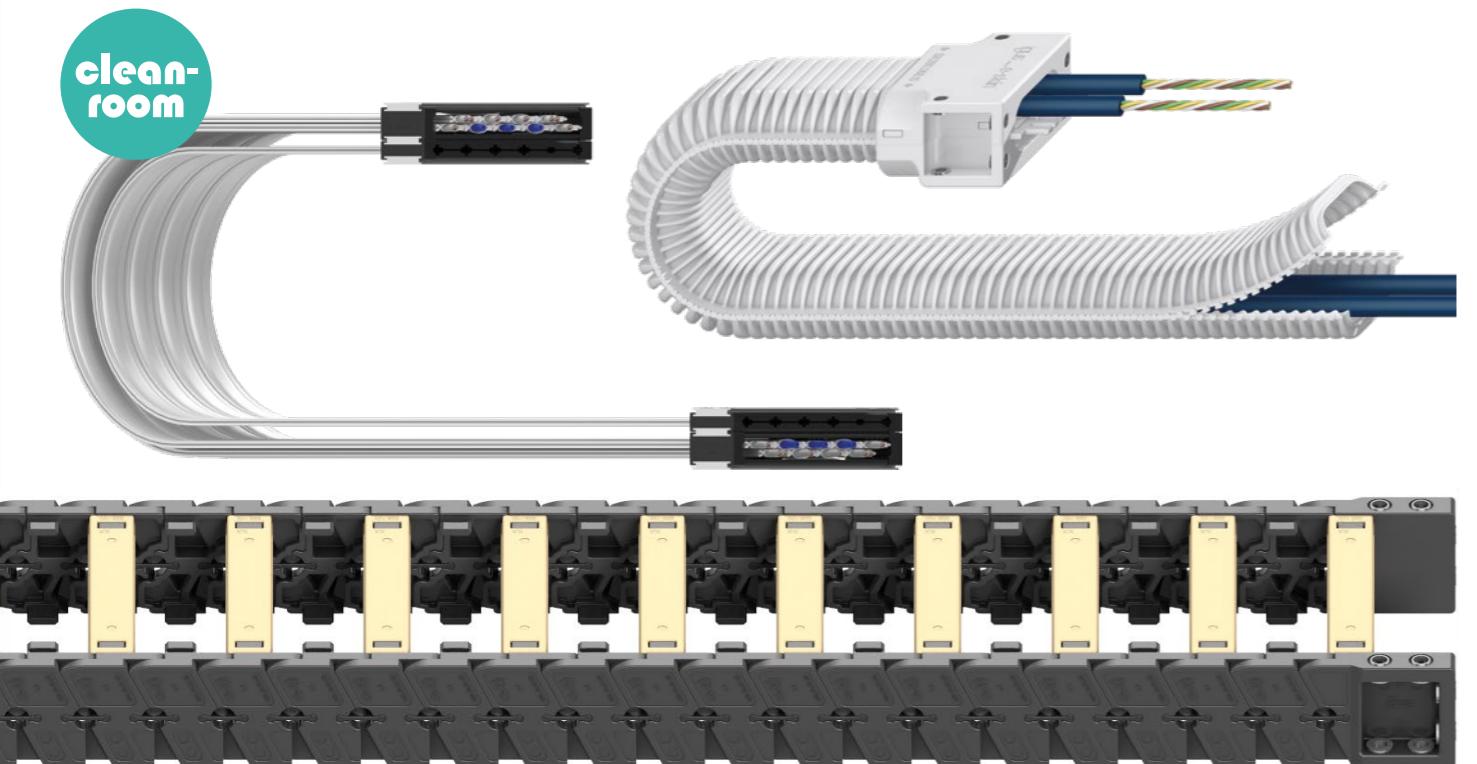


e-skin® flat configurator

e-skin® flat energy supply systems: quickly configure your own flat ribbon cable for cleanroom applications via drag & drop:
igus.eu/skf-configurator

igus.eu/cleanroom

Long-term tests, high cleanliness



New #certified

ISO Class 4 after 15 million double strokes in the dry cleanroom

Fraunhofer IPA Certification

Two years ago, the E6.29 was the first certified energy chain for the dry cleanroom. Now, together with the Fraunhofer IPA, we have developed two new certificates that confirm the cleanroom suitability of the igus® e-chains® in long-term tests: the two new certificates are divided into pre-aging and aging behaviour.

- ▲ Long service life of igus e-chains®: e-skin® flat system, E6, e-skin® soft, easy chain E14 proven in the dry room
- ▼ Constant or maximum gradation by one ISO class in the dry cleanroom over the course of 10 months and 15 million double strokes
- New Fraunhofer IPA dry cleanroom certificates (standard, pre-aging and aging behaviour)
- Sustainability: longer service life of e-chains® in dry environments conserves resources



Ageing behaviour at very low humidity

"Pre-aging" and "aging behaviour" are central concepts of the cleanroom and dry cleanroom certifications developed by Fraunhofer Institute for Manufacturing Engineering and Automation (IPA) in close cooperation with igus®. We received the first certification for cleanroom capability in the dry room for our E6 back in 2023. However, this certification was only a snapshot after a 24-hour running-in phase.

In order to offer our customers long-term security, we commissioned the IPA to carry out a test to investigate the ageing behaviour in the dry room. Two of our best cleanroom energy supply systems, E6.J and the e-skin flat®, were tested over a period of 10 months in continuous operation in the dry room. In the process, they completed over 15 million double strokes. The systems were tested and certified for their cleanroom class every two months.

Our e-skin® flat system survived the double strokes without any problems and received the best possible certification of ISO cleanroom: Class 4. A higher certification is not possible because the test environment (ISO Class 3 dry

cleanroom with a relative humidity of <1%, corresponding to a dew point of -40°C) is not clean enough. The E6.J was able to maintain this result for four months, but then lost a cleanroom class and ended up with ISO Class 5, which is a very good result for battery production. The so-called pre-aging certificate, which we have commissioned for our e-skin® soft and E14 energy supply systems, certifies the systems after 15 million double strokes and 10 months in the dry room. Here, too, we received the best possible cleanroom certification ISO Class 4.

Thanks to these long-term studies and certifications from the Fraunhofer Institute IPA, we were able to confirm that our energy supply systems for automation in dry rooms are safe and have very low particle emissions

Note: The energy chains for cleanrooms mentioned, i.e. SKS28, e-skin® flat and E6, are have ISO Class 1 cleanroom certification at normal room humidity.



IPA classification - Report No. IG 2411-1575
e-skin® flat system

Aging behaviour in the dry cleanroom, test parameters	Result
Test 1, new, (after running-in phase 0 cycles)	4
Test 2, after 2 months (3.2 million cycles)	4
Test 3, after 4 months (5.1 million cycles)	4
Test 4, after 6 months (7.5 million cycles)	4
Test 5, after 8 months (10 million cycles)	4
Test 6, after 10 months (15.1 million cycles)	4
Overall result	Cleanroom Class 4



DryClean-CAPE® for dry-room testing; Source: Fraunhofer Institute for Manufacturing Engineering and Automation IPA



IPA classification - report IG 2402-1498
SKS28.068.02.1

Pre-aging in the dry room, test parameters	Result
$v_1 = 0.5 \text{ m/s}; a_1 = 1.0 \text{ m/s}^2$	4
$v_2 = 1.0 \text{ m/s}; a_2 = 2.0 \text{ m/s}^2$	4
$v_3 = 2.0 \text{ m/s}; a_3 = 4.0 \text{ m/s}^2$	4
Overall result	Cleanroom Class 4

Small all-rounder for cleanrooms



New #certified

Expansion of the C6 series for the highest cleanroom requirements

C6.22 Cleanroom e-chain® and assembly tool

The series that meets the highest cleanroom requirements is now also available with an inner height of 22mm. Optimised with crossbars every link in the outer radius and as standard with crossbars plus interior separation made of iglidur® J, the best glide surface for every cable jacket or hose material. Furthermore, the side links are made of tribo-optimised low-wear dissipative ESD material as standard. The new assembly tool makes it even easier and quicker to open the chain.

- ▲ Smallest 6-piece energy chain for cleanroom class ISO 1
- ▼ No static buildup thanks to tribo-optimised ESD side links
- Fraunhofer IPA cleanroom certificate for the identical C6.29 with the best result, ISO Class 1
- Higher production yield due to particle reduction saves resources
- Configurable in the online expert



New

Small part, big effect

Strain relief separators C6.29, C6.38 and C6.22

The correct strain relief of cables guided in energy chains optimises their service life. With the strain relief separators, this strain relief can be easily realised within the connection elements using cable ties. Available for three C6 series: C6.22, C6.29 and C6.22.



C6.22

C6.29



C6.38

- ▲ Strain relief realised in the mounting bracket, no additional installation space required

- ▼ Easy to assemble without any screws

- Tested in the igus® laboratory

- Sustainability thanks to a longer service life of cables is practical resource protection



Further highlights for cleanroom applications



chainflex® CFCLEAN

Highly flexible and extremely variable in the cleanroom



iglidur® slewing ring, PRT-04
Low wear and emissions



drylin® W profile guides

Fully assembled linear carriages with iglidur® J liner

The lowest particle emission



New #certified

Roller support without rocker for cost efficiency on long travels

GLO.56.CRF roller supports

Cleanroom chains also play to their strengths on long travels. Here, the upper run of the cleanroom-compatible E6.52 e-chain® is supported over long travels, eliminating particle emissions from gliding. Motor-controlled rocking of the roller guide minimises contact. In the area of the travel through which the radius of the energy chain does not pass, it is possible to save costs with the new support with fixed roller as the rocking mechanism is not required there.

- ▲ Lowest particle emissions thanks to optimised roller surfaces and tribo-optimised material
- ▼ Cost savings thanks to fixed roller - only half the number of supports with rocker required
- IPA certification of a complete system with four supports and E6.52 with Cleanroom Class ISO 5
- Higher production yield due to particle reduction saves resources



Dissipative for cleanrooms



New #esd

For ESD-sensitive parts in the cleanroom

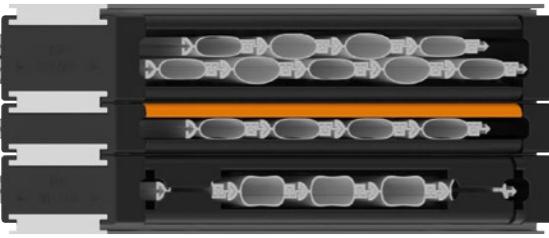
e-skin® flat ESD

New black e-skin® flat in size SKF12 in openable and fully closed variants. Conductivity prevents electrostatic fields and abrupt discharges caused by e-skin® flat movement.

- ▲ No further shielding of ESD-sensitive parts necessary
- ▼ All e-skin® flat accessories can be used, including CFCLEAN
- Tests in the internal igus® ISO 1 cleanroom laboratory
- Small installation space – smallest cleanroom necessary
- Configure e-skin® flat energy supply systems online



New #modular

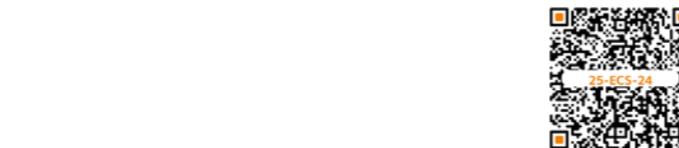


More variable strain relief

e-skin flat® strain reliefs

Two new variable strain reliefs have been added to the e-skin flat® series: SKFC.SR.V25 and SKFC.SR.V10. These new versions are flatter than the previous SKFC.SR.V50 and therefore offer more flexibility in the mounting bracket of the e-skin flat® system. Installation of the mounting brackets is easy as they simply need cutting to the required width.

- ▲ More flexibility for all e-skin® flat POD sizes
- ▼ Faster assembly of the mounting brackets
- IPA ISO Class 1 certified e-skin® flat system
- Higher production yield due to particle reduction saves resources



clean-room

clean-room

SKF.S.10.055.01.0 e-skin® flat with support chain

Higher dynamics



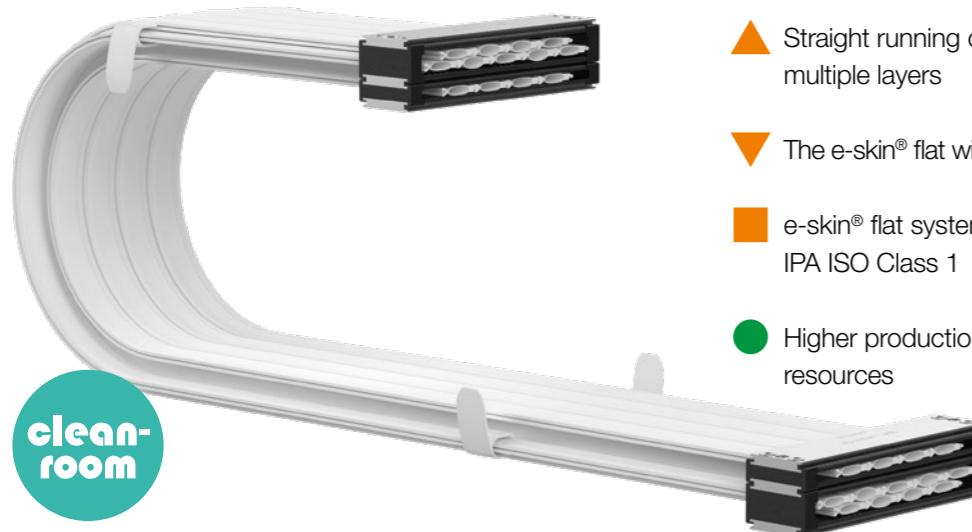
New

Straight run guaranteed

e-skin® flat layer holder

The layer holder ensures straight guidance of several layers of e-skin® flat, even in the case of very long unsupported lengths. This means that the e-skin® flat layers rest steadily on top of each other and can use the unsupported specifications of the e-skin® flat with support chains, even if they are not present in every layer. The layer holder has no influence on the cleanroom class and is available immediately.

- ▲ Straight running of the e-skin® flat guaranteed even with multiple layers
- ▼ The e-skin® flat with support chain not required in all positions
- e-skin® flat system certified according to Fraunhofer IPA ISO Class 1
- Higher production yield due to particle reduction saves resources



clean-room



New #certified

Increasingly challenging application conditions in the cleanroom

SKF.S.10.055.01.0 e-skin® flat with support chain for the e-skin® flat system

The new support chain with a radius of 55mm has been added to the radius portfolio. As it uses bolts, it can meet increasingly challenging application conditions and is easier to assemble. The e-skin® flat with support chain is also simpler to extend and shorten. The e-skin® flat with support chain is guided in the e-skin® flat POD SKF12C and can be integrated into the existing structure of the mounting brackets.

- ▲ Flexible, proven, cleanroom-compatible e-skin® flat system with CFCLEAN
- ▼ More demanding application conditions, such as higher speeds, higher accelerations and longer travels in the cleanroom can be met
- e-skin® flat IPA ISO 1 certificates
- Small installation space - effective in the smallest cleanrooms
- Configure e-skin® flat online



New #certified

47% more space in the interior

e-skin® soft SKS28.100.02.1

The cleanroom energy supply (ISO Class 1) looks like a corrugated tube and reliably protects cables. Easy to open thanks to the design of the upper/lower shell - for simple filling and maintenance. Now available with a width of 100mm for inner heights of 28mm, permitting the safe guidance of larger cable packages. Has a defined minimum bend radius and can be used with unsupported length.

- ▲ 47% more inner width, for more cables with the same inner height
- ▼ Flexible igumer SKS material makes the e-skin® soft suitable for small installation spaces
- Cleanroom ISO Class 1 Fraunhofer IPA certificates for the narrower but identical SKS28.068.02.1
- Higher production yield due to particle reduction saves resources
- Configurable in the online expert



clean-
room



Zero Lubrication on a world tour ... in Taiwan



Brogent
technology

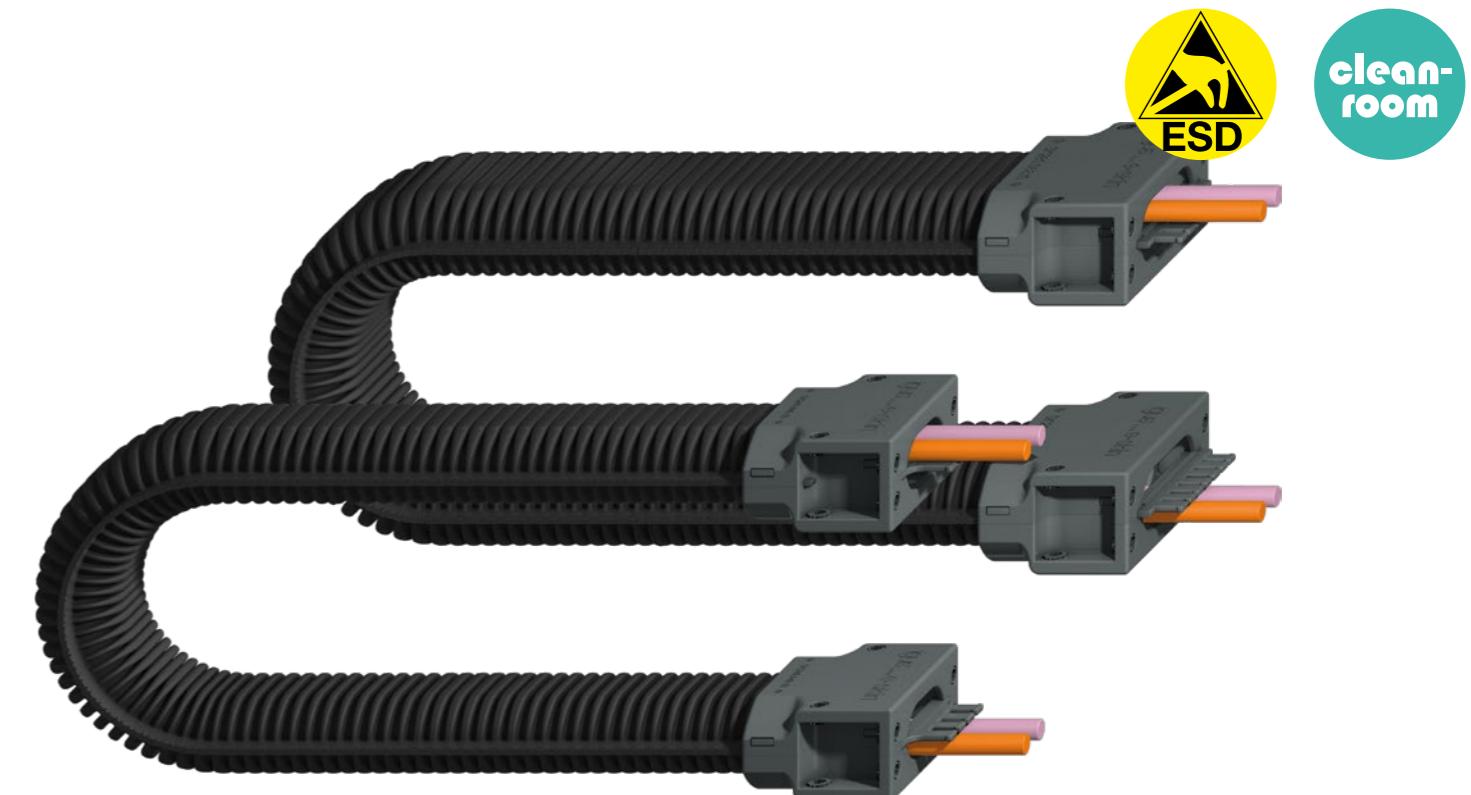
Intelligent entertainment systems for "flying theatre experiences"

motion plastics® in use:
Energy chain systems for reliable and maintenance-free movement of the seat rows



e-skin® soft ESD

ESD protection for cleanrooms



New #esd

Cleanroom classes, small installation space and ESD protection

e-skin® soft ESD

The tried-and-tested e-skin® soft is now made of dissipative material. This prevents the formation of electrostatic fields and the abrupt discharge caused by the movement of the black e-skin® soft due to the material. The e-skin® soft ESD is suitable for the highest cleanroom classes and requires very little installation space. It has a self-supporting function and a closed design.

- ▲ A series for all areas, whether cleanroom or ESD area
- ▼ Fewer faults with ESD-sensitive parts, due to abrupt discharge or particles
- Discharge and cleanroom capability tested in the igus® internal (ISO 1 cleanroom) laboratory
- Long service life (more than 10 million double strokes) with low installation space requirements (200mm with a radius of 55mm)
- Configure and calculate the exact service life online





GO ZERO Waste ... sustainable energy supply

Multi-axis energy chains & robotics



194

Maximum reliability in ESD areas
ESD SCARA Cable Solution

195

Cleanroom compatible 45° angled
SCARA connection
TR.CSCS.20.01.DD.LL.02.1

196

Dissipative dress packs for industrial
robots
triflex® ESD product range

198

Connect more flexibly with size 50
triflex® R light mounting bracket
TL.50.01.Z0 & TL.50.01.Z2

198

Maximum protection for process fibres
TRCF.65 radius stabilisation protector

199

High breaking force
triflex® R heavy duty - TRHD.142.300.0



**Quick consultation
anywhere, at any time**



In person

Matthias Meyer

+49 (0) 2203 9649-161

mmeyer@igus.net



Chat

Online and WhatsApp

igus.eu/chat

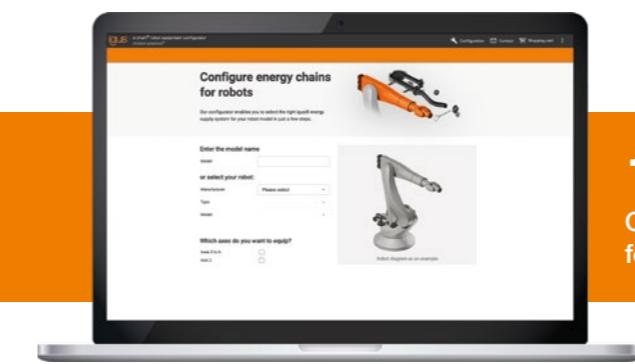


On site

Sales representative

Roadshow/Trade show

igus.eu/on-the-move



1.5 million configurations

Configure a suitable energy supply system from igus®
for your robot model in just a few steps: igus.eu/erk

igus.eu/news-ecs



Riveting robot

Flexible multi-axis energy chains as cable
guidance for robots in aircraft construction.

ESD protection for SCARA robots



New #esd

Maximum reliability in ESD areas

ESD SCARA Cable Solution TR.SCS.29.01.DD.LL.01.0.ESD

The basic design of the standard SCARA Cable Solution has proven successful in the customer environment since 2020 and now also offers maximum safety in the ESD environment thanks to ESD certification. The 3D printing material iglidur® i8-ESD developed by igus® serves as the base material for the connections. It is characterised by high abrasion resistance and increased rigidity and thus guarantees secure and strong fastening of the connections. The conductive corrugated tube in combination with the e-rib, which is also made of ESD-capable material, completes the energy supply. In addition, a form-fit junction between the two end connections ensures certified discharge capability.

- ▲ Proven SCARA Cable Solution now also available in dissipative material
- ▼ Compatible with all connection components of the standard SCARA Cable Solution
- Basic design of the SCARA Cable Solution already in use in the customer environment since 2020
- Extremely long service life ensures less waste



New

Cleanroom compatible 45° angled SCARA connection

TR.CSCS.20.01.DD.LL.02.1

The Clean SCARA Cable Solution for confined installation heights. The optimised internal design protects cables and prevents abrasion despite the 45° bend. Secure form-fit to the e-skin® thanks to the additional screw connection. Compatible with the proven Clean SCARA Cable Solution portfolio, making it easy to integrate into existing systems.

- ▲ Can be used in confined installation heights due to 45° angle
- ▼ Compatible with the standard clean SCARA solution portfolio
- More than 1,000,000 cycles have been tested in the igus® test lab
- Easy to retrofit to existing applications. No need to replace the connections completely.



Study #esd

Electrostatically dissipative (ESD) for cleanrooms

SCARA Cable Solution TR.CSCS.20.0X.DD.LL.01.1.ESD

Previously the rule was: cleanroom-compatible or electrostatically dissipative (ESD), now it is: cleanroom-compatible and ESD - in one product. Specially developed for use in highly dynamic cleanroom environments, the new series offers all the advantages of the Clean SCARA Cable Solution (CSCS), which has already proven itself in numerous applications, and can also be used in ESD environments (realised by adapting the base material, connections to iglidur® i8 ESD and the specially developed material texture of the e-skin® ESD).



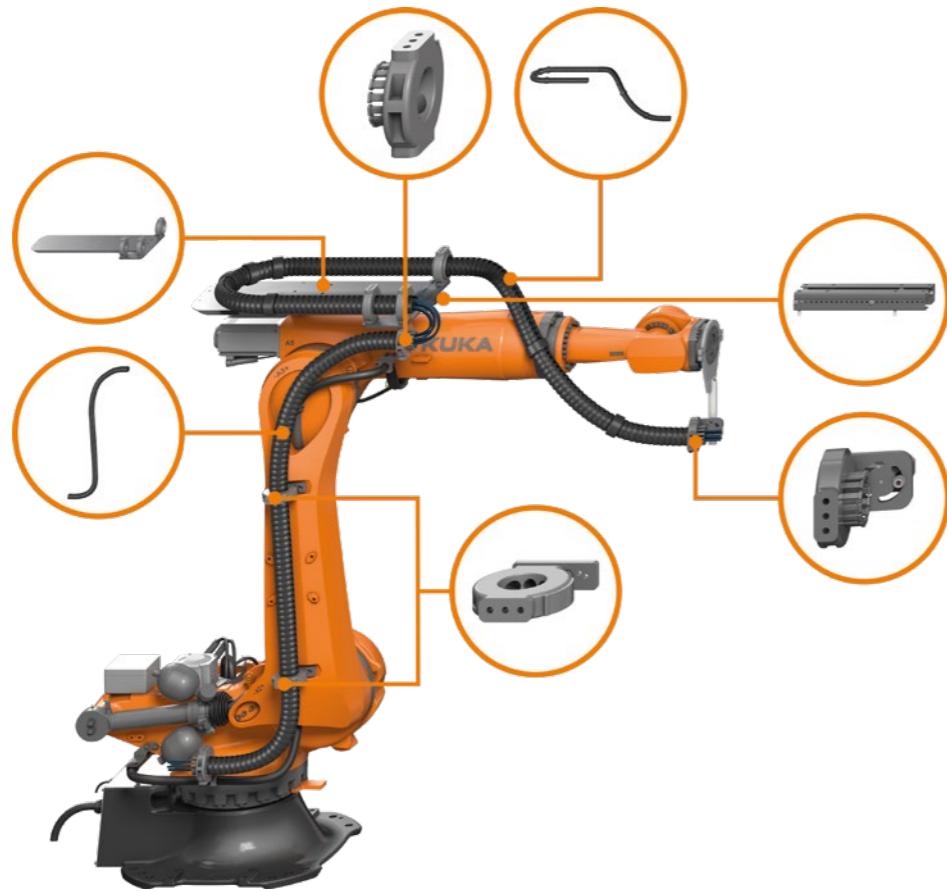
- ▲ Reliable guidance of cables and hoses in ESD and cleanroom areas

- ▼ Compatible with all existing attachment options of the SCARA Cable Solution series

- Combination of IPA-certified cleanroom CSCS design and ESD-certified SCS design



Maximum flexibility



New #esd

Dissipative dress packs for industrial robots

triflex® ESD product range

The new ESD triflex® product range for dress packs includes two new systems for maximum flexibility when equipping industrial robots. Customers have been using both basic systems successfully for over 15 years. The standard RS retraction system and the fibre rod system are based on the same retraction system - internal fibreglass rods. These rods are completely enclosed by the dissipative triflex® R energy chain, so that any tensions that may occur can be dissipated directly. Special finishes and form-fit connections complete the range and ensure maximum safety in the ESD environment.

- ▲ Two dissipative retraction systems for industrial robots offer maximum flexibility
- ▼ Durable thanks to robust design and few mechanical components
- Tried-and-tested basic system used successfully in various customer applications for more than 15 years
- Individual components can be replaced and recycled (change® programme).
No need to replace entire systems



igus

Interview

Background of the development of ESD dress packs

What was the deciding factor in the development of conductive dress packs?

Matthias Meyer: "Many manufacturing processes, especially in the semiconductor industry and battery production, are subject to increasingly stringent requirements. They ensure the highest possible safety and quality of components and constantly present suppliers with new challenges. We wanted to take on the challenge of realising a dress pack in an ESD environment as we have already been able to gain very good experience in the field of dissipative products over the past few years. For this reason, we are proud to present two different dress packs."

What characterises these dress packs?

Matthias Meyer: "We have been successfully using both standard systems in customer environments for over 15 years. These systems are robust and specially adapted to the requirements of industrial robots. One is our standard RS retraction system, which

uses fibreglass rods in the energy chain to provide the necessary retraction. The fibre-rod system is based on the same principle, except that here the rigidity of the rods keeps the energy chain parallel above the robot arm - similar to a fishing rod. This allows for new considerations so that we can follow almost all motion sequences of an industrial robot with these two systems."

What were the challenges in developing these energy supply systems?

Matthias Meyer: "The biggest challenge was to select and derive a suitable system from our existing product range. This system should contain as few mechanical components as possible to guarantee discharge capability. This is how we came up with the systems that we described. The fibreglass rods, which ensure the retraction and the unsupported length, are completely enclosed by the energy chain to dissipate possible tensions directly via the e-chain®. We also had to pay attention to any occurring surface tensions."

Final question: Are you planning any other energy supply systems for robotics in the ESD environment?

Matthias Meyer: "We are currently researching the realisation of a cleanroom-compatible ESD SCARA Cable Solution. This will complete the portfolio alongside the already certified standard SCARA Cable Solution made of dissipative material."



Matthias Meyer
Head of Business Unit
ECS triflex® & Robotics





New #lowcost

Connect more flexibly with size 50

triflex® R light mounting bracket TL.50.01.Z0 & TL.50.01.Z2

Completion of the triflex® R light mounting brackets with two cost-effective and space-saving versions, optionally with or without strain relief option. Holes on the front as standard for an additional installation option. The standard hole pattern has been adopted from installation size 40 to expand existing assemblies easily and cost-effectively. Compatible with triflex® R TRE.50.080.0.B and TRC.50.080.0.

- ▲ Holes at the front for additional installation options
- ▼ Easy to integrate into implemented assemblies with installation size 40
- Proven design thanks to the complementary sizes of the triflex® R light mounting brackets that have been in the customer environment for years
- Reduced material use compared to the standard mounting bracket with the same nominal width.



New

Maximum protection for process fibres

TRCF.65 radius stabilisation protector

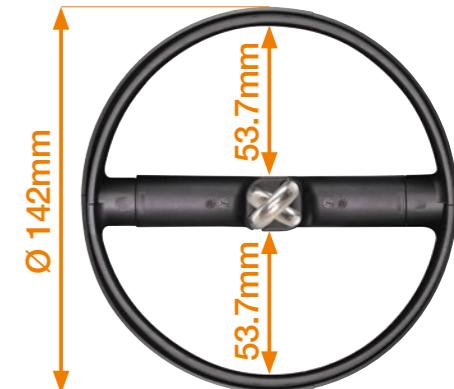
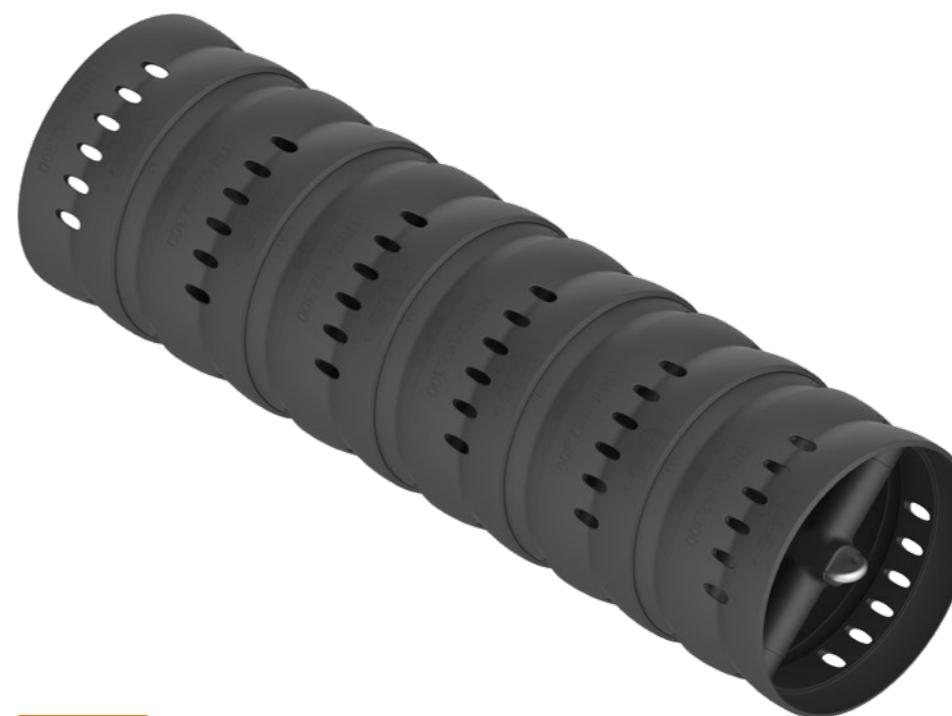
The best possible protection for the most expensive and sensitive component in laser welding: the process fibre. The radius protector is specially designed for highly dynamic applications and ensures maximum radius stability thanks to its wide load-bearing surface. Attaching the protector to any chain link of the TRCF.65.100.0 increases the bend radius from 100mm to 200mm. This allows the bend radius of existing systems to be subsequently increased.

- ▲ Higher radius strength
- ▼ Additional protection of expensive process cables, reduction of downtimes
- Test set-up in igus® lab
- No need to replace the TRCF.65.100.0 to achieve the increased bend radius of the TRCF.65.200.0



triflex® R heavy duty - TRHD.142.300.0

For heavy-duty applications



New

High breaking force

triflex® R heavy duty - TRHD.142.300.0

The triflex® R heavy duty is particularly characterised by its high breaking force, robust design, conveyability and the large, cable-friendly interior. When developing the TRHD.142, emphasis was placed on high strength and good, reliable handling of the e-chain®. In addition, the internal stop-dog system ensures no risk of crushing when conveying the e-chain®, and the small ventilation holes ensure heat dissipation for the cables. This is particularly important in the Shorepower area.

- ▲ More than twice the breaking force compared to the next smaller size, 125
- ▼ Easy to open from the outside - short installation/maintenance times
- Tensile/fracture tests via outer links in the igus® laboratory
- Have your energy chain recycled at the end of its service life with the igus® chainge® recycling program, regardless of manufacturer: chainge.igus.eu





Mobile shaft end support

The power and data cables at Burgtheater GmbH Kasino follow the movements in the cable guide system e-spool®.

GO ZERO Waste ... sustainable energy supply

In all axes



202

Double the fill weight
e-spool® 4.0

204

Integration made easy
e-spool® flex light variants

206

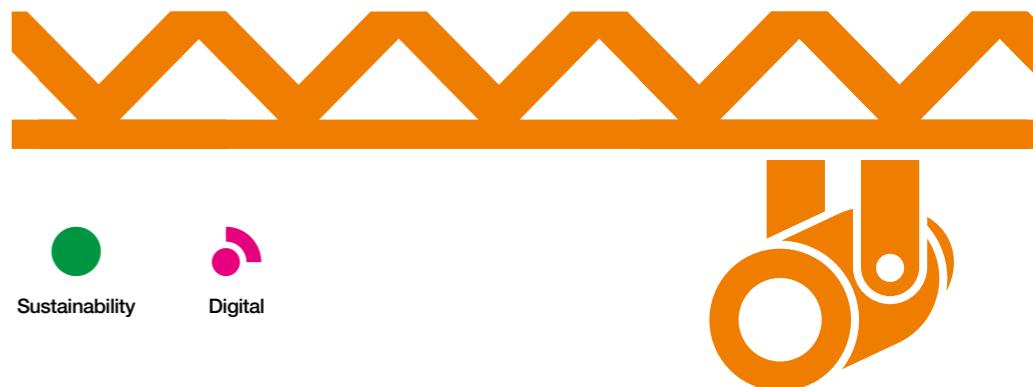
Strong, flexible, no slip ring
e-spool® theatre HD42e

208

Vertical up to 40m
zig-zag E4.56

211

Cost-effective rotation
on axis 1
ReBel-Twist



**Quick consultation
anywhere at any time**



In person

Michael Berteit
+49 (0) 2203 9649-7439
mberteit@igus.net



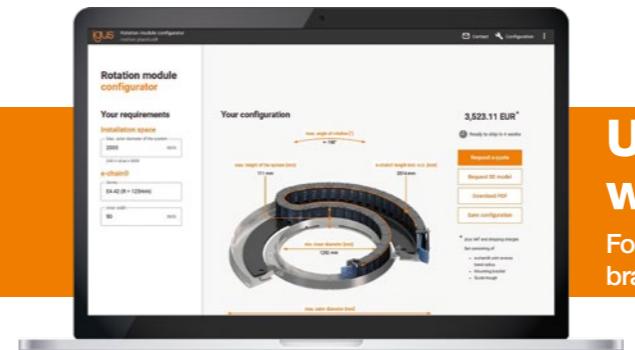
Chat

Online and WhatsApp
igus.eu/chat



On site

Sales representative
Roadshow/Trade show
igus.eu/on-the-move

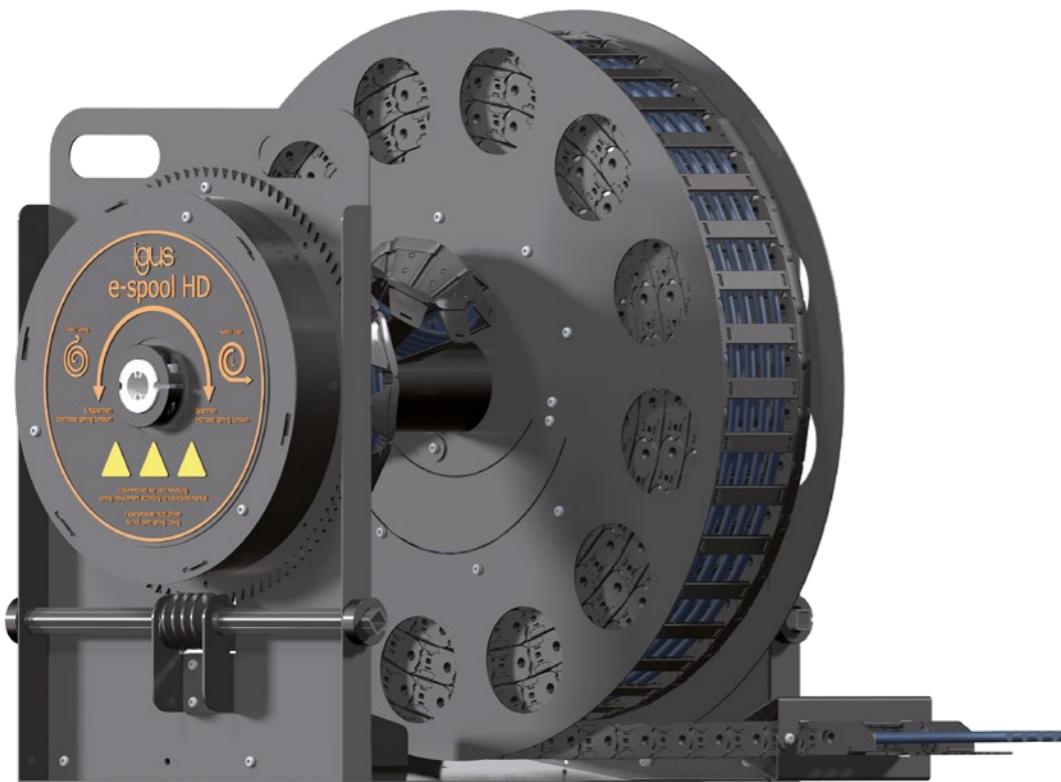


Utilise installation space with millimetre precision

For rotary movements, configure and request as a set with mounting brackets and guide trough: igus.eu/irm-configure

igus.eu/news-ecs

Double the fill weight



New

Carry higher loads, faster, in the smallest of spaces

e-spool® 4.0 for crane systems and handling equipment

Guide many different cables in the smallest of spaces, now with 100% more fill weight at higher speeds. The system combines two different energy supply systems: a new tension-optimised e-chain® ensures that the energy supply system is always exactly the right length and tension thanks to an integrated retaining spring. In the starting position, the e-chain® is completely rolled up to save space. The twisterband connects the drum with the shaft end block, which serves as an interface to the supply side.

- ▲ Different media and diameters guided in one system
- ▼ 100% more fill weight and higher application speed compared to previous e-spool® solutions
- Twisterband proven as a slip ring alternative in hundreds of e-spool® applications
- Less raw material required due to partial repair option instead of total replacement
- Spring force/rotary sensor monitoring (optional)



Further highlights

for cranes, storage and logistics



autoglide 5
Compact steel cable guide saves space on the crane girder; supplies energy, data, air, fluids in one system



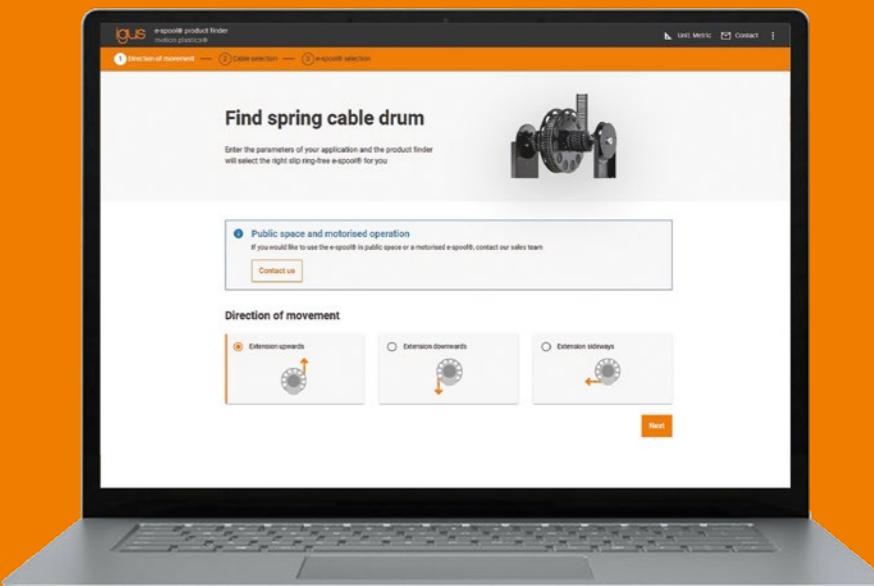
guidelok swing
Compact solution without guide trough, attachment of guide rockers



New
iglidur® W300E multi-component plain bearings
Inexpensive and extremely wear-resistant under high loads

Find the right spring cable drum quickly

The e-spool® product finder enables you to find the right spring cable drum for your application in just a few steps.



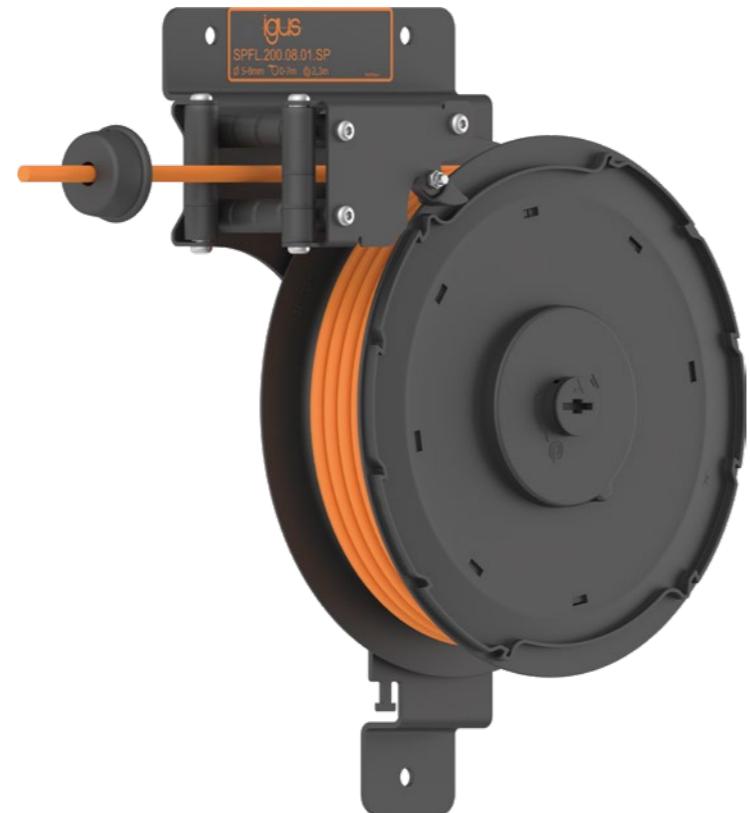
igus.eu/ESP

Integration made easy

1 e-spool® flex light (mini)



2 e-spool® flex light medium



New #modular

Rethinking cable drums

e-spool® flex light variants

The igus® cable drum with reduced maintenance requirements and optimum protection of the guided cables. Is intended for integration into existing structures and thus reduced to the technological core without housing to save weight, space and, last but not least, costs.

▲ Uninterrupted cable guidance without slip ring

▼ Flex light large: up to 66% more extension length (compared to the SPFL.250)

■ Tested in the igus® lab

● No additional copper components in the system (apart from cable copper)



e-spool flex light

No slip ring, no problem

igus SPFL.450.08.01.SP

3 e-spool® flex light large



The e-spool® flex light is the igus® cable drum without a slip ring. The cable is always safely routed through a feed-through to ensure that it is properly wound up at all times. For cable diameters from 5mm up to 15mm and extension lengths from 3m to 25m.

New:

The **e-spool® flex light (mini SPFL.120)** 1 is the smallest igus® variant of the flex light series. For cable diameters from 5mm to 7mm.

Study:

Another new version of the e-spool® flex light is the **e-spool® flex light medium SPFL.200** 2. The design is based on the e-spool® flex mini, which is clicked together with injection-moulded parts so that hardly any screws are required.

New:

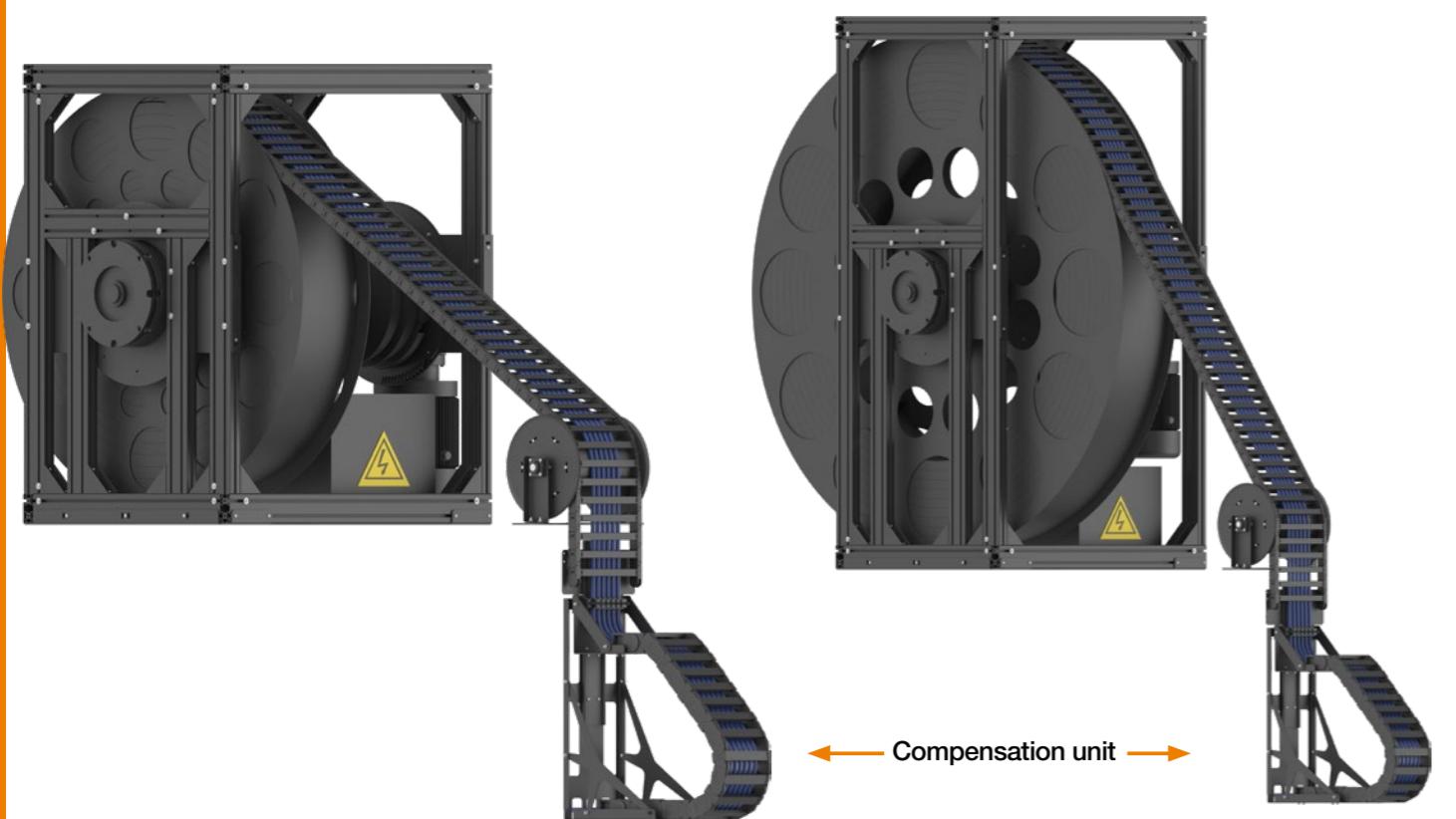
The e-spool® flex light SPFL.250 is the standard version of the light series. For cable diameters from 5mm up to 15mm.

Study:

Another new variant is the larger **e-spool® flex light large SPFL450** 3 with which an extension length of up to 17m (with a cable diameter of 11mm) or even up to 25m (with a cable diameter of 8mm) can be achieved. This means up to 66% more extension length (compared to the SPFL.250).

Part No.	SPFL.120.07.01.SP	SPFL.200.08.01.SP	SPFL.250.08.01.SP	SPFL.250.11.01.SP	SPFL.250.15.01.SP	SPFL.450.08.01.SP	SPFL.450.11.01.SP
Cable diameter	5-7mm	5 - 8mm	5 - 8mm	8 - 11mm	11 - 15mm	5 - 8mm	8 - 11mm
Extension length	3m	7m	15m	10m	5m	25m	17m
Required cable length inside the chain	1.1m	2.6m	4.5m	3.3m	2.4m	4.7m	3.5m
System weight	2.0kg	2.7kg	8.7kg	8.9kg	9.2kg	15.4kg	15.7kg

Strong, flexible, no slip ring



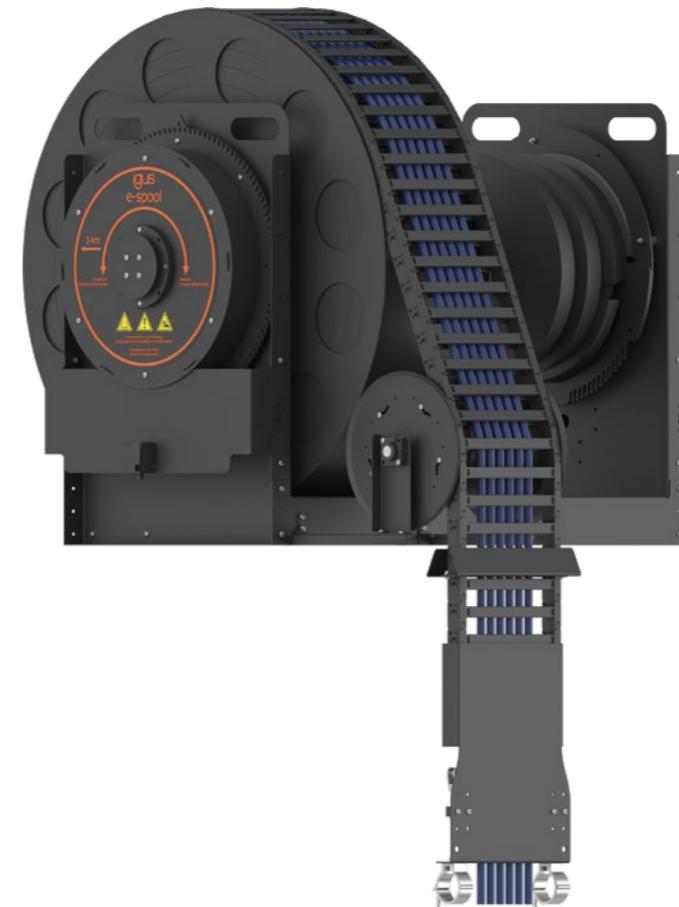
Study

40 meter travel length for theatre and stage technology

e-spool® theatre HD42e

The new standard for up to 40 metres of travel, developed in accordance with DIN EN 17206 and DGUV principle 315-390. Equipped with a powerful motor and intelligent control system, the e-spool® HD42e offers higher filling weights and a modular system that allows for easy customisation and expansion.

- ▲ Realise travels of up to 40m with a standardised system that does not use slip rings
- ▼ With the tested igus® system including motor and intelligent control system, there is no need for customised project planning or selecting components
- Custom design systems and tests in the laboratory
- Optimised production process: standardised identical parts ensure an efficient production process



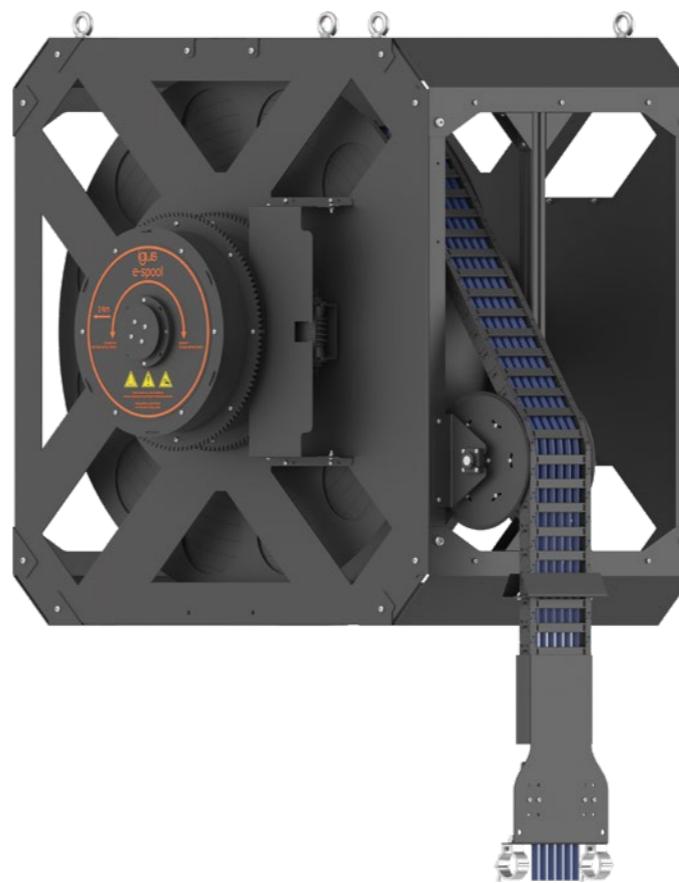
New #compact

Compact guidance of higher fillings

e-spool® theatre HD42

Thanks to the use of the larger TBHD42 twisterband, more cables and larger diameters can be moved over travels of 10 and 15m. This increased system capacity allows more complex and extensive applications to be realised.

- ▲ Guide different media and diameters in one system without a slip ring
- ▼ Almost the same installation space and approx. 50% more filling compared to HD30
- Proven spring retraction and larger cable packages designed and tested
- Material savings: more cables can be safely guided in one e-spool®, which means that fewer e-spools® are required.
- Can be ordered online in the shop



New #modular

Extended travel of up to 21m with spring

e-spool® theatre HD30

igus® is now adding a 21m version to its existing product range containing travels of 10 and 15m. The twisterband TBHD30 makes this possible and can still be operated with the redundant spring system for safe retraction.

- ▲ Guide different media and diameters in one system without a slip ring
- ▼ Spring retraction eliminates motor and control system
- twisterband proven as a slip ring alternative in hundreds of e-spool® applications
- Optimised manufacturing process through standardised parts
- Can be ordered through the online shop



Vertical up to 40m



Study

New lightweight design of the guide box

zig-zag E.56

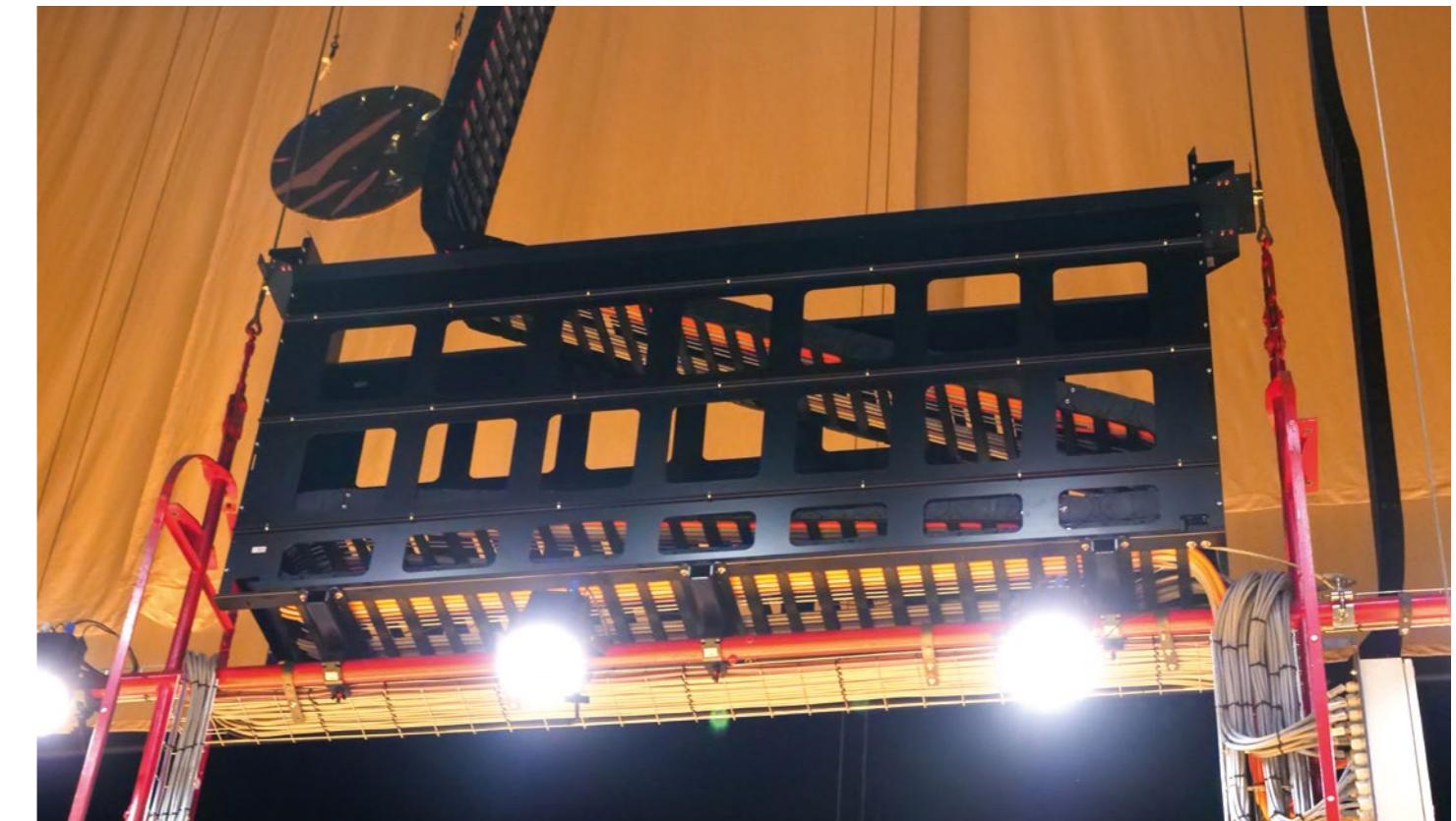
Standard zig-zag guide concept with the E4.56 e-chain® for vertical travel lengths of up to 40m.

The proven system was designed for use on trusses and based on DIN EN 17206 and DGUV Principle 315-390.

- ▲ Lightweight and standardised guide box permits higher payloads
- ▼ Modular system with many identical parts
- Similar applications successfully in use since 1999
- Adjustable travel in 5m steps with standardised components

Application example

Zig-zag guide concept impresses with its flexibility and high payload



A good example of an igus® conversion project is the municipal theatre in Ingolstadt. Here, the zig-zag E4.56 was successfully installed in 2022 as a customised system on several lighting trusses. You can find more information in the following video:



The innovative zig-zag guide concept with the e-chain® E4 was successfully introduced in a renowned theatre in England. This system was specially developed for vertical travels of up to 40m and meets the requirements of DIN EN 17206 and DGUV Principle 315-390.

The theatre was faced with the challenge of moving its new stage technology efficiently and safely without significantly changing the existing setup. It was necessary to find a system that could handle both the weight of the new filling and the desired travel.

The zig-zag guide concept with the E4 proved to be the ideal solution. The

innovative design of the guide box made it possible to reduce its weight by up to 60%. Compared to the previous design of the zig-zag box, the new concept not only reduces weight but also allows for a longer travel, i.e. up to 40m.

The ability to move a large number of cables optimised stage processes and reduced downtime.

The combination of high resilience, flexibility and simple implementation makes it the perfect solution for the challenges of the theatre.



Michael Berteit
Sales Manager of the Engineering Projects and Installation Service Business Unit



Cost-effective rotation on axis 1



New #lowcost

Cost-effective, lightweight and safe rotation of up to 380°

ReBeL-Twist

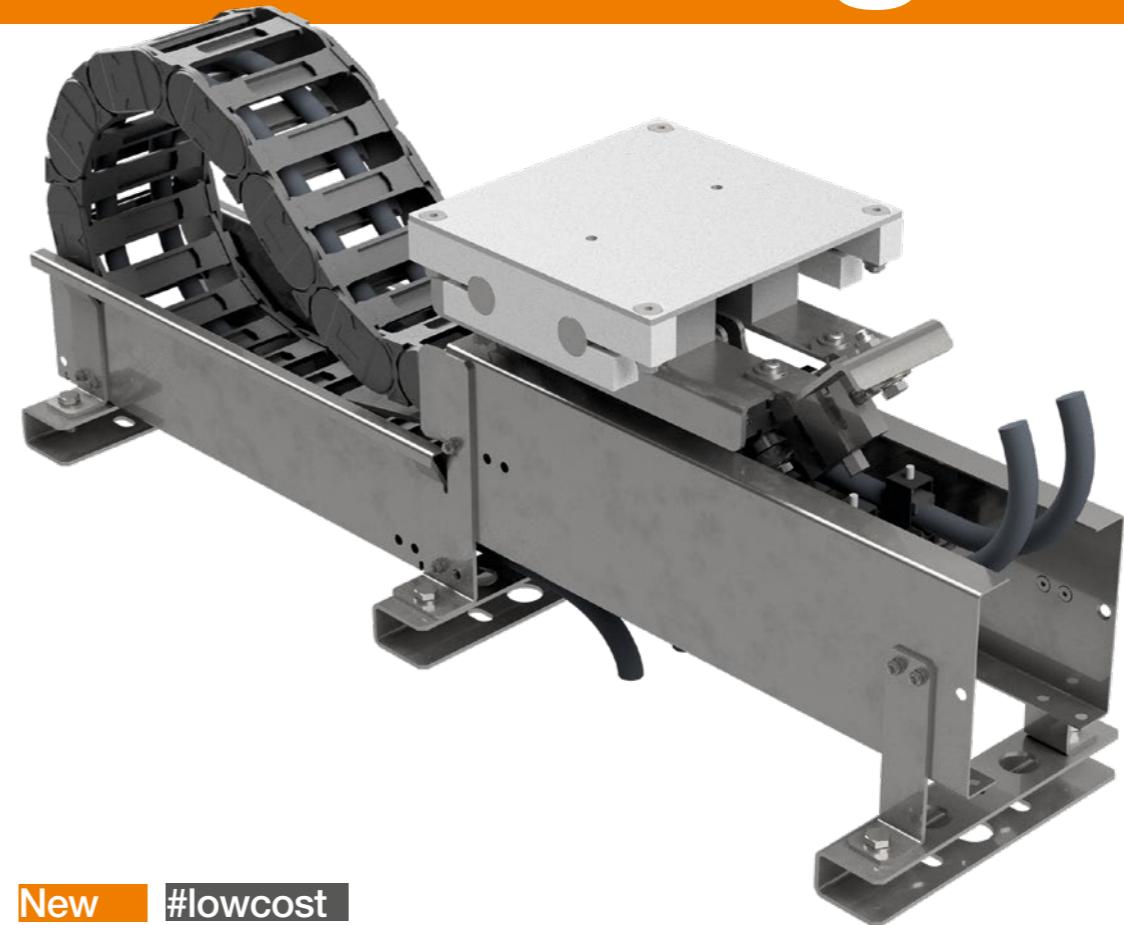
The new polymer rotation module is designed to fit axis 1 of the ReBeL and Universal Robots UR10e, allowing for simple integration.

- ▲ Standardised guide segments: suitable for different chain widths from 20 to 50mm. All media are safely guided during the movement of the robot
- ▼ Easy assembly: few components and interfaces ensure quick and uncomplicated installation
- Tested in the igus® laboratory
- Can be ordered online in the shop



Steel guide trough ST200

Up to 200m travel lengths



New #lowcost

Cost-effective, durable and easy to install

Steel guide trough ST200

The ST200 steel guide trough has been specially developed and standardised for the common rol e-chains in the 2828R, 3838R, 4040R and 5050R series.

- ▲ Safe and standardised guidance with integrated riser guard for travels of up to 200m
- ▼ Standardised guidance permits a cost reduction of 40% compared to an individual trough
- Tests in the igus® laboratory and a large number of customised applications
- Material savings due to the omission of an additional glide bar, among other things
- Coming soon to the online shop



Simply connect ships



New

Sustainable energy supply for cruise terminals

iMSPO cruise

Mobile connection system for the shore power supply of cruise ships, which can be flexibly positioned at the berth depending on the location of the ships. The basis is the successful iMSPO (igus® Mobile Shore Power Outlet) for container terminals, which has been nominated for the Hermes Award 2025 (see right). For cruise ships, this concept has now been further developed. There is no additional equipment in the working area during positioning and active power supply.

- ▲ Simple, fast and modular supply of shore power for ships, regardless of the mooring position
- ▼ Just one mobile socket = 100% connectivity = faster amortisation of the total investment
- Compliance with IEC 80005-1 standards and machine guidelines for safety
- To "Zero Emission" port with shore power: shutdown of all diesel generators, reduction of pollutant emissions such as particulate matter, nitrogen and sulphur oxides as well as CO₂ emissions



Background

Flexible shore power connection at berths

The solution is to bring the shore power to the ship, not the ship to the shore power. The concept behind the igus® Mobile Shore Power Outlet is simple: take a shore power outlet and drive it to the exact location where it is needed, anywhere on the terminal, and connect the ship.

Industrialisation of a shore power system

The iMSPO cruise runs on a metal rail system that is laid in prefabricated concrete elements, the plastic lids of which can be opened in just a few seconds. Ready for connection, the mobile shore power outlet consists of a guide trough plus e-chain system® including cables and plug-in connectors. Achieve the perfect connection position regardless of the ship's size and whether its hatch is located on port or starboard. Make connections in less than 15 minutes with just two people and the same procedure every time.

What distinguishes the iMSPO?

The combination of igus® rol e-chain® and special chainflex® medium-voltage cables enables the system to travel on port sections with up to 400 metres length. Due to the small bend radii of the chainflex® medium-voltage cables, the system can be compactly designed and installed in a space-saving way.

This means that shore power is available across the entire area of the berth. Regardless of changing ships of different sizes, the connection is always positioned where it is needed based on the ship's mooring position. The iMSPO is easy to operate with a remote control. As soon as the iMSPO is positioned, the igus® S45 follows suit. Its extension arm passes the connectors to the ship and its cables are plugged into the iMSPO. The power supply from land can reach the ship via the iMSPO through the cables of the S45.

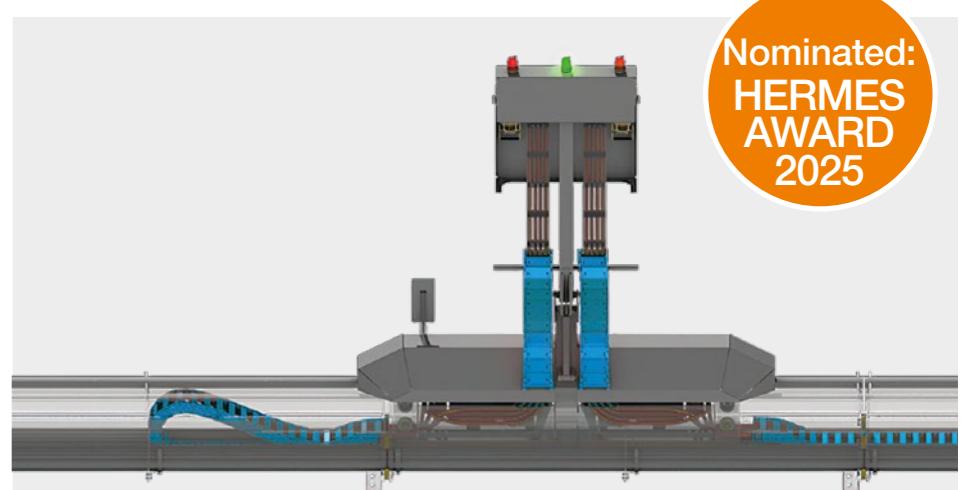


Extensively tested

The development of the igus® shore power systems continuously incorporates the experience gained from successfully completed projects. The close cooperation with our customers, enables us to map the conditions and requirements on the igus® test field as realistically as possible. Every module and system undergoes intensive tests at the igus® test facility for function, security and service life.

Nominated for Hermes Award 2025

igus® Mobile Shore Power Outlet (iMSPO) has been nominated for the international technology award at Hannover Messe.



Nominated:
HERMES
AWARD
2025



Safety on the Goliath crane

The intelligent i.Sense sensor system and software monitors the condition of the energy chain on the crane around the clock.

GO ZERO Downtime ... no unplanned downtime

smart plastics



216

Service of tomorrow
superwise - service rethought
and made smart

218

Data logistics made easy
Data concentrator BLE

219

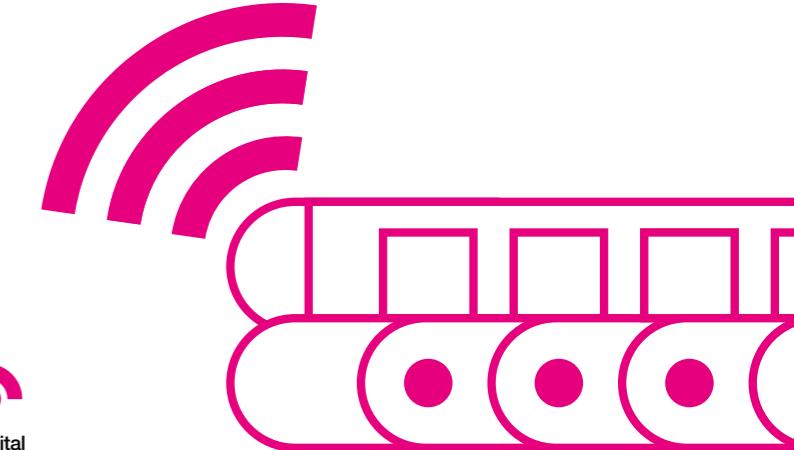
(Really) smart sensor!
BLE drylin® W condition monitoring

220

No cable? Never again!
Intelligent residual length
measurement for CF CASEs

223

Maximum efficiency
Firmware release for i.Sense
condition monitoring



**Quick consultation
anywhere, at any time**



In person

Richard Habering
+49 (0) 173 5403904
rhabering@igus.net



Chat

Online and WhatsApp
igus.eu/chat



On site

**Sales representative
Roadshow/Trade show**
igus.eu/on-the-move



Configure condition monitoring

Configuration of smart plastics EC.P, EC.W and EC.WLC now in the
e-chain® expert: igus.eu/ece

igus.eu/news-smartplastics

Smart on demand



New

Planning for tomorrow with igus® and superwise

superwise - service rethought and made smart

superwise offers customers the opportunity to request services online, communicate directly and keep an eye on all igus® components.

- ▲ Ensure desired overall equipment effectiveness OEE at all times
- ▼ Direct communication with the service team and one-click orders for spare parts, maintenance work or monitoring devices
- Continuous monitoring of more than 1,000 customer applications connected to the system, leading to fewer unplanned downtimes
- Use-based product replacement reduces unnecessary material costs
- Overview of all customer applications with smart igus® components in one dashboard



Background

Aftersales service

superwise - the service that monitors, and sends reminders for the igus® products you use.

Knowing the service life, viewing service data or creating service requests - no problem with the superwise service. All relevant information relating to service life, maintenance, inspection recommendations and much more is shown in the dashboard. If there is a need for action, we will get in touch with you. Service requests can be made around the clock and tracked in real time. Individual tracking and management can be viewed in the service history and the direct line to our service team ensures good and fast communication. It also includes regular exclusive offers and the latest updates regarding our products and services.

The superwise offer in a nutshell:

Installation and set-up:

igus® integrates the monitoring systems into existing plants.

Data evaluation:

igus® continuously analyses the energy chains' status data and provides findings.

Maintenance planning:

Based on the collected data, recommendations are made for optimising maintenance and replacing components.

Remote monitoring:

As an option, igus® can also monitor the status data in real time and take action in the event of problems. With superwise, you can reduce your workload as much as possible with a supervised system and also optimise the uptime of your machines.



Richard Habering

Head of Business Unit smart plastics

With the superwise service, you can choose between four individual service levels - from a free version to one-off payment to subscription model:



superwise basic:

Contains pre-determined service life information and service intervals that are set during the ongoing operation of an igus® component.



superwise silver:

Includes the condition monitoring of the igus® component and serves as the basis for service life data and service intervals that have already been determined. Data is synchronised and adjusted. Rounded off by warnings in the event of unplanned events - an interim service can be triggered with just one click.



superwise gold:

Enhanced with sensor-based status information of the igus component and secure access to the hardware installed on the machine - can be called up at any time.



superwise platinum:

An all-rounder that includes all the aforementioned functionalities and is also integrated into your infrastructure.

You can register for the superwise service via my.igus.net and of course by contacting the igus® team.

Data logistics made easy



New

Planning security with the BLE data concentrator via IoT

Data concentrator BLE

The BLE data concentrator receives wear or consumption information from all igus® sensors and transmits it to the superwise portal via IoT.

- ▲ Automated data management of smart igus® sensors, for example for drytech® bearings with BLE module or the intelligent chainflex® CASE
- ▼ Increased efficiency for the customer's purchasing department through active contact on the part of igus® or with automated ordering concepts
- Extensive testing of the sensor in the igus® laboratory
- Conserves resources; reduced ordering and monitoring effort thanks to automatic ordering function when the remaining cable length falls below the specified limit
- Digital interface for automated data exchange of all igus® sensors



Smart real-time sensor



New

Innovative condition monitoring for drylin® W linear guides

BLE drylin® W condition monitoring

Two-stage sensor element with microcontroller for data analysis: real-time monitoring and predictive maintenance of drylin® W linear guides. Sensor information can be displayed "stand-alone" with any smartphone. Additional connection to the superwise environment is possible.

- ▲ Real-time condition monitoring including predictive maintenance
- ▼ Automated reminder of replacement measures and ordering of retrofit parts
- Beta test phase in customer application and extensive testing in the igus® laboratory
- Efficient use of resources by avoiding unnecessary repairs and replacements
- Integration into superwise infrastructure for digital services to reduce downtime and maintenance costs



No cable? Never again!



New

Smart monitoring of stocks, proactive reordering

Intelligent residual length measurement for CF CASEs

Intelligent residual length measurement for monitoring cable stocks and as the basis for automated reordering.

- ▲ Improved efficiency and reliability of cable management systems
- ▼ No time losses due to missing cables and less effort for the customer purchasing team
- Extensive testing of the sensor in the igus® laboratory
- Reorder only when required as stocks are displayed by type with reliable residual length
- Integration into the superwise portal for a comprehensive overview and active sales processes



Clarity at first glance



New

The status indicator is now also available for the E4.Q series

EC.WLC status indicator for the E4.Q system

Red, yellow, green - like a traffic light, the new mechanical status indicator shows the wear status of the gliding e-chain®.

- ▲ Colour indicator (red/yellow/green) for status information on gliding e-chain systems® applications
- ▼ Low-cost - no electronics - physical measurement
- Ongoing test program in the industry's largest test laboratory (4,000m²) for dynamic cable applications
- Reduced service calls save resources



No standstill, even vertically



New

Extension of intelligent monitoring systems

Condition monitoring i.Sense for vertical e-chain systems®

The familiar push/pull force and breakage detection is now also available for vertical e-chain® applications with guidelok slimline (GLSL.P).

- ▲ No unplanned system downtimes of vertical e-chain systems®
- ▼ Increased service life and prevention of failures and unplanned downtimes
- Extensive testing in the igus® laboratory
- Safe operation beyond the product life cycle
- Data is logged so users can access and download it via the dashboard and easily integrate it into the i.Cee condition monitoring system



Extended possibilities



New

Maximum condition monitoring efficiency

Firmware release for i.Sense condition monitoring

The new firmware of the proven i.Sense condition-monitoring module offers motion profile measurement for the e-chain® on long travels in addition to freely programmable alarm contacts.

- ▲ Motion profile measurement of the e-chain® via the breakage detection sensor provides information on the condition of the e-chain®. Integration into the supervisory environment is possible
- ▼ Timely information on upcoming product replacement, reduced maintenance/service work, no unexpected downtime
- Productive use with connection to the crane monitoring system at a large East Asian container terminal
- Reduced CO₂ emissions due to maximum, risk-free product service life and event-driven maintenance/service
- Additional alarm via NC contacts simplifies software integration and saves programming time





Automated feeding station

Feed troughs operate reliably and autonomously despite dust, cold and wet conditions. Space-saving with minimum maintenance thanks to chainflex® CF9 cables and e-chains® of the 1500 series.



GO ZERO Waste ... sustainable energy supply

chainflex® cables



Tech up



Cost down



Proof



Sustainability



Digital

226

Certified safety

New UL rating for servo/motor cables

228

First choice for dry environments

PVC control cable CF130.40.04.UL

230

High voltage. From stock.

CFCRANE medium-voltage cable (6/10kV)

232

50% smaller radii, maximum EMC safety

Fibre Optic Cable CFLG.LB

232

Suitable for Siemens S200

Servo and measuring system cables as a single-cable solution for drive technology

233

Reliably measure and transmit temperatures

Special cable CFATHERMO.N.001



Quick consultation anywhere at any time



In person

Katharina Wielpütz

+49 (0) 2203 9649-7082

kwielpuetz@igus.net



Chat

Online and WhatsApp

igus.eu/chat

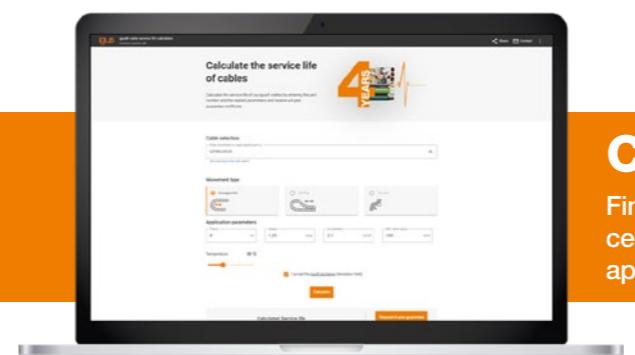


On site

Sales representative

Roadshow/Trade show

igus.eu/on-the-move



Calculate the exact service life

Find out exactly how long the cable will last in your application! Including certificate and price check of the selected cable suitable for your individual application: igus.eu/chainflexlife

igus.eu/news-chainflex

New UL rating for servo/motor cables

Certified safety

+90°C UL



igus 4-year
chainflex cable
guarantee and
service life
calculator based
on 2 billion test
cycles per year

WITHOUT
... Packaging costs
... Minimum order quantity
... Cutting charges
From 1 meter & from stock
chainflex

New #certified

Proven series, extended possibilities

New UL Temperature Rating for chainflex® servo/motor cables

The servo and motor cable series CF210.UL, CF21.UL, CF30 and CF31 are now certified with a "UL Temperature Rating" of +90°C. This extends the global application range of these series and provides additional safety for planning electrical applications.

- ▲ Extended application possibilities due to wider temperature range
- ▼ No unplanned downtime, chainflex® guarantee of up to four years
- Temperature Rating +90°C by UL
- Longevity is how we conserve resources
- Calculate the cables service life online: igus.eu/chainflexlife



igus

Application example

UL-AWM approval with 90°C for four jacket qualities

The standardisation of the 90°C UL approval for the chainflex® servo and motor cables is fully in line with the igus® philosophy. Over 100 servo and motor cables from igus® now have +90°C AWM UL approval, which guarantees higher temperature resistance and reliability. This allows our customers to select the most cost-effective product from the four jacket materials (oil-resistant PVC, PUR, flame-retardant TPE and halogen-free TPE) that promises reliable mechanical operation in their e-chain® application.

With the chainflex® price check, you can quickly find the right cable for your needs. Every electrical specification is available in ten cable qualities. The

choice is yours: cost-effective price or cable for high technical requirements. You can choose the right product for you from the graded listing. Whatever option you go for, we give you a 4-year guarantee on your chainflex® cable.

The extensive tests in the igus® laboratory emphasise the quality and durability of chainflex® cables. In the industry's largest laboratory with a total area of over 4,000m², more than 64 systems and 800 parallel tests, we can analyse cables for movement in the energy chain extensively and under the most adverse conditions. The data determined in the test series form the basis for the unique service life calculation and the chainflex® guarantee.

In addition, there are no problems with differences in UL certification any more. This means that customers across the globe can rely on standardised and reliable certification, which considerably simplifies the planning and use of the cables.

Overall, the continuous +90°C AWM UL approval for chainflex® motor and servo cables offers numerous advantages that improve both reliability and cost efficiency. Customers can rely on the proven quality and comprehensive support of igus® to successfully realise their projects.

Zero Lubrication on a world tour

... in Germany



60 years of igus... 6,000 kilometres
Fraport Frankfurt
Airport



Movable boarding bridges at the airport
motion plastics® in use:
igus® energy chains and chainflex® cables
in movable passenger boarding bridges -
weather-resistant, maintenance-free



First choice for dry environments



New

Continuous movement in dry applications

PVC control cable CF130.40.04.UL

The PVC outer jacket is highly resistant to abrasion and bends, which makes the cable ideal for energy chain applications in dry environments that are constantly moving. The new product is available from stock, ready to ship in 36 hours, has been tested in our in-house test laboratory and comes with a guarantee of up to four years.

- ▲ New combination of core and cross-section allows for more versatile use in energy chains
- ▼ Up to 47.69% cost saving compared to cables with PUR outer jacket
- Successful use of cable with long service life in airbag-folding machine
- Longevity is how we conserve resources
- ❖ Calculate the cable service life online: igus.eu/chainflexlife



igus

Background

Why use PVC cables in moving applications?

Polyvinyl chloride (PVC) is a versatile thermoplastic polymer that is divided into rigid and flexible PVC. Rigid PVC is found in window profiles and pipes while flexible PVC is used for insulation, cable jackets and floor coverings. PVC is inexpensive to produce and process, which makes it particularly advantageous in the cable sector.

There are many types of PVC cables, both standardised and non-standardised, e.g. NYM house installation cables and NYY-J underground cables. Household appliances and vehicles contain PVC connection cables and there are special industrial PVC cables for specific requirements.

Polyurethane (PUR) is often considered a better solution for applications

in energy chains that are constantly moving as it offers high abrasion resistance and flexibility at low temperatures. In practice, however, PUR is insufficient in terms of flexural strength and abrasion resistance in dry applications compared to good PVC compounds.

PVC cables are suitable for moving applications in energy chains, depending on the PVC compound. They have good flexural strength and can withstand millions of strokes without failure. PVC is ideal for indoor applications at normal temperatures and for outdoor applications when protected from sunlight. However, PVC cables should not be used in extreme conditions such as exposure to a lot of oil or UV radiation.



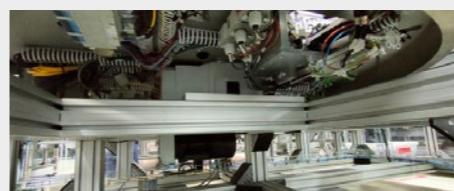
Rainer Rössel
Head of Business Unit
chainflex® cables

igus® has developed special PVC compounds for energy chains that have been used successfully for decades. PVC provides outstanding mechanical stability and functional reliability and is more cost-effective and durable than PUR in many applications.

Download free
white paper:



Fast rotation while folding airbags



Challenge:

Airbags save thousands of lives every year. However, for the rescue systems to reliably inflate in the fraction of a second in an emergency, they must be carefully folded - much like a parachute. The airbag is folded by a machine from the Polish manufacturer DAN-ROB. It works with a turntable with a diameter of 1.5 metres, which rotates 120 degrees per second.

Solution:

To protect energy and data cables from wear and cable breaks during this rotation, the company relies on robust cables from the chainflex® range from igus® (CF130.15.05.UL; CFBUS.PVC.060 and CF5.03.25) and energy chains from the E4.21 series (E4.21.070.100), which move in a semicircular guide channel. This combination ensures fail-safe operation at these speeds.



High voltage. From stock.



New

For high voltages on travels up to 400m

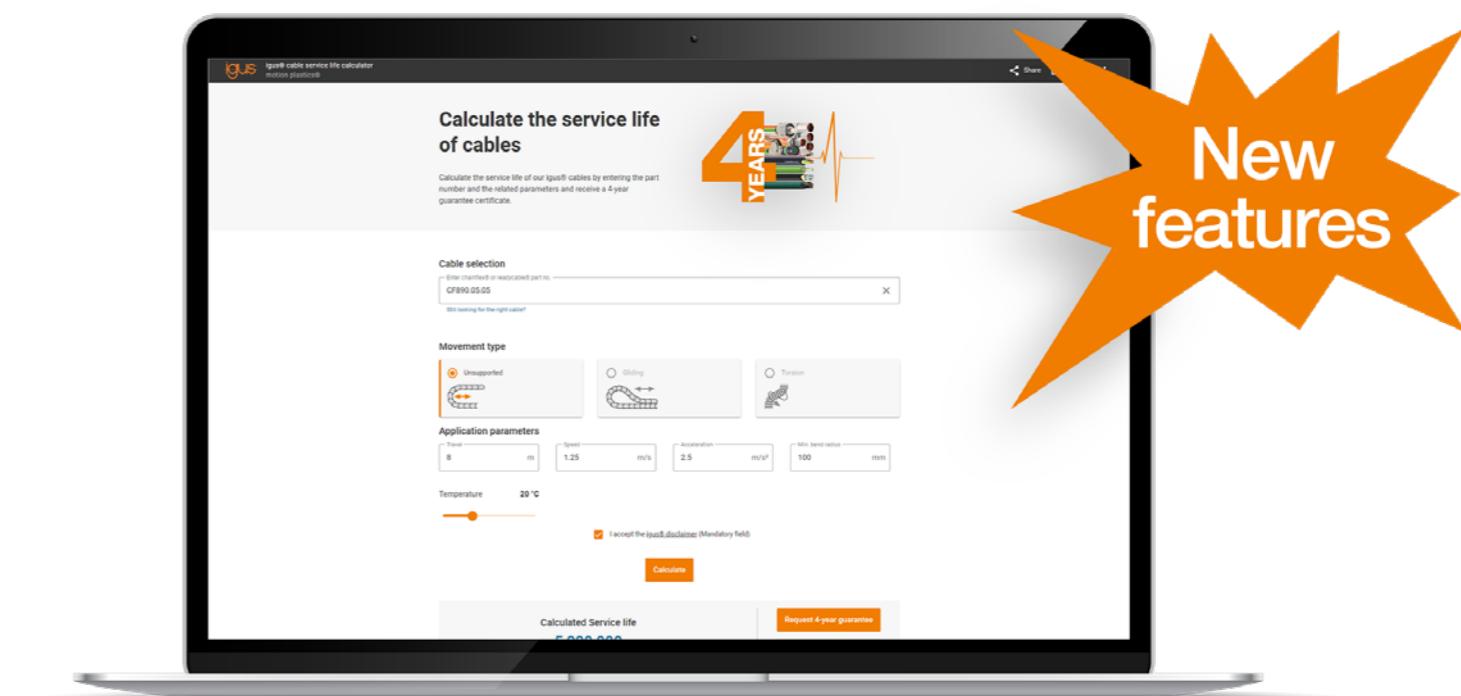
CFCRANE medium-voltage cable (6/10 kV)

Single-core medium-voltage cable of voltage class 6/10kV for use in energy chains. The new product can safely and reliably supply power to large systems with high energy requirements over long travels of up to 400m, e.g. in the shore power sector. Applications in harsh environments and at temperatures down to -20°C pose no problems.

- ▲ For maximum tension and performance with travels of up to 400m and a bend radius of 10xd in the e-chain®
- ▼ Available from stock and ready to ship in 36 hours
- Successfully used in the world's longest travel with a plastic energy chain (670m)
- Silicone and lead-free
- Calculate the cable service life online: igus.eu/chainflexlife



Exact prediction of service life



New

Unique, simple, reliable and accurate

chainflex® service life calculator 2.0

Consistent further development of a service that is still unique today: a binding guarantee on moving cables and an application-dependent online service life calculator. With the new service life calculator, you can determine the service life of igus® chainflex® and readycable® cables in no time. Customised to your application: just enter the part number and the relevant parameters, have them conveniently calculated and receive a four-year guarantee certificate.

- ▲ Planning reliability thanks to precise service life calculation
- ▼ Always find the most cost-effective chainflex® cable that is guaranteed to work in your application
- Database from billions of tests in the industry's largest test laboratory (4,000m²)
- Avoid oversizing etc.
- Calculate immediately online: igus.eu/chainflexlife



New #compact

50% smaller radii, maximum EMC safety

Fibre Optic Cable CFLG.LB

Addition of fibres 9/125µm with two or four cores to the single-mode range. As is typical for fibre optic cables, they can realise any type of data and bus transmission cost-effectively over long travels – with maximum EMC safety. Flexible at low temperatures, can be used both indoors and outdoors.

- ▲ Maximum EMC protection, with high transmission qualities
- ▼ Extremely small bend radii (5xd) for compact installation spaces
- Test No. 4011: CFLG.LB successfully tested with 50 million double strokes
- No metals, halogens or PFAS
- Calculate the exact cable service life: igus.eu/chainflexlife

New

Suitable for Siemens S200

Servo and measuring system cables as a single-cable solution for drive technology

With the new servo and measuring system cables, we are expanding our product range to include PVC and PUR cables for Siemens S200 drives. They are sold by the metre or fully harnessed from stock.

- ▲ New combinations of core and cross-section for the entire Siemens S200 system
- ▼ Cost-effective cable with long service life due to PVC outer jacket for applications with slight oil influence and thanks to oil-resistant PUR outer jacket
- Tested in the test laboratory: CF270.UL.D successfully tested with 22 million strokes achieved in a 55mm radius
- Free from harmful PFAS
- Calculate the cable service life online: igus.eu/chainflexlife

New

Reliably measure and transmit temperatures

Special cable CFTHERMO.N.001

The included type N thermocouple consisting of NiCrSi-NiSi can measure temperatures from -200°C to +1,300°C accurately and transmit them reliably. As a result, it is frequently used in the glass and packaging industry, for injection-moulding machines and industrial dryers.

- ▲ Type N thermocouple for precise transmission of very low voltages combined with large temperature differences
- ▼ Optimised for use in moving applications with a high number of cycles
- Test No. 4009: CFTHERMO tested with 97 million double strokes in the chainflex® laboratory
- Longevity is how we conserve resources



Residual stock for cables and wires

Save now – buy cables online at reduced prices

You can order chainflex® cables in individual cut lengths from 1m in our online shop. This often results in residual lengths on the cable drums in our warehouse, which we do not dispose of but pass on to our residual stock. In this way, we create space in our storage area for new goods, protect the environment and can offer a more favourable sales price. In our residual stock you will find various residual lengths of up to 50m. Our online shop shows you all available residual lengths of your desired cable on the product page. You will receive a 50% discount on all residual lengths and a guarantee of up to four years.

igus.eu/residual-stock

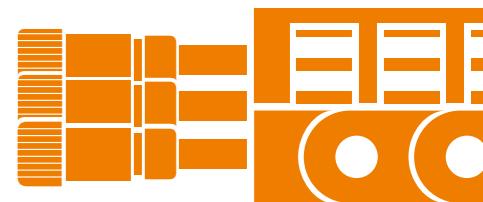


Accuracy up to 50µm

Ultrasonic testing system for heavy plates in the steel industry. chainflex® cables harnessed and ready-to-connect in readychain® energy chains series E4.

GO ZERO Downtime ... no unplanned downtime

readycable® readychain®



236

Fail-safe quality check
New readycable® cables
for industrial camera technology

238

Suitable for 40 manufacturers
readycable® cables
for drive technology

240

Suitable for Siemens S200
New readycable® cables
for drive technology

242

Simple access control
RFID access control
for Module Connect interface

243

Plug together naturally
readychain® eco rack

**Quick consultation
anywhere at any time**



In person

Markus Hüffel
+49 (0) 2203 9649-347
mhueffel@igus.net



Chat

**Online and
WhatsApp**
igus.eu/chat



On site

**Sales representative
Roadshow/Trade show**
igus.eu/on-the-move



Find drive cables in 2 steps

Find and order the right drive cable online in only 2 steps.
Select with the new readycable® finder, ready to ship in 5 working days:
igus.eu/rc-finder

igus.eu/news-readycable

New readycable® cables for industrial camera technology

Fail-safe quality check



New

Suitable for Keyence ... ready-to-connect and tested

New readycable® cables for industrial camera technology

A wide range of uses and applications are made possible by industrial image processing systems. With our ready-to-connect and 100% tested cables suitable for Keyence, they are now also optimised for use in dynamic e-chain® applications. Customised lengths, no minimum order quantity.

▲ Ready-to-connect, harnessed and optimised for continuous use in energy chains

▼ Always find the most cost-effective cable suitable for Keyence that is guaranteed to work in your application

■ 100% tested (test seal of approval and test report)

● Long-lasting cable materials, high-quality plug-in connectors

● Individual service life calculation online: igus.eu/readycable



New

Generational change made easy

readycable® adapter cables for Kuka Quantec 1 to 2

These readycable® adapter cables facilitate and accelerate the system changeover from Kuka Quantec Generation 1 to Generation 2.

▲ Travel axis 7 remains in place, robot cells are simply extended

▼ Fewer conversions = less downtime, lower costs

■ Best practice: system changeover successfully implemented

● Continue to use existing systems

● Calculate the cable service life online: igus.eu/readycable



New

Highest data transmission, smallest installation spaces

HARTING T1 Industrial Mini PushPull connector

Continuous Industrial Ethernet communication with just one core pair, ideal for small installation spaces. Now also harnessed and ready-to-connect with the HARTING T1 Industrial Mini PushPull. This means that there are already 5 igus® assemblies for Single Pair Ethernet.

▲ Highest data transmission with only one core pair

▼ Ideal for realising small installation spaces

■ 100% tested (test seal of approval and test report)

● Future-proof data communication

● Calculate the guaranteed exact service life of the cable online: igus.eu/readycable



readycable® cables for drive technology

Suitable for 40 manufacturers



New

Expansion of the drive technology product range

readycable® cables for drive technology

We are expanding the readycable® product range for drive technology with cables suitable for two other manufacturers. Ready-to-connect and quality-checked cables suitable for 40 manufacturers, ready to ship in 5 working days. To your required length, no minimum order quantity, no cutting charge, industrial harnessing and available to calculate and order online 24/7.

- ▲ The seven qualities always give you the most cost-effective cable that is guaranteed to work in your application
- ▼ Reduce storage space: ready to ship in 5 business days, to your required length, no minimum order quantity, no cutting charges
- 100% tested (test seal of approval and test report)
- Individual service life calculation, exactly what you need
- Get the right drive cable in just two steps, online: igus.eu/readycable



Expanded production capacities

igus® takes over harnessing specialist elko

Faster assembly of harnessed cables and cable sets thanks to expanded production capacities, especially for the mechanical engineering and automotive industries in southern Germany.

In January 2025, igus® acquired elko Verbindungstechnik GmbH. Like igus®, elko is an owner-run company and an expert in connection technology. The company from Kirchheim am Neckar specialises in assembling cables and plug-in connectors into customer-specific systems and cable sets, which are primarily used in mechanical engineering and the automotive industry. Thanks to its geographical location and good transport links, the location in Kirchheim am Neckar offers ideal conditions for geographical proximity to customers and even better service. "Being close to our numerous clients in southern Germany



enables igus® to be even more flexible and respond more quickly to individual requirements," emphasises Michael Blass, igus® CEO e-chain systems®. "The regional proximity allows for even more direct and personalised customer service." It is precisely this proximity to

customers and their applications that is important for developing innovative and customised solutions for a wide range of application scenarios. It is important to pay close attention to the specific requirements of the respective application. "There is no one-cable-fits-all; the operating conditions and location play a decisive role in choosing the best cable," says Christian Stremlau, Head of readychain® & readycable® at igus®. "We always look for the most cost-effective solution that works."



Find and order the right drive cable online in 2 steps

Select with the new readycable® finder, ready to ship in 5 working days



New readycable® cables for drive technology

Suitable for Siemens S200



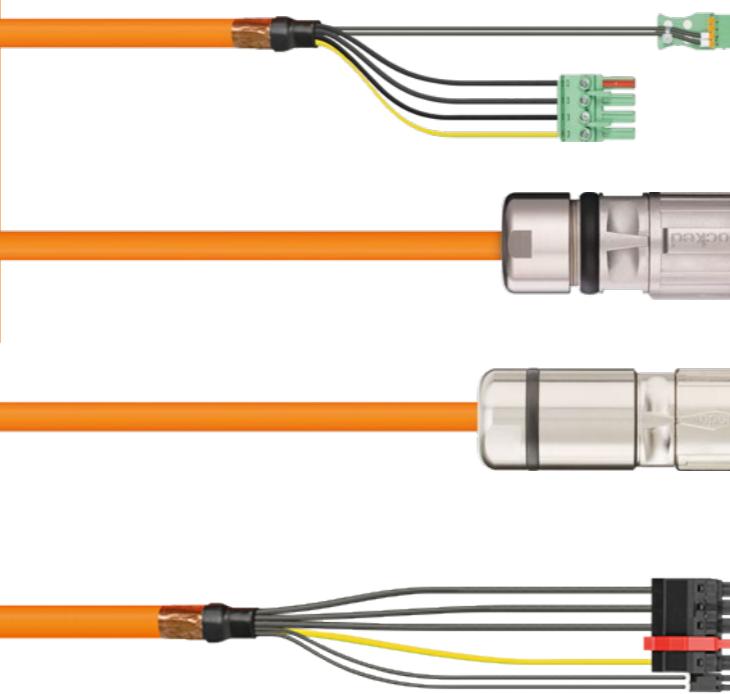
New

Delivered in 5 business days, to your required length, no minimum order quantity

New readycable® cables for drive technology

New readycable® suitable for Siemens - customised for your S200 drive technology: no minimum order quantity and to your required length, with centimetre accuracy (no cutting charges). Ready to ship in only 5 days.

- ▲ The seven qualities always give you the most cost-effective cable that is guaranteed to work in your application
- ▼ Reduce storage with fast dispatch, customised quantities and required lengths
- 100% tested (test seal of approval and test report)
- Long-lasting cable materials + high-quality plug-in connectors + machining
- Individual service life calculation, exactly what you need
- Get the right drive cable in just two steps, online: igus.eu/readycable



New

Suitable for Bosch Rexroth RH2 and RLB2

Extension readycable® hybrid cables

New readycable® hybrid cables suitable for RH2 and RLB2-standards from Bosch Rexroth.

- ▲ The seven qualities give you the most cost-effective cable that is guaranteed to work in the application
- ▼ Reduce storage
- 100% tested (test seal of approval and test report) in the 4,000m² igus® test laboratory
- Long-lasting cable materials + high-quality plug-in connectors + machining
- Calculate the cable service life online: igus.eu/readycable



New

Suitable for Berger Lahr

Extension readycable® drive cables

Expansion of the readycable® product range of ready-to-connect cables suitable for Berger Lahr.



- ▲ The seven qualities always give you the most cost-effective cable that is guaranteed to work in your application
- ▼ Cost savings thanks to fast shipping, customised ordering options and no cutting charges
- 100% tested (test seal of approval and test report) in the 4,000m² igus® test laboratory
- Long-lasting cable materials + high-quality plug-in connectors + machining = Guaranteed reliability
- Individual service life calculation online: igus.eu/readycable



Simple access control



New

Easy additions, double safety

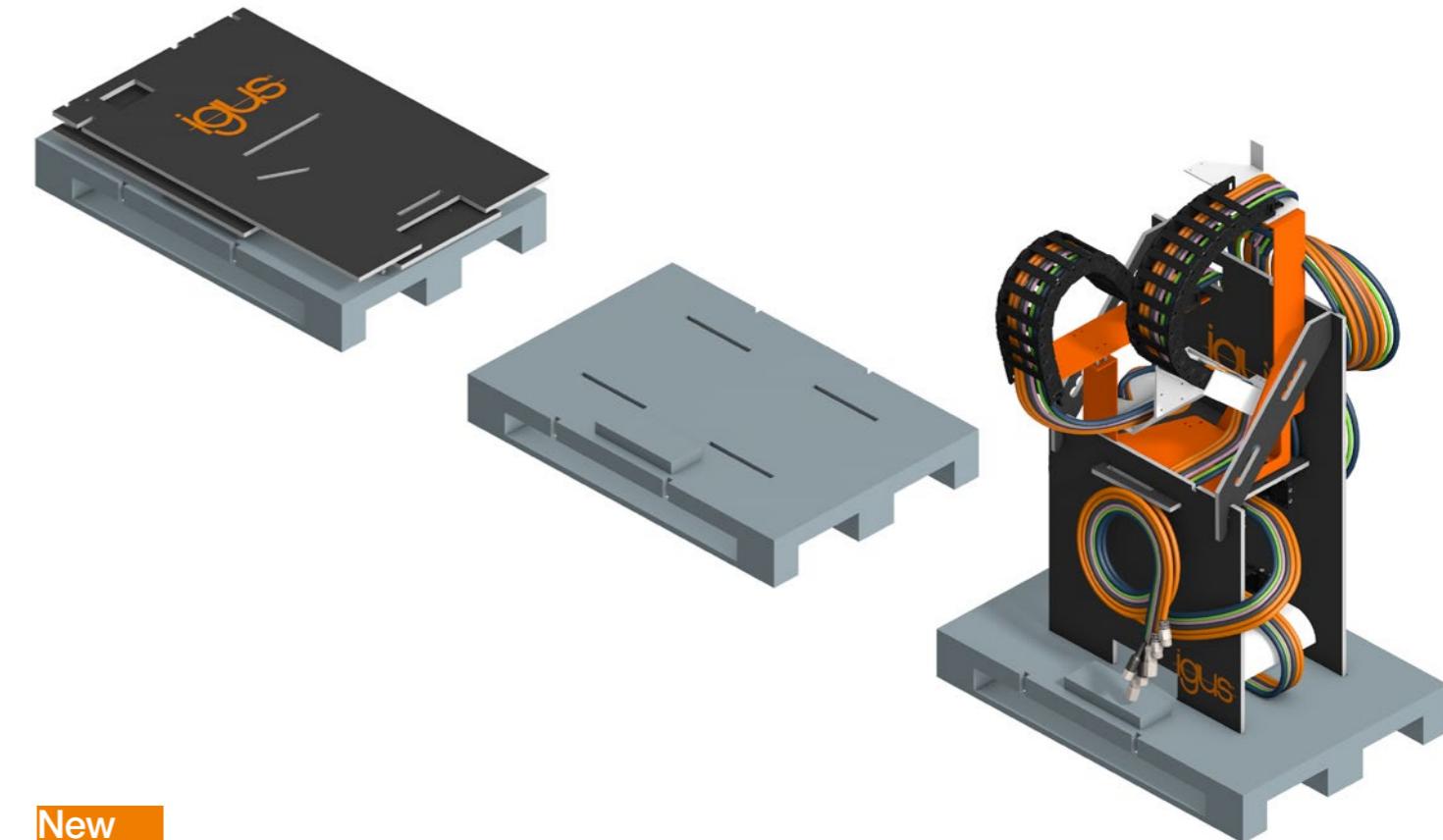
RFID access control for Module Connect interface

The most cost-effective Module Connect interface solution is now even more flexible and reliable thanks to RFID. Access authorisation is monitored contactless by radio, so that only authorised persons are granted access to the interface.

- ▲ Easily add security to existing systems
- ▼ Prevent unintentional machine downtime
- For service: unplug it, plug it back in, done
- 100% transparent thanks to activity report (optional)
- Order Module Connect systems online: igus.eu/module-connect



Plug together naturally



New

Precisely cut-to-size, tool-free assembly

readychain® eco rack

Custom rack constructions simply plug together without tools. Large readychain® systems are transported safely and connected easily. The precise cutting of the Birke Multiplex elements guarantees an accurate fit and prevents unnecessary waste.

- ▲ Custom-design with the modular construction kit principle
- ▼ Easy assembly and disassembly (tool-free)
- Reduced volume (-88%) and weight (-71%) during return transport
- Rapidly renewable and durable raw material



motion plastics®



Bicycle components

Page 28



iglidur® plain bearings

Page 34



iglidur® rollers

Page 44



drygear® gear and gearbox technology

Page 48



iglidur® slewing ring bearings

Page 54



iglidur® bar stock

Page 60



iglidur® 3D printing

Page 64



igubal® spherical bearings

Page 68



xiros® ball bearings

Page 80



drylin® linear technology

Page 84



dryspin® lead screw technology

Page 100



drylin® drive technology

Page 110



Low Cost Automation

Page 126



RBTX® market place

Page 148



e-chains® and e-chain systems®

Page 162



smart plastics

Page 214



chainflex® cables

Page 224



readycable® readychain®

Page 234



Bicycle components



Bike frame made of plastic - made in Germany

Page 30



Study: Tribo-optimised plastic handlebar with light

Page 32



Tribo-optimised plastic handlebar

Page 32



Rotomoulded wheels

Page 33



iglidur® plain bearings

iglidur® standards without PTFE

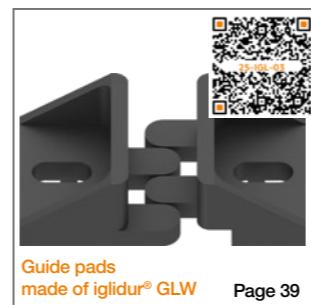


iglidur® standards without PTFE



iglidur® W300E multi-component plain bearings

Page 38



Guide pads made of iglidur® GLW

Page 39



iglidur® G2

Page 40



Stainless-steel fabric with iglidur® coating

Page 43



10/24 iglidur® W300PF

PTFE FREE



10/24 iglidur® K230YM

PTFE FREE



10/24 iglidur® C160

PTFE FREE



iglidur® rollers



10/24 Pulleys made of iglidur® JB

Page 46



10/24 Roller adapters made of iglidur® P360 and A500

Page 47



10/24 Knife edge rollers made of iglidur® A181



10/24 Knife edge rollers made of iglidur® W301



10/24 Guide rollers made of iglidur® W301



10/24 Skate wheel made of iglidur® J

Page 47



drygear® gear and gearbox technology



245



drygear® worm gear with hand wheel and manual clamp

Page 50



drygear® worm gear with hand wheel and position indicator

Page 51



drygear® universal joint

Page 52



drygear® Apilo®

Page 52



Split flange mounted bearings

Page 72



Sheet metal pillow block bearing with split spherical insert bearings

Page 74



Spherical insert bearings made from iglidur® H3

Page 74



Coupling joint with threaded ball stud

Page 75



drygear® flexible shaft



iglidur® slewing ring bearings



iglidur® PRT-05 with angle stop



iglidur® PRT-04 compact version

Page 57



Study: Heavy duty pillow block bearing

Page 76



Metal rod ends with plastic inner ring

Page 78



Split fixing collar for square profiles

Page 79



Universal joint CJM



iglidur® PRT-04 with angle stop



iglidur® PRT-04 with PTFE-free sliding elements

Page 59



iglidur® PRT-04 accessories



iglidur® PRT-06 slewing ring bearings

Page 57



Pillow block bearings KSTM-CL-ECO



Flange mounted bearings for square profiles



xiros® ball bearings



Ball bearings made of ceramic and high-performance plastic

Page 82



iglidur® bar stock



iglidur® W301 round bars

Page 62



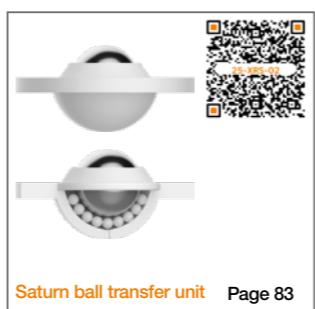
iglidur® ECO A500 round bars

Page 62



iglidur® B250 round bars

Page 63



Saturn ball transfer unit

Page 83



Conductive ball transfer unit

Page 83



Radial deep groove ball bearings made of xiros® B181



Conveyor rollers with centre adapter

Page 82



iglidur® W300PF round bars



iglidur® JPF plates



iglidur® 3D printing



iglidur® 3D printing

Page 64



Ball transfer units made of iglidur® A350 and J350



drylin® linear technology



drylin® W installation size 06-70

Page 86

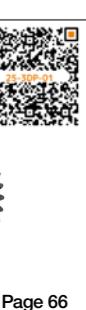


Slim Line linear housing in installation size 06

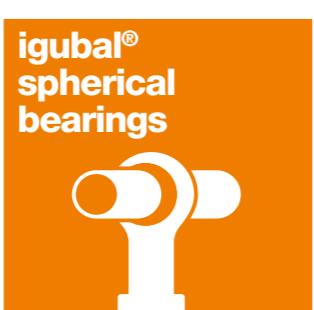
Page 88



iglidur® i4000 resin for DLP 3D printing



iglidur® i150-BL tribofilament



igubal® spherical bearings



Pillow block bearing with quick-release fastener

Page 70



Slim Line linear carriages in installation size 06-70

Page 89



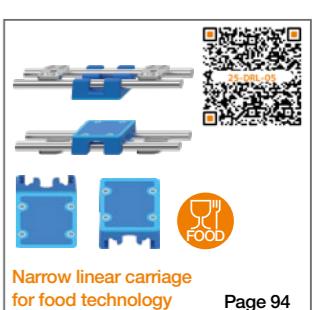
Curved guide in installation size 06

Page 90



drylin® W exchange bearings made of zinc die-casting

Page 92



Narrow linear carriage for food technology

Page 94



Pre-loaded hybrid roller bearings Page 96



Linear carriages with pre-loaded hybrid roller bearings Page 97



Pre-load prism slide in installation size 20 Page 98



drylin® NSV pre-load prism slide in installation size 20 Page 99



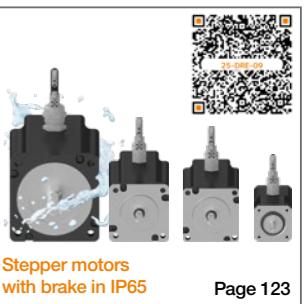
Motor control system D1 with PROFINET/PROFIdrive Page 120



Control unit for inching and jog mode Page 122



Hand wheels for double-shaft motors Page 122



Stepper motors with brake in IP65 Page 123



Miniature guide carriages drylin® WW-06-20-T415-ES-A160



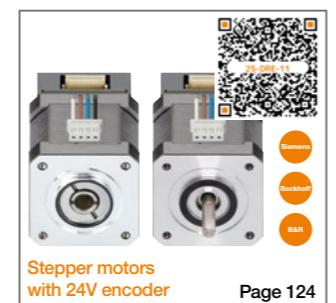
drylin® W linear guide systems for the food technology



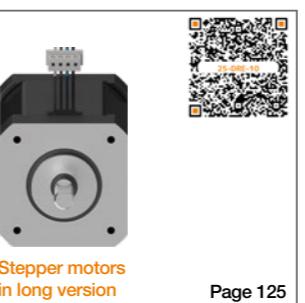
drylin® WWP-06-20-04-LM / 10-30-06-LM PTFE-free locking carriages



Telescopic slides in size 60 drylin® NT-60.4



Stepper motors with 24V encoder Page 124



Stepper motors in long version Page 125



Gearbox in installation size 60 Page 125



Miniature linear axis with lead screw motor SLWC-BB-0620-FL-ES



dryspin® lead screw technology



New dryspin® lead screw nut geometry Page 102



New dimensions: lead screw nuts with machined thread Page 104



drylin® SLW-BB-0620-FLZ lead screw axis without bearing clearance



drylin® SLR-60 linear module in new size 60



drylin® ZLW-1050-ES-FDA toothed belt axis



Double axis system DLE-DA-ZLX



Pre-load lead screw nut with dryspin® thread Page 105



Zero-backlash lead screw nuts with dryspin® threads Page 105



Extension of the product range Page 106



LH/RH lead screws Page 108



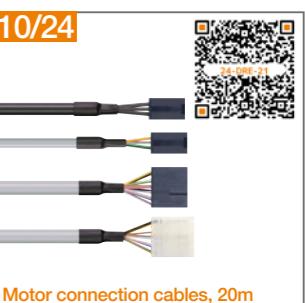
Holder for control units



Coupling for torque transmission



Cost-effective couplings for small installation spaces



Motor connection cables, 20m



drylin® drive technology



drylin® NTM telescope with motor Page 112



drylin® SLX linear module Page 114



drylin® ZLW-1050-ES-EX and ZLW-1050-ES-HYD Page 115



Low Cost Automation



In-house automation at the motion plastics® specialist igus® Page 128



ReBeL® 03: new features and improvements Page 130



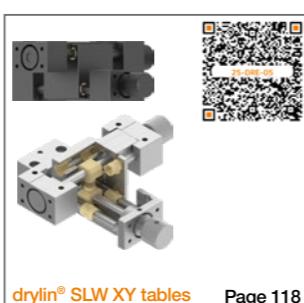
ReBeL® Environment, plug them together and get started! Page 130



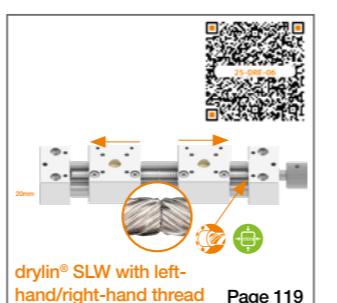
drylin® SLR linear system new in installation size 30 Page 116



drylin® SLW XY tables Page 118



drylin® SLW XY tables Page 118



drylin® SLW with left-hand/right-hand thread Page 119



ReBeL® Environment Firm grip guaranteed! Page 131



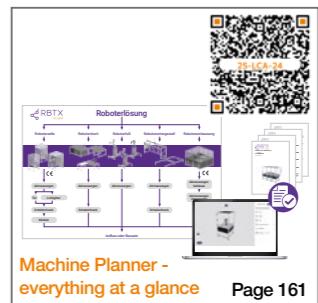
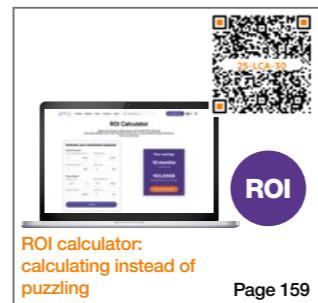
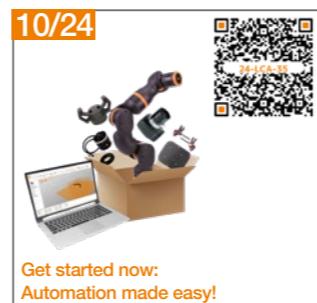
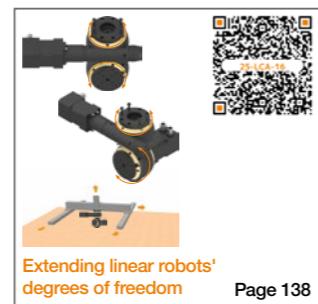
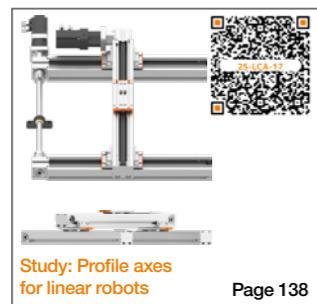
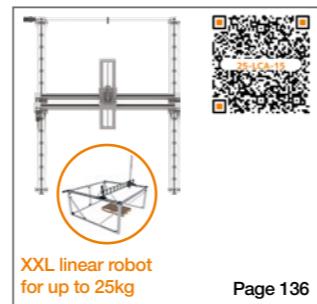
Study: Imitation allowed: Show to program Page 133

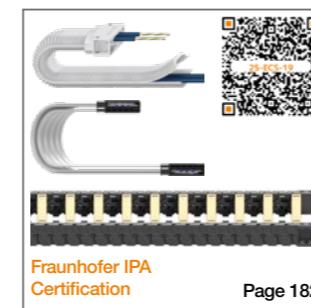
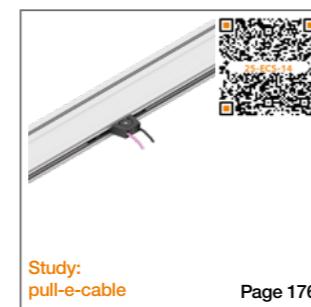
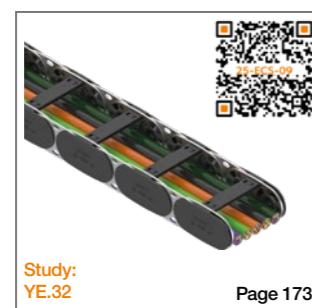
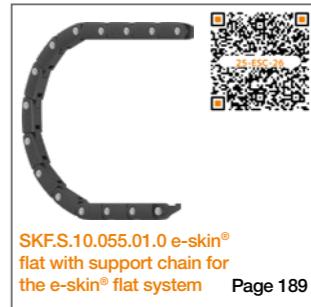
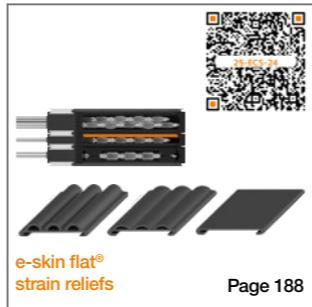
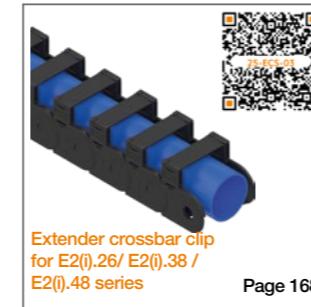


ReBeL® Environment sample programs and integration Page 132



ReBeL® EduLab Page 133







Data concentrator BLE Page 218



BLE drylin® W condition monitoring Page 219



Intelligent residual length measurement for CF CASES Page 220



EC.WLC status indicator for the E4.Q system Page 221



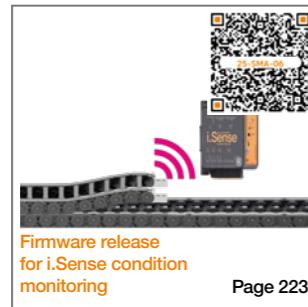
RFID access control for Module Connect interface Page 241



readychain® eco rack Page 243



Condition monitoring i.Sense for vertical e-chain systems® Page 212



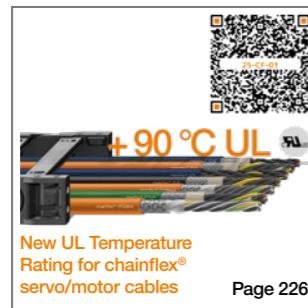
Firmware release for i.Sense condition monitoring Page 223



igubal® spherical bearings with predictive maintenance Page 224



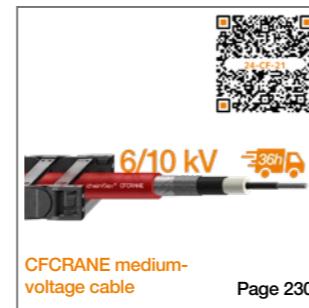
igubal® ball coupling Page 224



New UL Temperature Rating for chainflex® servo/motor cables Page 226



PVC control cable CF130.40.04.UL Page 228



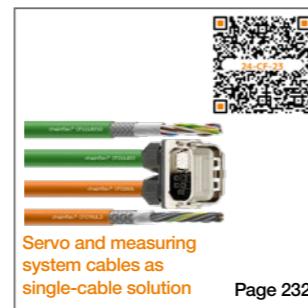
CFCRANE medium-voltage cable Page 230



chainflex® service life calculator 2.0 Page 231



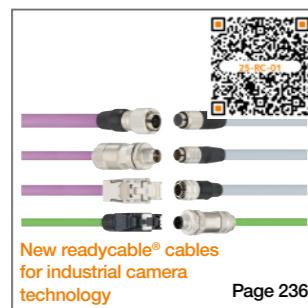
Fibre Optic Cable CFLG.LB Page 232



Servo and measuring system cables as single-cable solution Page 232



Special cable CFATHERMO.N.001 Page 233



New readycable® cables for industrial camera technology Page 236



readycable® adapter cables for Kuka Quantec 1 to 2 Page 237



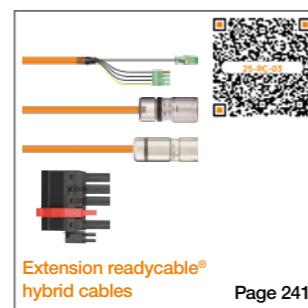
HARTING T1 Industrial Mini PushPull connector Page 237



readycable® cables for drive technology Page 238



New readycable® cables for drive technology Page 239



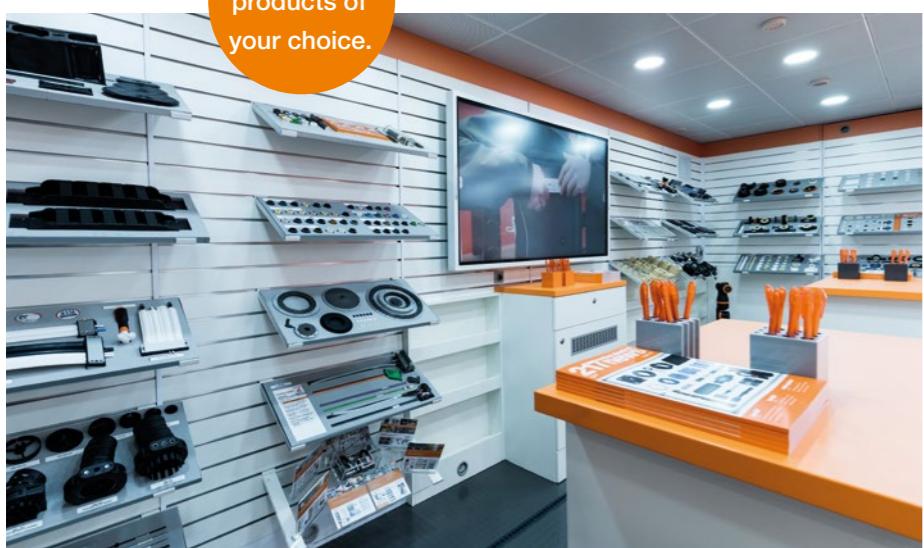
Extension readycable® hybrid cables Page 241



Extension readycable® drive cables Page 241

Customised ... free of charge ... according to your requirements

Roadshow truck ... trade show on wheels with products of your choice



- Your employees can find out for themselves
- No cost for travel or accommodation
- Time-independent, fits your daily routine
- Individual application advice and general new products presentation - anything is possible
- Groups can be customised

igus.eu/roadshow

Experience motion plastics® live

On-site exhibition

For over 20 years, we have been visiting you with our mobile pop-up trade show stand. We will show you our latest products, and together we can find the best solution for your application.



Low Cost Automation roadshow

We adjust our presentation to the customer visit, much like our mobile in-house exhibition. The Low Cost Automation roadshow focuses on direct implementation of an application at the customer's site with a quick return on investment.



Virtual/real trade show

igus® motion plastics® show

- Browse our trade show stand & get more information without leaving the website.
- Clear listing of new products in the menu.
- Book a guided news presentation with an igus® expert LIVE at the trade show at any time.
- Use our watch list function. Add news products to your watch list and receive more information via e-mail.

igus.eu/imps



GO ZERO Lubrication

igusGO® - identify
lubrication-free potential
in seconds ... with AI



Try it now:
igus.eu/igusgo

igus® GmbH
Spicher Str. 1a, 51147 Cologne, Germany
Phone: +49 (0) 2203 9649-0
www.igus.eu