Packaging

igus® solutions for the packaging industry ...

plastics for longer life® ... igus®

industry ...

www.igus.com/packaging ...

IG-B4

Most hygenic ...

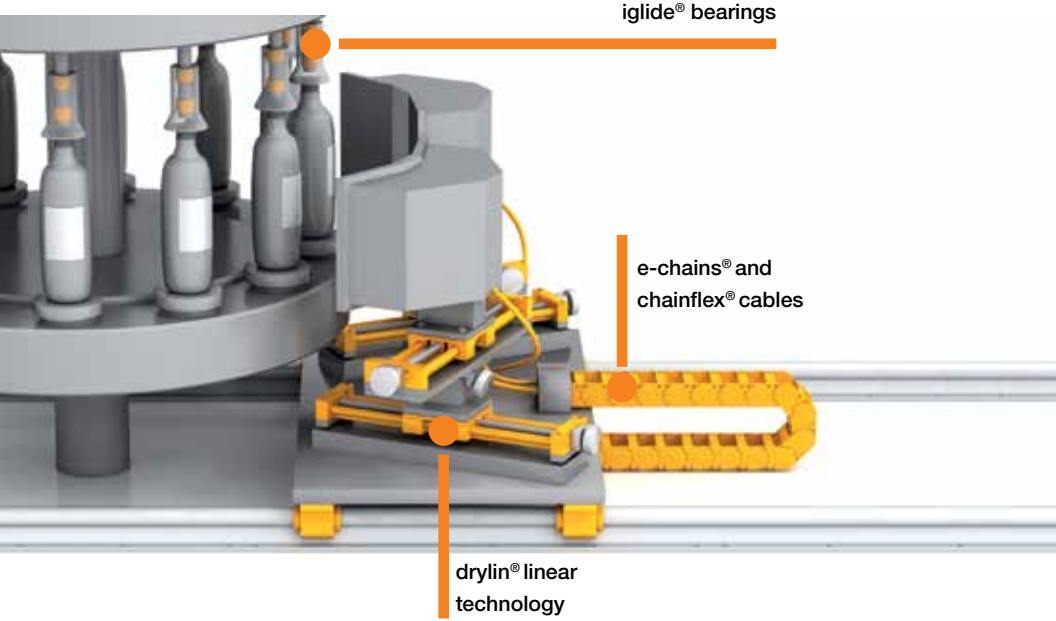
Precise and fast processing, pure and safe.

dry-tech bearing technology:

- No contamination of products by lubricants
- Resistant to acids, alkalis and alcoholic cleaning agents
- Food-safe design
- Cleaning-friendly
- Excellent value when compared to stainless steel in applications
- FDA and/or EU compatible materials possible
- Stability even at high temperatures
- Lightweight aluminum construction

e-chains® and chainflex® cables:

- Reduce downtimes, increase service life of cables and hoses
- Various types of motions and installation types
- Carry sensitive bus, data and fiber optic cables, as well as media
- In different environments such as cold, heat, humidity, etc.
- Compact installation
- High accelerations, long travels



in the packaging industry

Reduce costs ... improve technology ... with igus®...

igus® solutions ...

**igus® motion plastics in the packaging industry –
free from lubricants and maintenance with FDA and EU compliance.**

Solutions in the packaging, food or beverage industries are extremely sensitive. Special requirements must be met when components are in contact with food in regards to cleanliness, as well as cost and speed of delivery.

With the specific needs of the packaging industry in mind, such as food hygiene and FDA/EU compliance, we are able to provide our maintenance-free, self-lubricating machine elements made from high-performance plastics to optimize your packaging applications.

Your team for the packaging industry:

Visit our industry page at

www.igus.com/packaging

Discover a number of other benefits for your industry in this brochure, on our website or in a personal conversation with us.

We look forward to your call or email.

Your team for the packaging industry.

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for the packaging industry

Cost down, service life up!

igus® in the packaging, beverages a

igus® solutions for the beverages industry

Filling technology

Cam-guided carousel filler, lifting elements, filling valves, guides, centering bell

- Chemical resistance
- Corrosion resistance
- Extreme wear resistance

Inspection technology

Bottle inspection, height level and volume control, sealing and label inspection

- Complete solutions from one source
- Chemical resistance
- No damage of soft stainless steel shafts

Cleaning technology

Bottle and crate washers, rinsers

- Custom plain bearings available
- High chemical resistance
- Maintenance-free

Blow molding machines

Bottle ejector, PET bottle grippers

- No product contamination
- Reduction of moving mass
- Reduced installation space needed

igus® solutions for the food industry

Food industry, general

Can openers, cutters, peeling machines

- Low moisture absorption
- Maintenance-free
- Low weight

Sausage, meat and fish processing

Sausage filling machines, bag fillers, slicing machines

- FDA compliant
- Corrosion resistance
- Self-lubricating

igus® solutions for the general packaging industry

Forming, filling and sealing machines

Guide thermoforming unit, filling process, film welding unit

- Resistant to cleaning agents
- Self-lubricating
- No damage to soft stainless steel shafts

Tray sealing

Sealing stations, tool changers, toggle lever mounting

- High wear resistance
- Corrosion resistance
- Use of soft shafts possible

Tubular bag packing machines

Sealing bar adjustment, bag folder, sensor adjustment

- Wear resistance
- Short and fast strokes possible
- Finished complete solutions

Pharmaceutical Packaging

Circle filler, dosing systems, blister packaging

- Self-lubricating
- Autoclaving possible
- Corrosion resistance

nd food industry

Palletising technology

Bottle gripper, size adjustment, bottle stacker

- Low weight = reduction in moving masses
- Freedom from external lubricants = no product contamination
- Corrosion resistance

Labeling technology

Bottles ejectors, bottle guides, labelers and cutting machines

- No product contamination
- Self-lubricating

Sweets processing

Adjustment conveyor belt, wafer baking machines

- No damage to soft stainless steel shafts
- Temperature resistance
- Chemical resistance

Knife-edge applications

- No external lubrication to contaminate the belt
- Low drive power
- Increased service life of the belt
- Cost advantage
- Better wear values

Dosing systems

Multi-head weighers, damper bearing

- Vibration dampening
- High chemical resistance
- Corrosion resistance

Cartoning machine

Product feeder, format adjustment, carton stop

- Reduction of moving masses
- Self-lubricating
- Corrosion resistance

Weighing technology

Weighing and dosing heads, multi-head weighing systems

- Vibration dampening
- Chemical resistance
- Use of soft shafts possible

Strapping machines

Position guide, format adjustment

- Resistance to dirt
- Maintenance-free dry operation
- Corrosion resistance

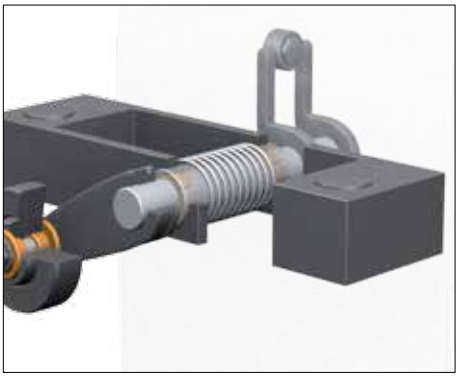
Media-resistant ...

Filling technology

Circle filler – lifting element

iglide® J, drylin® JUM liners or bearings made of iglide® H group in curve-guided lifting mechanism for bottles.

- Maintenance-free
- No production contamination due to external lubricants
- Resistant to typical cleaners (PES, hydrogen peroxide)



Circle filler - control valve

iglide® J piston ring for pivoting movement and iglide® bearings in the link rollers.

- Easy installation
- Low cost
- More wear resistant than conventional plastics
- Defined clearance

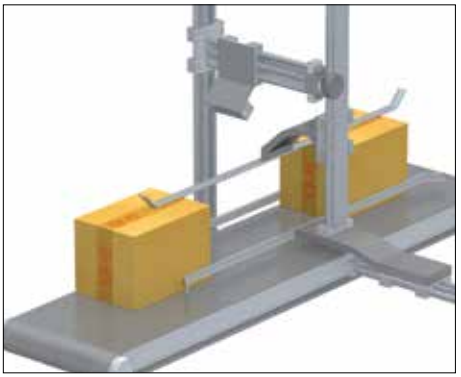
Screw capping machine

drylin® RJUM linear bearings for the curve-guided linear movement.

- Cleanable solution
- Maintenance-free
- No contamination due to external lubricants
- Resistant to the typical cleaners (PES, hydrogen peroxide)
- Low adhesion, even with "blunt" shafts after cleaning

Beverage industry

Inspection technology



Camera adjustment

drylin® SLW lead screw unit for the format adjustment of cameras.

- Ready to install solution saves time and money
- Corrosion-free solutions possible
- Low clearance lead screw unit due to adjustable housing bearings
- High static forces possible
- Maintenance-free

Camera box adjustment

drylin® SLW-2080 lead screw unit for the XZ adjustment of the inspection camera

- Customer-specific solution
- Total solution saves time and money
- Low clearance due to adjustable housing bearing
- High static loads possible

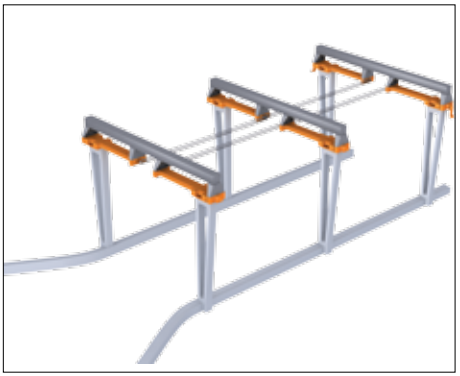
Format adjustment inspection head

drylin® HTS-20 lead screw unit for XYZ adjustment

- Complete solution from a single source
- Cost savings
- Torsional stiffness solution
- Clearance-minimized system
- Maintenance-free

Self lubricating ...

Palletization/Transport/End of Line



Lane adjustment – bottle packer

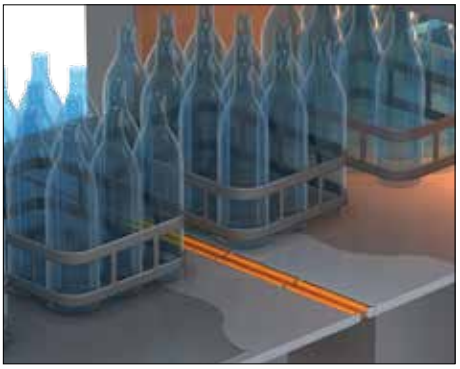
Self-lubricating drylin® SLW-2080 for lane adjustment of the incoming bottles.

- Ready to install solution, saves time and money
- Adjust all six positions with a single drive point via linked systems.
- Corrosion-resistant solution available
- High torsional stability

Handle dispenser

iglide® J and iglide® L280 bearings and igubal® rod end bearings in a carrier handle dispenser.

- Low coefficients of friction
- Resistant to typical cleaning agents (PES, hydrogen peroxide)
- Low weight = Low moving mass
- Wear resistant



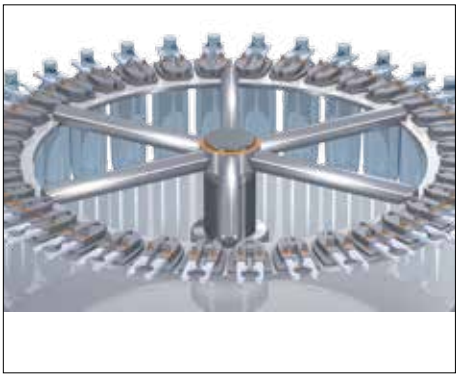
Knife-edge rollers

iglide® P210 knife edge roller for mounting the knife edge in bottle transport.

- No lubricant on the belt (compare needle bearing)
- Lower drive power and longer service life of the belt than the gliding knife edge
- Price advantage for the rotating part made of PETP
- Higher wear resistance than PETP
- Cost advantage compared to needle bearing and PETP

Beverage industry

Labeling



Transfer spider on transfer table

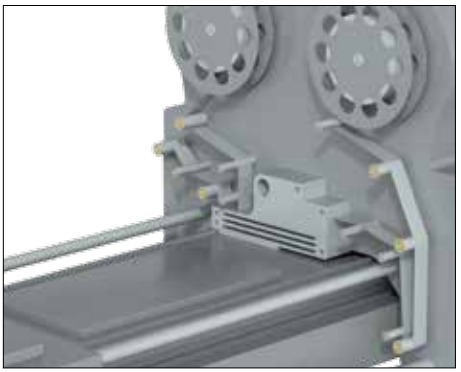
iglide® J for mounting the main shaft for rotating the transfer spider.

- No elaborate, continuous lubricating system necessary as with previous solution (gunmetal bush)
- No external lubrication required
- Maintenance-free solution

Label inspection

Maintenance-free drylin® SLW or HTS lead screw unit for the height adjustment of cameras or sensors.

- Ready to install solution saves time and money
- Corrosion free solutions available
- Many customer-specific applications
- "Clearance-free" solutions (fixed housing)
- High static forces possible



Inline labelling machine

xiros® plastic ball bearings in film guide rollers

- No washing required
- Corrosion resistant
- Lower coefficients of friction than plain bearings
- Chemically resistant solution
- Low cost compared to sealed SS ball bearing

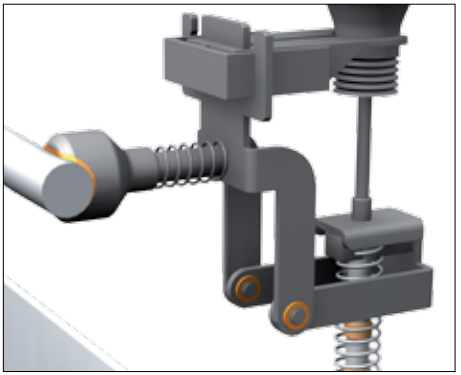
Low friction ...

Cleaning

Bottle cleaning – washing chain.

iglide® RN plain bearing for mounting the washing chain rollers.

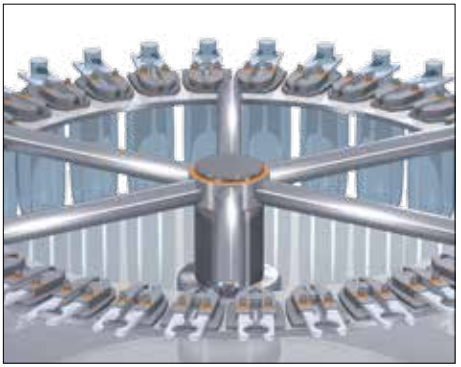
- Reduction of the driving force
- Longer service life
- Resistant to sodium hydroxide solutions
- Noise reduction of the machine



Rinser – spray pipe guide.

iglide® J bearing for the pivoting motion, iglide® J special bearing as inlay and iglide® J double flange bearing for the spraying tube bearing.

- Low friction against soft stainless steel shafts
- Longer running rates than UHMPE
- Wear-free solution
- No water lubrication required



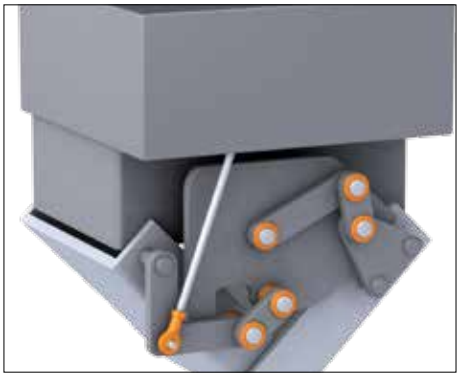
Neck handling of PET bottles

iglide® T500, J, H370 or X6 bearings in the gripper for PET blanks and PET bottles.

- Pivoting motion
- High forces due to edge load
- High wear resistance

Beverage industry

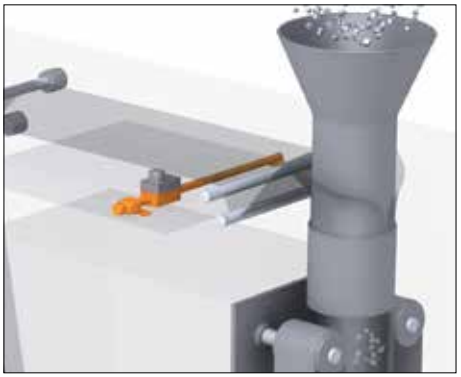
Packing machines/Multi-head weighers



Dosing of the unpackaged product.

iglide® bearings or igubal® spherical bearings implement the pivoting movements of the multi-head weigher flaps.

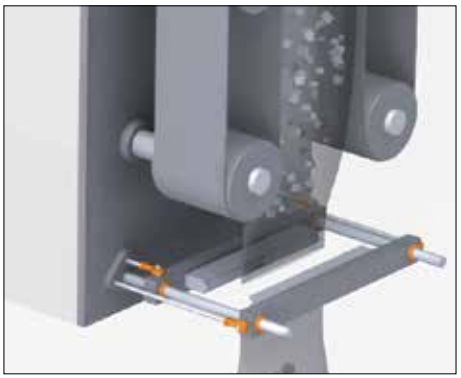
- Low noise, vibration dampening
- Maintenance-free
- No production contamination due to external lubricants
- Resistant to the typical cleaning agents
- Very low humidity absorption



Sensor adjustment.

drylin® SLW-1040 for sensor adjustment.

- Adjustment from outside possible (no reaching into the machine
- Installation between machines walls or "table-top solution"
- Complete solution saves time and money



Sealing bar guide.

drylin® R for the linear motion of the sealing bar and igubal® rod end bearings for the synchronous drive of the sealing bar.

- More resistant than recirculating ball bearings: drylin® JUM for temperatures up to 140°F; drylin® TUM for temperatures > 140°F
- Soft stainless steel shafts possible
- Chemical resistance
- No shaft wear

General packaging industry

Cartoning machine/Thermoforming machines

Format adjustment of carton stop.

Using synchronized drylin® SLW-2080 lead screw units, the format adjustment of the carton stop is implemented.

- Ready to install complete system from one source
- Cost and time savings
- Maintenance-free

Product inserter.

drylin® W linear guides.

- Reduction of moving mass
- No product contamination due to external lubricants

Lifting stations.

drylin® R linear bearing for guiding the lifting columns and iglide® Z plain bearing for the toggle lever movements.

- Maintenance-free lifting stations, self-lubricating
- No product contamination
- Can be washed down
- iglide® Z can be used even with high temperatures and high loads

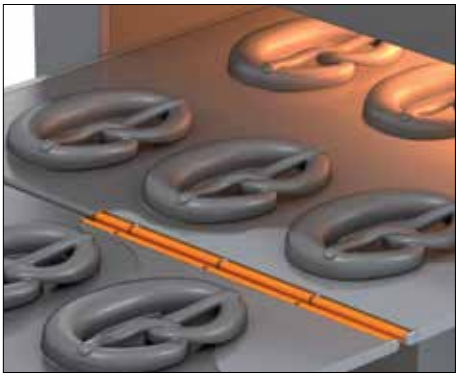
FDA compliant

Sweets processing

Wafer baking.

iglide® X6 bearings are used in the hinge bolt and the chain link bearing of a pair of wafer baking tongs.

- Pivoting movements possible at temperatures of up to 392°F
- No corrosion despite high environment humidity
- High wear resistance



Knife-edge rollers.

iglide® P210 knife-edge rollers for mounting the knife edge in the bakery equipment.

- No lubricant on the belt
- Lower drive power and longer service life of the belt than the gliding knife edge
- Price advantage for the rotating part made of PETP
- Quiet operation
- Higher wear resistance than PETP
- Cost advantage compared to needle bearings and PETP

General packaging industry

Thermoforming packaging machinery

Standardized toggle lever stroke system in the sealing station (overall view): the vertical guide of the upper stroke is accomplished with iglide® J bearings, the toggle lever bearing with the heavy duty material iglide® Z.

Primary linear bearing support for the lower film tensioner using igubal® flange bearings

Vibration-free energy and data guidance E6 e-chain® on the in-line labeler.

Practical examples

Tubular bag packing machines

Adjustment of the long seal jaws using drylin® W linear guide, including manual clamping for fast, simple, and manual positioning.

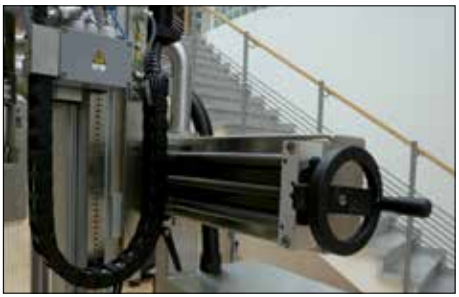
Format adjustment of the sensors for web edge detection and print mark detection through drylin® SLW lead screw driven slide table with position indicator and hand wheel.

Main bearing of the sealing bar with drylin® R liners in combination with hard anodized aluminum shafts for maximum running performance.

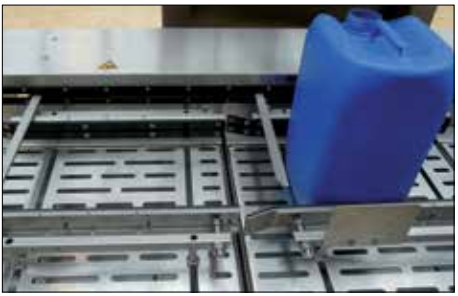
General packaging industry

Filling plants

These filling systems are modular and easily adaptable to the most varied requirements. The compact drylin® linear unit is shown installed. igus® e-chains® transmit energy and signals to the moving parts of the system.



Using a hand wheel, the operator can position the filling head, weighing at least 176.4 lbs, with little effort.



Concealed mounted drylin® W guide rail ensures smooth movement in the supply of containers for the filling.

Practical examples

Disinfection machines

This drylin® W linear guide assembly was modified to meet customer requirements.

The xiros® plastic ball bearings are used in a series of packaging machines. Sturdy and smooth, they often replace more expensive metallic roller bearings.

Overall view of the disinfection machine.

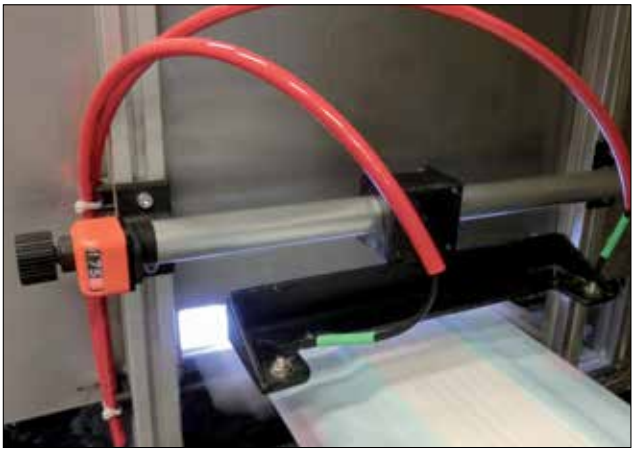
General packaging industry

Diaper packaging machine

Middle adjustment of a four-web 90° deflection using drylin® lead screw unit HTS-12-AWM for non-woven webs. A total of eight systems are in use.

Practical examples

drylin® SLW-2080 lead screw units provide the synchronized height adjustment for pressing the packed diapers into cartons.



Position adjustment of the web center sensors provided by drylin® lead screw driven Easy Tube SET-25. The lead screw is reliably protected by the rugged aluminum tube.

Beverage industry

Unscrewing and uncorking bottles

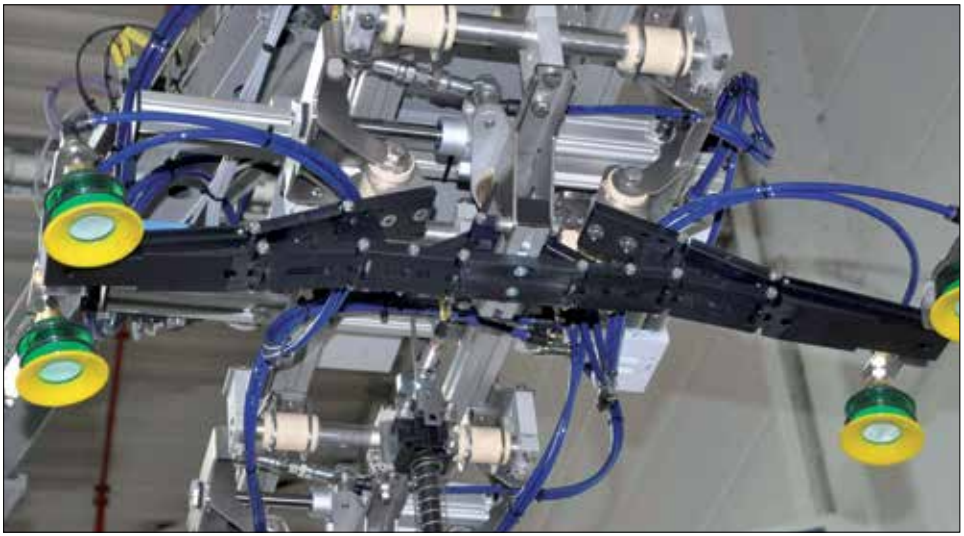
Automatic plant for bottle emptying. The valves on this plant are equipped with cylindrical drylin® linear bearings.

drylin® W linear guide systems are used in the neck sleeve removers. These are also maintenance-free and resistant to cleaning agents used by the beverage industry.

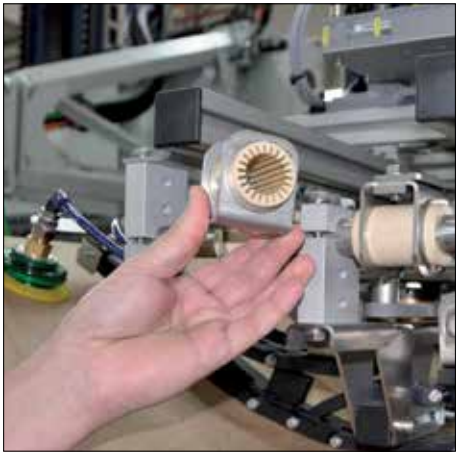
Maintenance-free iglide® X6 bearings are used in the toggle lever systems that grab onto the bottles.

Practical examples

Butterfly gripper – End of Line



The butterfly gripper is a construction kit that is assembled from small modules depending on the grasping task. drylin® linear technology is a major component of this construction.



The grooves allow dirt to pass through the drylin® linear plain bearing RJMP-01-25.

The linear bearings RJMP-01-25 are very robust.

Food industry

Wafer-baking machines

Format adjustment of a prism beam in the stripping station of ice cream cones using drylin® Easy Tube SET-25-AWM.

Position adjustment of the batter spray pipe with a clearance-adjustable drylin® SLW-1040 lead screw unit.

Safety adjustment with maintenance-free drylin® WJRM hybrid bearings for the lowest adjustment forces.

Practical examples

High-speed stacking system in slicers

Linear stroke of the material feed mechanism, using drylin® JUM-01-40 and 304 stainless steel shafting.

Mounting of the holder of the material to be cut in tray and fork design. It is driven by a pneumatic cylinder for implementing the pivoting movement with iglide® J bearings.

Pivotal mounting of the feed arm with iglide® X6 bearings.

Beverage industry

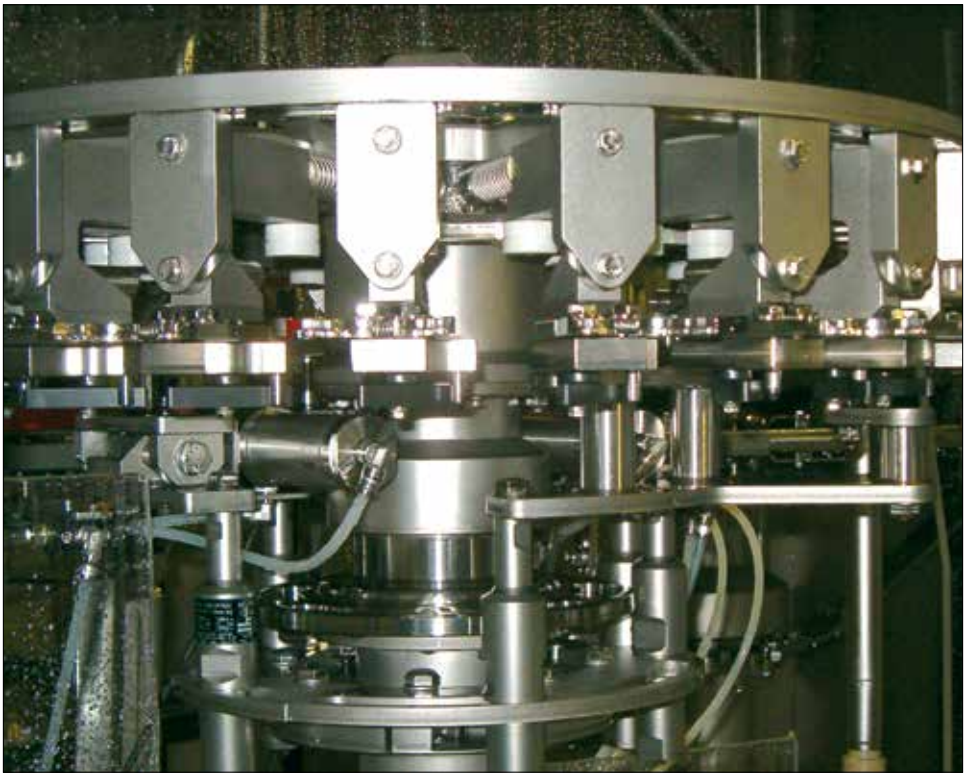
Bottle washing/filling plants

With the use of iglide® bearings in washing chain rollers, the drive force required for the bottle washing machine was significantly reduced.

A component for successful mechatronics – mounting with high-temperature material iglide® T500.

Practical examples

Beverage bottle filling



Cost effective: 90% cost saved, as self-lubricating, affordable iglide® bearings have a long life.

iglide® T500 in a filling valve for beverage bottle filling.

Beverage industry

Beverage filling machines

Pneumatic lifting device for filling machines – iglide® H370 provides a low coefficient of friction in dry operation, chemical resistance and low moisture absorption.

No wear after 5 years: iglide® plastic bearings and drylin® R liners in a beverage can emptying system.

Practical examples

Bottle packing machine

Bottle packing machine: Re-development of a gripper using igus® plain bearing elements resulted in a very thin, rugged and self-lubricating gripper tool.

igubal® spherical bearing in pneumatically driven flap bearing.

Food packaging

Packaging plants

This self-lubricating bearing system is highly recommended for the food industry.

Packaging line for profiles: With igubal® spherical bearings, flange bearings and rod end bearings, maintenance and downtime was reduced almost to zero.

Practical examples

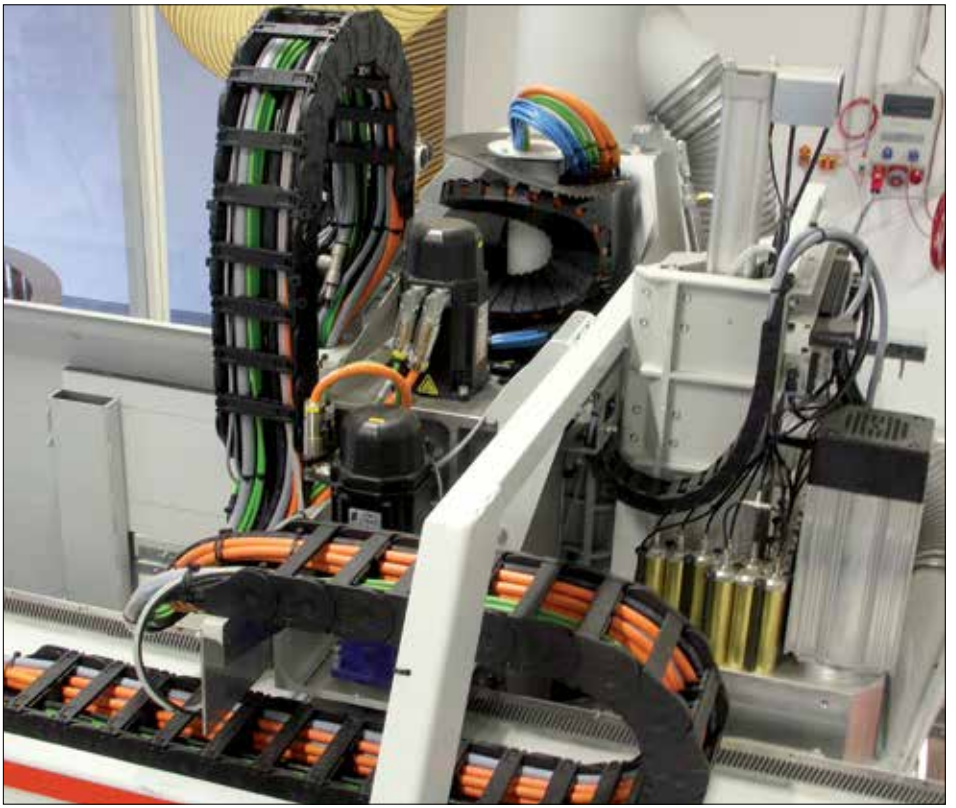
Bulk goods handling

Bulk goods handling: pressing device with pull-off technique for pressing bulk goods in a packaging process. igus® plastic bearings and an igus® e-chain® were used in the construction.

A major reason for the use of igus® plastic bearings is the freedom from external lubricants. Numerous igubal® spherical bearings were installed in this pressing device.

e-chains®/chainflex® cables

All axes and cleanroom



Carry energy, data and media – in any orientation – igus® e-chains® and chainflex® cables.

Cleanroom-suitable e-chains® – virtually no abrasion, IPA Class 1.

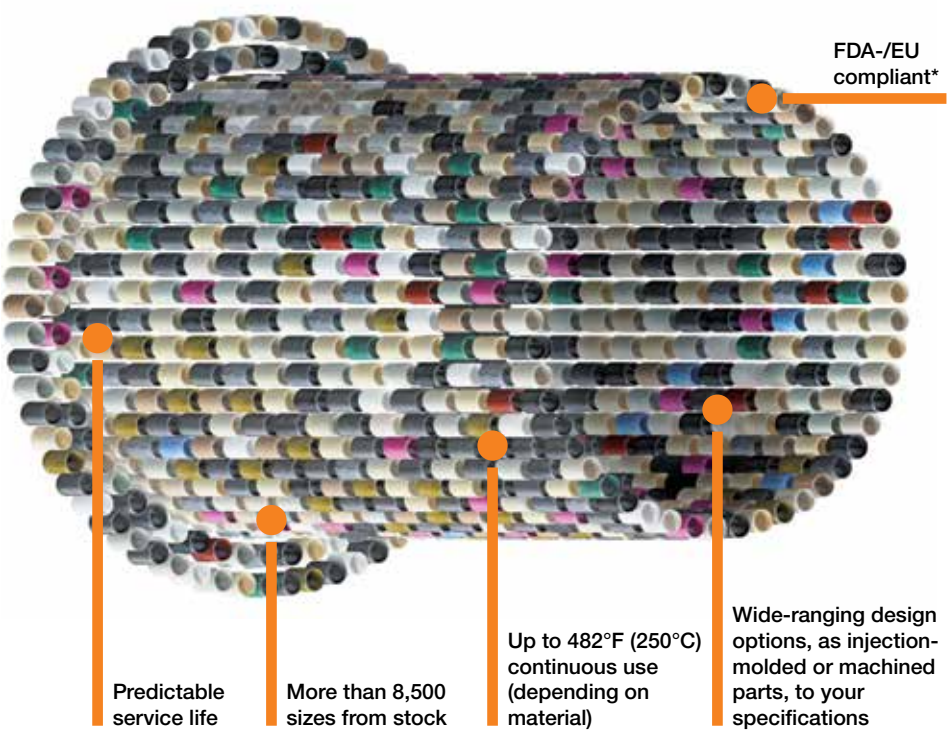
Practical examples

The smallest installation spaces and solutions from igus®

For the narrowest installation space – bending radii from 4 x d with e-chains® and chainflex®.

drylin®, e-chains® and
chainflex® cables –
all parts from one source in
thermoforming machine.

iglide® plastic bearings ...



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

No external lubrication or maintenance required, while cutting costs and increasing service life, everything from stock and delivered promptly – that is the central idea of all igus® products. iglide® plastics have been extensively tested with respect to wear and friction values including other relevant material properties. iglide® plastic bearings from igus® signifies the step from simple plastic bearing to tested and predictable machine element.

- Highly wear resistant polymers, 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
- Compliant to the EU regulation 10/2011 EC and/or FDA compliant (FOOD AND DRUG ADMINISTRATION)*
- For direct use in the vicinity of (or in contact with) food or drugs*
- Short delivery times, even for special dimensions.

www.iglide.com

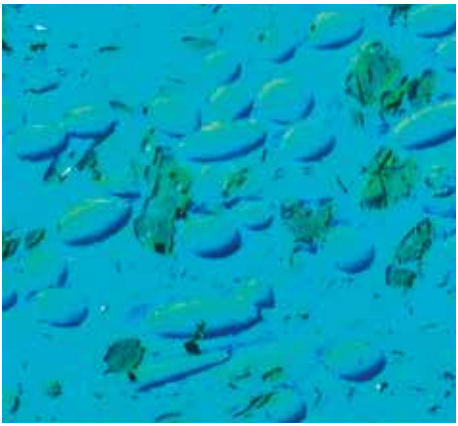
*iglide® A180, A350, A500 , A181, A160

no product contamination

The iglide® solution: The self-lubricating effect.

iglide® high-performance plastic bearings consist of:

- Base polymers, crucial for wear resistance.
- Fibers and filling materials to reinforce the bearing and absorb high forces or edge loads.
- Solid lubricants which automatically lubricate the bearings and reduce friction.



Integrated lubrication.

Millions of the solid lubricant particles are embedded in minute chambers in the solid, mostly fiber-reinforced material. The bearings release tiny amounts of lubricants from these chambers as friction occurs. This is adequate to sufficiently lubricate the immediate surrounding area.

The lubricants help to reduce the iglide® bearing's coefficient of friction.

Tested!

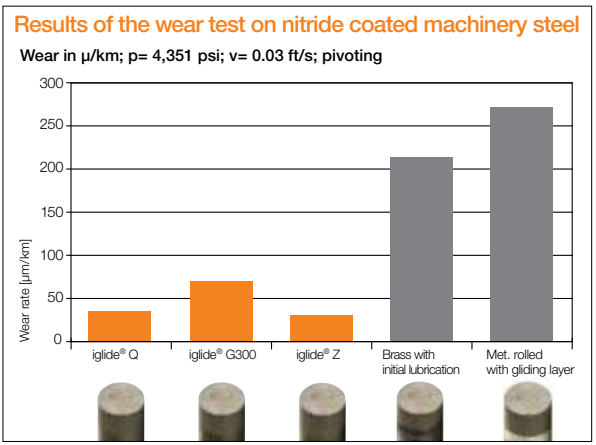
In what may be the largest lab of its kind, igus® Cologne

Test: "swivel test"

Objective: To test the wear of iglide® plastic bearings compared to metallic bearings

Test setup: Swivel test on a shaft with 4,351 psi.

Result: All tested iglide® materials show considerably less wear than the metallic bearings. The shafts of the metal bearings exhibit significant wear and are therefore unsuited for further use.



iglide® materials ...

... for the packaging industry

Standards

iglide® G300 –

- Maintenance-free, dry operation
- High abrasion resistance
- Resistance to dust and dirt
- Over 700 sizes available from stock
- Low cost

iglide® J –

- Excellent performance against many shafts, including soft shafts
- Low friction coefficients in dry operation
- Vibration dampening
- Good resistance to chemicals
- Low moisture absorption

iglide® L280 –

- For especially long service life
- Low coefficient of friction
- Extremely high abrasion resistance
- Suitable for rough shafts and stainless steel shafts
- Dirt-resistance

FDA- and/or EU-compliant

iglide® A160

- Compliant with EU Regulation 10/2011 EC
- FDA compliant
- Very high media resistance
- Average temperature range
- Low cost

iglide® A500

- Resistant to temperature from -148°F to +482°F (-100°C to +250°C)
- Very high resistance to chemicals
- Compliant with EU Regulation 10/2011 EC
- FDA compliant

iglide® A181

- Compliant with EU Regulation 10/2011 EC
- FDA compliant
- Good media resistance

iglide® A350

- Temperature resistant material
- Compliant with EU Regulation 10/2011 EC
- FDA compliant

iglide® A180

- For wet environments
- FDA compliant

High loads

iglide® Z

- Excellent wear resistance with high loads
- High thermal resistance
- For high surface speeds

iglide® Q2

- Self-lubricating and maintenance free
- Wear resistant and dimensionally stable at high loads
- Good price/performance ratio

High temperatures

iglide® H370

- Wear resistant; especially under water
- High temperature resistance -40°F to 392°F (-40 to +200°C)
- High chemical resistance

iglide® T500

- For operating temperatures of -148°F to +482°F (-100°C to +250°C) in continuous operation
- Excellent chemical resistance
- High compressive strength

iglide® J350

- Temperature-resistant
- Wear resistant
- Impact resistant

Specialists

iglide® P210

- Also suitable for soft shafts
- Low wear
- Low friction

iglide® X6

- Low cost material for mass production
- Low coefficients of friction
- Good media resistance
- Low moisture absorption

iglide® J4

- Low cost material for mass production
- Low coefficients of friction
- Good media resistance
- Low moisture absorption

iglide® T220

- Free from undesirable and prohibited contents in the tobacco industry

iglide® L250

- Specially made for fast rotating applications
- Very low coefficients of friction
- Excellent wear resistance

iglide® J3

- Low coefficients of friction
- Good media resistance
- Low moisture absorption
- PTFE-free

Special solutions

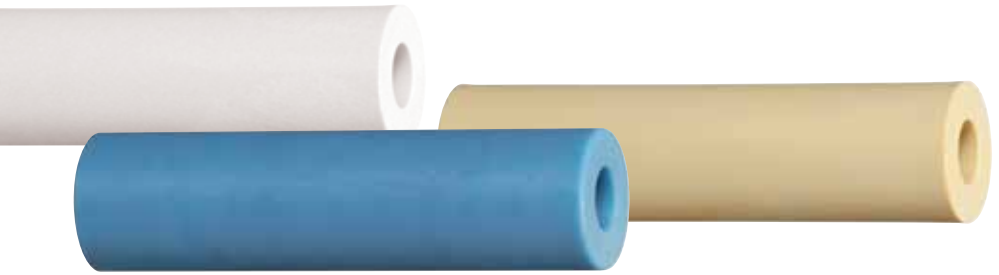
Customized solutions

Individually adapted materials with special properties: We develop the plastic that's needed for your application and find the ideal solution.

More products ...

iglide®-piston rings minimize efforts.
Replace elaborately stamped PTFE tapes with a single clip-on guide ring, in lifting elements, control valves and fittings. We offer iglide® piston rings made of freely selectable materials for a wide range of applications, for instance, made of the FDA compliant material iglide® A180.

- Defined clearance
- Piston rings in desired material and dimension based on the iglide® materials
- Self-lubricating and maintenance-free
- Low installation effort
- More wear resistant than PTFE tapes
- Low cost
- High load capacity



iglide® knife-edge rollers. Precise and self-lubricating.
igus® has developed its own knife-edge rollers to implement conveyor belt deflection for conveyor technology applications. The first standard product range has three iglide® materials available: the universal iglide® P210 and the FDA compliant iglide® A180 up to 194°F (90°C) and iglide® A350 up to 356°F (180°C). The iglide® solution is characterized by tight deflection radii and low, required driving power.

- "Sharp" deflection of conveyor belts
- Small radii ensure maximized space utilization
- To transfer difficult to handle transport goods
- Insert for rolling knife edge
- Usually high PV values (belt pretension/high peripheral speed with small radii)
- Typical values:
  vmax = .98 to 1.64 ft/s (0.3 to 0.5 m/s) ;
  pmax = 72.52 to 145 psi

from the iglide® product range

iglide® for free design. Bar stock made of technically advanced plastic.

As plastic bar stock to make your own or as mechanically finished special components - for prototypes, test specimens and small quantity needs. Many materials available, including: iglide® A180 that meets the requirements of the Food and Drug Administration (FDA) for direct use (or contact) in environments with foodstuffs.

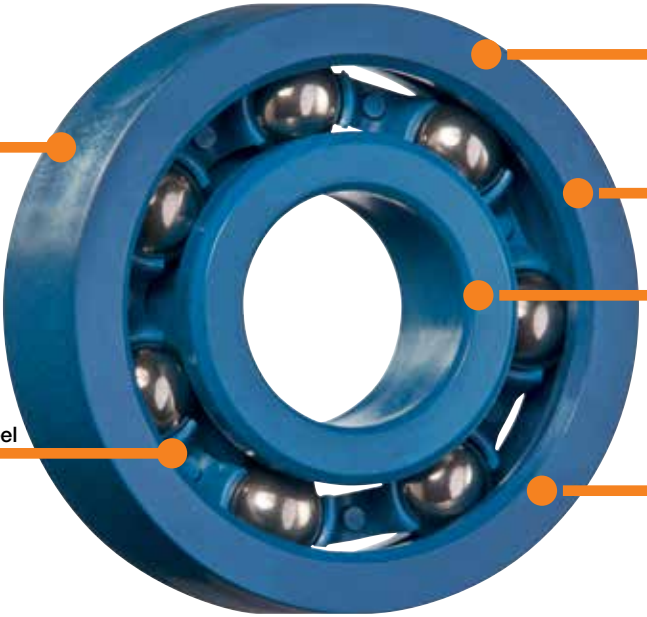
- Compliance with EC Directive 10/2011 EC possible
- FDA-compliance possible
- Very high media resistance
- Self-lubricating and maintenance-free
- Low cost
- Wear resistant

iglide® off the reel: Tribo-Tape

The igus® Tribo-Tape is suitable as a liner for a variety of tribologically stressed surfaces and shapes. Thus, by bonding with laminated tape, for example, the dampening properties are increased in applications with shocks and vibrations. The tape made of, for example, iglide® A160 is characterized by low friction coefficients and high wear resistance, and complies with EU Regulation 10/2011 EC and FDA requirements.

- Materials: iglide® A160, V400
- Self-lubricating and maintenance-free
- Easy to cut
- Can be glued
- Wear resistant
- Less installation space required

xiros® plastic ball bearings ...



Self-lubricating and maintenance-free ball bearings made from high-performance plastics – xiros®.

xiros® A500 –
Heat, chemicals, electrical insulation, wear resistant.

xiros® B180 –
for the food sector. Washable, temperature up to 176°F.

xiros® C160 –
Media resistance. Resistant to corrosion and chemicals.

avoid lubricating

xiros® plastic ball bearings have revolutionized the ball bearing market. Where conventional metallic options are not practical, a wide range of applications can successfully use the maintenance-free and self-lubricating xiros® high performance ball bearings.

- Self-lubricating and maintenance-free
- High corrosion resistance
- For temperatures up to +302°F (+150°C)
- High media resistance, washable, non-magnetic
- Low weight

Service life calculation
for xiros® plastic ball bearings

Simply select the installation size and enter the rotary speed and load of your application. The material combinations available in your required size are displayed in the "Select material combinations" window. There you can select the option for which you want to calculate the service life in dry operation.

xiros® M180 –
Detectable and media resistant.

xiros® F180 –
ESD protection and FDA compliant in one.

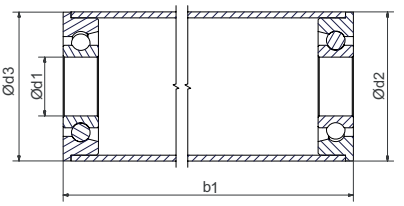
Special parts and more ...

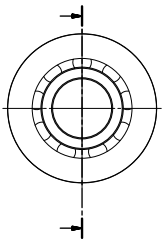
xiros® system solution aluminum tubes with xirodur® B180 flanged ball bearings.

The complete solution combines lightweight, anodized aluminum tubes with maintenance-free and cost effective flanged ball bearings from xirodur® B180.

- Low coefficient of friction
- Low cost
- Maintenance-free
- Various diameters possible

www.igus.com/xiros





Dimensional example [mm]

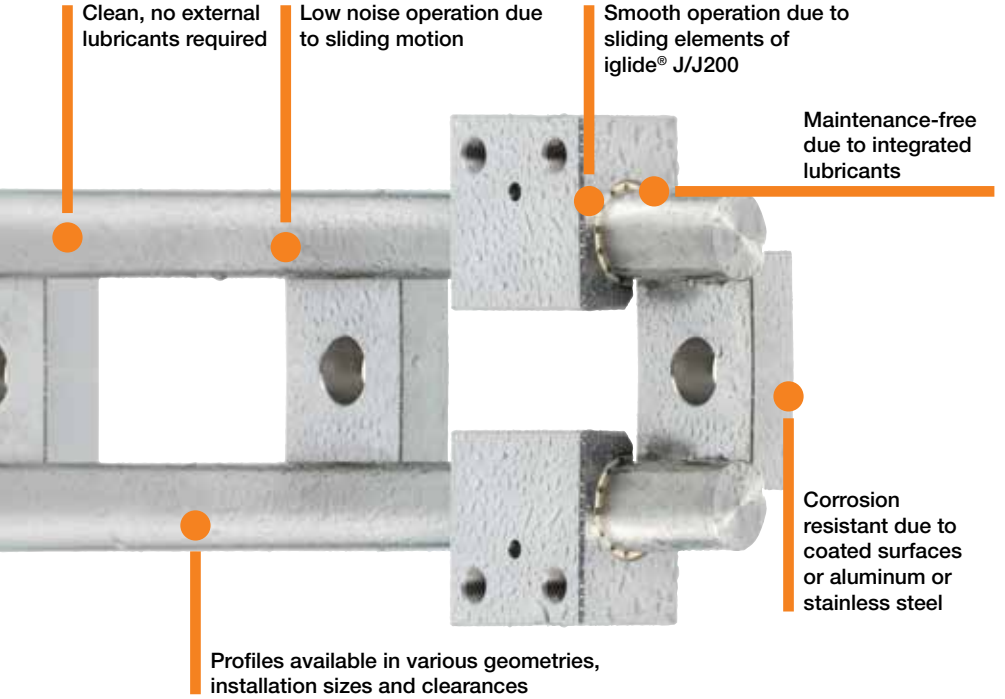
Inner Ø d1	Outer Ø d2	Flange Ø d3	Length b1
10	38	38	500

dry-tech solutions

From stock or custom made.
Anything is possible with iglide® special solutions and parts.

Construct special solutions, such as double flanged bushings, piston rings, washable bearings, 2-component rollers, and more; Virtually anything is possible. iglide® offers self-lubricating, maintenance-free bearing solutions, created to your exact specifications, either off the shelf, or customized precisely for your application needs.

drylin® linear technology ...



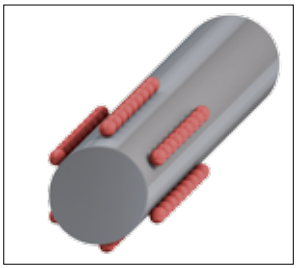
Self-lubricating and maintenance-free linear technology solutions – drylin®.

drylin® is a product range of self-lubricating linear bearings based on the principle of sliding instead of rolling. Tribo-optimized iglide® high-performance polymers are used as sliding surfaces. drylin® linear systems traverse in dry operation 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. The focus is on, besides the freedom from maintenance and lubrication, the ruggedness and insensitivity to influences such as dirt, water, chemicals, heat or impacts.

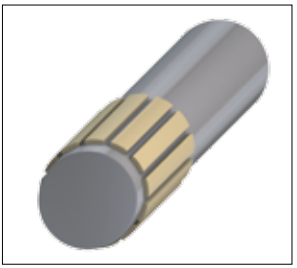
- Dirt resistant due to dry operation
- Insensitive to impacts and vibrations
- High static load capacity
- Suited for short-stroke applications
- High speeds possible up to 32.8 ft/s (10 m/s) and accelerations up to 100 G
- Low magnetism

www.igus.com/drylin

gliding instead of rolling



Roller bearings – Point contact.



drylin® linear bearings – surface contact.

Resistant to dirt, dust and moisture by self-lubricating liner with dirt channels.

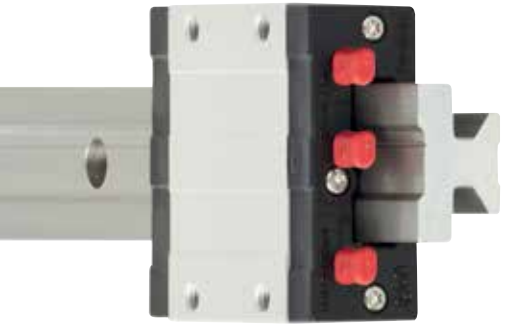
Tested!

In what may be the largest lab of its kind, igus® Cologne

Media test drylin® linear technology.

Service life and wear test of a drylin® linear guide in an underwater basin.

drylin® product overview



drylin® T rail guides

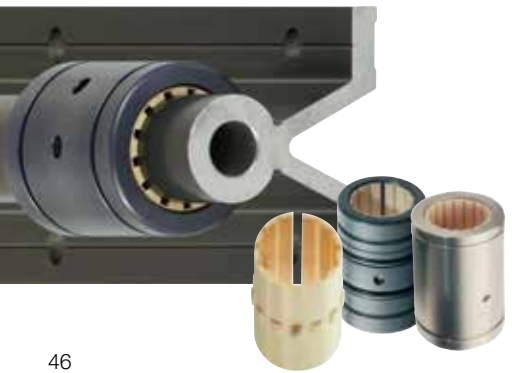
- Specially made for applications in the automation and handling sectors
- Free of corrosion; self-lubricating
- Adjustable bearing clearance
- High static load capacity

drylin® N low-profile guides

- Low installation height and installation surface
- High speed and acceleration possible
- Numerous carriage options – also available with pretension

drylin® W profile guides

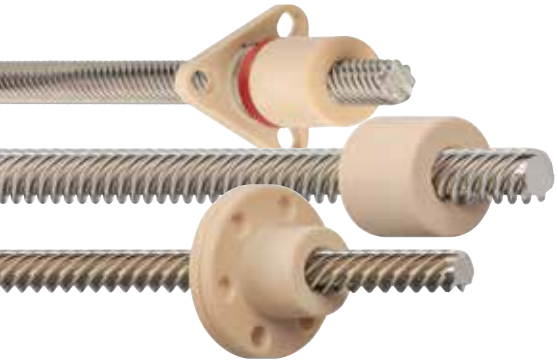
- Easy installation
- Self-lubricating application
- 14 different profiles, over 50 carriage options
- Versatile use, space-saving, and compact



drylin® R shaft guides

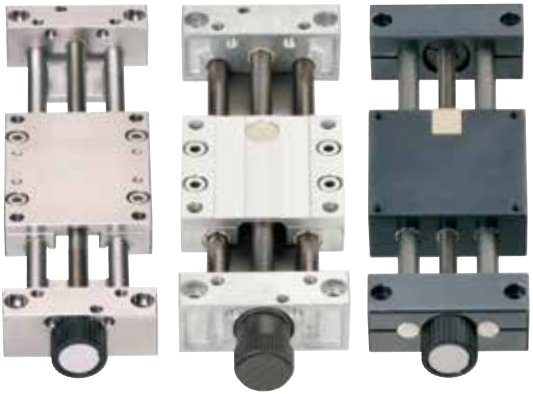
- Corrosion-free, wear resistant
- Low friction coefficient and low noise operation
- Dimensionally identical to standard commercial ball linings
- Shafts, shaft support blocks and other accessories available from stock
- Replaceable liners

Linear drive systems



dryspin® lead screws

- Maintenance-free dry operation
- Low noise
- Resistance to dust and dirt
- Corrosion-free
- Trapezoidal thread and high helix thread
- High levels of efficiency
- Anti-backlash function available



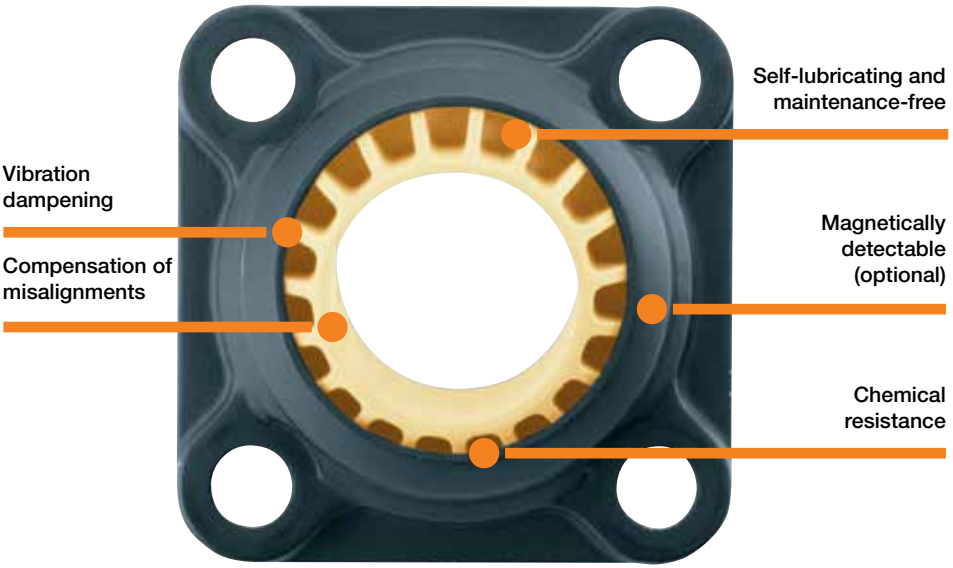
drylin® HTS/SLW linear slide

- 100% self-lubricating through plastic bearings and nuts
- For position adjustments
- Trapezoidal or high helix thread pitches
- Lightweight plastic units, to solid stainless steel solutions
- Freely selectable stroke length
- Drive optional via hand wheel or motors
- Numerous accessories available

drylin® E drive technology

- Construction kit: Linear axis plus motor, ready to install, can be configured online
- Ready to install with motor, cable and limit switches available in 3-4 days

igubal® spherical bearings ...



Self-lubricating and maintenance free spherical bearings from igus® – igubal®.

igubal® is a system of self-aligning bearing elements completely made of plastic.

The igubal® series provides developers with a complete system of self-adjusting bearing elements: rod end bearings, clevis joints, flange bearings, spherical bearings and pillow block bearings. Self-adjusting bearings are easy to install, adaptable to all angular variations and have already been used to replace special housings in many industries.

igubal® utilizes all the advantages of iglide® high performance plastics. They can be used in dry operation and have excellent vibration dampening properties. They are insensitive to dirt, can operate in liquids and even in chemicals and are completely resistant to corrosion.

- igubal® maintenance-free spherical bearings with a diameter of 2 to 50 mm
- Resistant to chemicals and corrosion
- Excellent damping properties
- High frequency possible
- Predictable service life

www.igus.com/igubal

compensate easily

Rod end bearings with outer/inner thread; right/left, also as HT version for up to +392°F (+200°C).

Angle and axial ball and socket joints

Clevis joints and spring loaded pins, individual or combined (also with rod end bearings).

Various types of pillow block bearings, with split housing and/or spherical ball (optional).

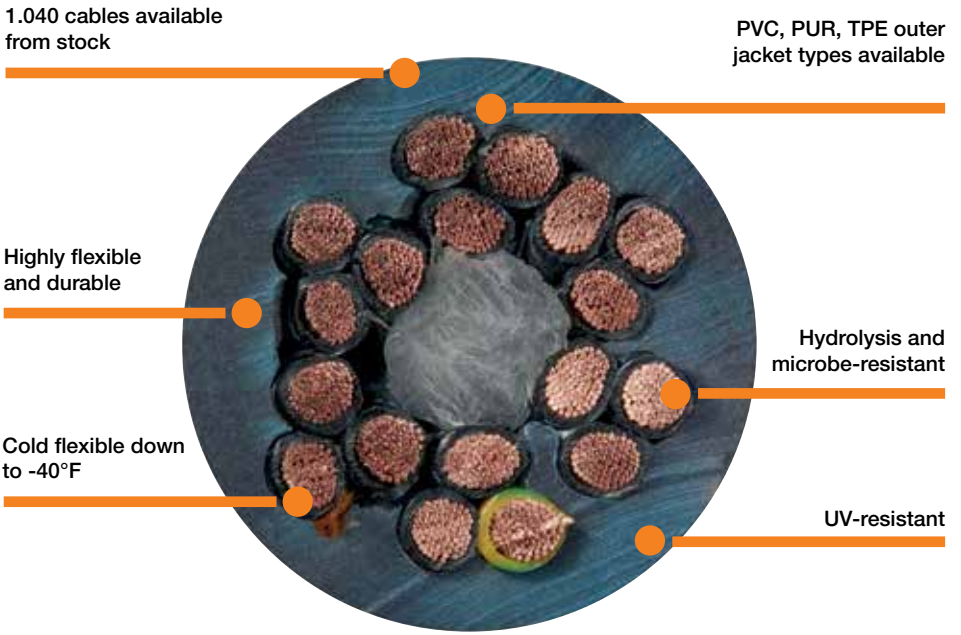
Flange bearing with 2 or 4 bolt holes, also as an HT version for up to +392°F (+200°C).

Spherical bearings and self-aligning clip bearings.

Spherical balls made from iglide® materials.

Double spherical bearings and coupling bars.

chainflex® cables ...



Cables for constantly flexing movements and long service life in e-chains® – chainflex®.

chainflex® CF130-UL/140-UL – PVC control cable for medium loads. Cost effective, flame-retardant, temperatures +23°F to +158°F.
www.igus.com/CF140

chainflex® CF38 – TPE motor cable for extreme demands in outdoor applications, UV-resistant, -40°F to +194°F.
www.igus.com/CF38

chainflex® CF98/CF99 – for heavy duty use and especially for small radii. TPE- outer jacket, PVC- and halogen-free, cold flexible, resistant to hydrolysis and microbes.
www.igus.com/CF99

chainflex® CF THERMO – PUR thermocouple cable for high load requirements, PVC and halogen-free, resistant to hydrolysis and microbes.
www.igus.com/CFThermo

last in e-chains®

Flexible cables used in e-chains® need special design and manufacture to last through many cycles, high speeds and accelerations, as well as demanding environmental conditions. Electromagnetic compatibility and compliance with standards and guidelines such as UL, CSA, VDE, Interbus and Profibus are also taken for granted today. The igus® chainflex® product range extends from e-chain® compatible control cables, servo cables, motor cables, as well as robot cables to bus cables, data cables, encoder cables and fiber optic cables.

- Temperatures -40°F to +194°F
- For highly dynamic applications in e-chains®
- Special design prevents cable failure and corkscrewing
- Over 1,000 types off the shelf
- Highly abrasion-resistant jacket materials (PVC, PUR, TPE)

www.igus.com/chainflex

Guarantee igus chainflex 36 month guarantee

Tested!

In the largest lab of its kind, igus® Cologne

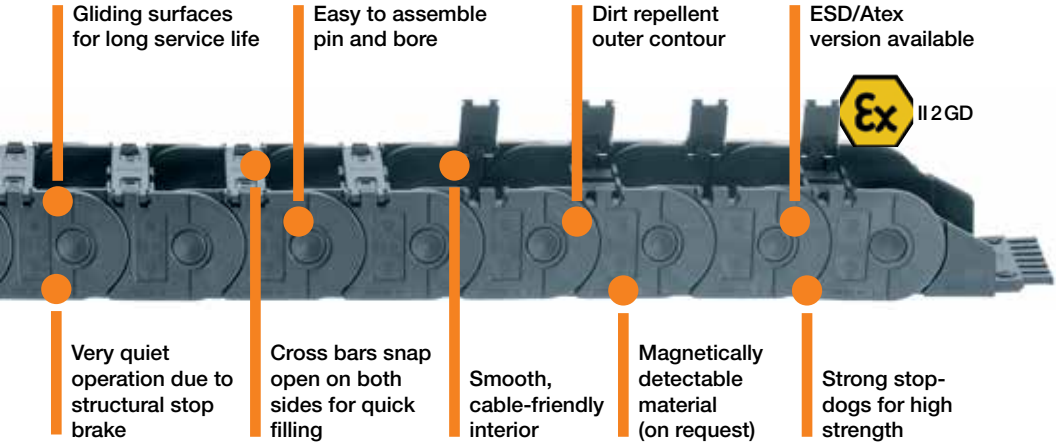
Cold test -40°F

Objective: To determine the maximum service life of igus® chainflex® TPE cables at temperatures of -40°F.

Test setup: An igus® CF35 TPE cable was moved in an e-chain® in the igus® climate container at a travel of 23 ft. (7 m) and a speed of 4.92 ft/s (1.5 m/s) at -40°F.

Result: The test was ended after 3.7 million cycles. The cable exhibited little wear and is fully functional.

e-chains® for any application ...



A system for carrying energy, data and media – e-chains®.

E2 micro system

Small e-chain® with rugged stop-dog system and large pin/bore for up to 25% longer unsupported length and 100% higher additional loads (compared to identical igus® types). A built-in "brake" minimizes impact noise and very smooth contours ensure optimum cable protection. A chain opener (included) saves significant time when opening the e-chain®.

System E2/000

The E2/000 system combines easy and versatile assembly and installation with ruggedness – high strength combined with low-noise operation, long service life for cables and many mounting options. The design features are uniform in all E2/000 models. Mechanical engineers all over the world rely upon this line of carrier.

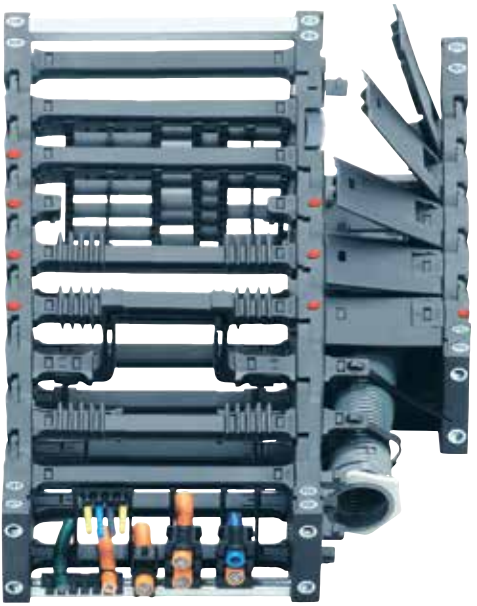
System E4-1

The E4-1 system is the best igus® e-chain® in our product range. With the igus® E4-1 system, the service life of your application can be extended even further and costs are further lowered. E4-1 is easy to open, quiet in operation and versatile in use. Whether standing, hanging, circular on short or long travels, at high speeds or harsh environment. E4-1 is often the first choice.

and installation methods

igus® e-chains® and e-chain systems® are suitable for universal applications:

- Carry sensitive bus, data and fiber optic cables, as well as energy forms such as electricity, gas, air and liquids in one system
- Many types of orientation and application
- For high dynamic loads and tough service life requirements
- For all environments and climates (from -40°F to +248°F)
- Easy to clean
- Compact installation
- Also as detectable material or as ESD/ATEX version
- Enclosed or open construction types
- Simple modular assembly on site, as well as quick retrofitting of cables



Tested!

In the largest lab of its kind, igus® Cologne

Over 5,000 tests for e-chains® in the largest lab of its kind, igus® Cologne. On a floor area of 29,840 ft² igus® tests the durability of e-chains® and cables, always suitable for the application and place of use.

www.igus.com/packaging

Visit our industry website for more information, products and application examples as well as online tools.

Find and calculate faster

The iglide® product finder shows you the right plain bearing solution for your application with just a few clicks. With a direct link to the online catalog with much more information and direct price display.

A wide range of other online tools, such as configurators, service life calculators, and product finders, can be found at

www.igus.com/iglidefinder

For any task – in any batch size

Different industries need different solutions. No matter your industry igus® offers customized support for special applications.

igus® has more than 50 years of experience and specialized resources in many industries.

Research & Development

Better products for less - a key element is the industry's largest test lab. 29,600 ft² lab, tens of thousands of tests and billions of cycles each 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 massive igus® lab (29,600 ft²) conducts more than two billion test cycles per year on more than 100 test rigs.

- Extensive test databases
- Customized tests on request

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

Thousands of tests per year

igus® quality assurance

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

Extensive test database

What is probably the world's largest database, was created from the results of tens of thousands of real-world application tests. This database gives us the ability to best select the right product for your specific application.

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 reduces power requirements, making them better for the environment

igus® Services

Harnessed energy supply systems with cables and connectors.

readychain®

Fully harnessed systems in 3-10 days, 700 systems per week in 11 readychain® factories worldwide – optimized assembly time and better cash flow.

- Eliminate storage costs for cables, e-chains® and connectors
- Cut turnaround times by half
- Flexibility for order fluctuation
- Reduce the number of suppliers and orders by 75%
- Minimize your machine downtime
- System guarantee - according to application

readycable

igus® provides more than 2,830 harnessed cables for drive technology according 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 specifications
- Smallest bending radius from 7.5 x d
- Reduce storage costs and increase cashflow
- Allen Bradley, Fanuc and Siemens from stock in 24-48 hrs. For lead times on other manufacturers standards please consult igus®

The igus® installation service

Ensure professional installation, avoid downtimes and additional costs - with the igus® e-chain system® installation service

- Products and services from a single source – with low logistics costs for you
- igus® system guarantee, customized for each application

igus® delivery service - fast & reliable.

Shipped from stock in 24 hours

All catalog parts and individual components

for instance: one e-chain® link, 19.69 ft. e-chain®, 3 strain reliefs, one iglide® Q2 plain bearing, one drylin® linear plain bearing

24 - 48 hrs*

Customized systems

for instance: 37.6 ft e-chain® with interior separation, guide rails, mounting brackets; 8.07 ft drylin® profile rail with 2 carriages

3-5 business days

Harnessed systems

for instance: simple, harnessed e-chain systems® with cables without connectors; lead screw unit based on specific requirements

10 business days

Complex systems and machined components

for instance: harnessed e-chain system® with cables of all types and connectors, interfaces, fittings, machined shafts to drawing, or mechanically shortened bearings, or tool-based injection-molded parts

Motion plastics

One vision has been driving us for more than 50 years – motion plastics: innovative moving parts made of plastic that cost less and last longer. Our core technology consists of triboplastics – high-performance plastics which have been optimized for friction and wear. This technology has made us into a world-wide leader for developing and manufacturing energy supply systems and plain bearings.

9001:2008

igus® is certified in accordance with ISO 9001:2008 and ISO/TS 16949:2009 in the field of energy supply systems, cables and harnessing, as well as plastic bearings.

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