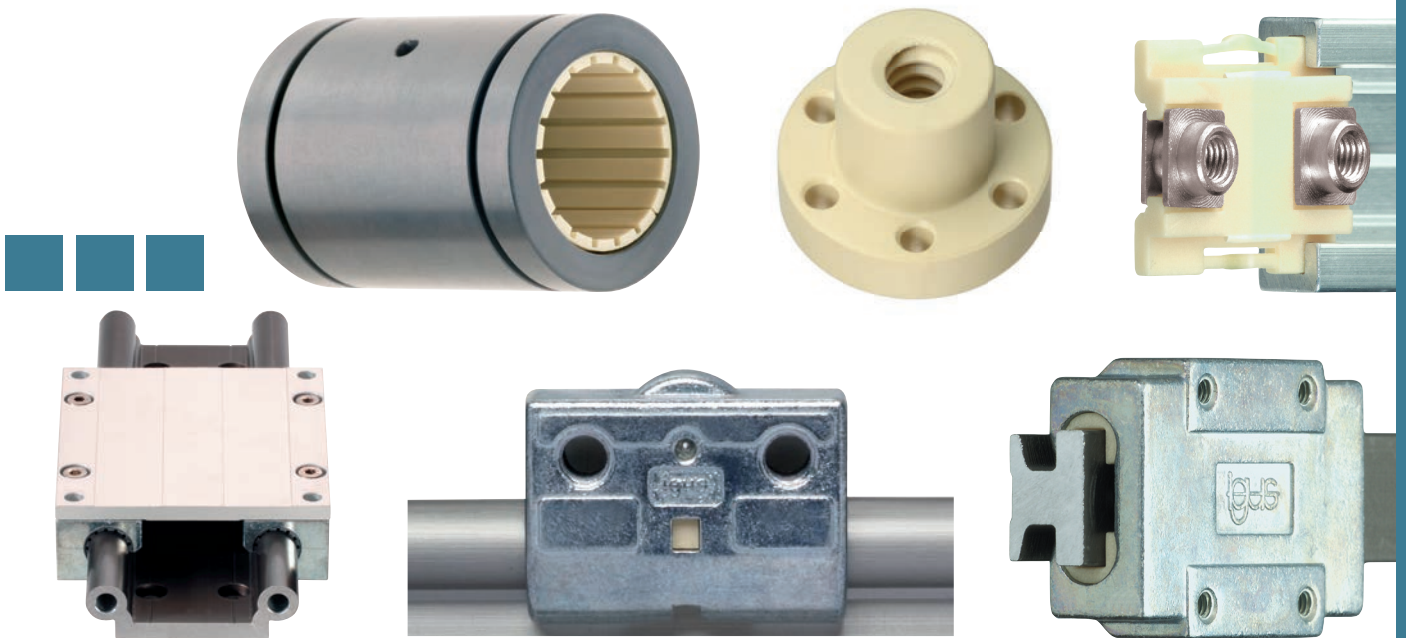


5. drylin®

Linear Guide Systems



...Rail-, Miniature-, Profile-Guides...Linear Plain Bearings and Shafts...

...plastics

Application Examples: drylin®

More exciting examples ► www.igus.co.uk/drylin-applications

GESET ETIKETTIER-SYSTEME GmbH

LABEL FEEDING SYSTEM/PACKAGING TECHNOLOGY

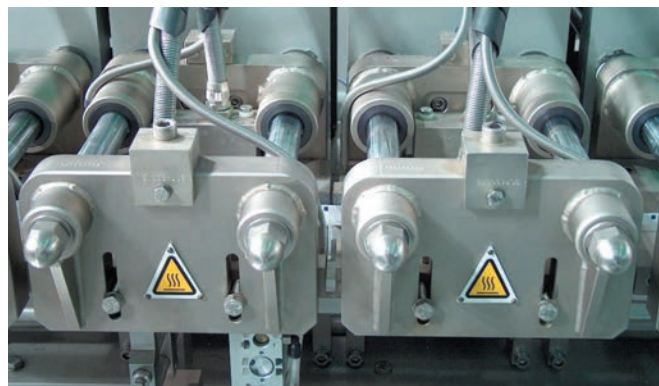
Quick and flexible format adjustment with absolute freedom from lubrication at lower costs – implemented with the drylin® T linear guide system. Further advantage: Guide carriage with manual clamping.





CHAMPAGNE-BOTTLE SEALING MACHINE

Freedom from lubricants and chemical resistance, drylin® guides score highly in facilities in the food sector. (Sick International Kellereimaschinen GmbH)



FORMING, FILLING AND SEALING MACHINE

drylin® high temperature bearings (up to +120°C) are used in the tool guide system of this forming, filling and sealing machine. (Unifill SpA, Italy)



DOOR ADJUSTMENT

The smooth, low noise operation and the enormous cost advantages are obtained by the use of the drylin® R linear plain bearings on hard-anodized guide shafts to guide the doors of machine tools. (Alzmetall GmbH + Co. KG)



SYSTEMS FOR THE PRODUCTION OF ALUMINUM CARTRIDGES

The absolute freedom from lubricants and the resistance to paint spray led to the application of drylin® R linear plain bearings. (Mall + Herlan GmbH)



ERSASCOPE INSPECTION OPTICS

The vertical positioning of the optics is carried out by the drylin® T linear guide system whose continuously adjustable clearance provides for the required precision and a smooth, vibration-free operation. (ERSA GmbH)



MOBILE AND STATIONARY SAW MILLS

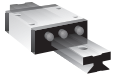
drylin® W modular linear guide system and iglidur® J liner for adjusting the saw blade guide. (Serra Maschinenbau GmbH)

drylin® Linear Guide Systems | Product Overview

drylin® T

Rail guide systems

► from page 799



TS-01
Standard
rail
single



TS-11
Reduced
weight
rail
single



TW-01
Standard
carriage
single



TWA-01
Automatic
carriage
single



TW-HKA
manual
clamping,
carriage
single



TW-02
Heavy Duty
carriage
single



TW-03
Compact
complete
system

► page 806 ► page 806 ► page 807 ► page 807 ► page 808 ► page 809 ► page 809

drylin® N

Low profile
guide systems

► from page 821



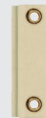
NS-01-17
rail width
17 mm



NW-02-17
carriage
with thread



NW-02-17P
carriage
with thread,
preload



NW-22-17-40
double
carriage with
thread



NS-01-27
rail width
27 mm



**NW-01-27/
NW-11-27**
carriage with
mounting
holes



NW-01-27-P
carriage with
mounting
holes, preload

► page 828 ► page 828 ► page 828 ► page 828 ► page 829 ► page 829 ► page 829



NW-02-80

standard
with thread,
clipped



NW-12-80

overmoulded
with thread



NSKB-...

easy fit
stoppers

► page 832 ► page 832 ► page 833

drylin® W

Modular guide
systems

► from page 835



WSQ
Single rail
square



WJ200QM
Housing
bearing
square



WS
Single rail
round



WJ200UM
Housing
bearing
round



WJUME
Housing
bearing
"Turn to fit"
adjustable



WJRM
Hybridlager
roll and slide



WSQ
Double rail
square

► page 848 ► page 849 ► page 850 ► page 851 ► page 851 ► page 852 ► page 854

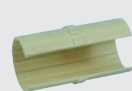
drylin® R

Round shaft
guide systems

► from page 869



JUM-01
Liner
closed,
long design



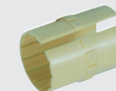
JUMO-01
Liner
open,
long design



JUM-11
Liner
closed,
long design,
precise



JUMO-11
Liner
open,
long design,
precise



JUM-02
Liner
closed,
short design



XUM
Liner
open (XUMO)
and closed
design, long
(XUM-01) and
short (XUM-02)



WLM
Pressfit
bearing
made of
igidur® L100

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TS-04...
Miniature
rail single



TW-04
Miniature
carriage
single



TWBM-11
clamping
elements,
compact



TWBM-01
manual
clamping with
high holding
strength

► page 810 ► page 810 ► page 811 ► page 811



**NW-02-27/
NW-12-27**
carriage with
thread



NW-02-27-P
carriage with
thread,
preload



NW-21-27-60P
polymer
carriage with
mounting
holes



NW-22-27-60P
polymer
carriage with
thread



NW-12-27-80
double
carriage
with thread,
overmoulded



NW-11-27-80
double
carriage with
mounting
holes



NS-01-40
rail width
40 mm



**NW-01-40/
NW-11-40**
carriage with
mounting
holes



**NW-02-40/
NW-12-40**
carriage with
thread



NS-01-80
rail width
80 mm

► page 829 ► page 830 ► page 830 ► page 830 ► page 830 ► page 830 ► page 831 ► page 831 ► page 831 ► page 832



WW-06
Guide
carriage
fitted,
square



WWC-10
Mono-Slide
guide
carriage



WS
Double rail
round



WW
Guide
carriage
fitted,
round



WWH
Hybrid
carriage
with rollers



**WSQ-.../
WS-...-CAM**
Double rail
reduced
weight



Slider rail
3/8" thread



WHKA
Manual
clamping



WHKD
Manual
clamping
for high
holding
strength



**stainless
drylin® W**
Rail and
bearing
single and
double

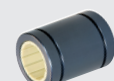
► page 855 ► page 855 ► page 856 ► page 857 ► page 858 ► page 860 ► page 861 ► page 862 ► page 863 ► page 864



WLFM
Pressfit
bearing
made of
igidur® L100



RJUM-01
Linear plain
bearing
closed
anodized
aluminum
adapter



RJUM-11
Linear plain
bearing
closed
anodized
aluminum
adapter
precision



RJM
Solid
polymer
bearing
made of
igidur® J



RJMP
Solid
polymer
bearing
long design,
reduced
bearing
clearance



RJUM-...-ES
Linear plain
bearing
closed
stainless
steel adapter



TJUM-01
Linear plain
bearing
split
anodized
aluminum
adapter



RJUM-03
Linear plain
bearing
closed
aluminum
adapter
(floating
bearing)

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drylin® Linear Guide Systems | Product Overview

drylin® R Round shaft guide systems ► from page 869



TJUM-03
Linear plain
bearing
split aluminum
adapter



RJUM-02
Linear plain
bearing
closed
anodized
aluminum
adapter



RJ260UM
Compact
Bushing
Low-cost
linear plain
bearing



RJUM-05
Housing
bearing
closed
anodized
aluminum
housing,
short design



RJUME
Housing
bearing
adjustable
anodized
aluminum
housing,
short design

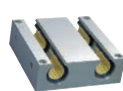


TJUM-05
Housing
bearing
split anodized
aluminum
housing,
screwed,
short design



RJUMT
Housing
bearing
open
anodized
aluminum
housing,
tandem

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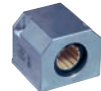
OQA
Quad block
open design



RTA
Tandem
housing
closed design



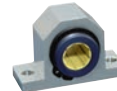
OTA
Tandem
housing
open design



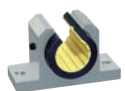
RGA
Pillow block
housing
closed,
long design



OGA
Pillow block
housing
open,
long design



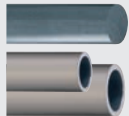
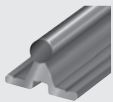
RGAS
Pillow block
housing
closed,
short design



OGAS
Pillow block
housing
open
short design

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drylin® Shafts and accessories ► from page 927



AWMP
Precision
aluminum
shaft



AWMU
Supported
aluminum
shaft



**SWM/
SWMH**
Steel shaft



**SWUM/
SWUMN**
Supported
steel shaft



**EWM/EEWM/
EWMR**
Stainless
steel shaft



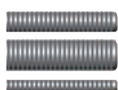
**EWUM/
EWUMN**
Supported
stainless
steel shaft



EWUM-ES
Partially
supported
stainless steel
shaft

► page 930 ► page 931 ► page 932 ► page 933 ► page 934 ► page 936 ► page 937

drylin® Lead Screw Drives ► from page 947



**Trapezoidal
lead screws**
Single start,
twin start,
made of
Aluminum;
with pin



**Trapezoidal
lead screw
nuts**
made of iglidur®
J, right-/
left-hand
thread



**Trapezoidal
lead screw
nuts**
made of iglidur®
W300, right-/
left-hand
thread



**Trapezoidal
lead screw
nuts**
made of
igidur® A180,
right-hand
thread



**Trapezoidal
lead screw
nuts**
made of
igidur® J350,
right-hand
thread



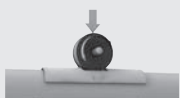
**Anti-backlash
lead screw
nuts**
made of
igidur® J,
right-/
left-hand thread



**High helix lead
screws**

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drylin® Specialists ► from page 985



drylin® N
Telescopic
rails
locking
mechanism
optional



drylin® WKM
Digital
measuring
system



drylin® Q
Square
guide

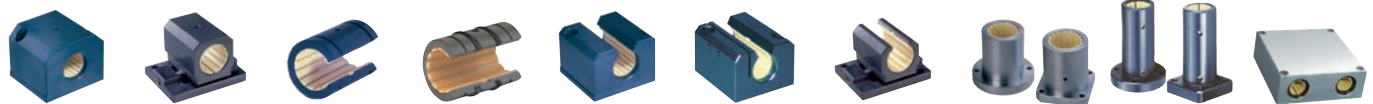


drylin® WJRM
Hybrid
bearing
roll and slide



drylin®
Slide disk

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RJUM-06
Housing bearing
closed
anodized
aluminum
housing,
long design

RJUM-06-...-LL
Housing bearing
closed
housing,
floating
bearing

OJUM-01
Linear plain bearing
open
anodized
aluminum
adapter

OJUM-03
Linear plain bearing
open
anodized
aluminum
adapter
(floating bearing)

OJUM-06
Housing bearing
open
anodized
aluminum
housing,
long design

OJUME
Housing bearing
open
aluminum
housing,
long design,
adjustable

OJUM-06-...-LL
Housing bearing
closed
housing,
floating
bearing

FJUM-01/-02
Flange
Housing
anodized
aluminum,
round/square
flange

FJUMT-01/-02
Flange
Housing
anodized
aluminum
round/square
flange

RQA
Quad block
closed design

► page 902 ► page 903 ► page 904 ► page 905 ► page 906 ► page 907 ► page 908 ► page 909 ► page 911 ► page 912



JUI
Liner
closed,
long design,
inch

JUJO
Liner
open,
long design,
inch

RJI
Solid polymer bearing
made of
iglidur® J,
inch

RJUI-03-...
Linear plain bearing
closed
aluminum
adapter,
inch

TJUI
Linear plain bearing
split
aluminum
adapter,
inch

OJUI-03-...
Linear plain bearing
open
aluminum
adapter,
inch

► page 920 ► page 920 ► page 921 ► page 922 ► page 923 ► page 924



CWM
Carbon fiber shaft

TA
Shaft end support moving

TAF
Shaft end support fixed

WA
Shaft support block standard

WAC
Shaft support block compact design

WAS
Shaft support block narrow design

WAF
Shaft end support block

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High helix lead screw nuts
cylindrical

High helix lead screw nuts
flange

Zero backlash lead screw nuts
made of
iglidur® J

SHT-lead screw nuts
square;
with flange;
with axial locks

Split lead screw nuts
made of
iglidur® J

Spherical trapezoidal lead screw
self aligning nut

Lead screw support blocks

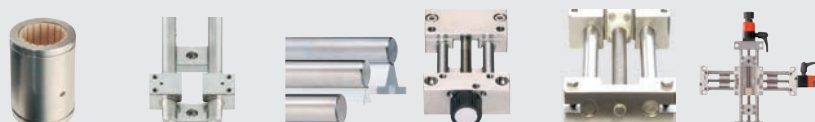
Lead screw support with ball bearings

Quick-release nut
Fast Forward

► page 973 ► page 974 ► page 975 ► page 976 ► page 978 ► page 979 ► page 980 ► page 981 ► page 982

drylin® Stainless Steel

► from page 995



RJUM-01-ES
Linear plain bearing
stainless steel

drylin® W
Guide rail and housing bearing
single and double

Stainless steel shaft
non supported,
supported,
partially supported

SLW-ES
Linear slide table

SHTC-HYD
Hygienic Design

SLW-XY-ES
XY-table,
compact
stainless steel

► page 997 ► page 998 ► page 1000 ► page 1004 ► page 1005 ► page 1006

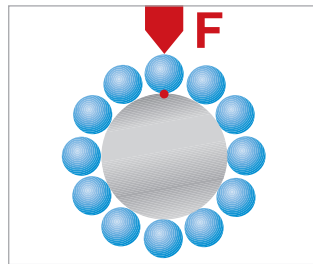
drylin® | Glides instead of Rolling!

drylin® is a range of maintenance-and lubrication-free linear bearings. This range includes linear modules with leadscrew and belt drives. The main benefits in addition to zero maintenance and lubrication are strength and resistance to external influences such as soiling, moisture, chemicals, heat and impact.

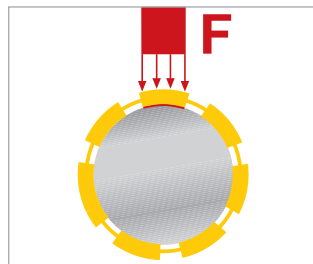
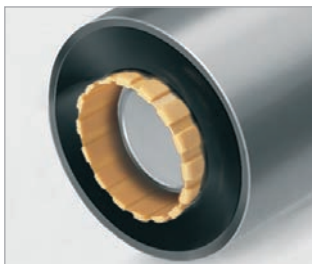


- Maintenance-free
- Wear-resistant
- Insensitive to impacts and vibrations
- Corrosion-resistant
- Resistant to dirt, dust and humidity
- Low coefficients of friction
- Weight reduction

- Dry-running
- For short-stroke applications
- High static load capacity
- High speeds and accelerations possible
- Self-lubricating
- Very quiet operation
- Low/no magnetism



Roller bearings – Point contact



Plain bearings – Surface contact



Resistant to dirt, dust and moisture – due to due to lubricant-free use and ribbed sliding surface.

Optimum load distribution

drylin® linear bearings operate on gliding pads unlike the traditional recirculating ball bearing systems. This gives a larger contact surface resulting in lower surface pressure. This leads to advantages which include:

- The use of non-hardened shafts
- The use of non metallic shafts
- Scratching and shaft damage is completely excluded.

Shafts and rail materials

The large surface area of drylin® linear plain bearings, when compared to traditional ball bearings, means that under a given load the bearing pressure is greatly reduced. This allows soft shaft materials to be used, including hard anodized aluminum, which in turn gives additional benefits in friction and wear rate values. Also VA stainless steel shafts can be used when chemical resistance is required. Of course, standard linear hardened shafts can also be used with drylin® linear bearings.

Dry Run, without Lubrication

drylin® linear bearing systems are designed for running dry. As there is no grease or oil present, the application tends to naturally self clean, any particles are wiped away from the sliding surface by the ribbed design of the drylin® polymer bearing. This works well even in coarse dirt or even sand.

drylin® | Glides instead of Rolling!

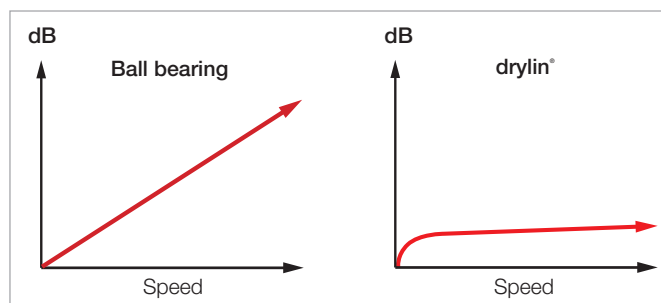
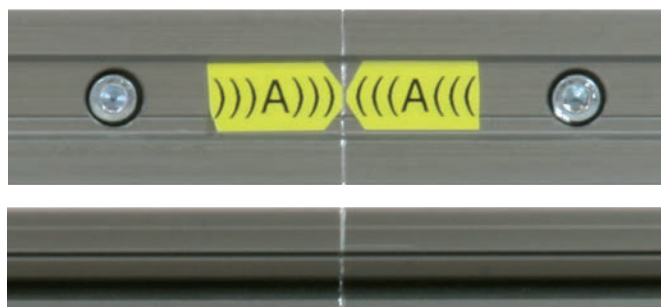
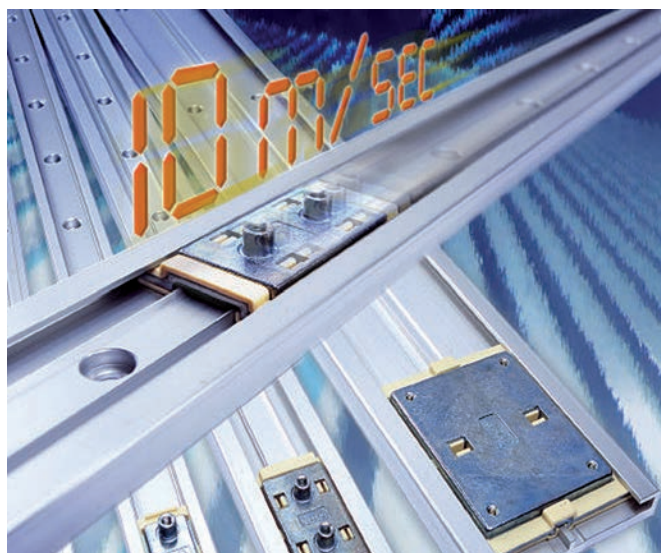


Diagram 01: Comparison of noise development



Rail joint



Heat conductivity	[W / m · K]
Aluminum	235
Unalloyed steel	48 - 58
High-alloyed steel	15

Table 01: Heat conductivity

Average surface speed

= Travel distance per cycle [m] / total cycle time [sec].

Low Noise

The quiet operation is also a benefit of sliding rather than rolling, there are no loud collisions between a hard steel ball and the shaft or rail. The gliding motion is extremely quiet and only a light friction noise is audible.

Maximum stroke lengths

The line up of guide rails (joining) poses no challenge for drylin® linear guides. The guide rails are slightly chamfered, aligned and simply butted together. The groove resulting from the joint can be passed over by the sliding bearing without problems. With the drylin® linear plain bearings, a ball or roller cannot get stuck. In this way stroke lengths of more than 20 meters can be implemented. The joining of the rails is made as straight forward as possible by clear marking provided at the igus® factory before despatch.

Permitted Speeds/Accelerations

drylin® linear plain bearings eliminate rollers and balls. This makes the bearing independent of the mass inertia of this body and can be used with high speeds up to 10 m/s and accelerations up to 100G.

drylin® linear bearings are therefore especially suitable for applications with light loads, where the speeds should be increased. The use of hard-anodized aluminum as a friction partner lowers the operating temperature in the bearing due to the high thermal conductivity of aluminum. Thus the operation can be carried out with a high frequency even at very short stroke lengths.

The maximum average surface speed results from the load on the bearings. With decreasing surface load, higher speeds can be achieved. More important than the maximum speed reached is the average speed over a period of time, because this has the most influence on the heating of the bearing system. In cases with breaks between the individual cycles, the maximum average surface speed is critical, which is achieved during a period of 10 to 30 minutes.



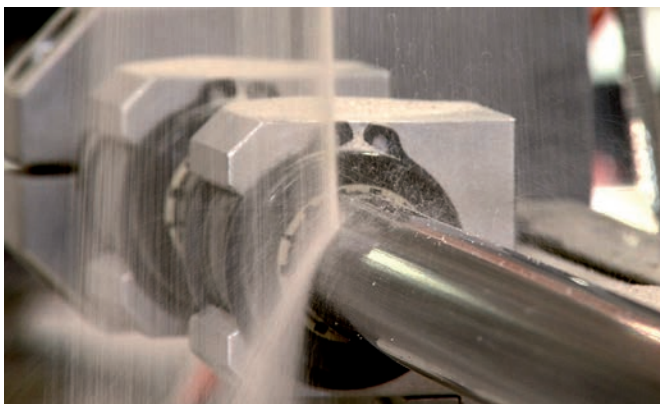
Extreme application conditions in the offshore industry



Filling machine, Krones AG, Rosenheim



The iglidur® X material in heavy-duty use under high temperatures in foundries



Lubrication-free and insensitive to dirt

Corrosion Behavior

The low humidity absorption of iglidur® J, J200 and X permits even underwater applications. The use of stainless steel or anodized aluminum shafts provide a corrosion-resistant guide system. Anodized aluminum is resistant to chemically neutral substances in the range pH 2 to 7.

For special applications separate tests are recommended for anodized aluminum sample parts for that specific application, igus can supply, free of charge, small sample lengths for this.

Chemical Resistance

igidur® J is resistant to weak acids, diluted alkalis as well as to fuels and all kinds of lubricants. The intensive cleaning of machines with standard commercial cleaning agents, even in the food sector, is therefore not a problem for the guides. For applications in environments with aggressive chemicals, the use of the drylin® R bearings equipped with iglidur® X liners is recommended.

The resistance of linear bearing systems is equally dependent on the shaft or rail material. As an option most resistant to chemicals, a high-alloyed stainless steel is offered, for instance X105 CrMo 17 (1.4125), or alternatively the use of soft VA steels (e.g. 1.4571).

Application Temperatures

Bearings made of iglidur® J and J200 can be used in the temperature range between -50 and +90 °C. In applications with aluminum shafts and/or rails, significantly higher loads and speeds can be achieved due to the excellent heat conductivity. Bearings made of iglidur® X can be used in the range of -100 °C to +250 °C.

Use in Dirt

Applications in coarse dirt and even sand are possible. Particles are repelled from the contact surface by the movement itself.

Hard Anodized Surfaces

Hard anodized surfaces are characterized by good wear properties, high chemical resistance and a high degree of hardness. It is a technical and not a decorative surface. Color alteration and slight cracking may occur, but do not influence the resistance, the corrosion behavior or the gliding bearing. Cutting surfaces and machined surfaces are uncoated.

Materials

igus® offers different options for the bearing and shaft/rail materials for drylin® linear systems. Tests conducted over the years have shown that iglidur® J, J 200 and X are the ideal materials for most linear applications due to their positive properties in wear and friction.

Ideal Material Combinations

igidur® J

The iglidur® J material achieved the best results among almost all shaft materials in our tests. Comparative laboratory tests show that iglidur® J is the most low-wear, low-friction polymer for linear applications.

Special properties of iglidur® J:

- Maintenance-free, dry-running
 - Low coefficients of friction with all materials
 - Excellent wear resistance
 - Low humidity absorption
- More about iglidur® J from **page 93**.

igidur® J200

igidur® J200 was designed and developed especially for linear applications which use hard-anodized aluminum. This combination achieves by far the best results in our laboratory tests.

Special properties of iglidur® J200:

- Totally maintenance-free
 - Extremely high service life on hard-anodized aluminum
 - Low coefficients of friction with hard-anodized aluminum
 - Excellent wear resistance with anodized aluminum
- More about iglidur® J200 from **page 279**.

igidur® X

igidur® X is characterized by high temperature resistance and compressive strength combined with extreme resistance to chemicals. iglidur® X achieves the best wear resistance on stainless steel and chrome-plated steel shafts.

Special properties of iglidur® X:

- Totally maintenance-free
 - Temperature resistance from -100 °C to +250 °C in continuous operation
 - Universal resistance to chemicals
 - Very low humidity absorption
- More about iglidur® X from **page 157**.

Other possible materials:

igidur® A180, FDA-compliant

► More about iglidur® A180 from **page 395**.



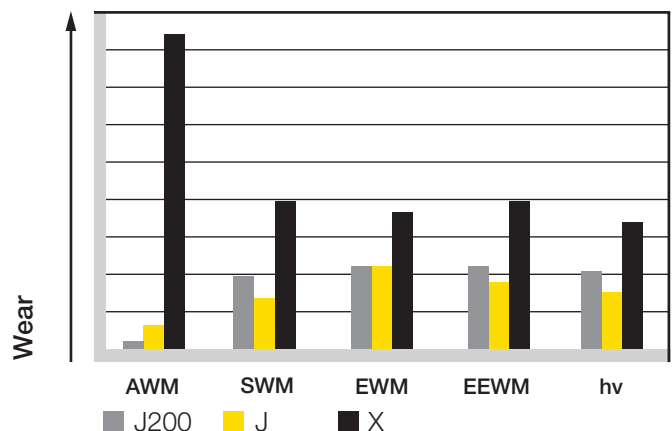
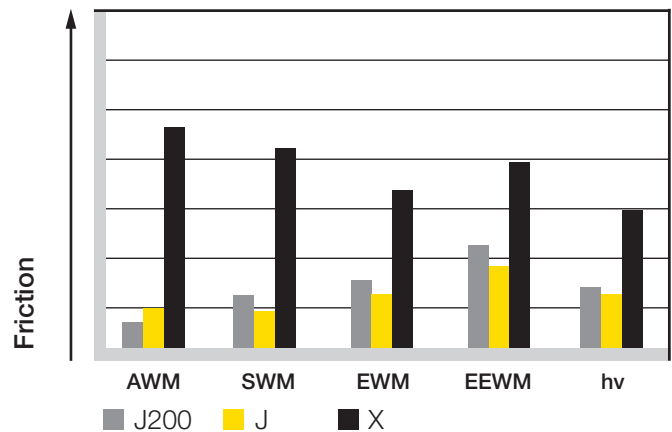
igidur® J



igidur® J200



igidur® X



AWMP:

Hard-anodized aluminum shaft, h8

SWM:

Hardened and ground steel shaft, h6, (1.1213)

EWM:

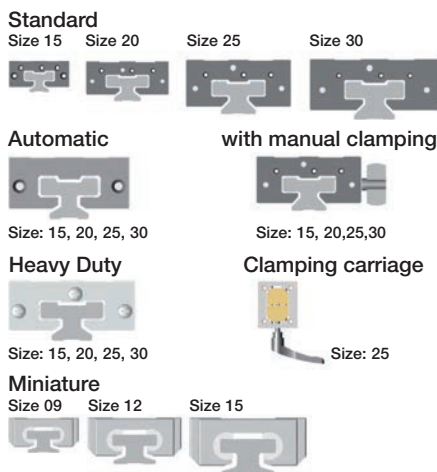
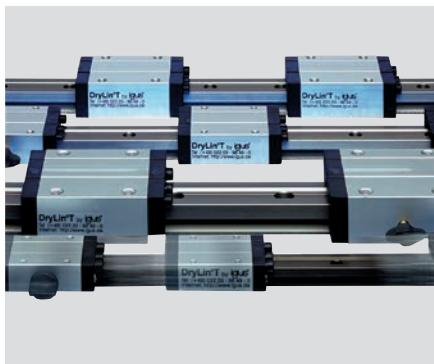
Hardened and ground stainless steel shaft, h6, (1.4125)

EEWM:

Hardened and ground stainless steel shaft, h6, (1.4034)

hv:

Hard-chrome plated and ground steel shaft, h7, (1.1213)



drylin® T Monorail Systems

► from page 799

drylin® T monorail guides are made to the classic design. Their dimensions are identical to standard commercial ball guide systems and are used in almost all industries.

- 100 % lubrication-free
- Adjustable clearance
- Automatic clearance adjustment
- High static load capacity
- Service life up to 50,000 km
- High insensitivity to dirt

	Max. stat. load capacity:
	Max. application temperature
	Corrosion resistance:
	Chemical resistance:
	Insensitivity to dirt:

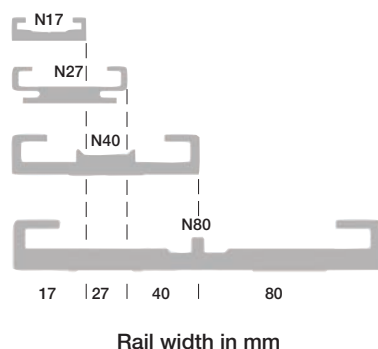
14,000 N

–40 °C to +90 °C

● ● ● ●

● ● ● ●

● ● ● ● ● ●



drylin® N Low Profile Guide Systems

► from page 821

drylin® N flat guides have an extremely low profile, run lubrication free and are very light. If extreme precision is not required, they are an interesting alternative to miniature ball guide systems and custom solutions.

- Design height: 6–12 mm
- Many carriage options – also with pretension
- Rails in silver or black anodized

	Max. stat. load capacity:
	Max. application temperature
	Corrosion resistance:
	Chemical resistance:
	Insensitivity to dirt:

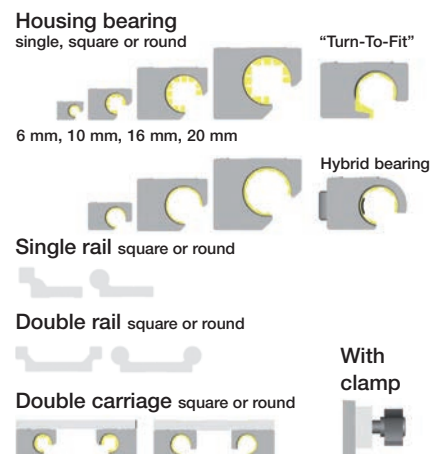
1,000 N

–40 °C to +90 °C

●

●

● ●



drylin® W Modular Guide Systems

► from page 835

drylin® W profile guides offer a large and varied modular system with 14 different profiles and more than 50 carriage options. The system offers versatile use and is an alternative to all common guide systems.

- Easy installation
- Angular rail with floating bearing function enables a diagonal assembly
- Space saving and compact
- VA stainless steel version also available

	Max. stat. load capacity:
	Max. application temperature
	Corrosion resistance:
	Chemical resistance:
	Insensitivity to dirt:

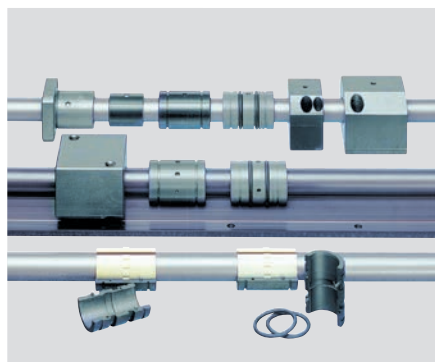
12,800 N

–100 °C to +250 °C

● ● ● ● ● ●

● ● ● ● ● ●

● ● ● ● ● ●



Liner
open or closed

Linear bearing
open or closed



Solid polymer bearing



Housing bearing



Shafts



aluminum, steel, stainless
steel, carbon fibre,
precision shafts

supported shafts

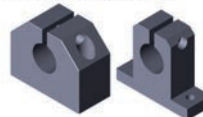


supported
low level supported

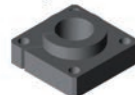
End blocks



Shaft end supports



flange shaft end support



Trapezoidal and high helix lead screw nuts
sleeve Flanged



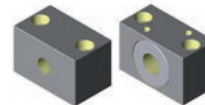
Trapezoidal and high helix lead screws



Lead screw nuts,
preload



Lead screw
support blocks



drylin® R Round Shaft Guide Systems

► from page 869

drylin® R shaft guides as an alternative to ball bushings. Polymer plain bearings can now work lubrication-free on all available shaft materials, and not only on hardened steel shafts.

- Same dimensions as standard ball bearings
- Shafts, Pillow Blocks and Accessories available from stock
- 8 different shaft materials
- Interchangeable liners
- Low weight



Max. stat. load capacity:
40,000 N



Max. application temperature
-40 °C to +250 °C



Corrosion resistance:
● ● ● ● ●



Chemical resistance:
● ● ● ● ●



Insensitivity to dirt:
● ● ● ● ●

drylin® Shafts

► from page 927

Besides the plain bearing, a linear system also includes the shaft and its surface finish. The objective is to provide the customers with the ideal material to optimize the coefficients of friction, resistance and service life. To this end, a design kit, consisting of 8 shaft materials and 29 plain bearing materials are available.

- Low weight
- More than 50% cost saving
- Also supported shafts
- Individually machined
- Available from stock
- Diameters 6–50 mm
- fixed and moving shaft supports
- shaft end supports with different designs

drylin® Lead Screw Drives

► from page 947

drylin® lead screw drives convert a rotary motion into a linear motion. The plastic nuts run completely lubrication-free on trapezoidal or high helix lead screws.

- Maintenance-free, dry-running
- Low noise
- High insensitivity to dust and dirt
- Corrosion-free
- Trapezoidal and high helix lead screws
- High efficiency



Max. stat. load capacity:
20,400 N



Max. application temperature
-20 °C to +150 °C



Corrosion resistance:
● ● ● ● ●



Chemical resistance:
● ● ● ● ●



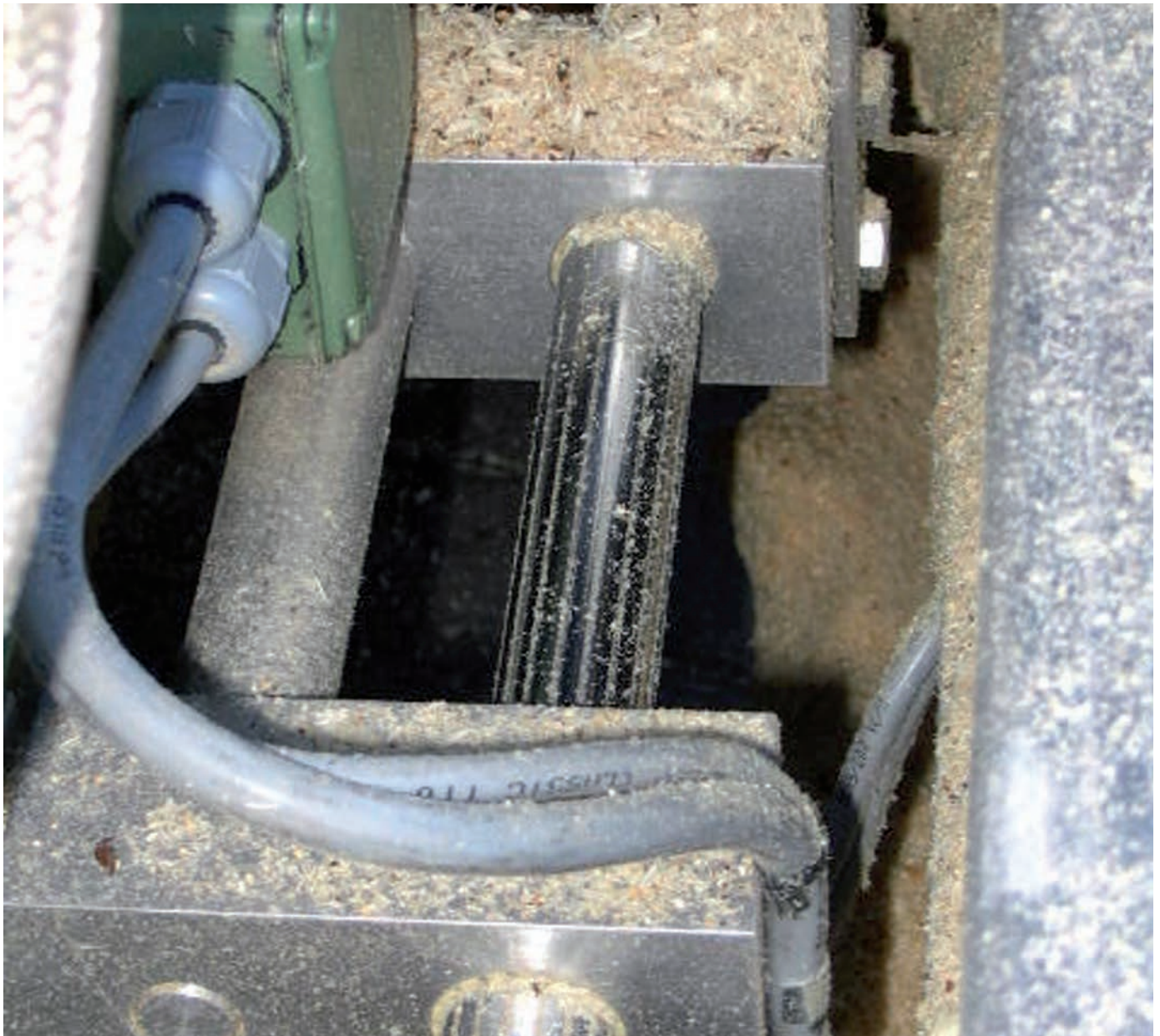
Insensitivity to dirt:
● ● ● ● ●

Insensitivity to Dust and Dirt

drylin® linear bearings offer the ultimate dirt and dust resistance. As external lubrication is eliminated, dirt particles cannot get stuck in oil or grease residues. If they are on the guideway, they are removed from the track by the plastic gliding element that acts like a wiper. The lack of seals enables the gliding elements to guide the dirt through the bearing via channels and thus minimize pressure build-up in front of the bearing. If the liners get worn out due to extremely dirty conditions, these can be easily replaced in all systems.

Typical sectors of industry and application areas

- Agricultural economy ● Plant design ● Printing industry ● Glass industry ● Heavy Duty
- Woodworking ● Textile technology ● Packaging



drylin® in the heaviest environments



Parting unit with talcum powder



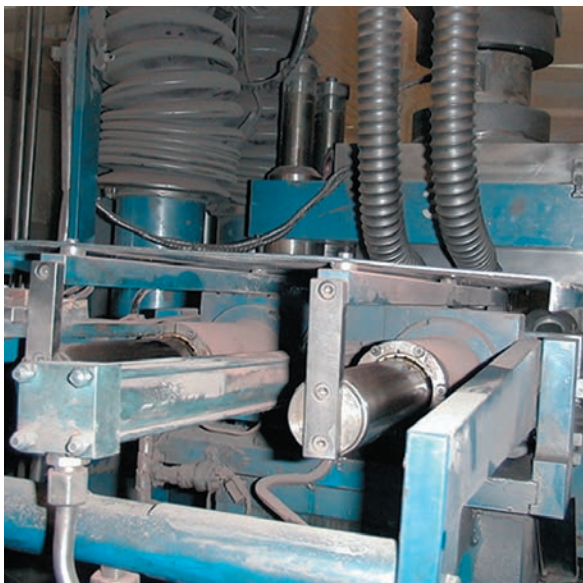
Mobile saw mills



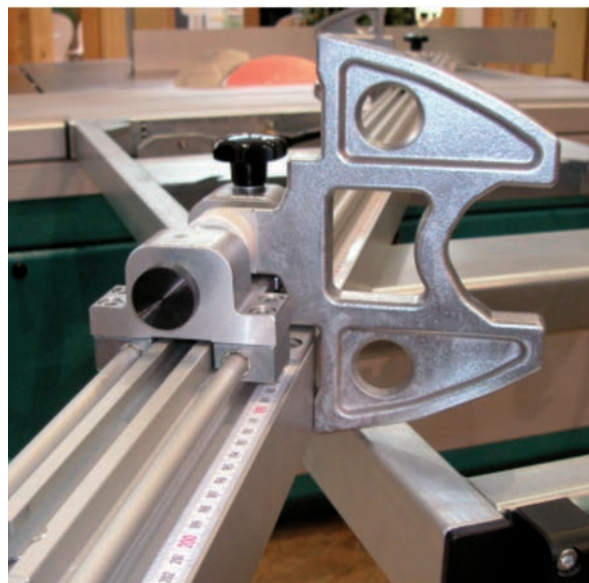
Welding head



Concrete cutting machine



Filling-shoe mechanism in a compaction unit



Stop dog system of a sliding table panel saw

Clean and hygienic

drylin® linear guides work with plastic sliding bearings instead of balls. These plastics are iglidur® high-performance polymers which integrate dry lubricants within the material. Compared to roller guides this enables a lubricant-free operation and gives guarantee to the user that machine parts or products to be packaged will not be contaminated by oil.

Typical sectors of industry and application areas

- Automation ● Automotive ● Electronics industry ● Film and TV ● Food industry ● Medical
- Furniture/industrial design ● Test engineering and quality assurance ● Cleanroom
- Sports and leisure ● Packaging



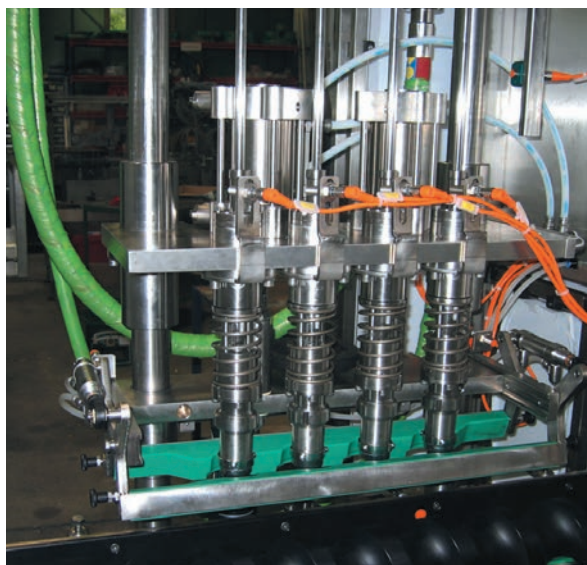
Vacuum pressure casting machine with drylin® W feeder



Fitness equipment: Seat height adjustment for bench press



Adjustment of kitchen worktop



Beverage can emptying device



Table pull-out mechanism



Pizza machine



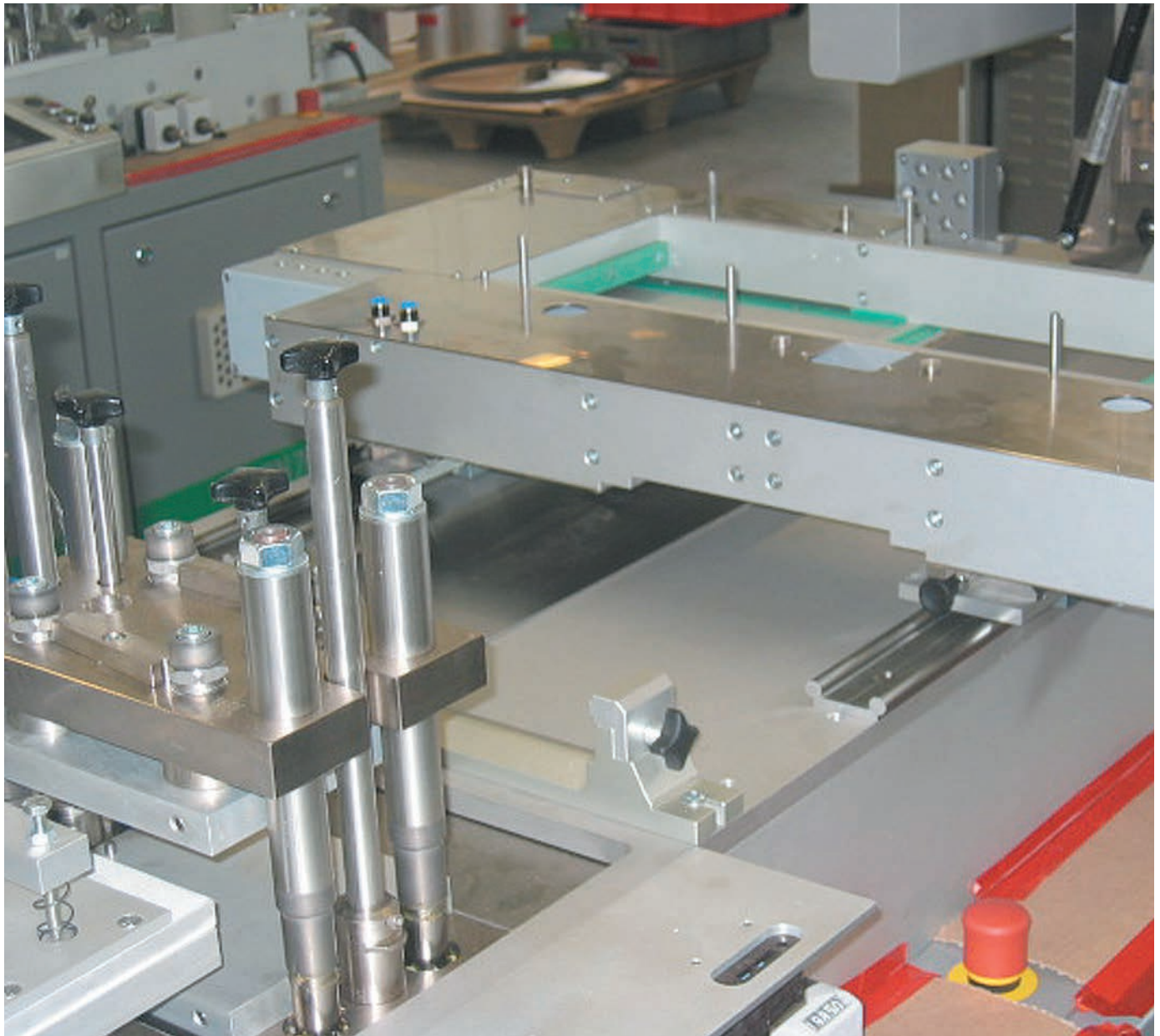
Filling system

Corrosion and Chemical Resistance

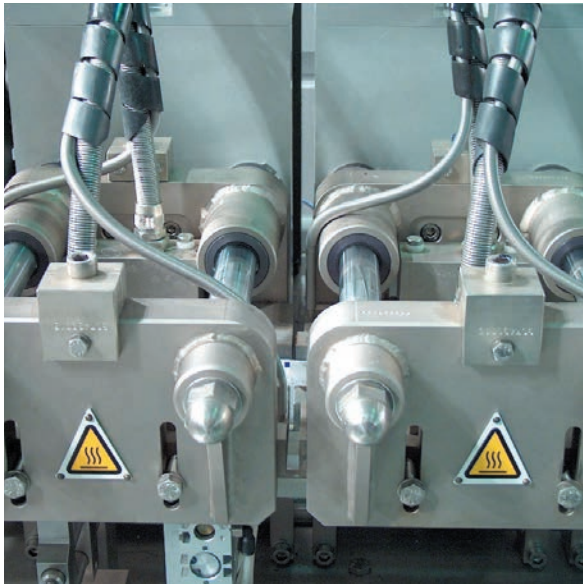
Some parts of the drylin® linear bearing range can be manufactured in pure stainless steel. Here the materials 1.4301, 1.4305, 1.4408 and 1.4571 are often used – generally described as VA. These soft stainless steels are chemically resistant materials and can be used as linear guides without problems along with iglidur® J and/or iglidur® X bearings.

Typical sectors of industry and application areas

- Disposal engineering ● Fluid technology ● Beverage technology ● Food industry
- Offshore ● Marine engineering



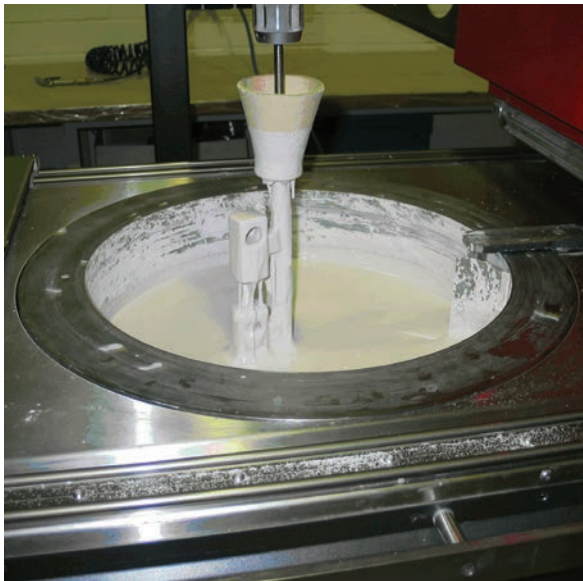
Blister machine/Packaging technology



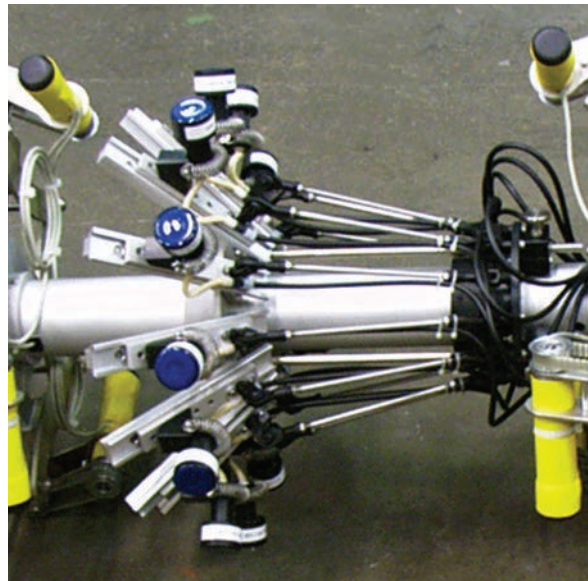
Forming, filling and sealing machine



Steering systems on bus trailers



Plant for the manufacture of die-casting molds



Offshore-Drilling-Riser



Leather splitting machine



Bag forming, filling and sealing machine

Clean Room Suitability and ESD Compability of drylin®

Linear Guide Systems by igus® GmbH

All drylin® guide systems are clearly qualified for clean room applications. The differentiation between the various clean room classes is only dependent on load and speed of the application. The combination of iglidur® J and hard anodized aluminum is classified as level 1 in the ESD compatibility according to SEMI E78-0998 (Highest rank).

The following drylin® guide systems by igus® GmbH were examined: N40, W10, T25 and T30. See below for detailed results.

Linear guide system drylin® TK-10-30-01:

“For the linear guide system drylin® TK-10-30-01 by igus® GmbH, it is possible, on the calculations of the likelihood of violation of threshold values of the detection sizes 0.2 µm, 0.3 µm, 0.5 µm, and 5 µm with motion speed of $v = 0.1$ m/s, to clearly derive suitability for clean rooms classified as ISO Class 3 according to DIN EN ISO 14644-1.”

Linear guide system drylin® NK-02-40-02:

“For the linear guide system drylin® NK-02-40-02 by igus® GmbH, it is possible, on the calculations of the likelihood of violation of threshold values of the detection sizes 0.2 µm, 0.3 µm, 0.5 µm, and 5 µm with motion speed of $v = 1$ m/s, to clearly derive suitability for clean rooms classified as ISO Class 6 according to DIN EN ISO 14644-1.”



The measurement results of the ESD compatibility according to SEMI E78-0998 show that the linear guide system drylin® NK-02-40-02 can be classified as “level 1” (Highest rank). See Fraunhofer IPA Report No.: IG 0308-295 73.

Linear guide system drylin® TK-01-25-02:

“For the linear guide system drylin® TK-01-25-02 by igus® GmbH, it is possible, on the calculations of the likelihood of violation of threshold values of the detection sizes 0.2 µm, 0.3 µm, 0.5 µm, and 5 µm with motion speed of $v = 1$ m/s, to clearly derive suitability for clean rooms classified as ISO Class 5 according to DIN EN ISO 14644-1.”

The measurement results of the ESD compatibility according to SEMI E78-0998 show that the linear guide system drylin® TK-01-25-02 can be classified as “level 1” (Highest rank).

Linear guide system drylin® WK-10-40-15-01:

“For the linear guide system drylin® WK-10-40-15-01 by igus® GmbH, it is possible, on the calculations of the likelihood of violation of threshold values of the detection sizes 0.2 µm, 0.3 µm, 0.5 µm, and 5 µm with motion speed of $v = 1$ m/s, to clearly derive suitability for clean rooms classified as ISO Class 6 according to DIN EN ISO 14644-1.”

The measurement results of the ESD compatibility according to SEMI E78-0998 show that the linear guide system drylin® WK-10-40-15-01 can be classified as “level 1” (Highest rank). See Fraunhofer IPA Report No.: IG 0308-295 74.

