



machine

igus® solutions for machine tools

plastics for longer life® ... igus

tools...

... www.igus.com/machinetools ...

ECS-B8

safe quality & save money

Increase reliability, confront challenges, avoid expensive downtime in the machine tool industry.

E-Chains®:

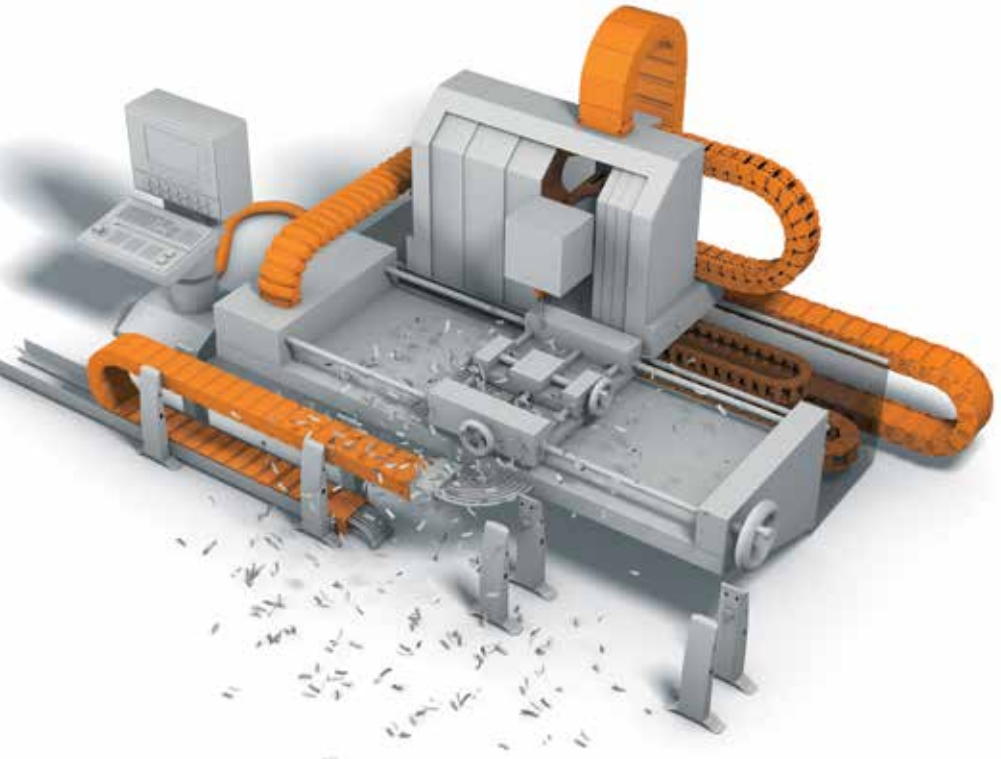
- Chip-resistant
- Oil-resistant
- Corrosion-free
- Low vibration
- Energy-efficient
- Lightweight and cost-effective

Chainflex® cables:

- Specifically developed for highly dynamic applications
- Oil-resistant (UL-/EAC-/CTP compliant)
- Coolant resistant
- Tested & guaranteed
- For smallest installation spaces
- Cost-effective, also as harnessed cable

dry-tech bearing technology:

- Self-lubricating
- Dirt resistant
- Maintenance-free
- Predictable service life



Challenges ...

Hot chips

igus® solutions for protection of cables and hoses

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Oil and coolant flow

igus® solutions for use in oily environments

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High dynamics

igus® lightweight solutions for high cycle times and low wear

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High vibrations

Low-noise and low-vibration solutions for better milling, turning, and machining finishes.

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High maintenance effort

igus® solutions for "fit and forget"

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High design-engineering effort

Time and cost-effective igus® solutions from a single source

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Benefits:

+ Cost savings

reduce process costs by outsourcing design-engineering

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+ Guaranteed reliability

Unique guarantee model for cables

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+ Energy efficiency

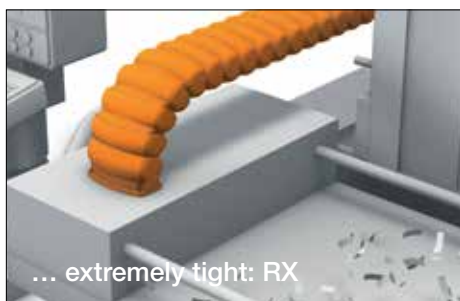
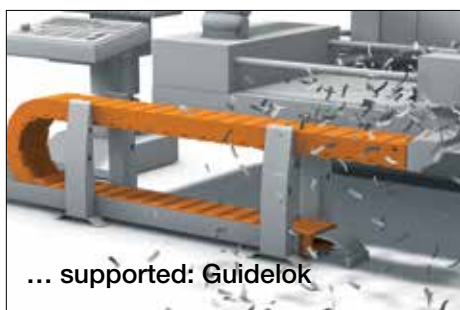
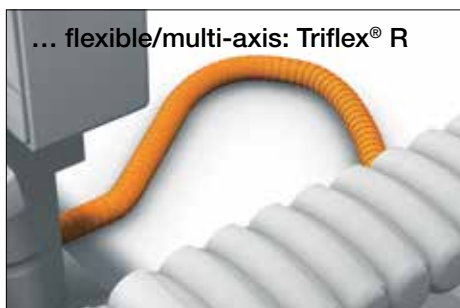
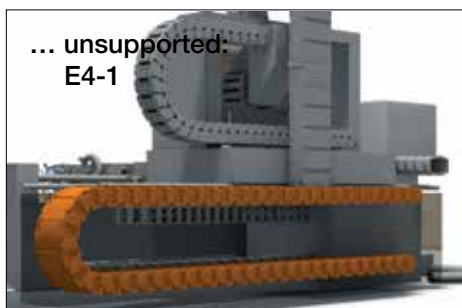
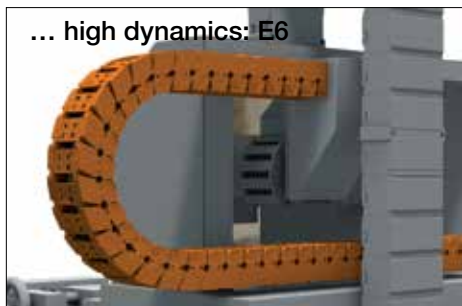
Reduce power and operating expenses

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igus® in machine tools

E-Chains® and cables.



**Ready-to-install, maintenance-free,
reliable and cost-effective –
igus® solutions for machine tools.**

Particularly for the machine tool industry, high machine productivity is the basis for remaining competitive in world markets. You depend on suppliers who can guarantee high process reliability under challenging operating conditions. igus® provides lab-tested solutions for any challenge in the machine tool sector that will increase the reliability of your machine.



Joseph Ciringione

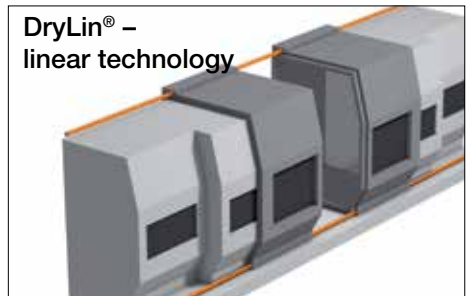
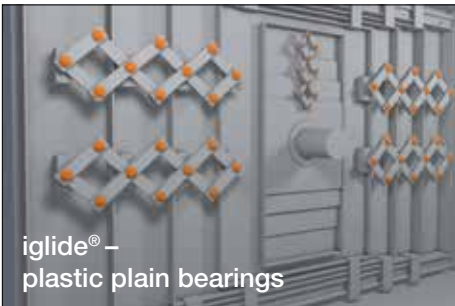
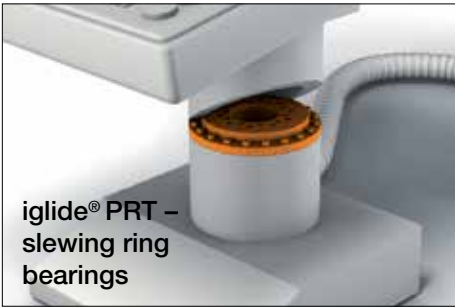
Division Manager

E-Chain Systems®

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Plastic bearings.



igus® motion plastics ...



in machine tools



igus® RX E-Tube – ideal in the direct chip area, IP protection class 40.



Dry-running igubal® plastic spherical bearings – no chip adhesion.



Brass chips and oil/coolant – igus® RX E-Tube protects reliably.



For long travels in the chip area – Guidelok horizontal guides up to 164 ft. (50 m).



igus® E2 E-Tubes, upright and rotated by 90° in the chip area.



Holding Chainflex® cables in E-Chains® for motion-control applications.

Reliably in use ...



A wide range of E-Chains® in a CNC machine tool – hanging, upright, rotated, and unsupported.



Combined motion with an igus® E6 ReadyChain®.



Horizontal Guidelok upper run guide for long travels in chip areas.

increase service life



E-Chain® E6 in a CNC grinder: its low weight supports particularly smooth motions.



Top condition even after 9 years: E-Chain® in a high-precision lathe and grinding machine.



Enormous cost advantages and high resistance to wear favor the use of iglide® D plain bearings.



iglide® plastic plain bearings in lathes and grinding machines for the printing industry.



Saving space: the X-axis of the E-Chain® lies on the upper machine cover.



RX E-Tube: problem-solver on the machine tool in the chip area.

Reduce costs ...



Sliding column machine: to keep installation space and costs for the E-Chain System® very low, an igus® E4-42 Series was installed upright with single-sided radius in the travel.



The ready-to-install igus® ReadyChain® saves costs and time.



The E-Chain® can also be supplied without camber if space is limited.

increase technology



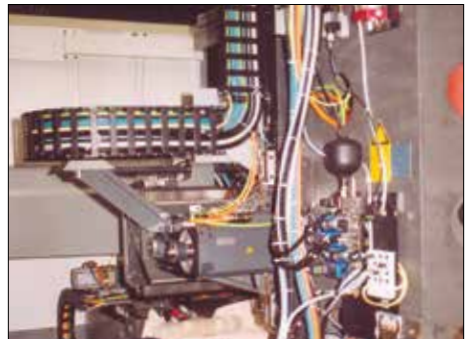
Machine doors with maintenance-free guide using DryLin® linear technology.



Dirt and chip-resistant – DryLin® linear technology.



Several E-Chains® and Chainflex® cables in various installation methods.



Many igus® E-Chains® with Chainflex® cables in an XY gantry.



Permanently reliable data transmissions, e.g. with Chainflex® cables harnessed to DriveCliqu standard.



Chainflex® cables are reliable even in oil and coolant.

Protecting cables ...



Heat-resistant against 1,562°F hot chips: igus® RX E-Tube as HT configuration (optional).

Components in machine tools are exposed to rough operating conditions. High machining speeds and the continuously optimized production capabilities of numerically controlled machine tools result in large machining volumes per unit of time. Hot chips significantly compromise the service life of cables and hoses. Over the mid-term this results in machine failures accompanied by expensive downtime. Downtime negatively influences the most important quality characteristic: machine productivity.

The need to ensure the reliability of your machine tools calls for the use of chip-resistant products.



Tightness test in the igus® lab, Cologne.

even against hot chips

Chip tight igus® E-Chain®, for example:



New R2-75: cost-effective E-Tube with 2.95" inner height.



RX: extremely tight tube for the direct chip area.



R4-1 light: lightweight, tough, and snap-open E-Tube.



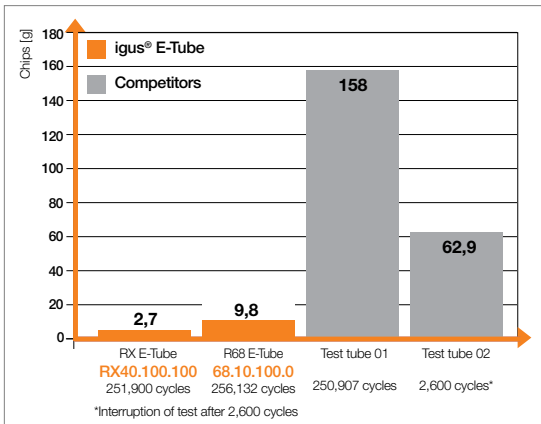
E2/000 E-tube: small E-Tube, snaps open on both sides.

Explore more E-Chain® solutions for machine tools at:

 www.igus.com/machinetools

Tested!

In the largest lab of its kind, igus® Cologne



Extreme chip tightness

Reliable tightness under realistic environmental conditions – chip penetration test: various tube version were exposed to a defined chip volume. After 251,900 cycles, only 0.09 oz. of chips were found in the interior of the RX tube

From the field



Long service life ...



Cable service life test at the igus® lab, Cologne.

Flexible cables in E-Chains® need special properties to tackle many cycles, high speeds and accelerations, in addition to challenging environmental conditions. In particular, resistance to aggressive media, such as oil or coolant, must be ensured.

Components in machine tools must comply with extreme demands, such as EMC safety and compliance with standard, such as NFPA 79, UL, CSA, VDE, EAC & CTP to ensure the reliability of your energy supply and world-wide use.



Media resistance testing on Chainflex® cables

in oils and coolants

Media-resistant igus® Chainflex® cables, for instance:

CF77-UL-D control cable for high load requirements, resistant to oils and coolants, flame retardant, notch proof, free of PVC and halogen, minimum bending radius up to 6.8 x d.

CF240-PUR data cable for high load requirements, shielded with 90% cover, resistant to oils and coolants, notch proof, PVC-free/halogen-free, flame-retardant, minimum bending radius up to 10 x d.

CF111-D / CF113-D measuring system cable for high load requirements, shielded, resistant to oils and coolants, notch proof, flame-retardant, minimum bending radius up to 7.5 x d.

CF270-UL-D / CF27-D servo cable for high load requirements, shielded, resistant to oils and coolants, notch proof, flame-retardant, PVC-free/halogen-free, minimum bending radius up to 7.5 x d.

Explore more Chainflex® solutions for machine tools at:

 www.igus.com/Chainflex

 **Tested!**

In the largest lab of its kind, igus® Cologne



Test: Chainflex® cables in oil

Service life and durability tests on various igus® Chainflex® cables, moving in E-Chains®, in a selection of oils.

From the field



High cycles and dynamics ...



High dynamics test on igus® Chainflex® cables in E-Chains®.

The economic use of machine tools depends on the speed at which the tool can be moved across the workpiece contour. The maximum attainable travel speed and acceleration determine the cycle time of the production process and therefore the production costs.

In addition to using highly dynamic and high-performance drive systems, reducing the moving mass by employing lightweight components is necessary to keep speeds high and machine vibrations as low as possible.

The machine tool industry depends on lightweight products that can tackle highly-dynamic applications.

No corkscrew after 5 million cycles.



Competitive products:

corkscrewing after 145,000 cycles.



igus® CF27:

no wear, even after 5 million cycles!

no failures

Lightweight igus® E-Chains®, for example:



E6-1: maximum dynamics and lower weight. 37 dB(A), filled quickly.



E4-1 light: lightweight, tough tube. Cost-effective and filled quickly.



E2-1: small, lightweight, tough. Smallest E-Chains® from .39".



E2/000: cost-effective general purpose. Lightweight and versatile.

From the field



Explore more E-Chain® solutions for machine tools at:

 www.igus.com/machinetools

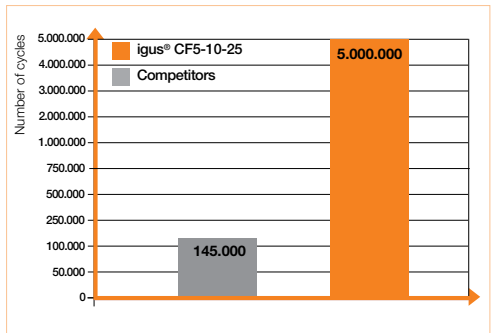
Tested!

In the largest lab of its kind, igus® Cologne

Due to the wide range of cable grades, the best possible customer solution is selected based on the customer's specific dynamic requirements.

Tested: 41 million strokes at 25% under-bending CF5-10-25 control cable lasts more than 41 million cycles at 25% under-bending.

Chainflex® lasts - proven in test No. 2233 of more than 600 parallel tests conducted by the 29,600 sq. ft. test lab, the largest of its kind for flexible cables.



Minimize vibration ...



Smooth operation is a condition for clean machining and milling finishes.

The precision of machine tools continues to increase. In combination with the increased level of automation, machinery is subjected to increasing characteristic vibration requirements to ensure the best possible machining and milling finish.

As the level of technology increases, the use of cables and hoses that need to be guided with E-Chains® also increases. The required motions create vibrations in the trough and the moving end that can negatively influence the machining result and the entire production process when vibrations certain levels.

With international competition, the machine tool industry depends on premium products that are differentiated from competitive products based on productivity and accuracy. Factors that limit the performance of machine tools must be overcome with innovative technologies. Suppliers of quality machines therefore depend on energy supply systems that minimize vibrations and chatter.

smooth operation

Easy running igus® E-Chains®, for example:



E6: high dynamics E-Chain®, 38 dB(A), 32.8 ft/s², 1.14 - 3.15 inch inner height.



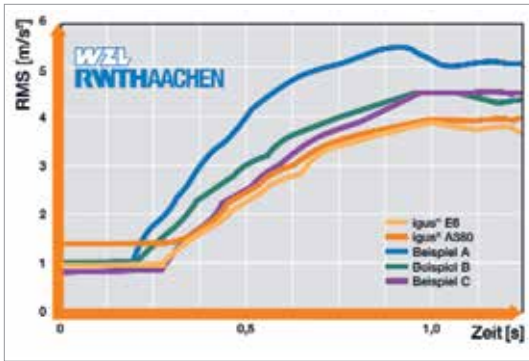
R6: high dynamics E-Chain®, from 38 dB(A), 32.8 ft/s², 1.14 - 2.05 inch inner height.

Explore more E-Chain® solutions for machine tools at:

 www.igus.com/machinetools

 **Tested!**

In the largest lab of its kind, igus® Cologne



Vibration properties WZL RWTH Aachen.

Study by the Machine Tools Laboratory and Business Operations (WZL) at RWTH Aachen on "Vibration Tests in Energy Supply Chains". Results: the "E6" energy supply system made by igus® GmbH, Cologne, is characterized by extremely low vibration and smooth operation.

From the field



Reduce maintenance effort ...

Smooth motion due to sliding parts made from iglide® J/J200

Self-lubricating

Quiet operation due to gliding motion

Superior operating properties by combining iglide® bearing elements and anodized rails and round shaft profiles



Maintenance-free

Lightweight due to the use of plastics and aluminum

Profiles available in various geometries, installation sizes and clearances

Corrosion-resistant due to coated surfaces

Maintenance-free DryLin® linear technology solutions.



DryLin® W

- Large linear construction kit
- Single and dual shaft profiles
- Many options of bearings, housings, functions, complete carriages



DryLin® N

- Low-profile guide in 4 sizes
- Low installation height 6 - 12 mm
- Rail widths from 17 mm to 80 mm
- Numerous carriage options – also with camber



DryLin® Q

- Torque resistant square linear guides
- Carriages with individually adjustable clearance
- Variable fastening options

avoid lubricating

DryLin® self-lubricating linear technology

DryLin® is a product range of self-lubricating linear plain bearings based on the principle of gliding instead of rolling. Tribo-optimized iglide® high-performance plastics are used as glide surfaces. DryLin®linear systems travel in dry-running mode and are maintenance-free. Linear guides on rails or round shafts are available. DryLin® drive technology can supply ready-to-connect systems with lead screw drives or toothed belt drives, with or without motor. In addition to the lack of maintenance and external lubricants, the focus is also always on toughness and resistance to influences, such as dirt, water, chemicals, heat, or shocks.

- Insensitive to dirt due to dry operation
- Insensitive to impacts and vibrations
- High static load capacity
- Suited for short-stroke applications
- High speeds possible up to 32.8 ft/s and accelerations up to 100 G
- Low magnetism

From the field



DryLin® SD

- Systems consisting of lead screw nut and lead screw
- dryspin high-helix threads, efficient and long-lasting
- Self-locking trapezoidal and metric threads

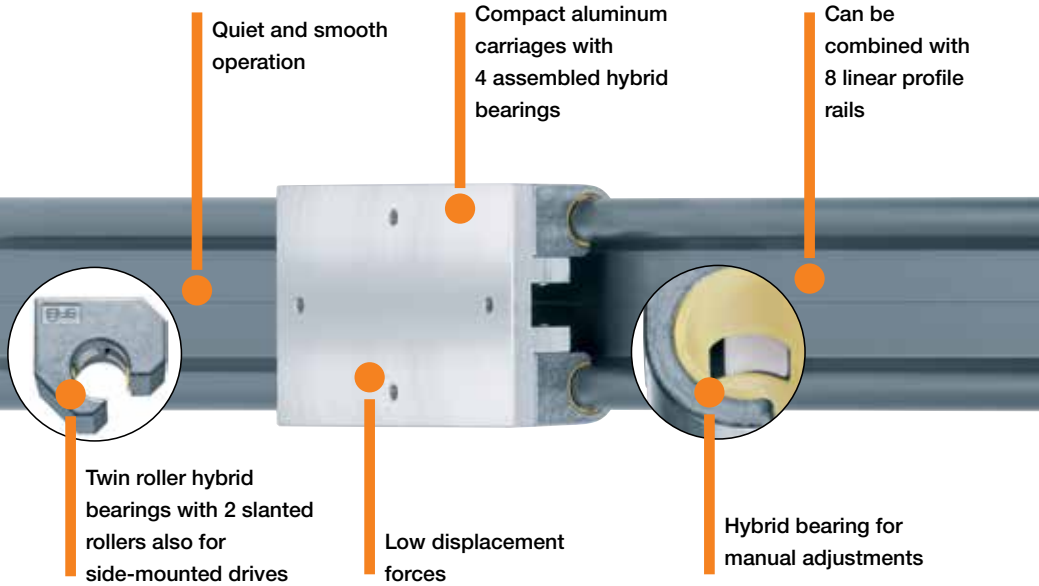
DryLin® drive technology

- Linear modules with lead screw drive or toothed belt
- For manual or electrical adjustments
- Can be configured with custom stroke lengths

DryLin® E drive technology

- Linear axis with stepper motors/DC motors
- Fail-safe due to the use of encoders and limit switches
- Can be combined for gantry configurations

Dry operation ...



Maintenance-free DryLin® linear technology solutions.



DryLin® WJRM

- With one or two rollers
- Plain bearing plastic rollers
- Use with 8 linear profile rails



DryLin® WWH

- Complete system: hybrid carriage with rollers
- Low displacement forces
- Smooth and quiet operation



DryLin® WWR

- For lateral adjustments
- Compact design
- Guided by twin rail, no support required

no chip adhesion

Combined gliding and rolling for low drive forces – DryLin® WJRM.

DryLin® WJRM hybrid bearings offer a unique self-lubricating combination of plain and roller bearings. The integrated rollers achieve low drive forces, while the gliders protect against lateral forces at the same time. This makes DryLin® WJRM-hybrid bearings ideal for manual adjustments in door applications (e.g. machine doors, safety doors), but also in mobile operator panels. The efficient design with plastics and zinc die-casting also cuts costs. WJRM hybrid bearings can be used on various hard-anodized aluminum profiles from the DryLin® W linear construction kit.

- Smooth operation
- Low-profile installation method
- Transverse and abuse forces are easily absorbed by gliding elements
- Location on rail eliminates seizures
- Matching guide rails from coated aluminum
- Low drive force requirements
- Cost effective

Tested!

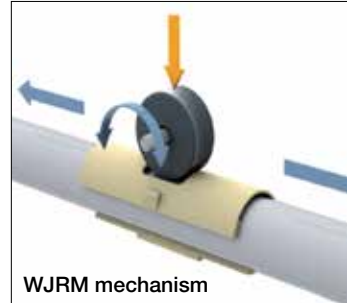
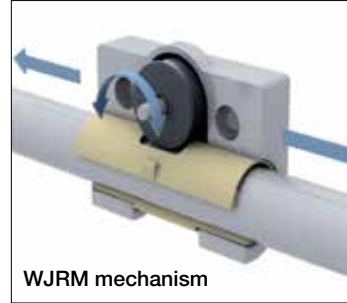
In the largest lab of its kind, igus® Cologne



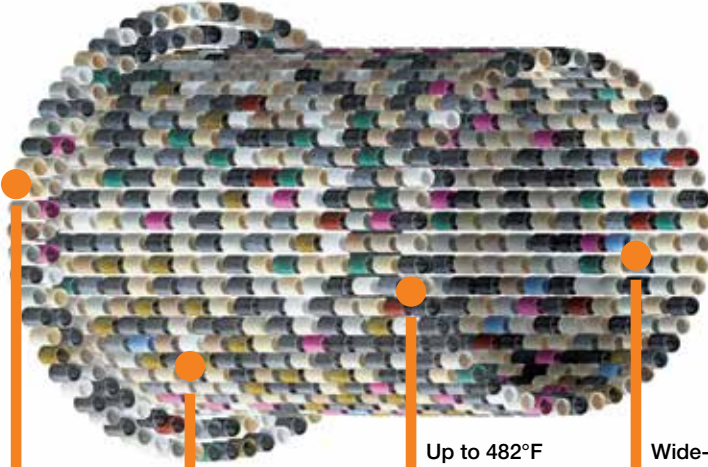
Chip test DryLin® linear technology.

Service life and wear test on a DryLin® linear guide in a chip drum with aluminum chips.

From the field



Fit and forget ...



Predictable service life

More than 8,500 dimensions from stock

Up to 482°F continuous use temperature (depending on material)

Wide-ranging design options, as injection-molded or machined parts, to your specifications



iglide® G300 –
General purpose.
The best-selling iglide® plain bearing world-wide.



iglide® J –
fast and slow motion.
Low friction, low wear.



iglide® Q –
suited for high loads.
Plain bearing solution for long service lives at high to extreme loads.



iglide® M250 –
heavy and rugged.
Excellent vibration damping.



iglide® L280 –
the endurance runner.
Low wear on all shafts.



iglide® T500 – The high-tech problem-solver.
High resistance to temperature and chemicals.

increase service life

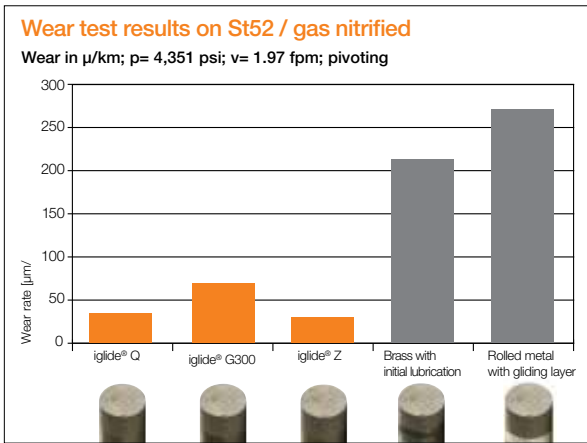
Self-lubricating and maintenance-free plain bearings made from high-performance plastics – iglide®.

No lubricating and reduced maintenance effort, while cutting costs and increasing service life, everything from stock and delivered promptly. iglide® plastics have been extensively tested with respect to wear and friction values, including other relevant material properties. iglide® plastic plain bearings from igus® represent the step from plastic bushings to tested, predictable machine component.

- Highly wear-resistant plastics, improved with fine-tuned additives of reinforcement materials and solid lubricants
- Tested by the thousands, proven by the millions
- Self-lubricating, maintenance-free, cost-effective, predictable, and versatile

Tested!

In the largest lab of its kind, igus® Cologne



"Swivel" test

Objective: wear test for iglide® plastic plain bearings against metallic plain bearings.

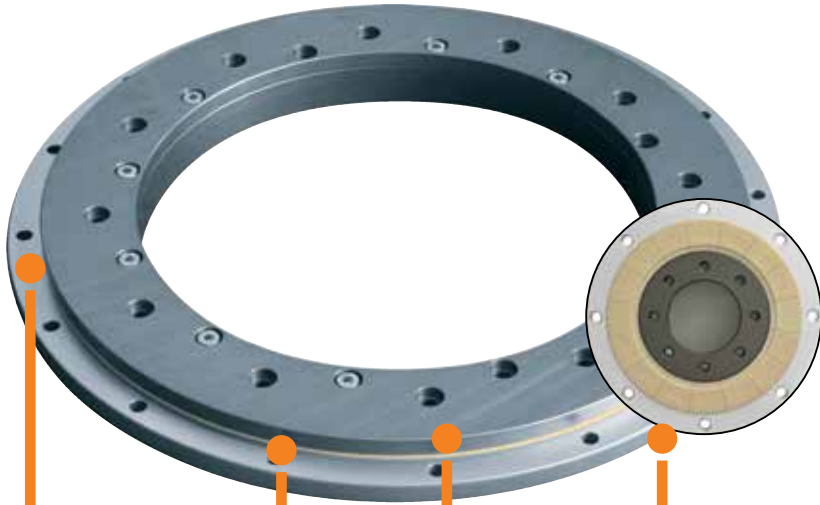
Test setup: swivel test on a shaft with a weight of 2,646 lbs.

Result: all tested iglide® materials exhibit significantly lower wear than metal plain bearings. The shafts of the metal plain bearings exhibit significant wear and are therefore unsuited for further use.

From the field



Ready-to-install solution ...



Simple installation, replaceable sliding pads made of iglide® materials

High resistance to wear

For very high loads and high stiffness.

Dry-running iglide® glide elements instead of balls, etc. Completely self-lubricating

Maintenance-free iglide® PRT slewing ring bearing solutions.



Slewing ring bearing - design 01.

Slewing ring with high stiffness, usable up to +356°C, high chemical resistance.



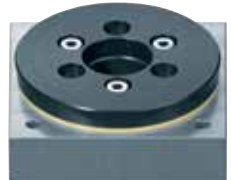
Slewing ring bearing - toothed.

For all 6 sizes of the design 01, 4 standards are available for the tothing of the outer ring.



Slewing ring bearing - design 02.

Slewing ring with extremely low weight. Outer ring made of anodized aluminum or stainless steel (V4A).



Slewing ring bearing with square flange.

The smallest PRT slewing ring bearing in installation size 20, with space saving square flange for direct assembly onto flat surfaces.

self-lubricating bearings

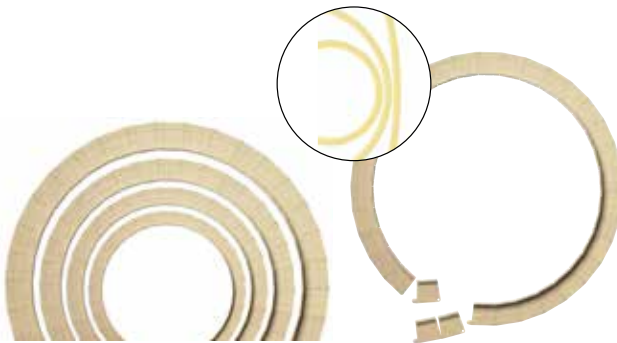
Polymer slewing ring bearing - iglide® PRT

iglide® PRT is a low priced, low maintenance slewing ring bearing with tribo-optimized iglide® plastic sliding pads. The gliding elements operate completely without maintenance or external lubrication. The housing components of the slewing ring bearings are made of aluminum, and the counter-partners of the sliding pads are hard-anodized. All fastening screws are made of stainless steel. Depending on the number of elements, slewing ring systems are possible with inner diameters from 0.5 to 5 m.

- Ready-to-install solution
- Tough, corrosion-resistant for high loads
- For use in changing ambient media
- Maintenance and lubricant-free
- For low to medium surface speeds
- Also with toothed outer ring

Explore more slewing ring bearing solutions for machine tools at:

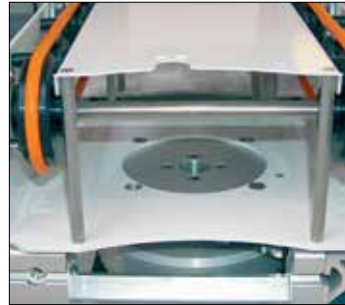
 www.igus.com/PRT



Universal glide elements – customize your own plain bearing supported slewing ring systems.

Using the flexible iglide® PRT universal gliding elements, large, plain bearing supported slewing ring systems can be custom fabricated based on design 01. Depending on the number of elements, slewing ring systems are possible with interior diameters from 0.5 to 5 m – we will happily support you with the design and detailed layout.

From the field



Supports loads
up to 2 tons.

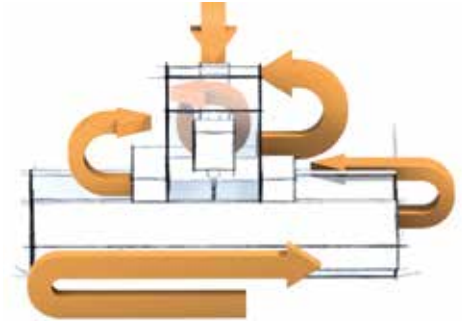
Reduce design-engineering effort ...



Delivered ready-to-install – igus® ReadyChain®.

When considering the increasingly dynamic requirements of the machine tool industry, designing energy supply systems is becoming increasingly complex. The trend is going toward compact designs and energy-efficient lightweight solutions, which are driving ever more difficult design specifications.

Designing the energy supply system involves mechanical and electrical engineering experts. Regular project review meetings are necessary. The interfaces between the functional departments invariably results in efficiency losses. Valuable time is lost in world-wide competition, while process costs are also increasing. The need for fully harnessed energy supply systems grows. By deciding to work with a specialized supplier, efficient project management can be ensured at maximum quality.



Open-Space Service: cut down on design, engineering and development time

Provide us with your installation space and your requirements and we will design our energy supply system with mounting parts or bearing technology for your machine.

Find an in-depth Open-Space video and more information online:

Save time and reduce costs

igus® solutions from a single source.

ReadyChain® – fully harnessed E-Chain Systems® in 3-10 days.

700 systems per week in 11 ReadyChain® factories around the world – assembly time optimized to raise your cash-flow

- Eliminate storage costs for cables, E-Chains® and connectors
- Cut turnaround times in half
- Flexibility when orders vary
- Reduce the number of suppliers and orders by 75%
- Minimize your machine downtimes
- System guarantee - depending on application

 www.igus.com/readychain

ReadyCable – fully harnessed cables from 24-48 hrs. or same day.

igus® provides more than 2,830 harnessed cables for drive technology pursuant to 20 different manufacturer standards. Professionally produced, 100% tested.

- Servo, power and signal/encoder cables
- No cutting charges, no surcharges for small quantities and packaging
- Cable length accurate to the centimeter per customer spec
- Smallest bending radius from 7.5 x d
- Reduce storage costs and increase cash-flow

 www.igus.com/readycable

 **Tested!**

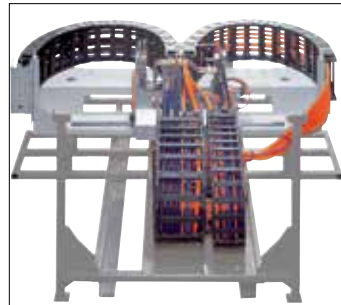
In the largest lab of its kind, igus® Cologne



Cable testing

100% testing of all harnessed cables – extensive quality assurance during assembly.

From the field



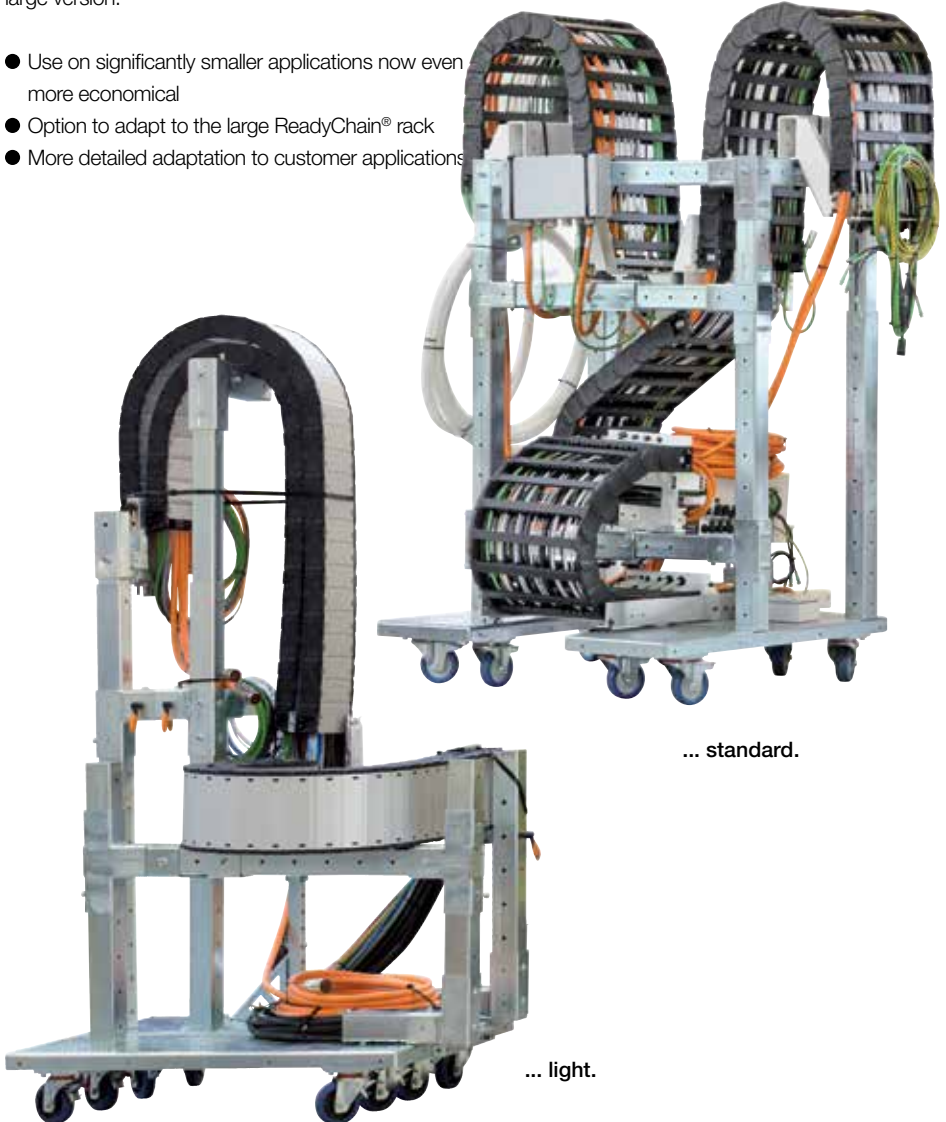
Reduce process costs ...

Hours instead of days: the modular rack for ready-to-install E-Chain Systems®

Leaner design, even more economical

The telescoping and modular transport and assembly rack for harnessed energy supply systems in small and large version.

- Use on significantly smaller applications now even more economical
- Option to adapt to the large ReadyChain® rack
- More detailed adaptation to customer applications



... standard.

... light.

assembly racks

The assembly-transportation – ReadyChain® rack

igus® has been relying on harnessed ReadyChain® systems for approximately 20 years. In order to bring the systems quickly and reliably to the machine, igus® has developed a telescoping, modular transportation rack that can be adjusted down to the millimeter to the interface of the respective machine within one working day.

- Modular supports and braces
- Telescoping, length adjustment possible at any time
- Indexing mechanism for retroactive attachment of components
- Moving and transporting is simple due to purpose-built traveling unit
- Continued use of resources due to reuse of individual components
- 50% reduction of process costs across the entire process

A detailed look:



Benefit ...

ReadyChain® partner program.



3 paths to a harnessed E-Chain®.

System guarantee for fully harnessed energy supply systems, regardless of who performs the assembly (you, your harnesser, or igus®), on request, including project planning and production support for your production/partner when igus® does not perform the assembly.

What we also do:

- Customer-specific guarantee documentation
- Customer-specific fabrication certificate
- Fabrication/training certificates
- Project development

Tested and proven igus® components, strain reliefs, accessories, E-Chains®, cables and connections.

Project planning, prototype production, guarantees, online tools, and other services

ReadyChain®:
harnessing
by igus®

Harnesser

Mechanical engineer:
Cables for internal
harnessing

New: igus® ReadyChain® partner program

... Cost savings

Reduce process costs online with igus® online tools.



Cut down on configuration time ... of harnessed cables.

- Download the free QuickPin add-in from the igus® website without registering
- Key parameters of existing cable types are cross-referenced
- Fast and easy editing of macros

 www.igus.com/quickpin



Save money with the ReadyCable finder

Quickly find harnessed drive cables in accordance with manufacturer standards: the output is an overview of the most important information, such as jacket material, oil-resistance, and bending radius.

 www.igus.com/readycablefinder

Chainflex® cable guarantee ...

We are confident to give a guarantee because...

...we conduct more than 2 billion test strokes and 1.4 billion electrical measurements per year.

Our customers often give guarantees to their end-users; giving their complete confidence in their equipment's safety and reliability. This, however, can pose a risk for system manufacturers. With the Chainflex® Guarantee Program, we are able to offer the same confidence to our customers.

Predictable reliability

On the component or cable level customers do not require an extended warranty, but instead want a clear statement on the life-time of the cable they purchase. The Chainflex® Guarantee offers this clear statement. For over 20 years, we have been conducting tests in what may be the largest test laboratory for cables and cable carriers. Based on our series of tests, we are now able to offer clear statements, allowing cable users to plan more effectively in regard to service life.



The igus® "AutΩMeS" system tests and records electronic test data in real time.



Quality assurance: constant batch testing to ensure quality

Clear savings and benefits

Extensive product range offers cost-optimized solutions

PUR servo cable –
bend radius $7.5 \times d$



Approx. 32% saving



PVC servo cable –
bend radius $7.5 \times d$



Approx. 26% saving



PVC servo cable –
bend radius $10 \times d$



Approx. 33% saving



PVC servo cable –
bend radius $15 \times d$



The large product range makes it easy to get the exact product you require. The combination of the clearly stated service life information and the guarantee enables you to minimize risk.

Example:

In space restricted, high cycling applications, a high quality PUR cable with a bend radius of $7.5 \times d$ and guaranteed service life of many millions of cycles may be required. If PVC can be used instead of PUR, a saving of around 30% is possible. If the bend radius can be increased to $10 \times d$, a further saving of around 25% is achieved. If an even larger radius can be used then a further saving in excess of 30% can be possible.

Ultimately what matters is to achieve the target lifetime at the best possible price.



Benefit ...



E-Chains® for "green" automation provide a wide range of savings potentials, e.g. for sheet-metal fabrication.

Green, fast, saves money. Energy efficient plastic E-Chains and cables reduce consumption by up to 57%

Energy Chain Systems® not only transport energy, data and media to machinery and equipment. They also have an influence on their energy costs. How much pull and push force, in other words drive power, is required at a given speed to move an E-Chain® How light but at the same time rugged must E-Chains® be designed so that as little energy as possible is consumed and motors including drive control areas small as possible, and frequency converters and mechanics are adequate? Modern plastic E-Chains® and Chainflex® cables help in this case to equip and operate machinery in an energy-efficient and cost-effective manner.

Benefits:

- Saving energy – helps the balance sheet and the environment
- Smaller motor with less power sufficient
- Smaller, lower cost motor control modules sufficient
- Smaller sized machines and equipment possible

Energy efficiency

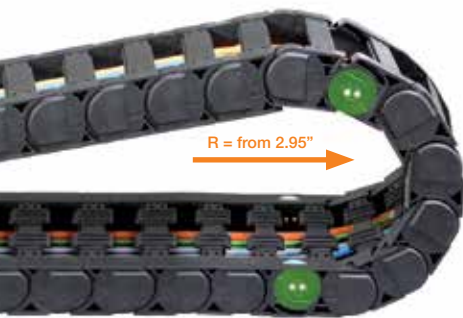
Breakthrough in "green" production automation.

System P4 helps to dramatically cut costs, since a combination with Chainflex® cables can reduce the drive forces required to move the system by as much as 57%. This is possible because the P4 E-Chain® does not glide but rolls instead when moving.

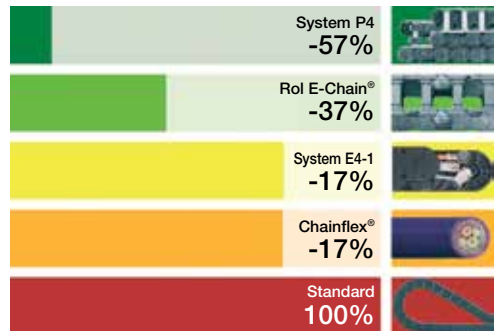
This is only one option for designing more energy-efficient machinery with igus®-products. For instance, igus® has been relying on "light" energy configurations, which are 30 percent lighter than dimensionally equivalent products while still being very tough. igus® lightweight solutions need less drive power, are lower cost than standard products and facilitate energy-efficiency by reducing energy consumption, and promote compact design approaches by way of appropriately smaller motors.

Chainflex® cables also reduce the weight. Employing high-grade jacket and insulation materials can result in weight savings of 5 to 30 percent. This reduces drive power by up to 17 percent. High-grade abrasion resistant jacket materials facilitate particularly thin-walled extrusions, which results in weight savings of up to 18 percent. In addition, using high-grade materials for insulating materials facilitates high electrical performance with small electrical cross-sections. Weight reductions of up to 30 percent can be achieved this way.

From the field



H = from 10.16"



Energy-efficient E-Chain System® P4 – rolling instead of gliding.

igus® plastics for longer life®

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Home > Machine tools

Discover special igus® products for machine tools

Machine tools

In the following pages, you'll find the latest industry-relevant products, as well as a range of application examples demonstrating the potential of igus® products in the machine tool industry.

Machine tools brochure

Download the machine tools brochure (PDF)

Cable carrier systems for machine tools

Watch the video

The benefits of triboplastics

Triboplastics are tribologically optimized material compounds and the basis of all igus® products and systems.

Questions & Ratings

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» Request a quote

» No minimum order
» On-site and telephone support

New products for the machine tools industry

New chip tight R3 tube

New sizes for seaming, chip tight R3 tube.

» New chip tight R3 tube

Horizontal Guideline-System

"Guideline" upper run guide for long travels, self-aligning in chip areas.

» Horizontal Guideline System

Turaxstrand

Wire movements up to 300°

Turaxstrand: compact, modular, economical.

» Turaxstrand

Tribosoft® R3

Composite of Tribosoft® R3, new for more than 100 different types.

» Tribosoft® R3

Tribosoft® R3

Tribosoft® R3: tough resistance for maximum cable protection.

» Tribosoft® R3

igusoft® X3

Plastic gear bearings for high temperatures.

» igusoft® X3

Our extensive industry website with additional information, applications, videos, and product details online.

Find and calculate faster



i For any task –
in any quantity

Different industries need different solutions. Whether in mechanical engineering, automobile manufacturing or in the robot industry – igus® offers customized support for specialized applications.

igus® already has many years of experience and specialized resources for many industries

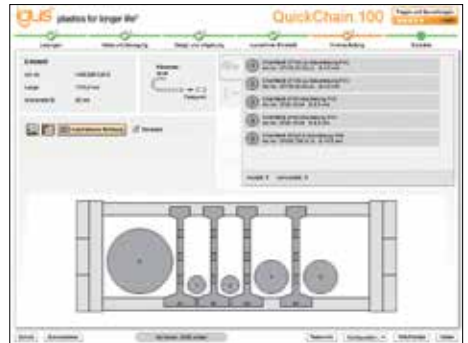
 www.igus.com/quickchain100

Expert for system design and calculations for travels up to 328 ft.

Simply enter your application's environmental parameters into the E-Chain® expert. The expert will propose the matching solution.

You can find a wide range of other online tools, such as configurators, service life calculators, and product finders at  www.igus.com/online

 www.igus.com/industries



Research & Development



Better products for less - a key element: the industry's largest test lab. 29,600 sq. ft. lab, more than 15,000 tests and 2 billion test strokes per year.

The igus® lab and field experience

Cutting costs while also guaranteeing maximum process reliability – only those who conduct intensive research and testing will successfully bridge this gap.

The industry's largest test lab conducts more than two billion test cycles per year on a total of 107 test rigs.

Our mechanical engineering components pass the litmus test presented by production reality, because they have already passed this test before leaving the igus® warehouse.



Tribology testing in the plain bearing lab, igus® Cologne.

 www.igus.com/test

15,000 tests per year



The igus® quality assurance

The quality policy of igus® is based on the objective to identify and meet customer needs, and to always be a competent and reliable supplier. igus® has always been committed to produce products at the best available quality level, and to consistently develop innovative solutions.



Extensive test database

What is probably the world's largest database was created from more than 15,000 tests.

This database gives us the ability to select the right product for your specific application.

i Better for the environment

Because iglide® is free of external lubricants, no contaminants are discharged into the environment.

Additionally, the low weight of iglide® plastic plain bearings reduce power requirements, making them better for the environment.



i motion plastics

For 50 years, we have been driven by a single vision – motion plastics: innovations from plastics that move machinery.

Our core technology is tribo-plastics – high-performance plastics that we optimize for friction and wear. The technology has made us into the world-wide leader for developing and manufacturing energy supply systems and plain bearings.



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