Cranes... solutions for crane builders and operators...
Dear customers,

We would like to introduce you to the high-tech products of igus® for your particular branch of industry. igus® energy chain systems® are a highly effective alternative to conductor rails, festoon systems and motor cable drums.

igus® e-chainsystems® and chainflex® flexible cables are in use worldwide in more than 10,000 port-facility applications: Ship-to-shore cranes, bulk-cargo handling cranes, RTGs, RMGs, Goliath cranes, spreaders, reach stackers etc.

The main advantages for crane builders and operators are:

- Space-saving design
- No additional drives are necessary
- No control system is necessary
- All media can be transported: energy, data, air, water etc.
- Easy maintenance lowers your downtime
- Wind and weather resistant
- Synchronous run of trolley and energy chain system®
- Easy and fast installation of additional cables
- No spare parts
- Spare part guarantee for ten years and more

Also, see our industry website:

www.igus.eu/cranes

Here you can find detailed information, helpful online tools and much, much more. Our crane experts can be reached in the most important countries worldwide. You can obtain direct and personal information from our highly competent staff in the igus® “Cranes” business unit, which is located in Cologne.

Enjoy reading!
Reach Stacker
Boom & Cabin Travel
Automated Stacking Cranes (ASC)
Trolley Travel

Goliath Crane
Upper & lower
Trolley Travel

Rubber Tyre Gantry (RTG)
Trolley Travel

igus® e-rover:
RTG electrification
for Stack Travel

Ship To Shore Cranes (STS)
Trolley Travel

Rail Mounted Gantry (RMG)
Trolley Travel

Ship To Shore Cranes (STS)
Crane Travel

Straddle Carrier
Spreader Travel

Spreader

Automated Stacking Cranes (ASC)
Trolley Travel

Reach Stacker
Boom & Cabin Travel

igus®: Rubber Tyre Gantry (RTG)
**Advantages of the e-chainsystems®: Cost down ...**

<table>
<thead>
<tr>
<th>STS</th>
<th>RTG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Travel</strong></td>
<td>94 m</td>
</tr>
<tr>
<td><strong>Max. speed</strong></td>
<td>240 m/min.</td>
</tr>
<tr>
<td><strong>Max. acceleration</strong></td>
<td>1 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>4040RHD.25.250.S10.0.E</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF38 / CF37 / CF10 / CF11 / CFLG</td>
</tr>
<tr>
<td>Location</td>
<td>Netherlands</td>
</tr>
<tr>
<td><strong>Travel</strong></td>
<td>20 m</td>
</tr>
<tr>
<td><strong>Max. speed</strong></td>
<td>60 m/min.</td>
</tr>
<tr>
<td><strong>Max. acceleration</strong></td>
<td>0.4 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>400.25.250.0</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF300 / CF9 / CF11</td>
</tr>
<tr>
<td>Location</td>
<td>Malaysia</td>
</tr>
</tbody>
</table>
**Advantages of the e-chainsystems®:** Cost down ...

- **Travel:** 78 m
- **Max. speed:** 150 m/min.
- **Max. acceleration:** 0.5 m/s²
- **e-chain®**:
  - P4.56.20.300.S40.0.AG
- **chainflex®** types:
  - CF340 / CF330 / CF38 / CF37 / CF10 / CF9 /
  - CFLG
- **Location:** USA

**Goliath Crane**

... Service life up. Proven.

- **Travel:** 180 m
- **Max. speed:** 50 m/min.
- **Max. acceleration:** 0.1 m/s²
- **e-chain®**:
  - 5050RHD.40.250.S10.0.E
- **chainflex®** types:
  - CF310 / CF34 / CF9 /
  - CF11 / CFLG
- **Location:** China
Reach Stacker

Advantages of the e-chainsystems®: Cost down ...

<table>
<thead>
<tr>
<th>Metric</th>
<th>Travel</th>
<th>Max. speed</th>
<th>Max. acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>boom 8 m, cabin 2 m</td>
<td>15 m/min.</td>
<td>0.25 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>4040.15.250.0</td>
<td>CF9</td>
<td>worldwide</td>
</tr>
</tbody>
</table>

Straddle carrier

... Service life up. Proven.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Travel</th>
<th>Max. speed</th>
<th>Max. acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 m</td>
<td>18 m/min.</td>
<td>1 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>14550.055.200.0</td>
<td>CF9, CFBUS</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Germany</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Solutions from the igus® e-chains® construction kit

Profile roller e-chain®: For very high fill weights and speeds
Particularly quiet and low vibration, abrasion-resistant and energy-efficient on very long travels up to 800 m and more. igus® P4 – profile rolling e-chains® for very high filling weights and speeds. Increase energy efficiency and lower energy consumption with the P4 e-chainsystem®.

www.igus.eu/P4

... energy-efficient

... long travels of 800 m and more

rol e-chain®: rolling instead of gliding
The igus® rolling e-chain® is ideally suited for applications in which long travels with high speeds must be implemented. Travels of over 800 metres or extreme travel speeds of up to 10 m/s with cable loads of up to 50 kg/m are possible.

www.igus.eu/role

Suitable chainflex® range of cables from stock, also assembled with connectors.
**Solutions from the igus® e-chains® construction kit**

One e-chain® series for almost any application: System E4.1

The E4.1 system combines all the advantages of the previous three versions and is the best igus® e-chain® in the product range. The series E4.1 is more stable at the same or even smaller dimensions than the previous versions. Almost all accessories and mounting dimensions are identical. You can increase the service life of your application again with the igus® system E4.1 while lowering costs.

www.igus.eu/E4-1

---

**Heavy duty: highly-stable e-chains® for the highest loads**

igus® HD e-chains® have been developed specifically for the highest loads and long travels. Up to 20% higher tensile strength than comparable igus® series. Extremely torsion-resistant and wear-resistant thanks to large sliding surfaces.

www.igus.eu/E4HD
chainflex® for the ...  ... crane industry

36 months guarantee for all cables* ...

... more than 1,040 chainflex® cable types from stock

More than 1,040 chainflex®
cables for use in e-chainsystems®
- Wear-resistant TPE, PUR and oil-resistant PVC outer jacket
- Halogen free and/or flame retardant materials
- Smallest bend radii down to 4 x d
- 36 months guarantee for chainflex® cables
- Various approvals and standards: UL, CSA, CE, DESINA, CEI ...

Order your catalogue:
www.igus.eu/catalogue

Tested! Tested! Tested!

Cycle frequency
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
750,000
500,000
250,000
100,000
50,000
0

Sample B
Sample A

Corkscrew after 145,000 double strokes (Sample B)
igus® CF27: no wear, even after 5 million double strokes (Sample A)

* 36 months or up to 10 million double strokes (5 million for cables of the chainflex® M family); whichever is first
Aluminium trough ...

The standard: modular aluminium guide-trough construction kit

Aluminium guide troughs – heavy duty version for crane systems

- Heavy duty version of the construction kit system
- Very simple, modular assembly
- Side-mounted glide strips for wear protection for high speeds
- Corrosion resistant, seawater resistant aluminium profile (acc. to EN 6060)
- Flexible assembly - Fastening on substructure independent of profile lengths and butt joints
- Plastic glide bar made of high-molecular-weight PE
- Glide pads and insertable rubber profile for minimised noise and reduced wear

Aluminium guide trough – mounted on RTG application

- Heavy duty bracket for a secure hold even in demanding applications
- U-profile for mounting the bottom clamp or assembly bracket

www.igus.eu/s-alu

... lightweight, low cost, safe

Aluminium trough with riser guard ... for more safety

Riser guard – easy to retrofit

In the case of extremely long travels and/or very high push/pull forces, the igus® riser guard offers increased safety during movement of the e-chain®. The riser guard can now be supplied as a ready-to-install module from the modular igus® aluminium guide-trough construction kit. No complex and cost-intensive customised designs any more.

- Riser guard for use in the case of very long travels now available from stock
- Seawater- and corrosion-resistant
- Greater safety where high forces and long distances are involved, available from stock

www.igus.eu/s-alu

"Super-Alu" guide trough – mounted on RTG application

"Super-Alu" guide trough – mounted on STS application
Steel guide trough

Very stable and robust for heavy duty applications

For use where high levels of stress are encountered
- Very stable and robust guide trough made of steel
- Easy to fit with assembly sets for butt joint connection and attachment to the underlying surface
- Easy mounting directly to the base of the C-profile
- Large selection, two-piece design, adjustable to e-chain® width
- Available in galvanised steel and stainless steel (Materials: 1.4301, 14404, 14571)

- Plastic glide bar made of PE
- Side sections are mounted with the appropriate clearance and attached to the underlying surface
- Fixed end module option, for fast and easy mounting - without any drilling available
- Conductivity according to DIN EN 61537 (standard)

www.igus.eu/steelguide

Torsional & circular motion

Rotating movements, e.g. on the trolley

The igus® system for fast rotary applications as a "standard product"

The rotary module consists of two circular guide elements. One part of the guide trough is attached to the static part of the system and the other part to the rotating part of the system. Because the rotary modules can be turned in both their inner and outer parts, the fixed end for the e-chains® can be chosen freely. The e-chains® from the E4.1 series are used for the rotary modules.

- Maximum angle of rotation in very small installation space
- Rotating speed of up to 360°/s
- Lighter and more compact than static guide troughs
- Minimum displacement forces and maximum service life due to divided guide trough
- Modular construction with standardised mounting variants
- Integrated strain relief and cable guides in guide trough

www.igus.eu/RBR

Heavy duty guide trough made of stainless steel – mounted on STS application

Stainless steel guide trough – for rotating installations
**Special solutions ...**

_igus® engineering: e-chain® solutions ..._

- 'Floating' moving end for compensation of lateral difference between travel of trolley/crane and that of the readychain®. Optionally available with electronic push-pull displacement force monitoring in conjunction with continuous monitoring of target/actual parameters and an emergency stop function.

**... from the construction kit**

_... especially for all your requirements in cranes_

- _e-spool power_
  - For lengths when extended of more than 25 m
  - Long service life due to motorised retraction system
  - Outdoor use also possible at temperatures below 0 °C

- **www.igus.eu/engineering**

- _igus® trough mounted on the RTG girder: igus® supplies special tailor-made troughs for the protection of readychains® against different types of weather_

- _Hold-down devices: readychains® move safely over long travels and at a high rate of acceleration. The hold-down device prevents the readychains® from rising when the crane accelerates very quickly_

- _Coupling at the coupling point, including limit switch that monitors the connection_

- _Coupling element: Port cranes are equipped with a boom. In order to ensure that the trough on the boom and the trough on the crane girder are correctly connected to the guide trough, igus® has developed a special means of attachment for the pivot point. The chain can therefore run next to or beneath the crane girder_
Condition Monitoring ...

PPDS: Push pull force detection system

Avoid equipment failures

Electronic diagnostic tool

Trigger an alarm in the event of an e-chain® component defect

The EMA system is an electronic diagnostic tool that displays necessary maintenance tasks to prevent system damage as well as downtimes. Foreign objects, such as a tool box, for example, that fall onto the e-chain®, or other e-chain® overloads can lead to a side part breaking. This breakage is then signalled to an analysis unit via a sensor polymer wire to ensure that the second side part does not break which would result in a standstill. Without the EMA, the e-chain® would continue to run and the second side part would then be subjected to an overload. This second side part would also break after a short time and result in the system coming to a standstill.

The maintenance signal allows you to monitor the system and change the chain link at the next possible time. The “EMA system” can also be combined with the igus® PPDS.

Floating moving end available for PPDS basic

- 3 PPDS systems are available
- Easy installation by means of non-interchangeable connectors
- Easy programming using the membrane keypad directly at the device
- Compact housing, strong, corrosion resistant
- The force limit is programmed in tensile and compression direction
- The plant stops when the force is exceeded
- Custom programmable and event logging in the data memory

www.igus.eu/PPDS

www.igus.eu/EMA
**igus® coupling for RTGs ...**

Automatically couple RTGs with electricity and data: The e-rover from igus®

The system supplies mobile container bridges via an extendible telescopic arm

With the e-rover, igus® has developed a system that automatically couples rubber tyred gantry cranes with an energy-chain system in a flash. A telescopic arm connects the energy supply chain, which is guided in a trough, to the RTG. This ensures a reliable energy supply and good data transmission – including via FOC cables.

Rubber tyred gantry cranes (RTGs) are mobile container bridges. You can switch between the container lanes. The RTGs are generally fuelled with diesel. To reduce energy costs and protect the environment, development activities in recent years have increasingly focused on electrically operated vehicles that are coupled to an energy supply when they are currently in a lane. igus® GmbH has implemented improvements to its e-rover, which now enables automatic coupling to and uncoupling from the energy chain system®. This makes it possible to reliably transmit energy and data in a wired manner – even using FOC cables with Gigabit speed. Coupling can be completed in around a minute and there are no restrictions on the RTG’s operating speed. Once the RTG has been "plugged in" to the energy chain system®, the diesel-fuelled energy supply is cut off. Cables with a cross section of 180 mm² per phase can currently be used.

www.igus.eu/e-rover

**... automatic coupling**

Highest data rates reliably transmitted by igus®

Compensation of horizontal and vertical unevenness.

The system uses a retractable/extendible telescopic arm on the RTG. This has two benefits: firstly, it enables automatic coupling and the energy chain®, which can be used to simultaneously guide all media, is moved with the RTG. Thereby guaranteeing the supply of energy and data. Secondly, it is possible to compensate horizontal and vertical unevenness and misalignments in the travel. The system is suitable for long travels of up to 500 meters and more depending on the customer requirements in the container port.

- Fast and reliable data transmission e.g. with fibre-optic cables
- Wide selection of performance, data and control cables, incl. fibre-optic cables for data transmission
- Two RTGs in one container aisle with one trough system possible. If there are three or four RTGs per aisle, a second trough is necessary
- Reduces RTG operating costs. The savings potential is comparable with that of conventional systems
- Environmentally friendly
- Resistant to dirt
- Very little maintenance required, no wearing parts that have to be replaced at specified intervals
- Travels of up to 500 m and more possible

How the igus® coupling works:

- The RTG is coupled to the electrical supply system during operation in the stack ...
- ... the igus® e-rover reliably transmits all power, data and signals (including FOC) ...
- ... once coupling is complete, the RTG is operated electrically offering low emissions ...
- ... compensation of horizontal deviations ...
- ... and vertical deviations (height differences) ...
- ... igus® e-rover saves costs and improves the performance of the technical equipment
d-rover – data transmission

RTG coupling for data: up to 10 Gbits

The system combines reliable and uninterrupted high-speed data transmission (maximum data rate of 10 Gbits), with FOC cables. Suitable for HD video streams and travels of 800 m and more.

www.igus.eu/e-rover

Vertical cable guide

guidelok slimline P: 80% less guide trough costs

guidelok slimline P – reliable vertical cable guide up to 50 m

In highly dynamic storage and retrieval systems a speed for the horizontal movement exceeding in 7 m/s is not uncommon. With the igus® guidelok slimline, the e-chains® are guided safely, even at very high speeds.

- Up to 7 m/s and 10 m/s²
- Save up to 80% troughs
- Saves costs and weight significantly
- For hanging systems up to 50 m
- No swinging of the chain®, high reliability due to the lock mechanism and guiding rails
- Faster and easier installation
- Reduced noise
- Easy access for servicing
- Energy + data + media are safely and smoothly transmitted in one system

www.igus.eu/GLSLP

Passenger lift: Cables, guided by guidelok slimline
As assembled system

readychain®: chain - cable - guarantee ... delivered in 3-10 days

readychain® – fully harnessed systems in 3-10 days
1,600 systems produced per week in 12 readychain® factories around the world – assembly time optimised to increase your cash-flow.
● Eliminate storage costs for cables, e-chains® and connectors
● Cut turnaround times by half
● Flexibility when orders vary
● Reduce the number of suppliers and orders by 75%
● Minimise your machine downtime
● igus® system guarantee – depending on the application

readychain® installation on a bulk-material handling crane with the help and support of igus®. The weight of the e-chain® including chainflex® is more than 2 t

Delivered ready for installation and just in time

Pre-assembled systems of up to 200 m are possible

readychain® installation on a bulk-material handling crane with the help and support of igus®.

New installation

Installation, retrofit, monitoring

Save time and money on maintenance and installation of your energy chain systems®

Design, harnessing, delivery up to complete assembly of energy chains® with all components
Machines must work reliably and without problems. This requires reliable energy chain systems® and cables, which guarantee a long service life and a quick service, by which machine downtimes can be avoided or reduced in case of emergency.

Our service:
● Predictable fixed cost for the installation, maintenance or inspection of energy supply systems on your system
● Fast and accurate installation and maintenance of all components by qualified specialists
● Minimal down time
● Products and services (energy chains®, cables, strain relief, guide troughs, etc.) from a single source – less logistics costs for you
● igus® system guarantee – depending on the application
● Online installation-cost calculator – Calculate the costs quickly

www.readychain.eu

www.readycable.eu

igus® provides more than 4,000 harnessed cables for drives according to 24 different manufacturer standards. Professionally produced, 100% tested.

www.readycable.eu

Readycable®: harnessed drive cables ... in 24-48h

readycable®

Delivered ready for installation and just in time

New installation

Chain monitoring

Upgrades / Replacement

Repairs
Mobile shore supply ...

igus® quayside connections: Different technologies ...

The materials handling capacity at the quayside is the crucial criterion for the economic efficiency of a container terminal. Stationary shore terminal boxes restrict the mooring position of the ship to be loaded or unloaded and reduce economic efficiency; igus® energy supply solutions eliminate this restriction as they make the shore connection mobile. This ensures that the container terminal is highly flexible and therefore economically efficient.

- Seawater, oil, corrosion and weather resistance
- Certified and with igus® system guarantee
- Perfect fit and ready to connect, all from a single source
- Low weight but very robust
- No slip ring, no gearbox and no additional drive
- With control unit
- Free cable selection with easy cable change or addition
- Very little preventive and corrective maintenance necessary

www.igus.eu/shorepower

... flexibility

... always the perfect match for your application

Stationary shore supply

igus® mobile shore supply

igus® rol e-chain® guided in the shaft
The optimum solution for greenfield terminals

igus® rol e-chain® on stilts construction
The space-saving solution for brownfield terminals
Tested! Service life ...
Tested in the 2,750 m² chain and cable laboratory in Cologne. 4,100 tests, 7,512 findings added to the electronic database, 10 billion e-chains® cycles per year for chains® and cables ...

Better products for less – a key element is the industry’s largest test lab. 2,750 m² 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 test presented by production reality because they have already passed this test before leaving the igus® warehouse.

Polymer bearings technology: tested a thousand times ... under real conditions

www.igus.eu/test

... predictable
Tested, tested, tested ... For example:

Many types with fire class UL94-V2 or V0

Service life test under high vibration

Test for torsion with e-chains® and chainflex® cables

Determining the maximum e-chain® sag, as a "chain-in-chain" solution in this example

Outdoor test facility with up to 240 m travel for the 24 hours outdoor test

Determination of the maximum service life, tested in e-chain®. More than 65 million strokes
### Low maintenance ...

#### Ship-to-shore cranes

<table>
<thead>
<tr>
<th>Travel</th>
<th>120 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>max. 4 m/s</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>0.5 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>P4.56.20.300.S40.0.AG</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF300 / CF10 / CF9 / CFLG</td>
</tr>
<tr>
<td>Location</td>
<td>China</td>
</tr>
<tr>
<td>More references</td>
<td>Europa</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Travel</th>
<th>118.5 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>210 m/min</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>3.5 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>4040CR.15.200.S10.0.E</td>
</tr>
<tr>
<td>Location</td>
<td>Europe</td>
</tr>
<tr>
<td>More references</td>
<td>worldwide</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Travel</th>
<th>99.8 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>3.5 m/min</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>0.8 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>4040CR.22.300.0</td>
</tr>
<tr>
<td>Location</td>
<td>China</td>
</tr>
<tr>
<td>More references</td>
<td>Europa</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Travel</th>
<th>120 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>max. 4 m/s</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>0.5 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>4040CR.18.200.0</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF9 / CFBUS / CF300</td>
</tr>
<tr>
<td>Location</td>
<td>Germany</td>
</tr>
<tr>
<td>More references</td>
<td>Europa</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>

### ... no spare parts

#### Bulk-material handling cranes

<table>
<thead>
<tr>
<th>Travel</th>
<th>26.5 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>1 m/s</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>0.5 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>5050R.27.250.0</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF300 / CF9 / CF34</td>
</tr>
<tr>
<td>Location</td>
<td>Germany</td>
</tr>
<tr>
<td>More references</td>
<td>Europa</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Travel</th>
<th>224 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>40 m/min</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>0.2 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>4040CR.22.300.0</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF9 / CF11 / CF34</td>
</tr>
<tr>
<td>Location</td>
<td>China</td>
</tr>
<tr>
<td>More references</td>
<td>worldwide</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Travel</th>
<th>195 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. speed</td>
<td>20 m/min</td>
</tr>
<tr>
<td>Max. acceleration</td>
<td>0.2 m/s²</td>
</tr>
<tr>
<td>e-chain®</td>
<td>5050CR.35.300.0</td>
</tr>
<tr>
<td>chainflex® types</td>
<td>CF300 / CF9 / CF11</td>
</tr>
<tr>
<td>Location</td>
<td>Germany</td>
</tr>
<tr>
<td>More references</td>
<td>Europa, Asia</td>
</tr>
<tr>
<td>In use since</td>
<td>2009</td>
</tr>
</tbody>
</table>
... corrosion resistant ...

Ship unloading crane

- Travel: 151.5 m
- Max. speed: 300 m/min.
- Max. acceleration: 0.5 m/s²
- e-chain®: 4040CR.15.250.0
- Chainflex® types: CF12 / CF11 / CF9
- Location: Canada
- More references: Europa, Asia
- In use since 1998

- Travel: 106 m
- Max. speed: 240 m/min.
- Max. acceleration: 0.6 m/s²
- e-chain®: 5050RHD.12/15/12.300.0
- Chainflex® types: CF12 / CF11 / CF9
- Location: Europe
- More References: worldwide
- In use since 2004

... space-saving ...

RTG / RMG

RTG

- Travel: 19.5 m
- Max. speed: 60 m/min.
- Max. acceleration: 0.4 m/s²
- e-chain®: 400.25.250.0
- Chainflex® types: CF300 / CF34 / CF9 / CF11
- Location: Europe
- More References: worldwide
- In use since 2000

RMG

- Travel: 69 m
- Max. speed: 120 m/min.
- Max. acceleration: 0.4 m/s²
- e-chain®: 4040R.31.250.0
- Chainflex® types: CF300 / CF34 / CF9 / CF11
- Location: Europe
- More References: worldwide
- In use since 2001

Container RMG

- Travel: 113 m
- Max. speed: 2.5 m/s
- Max. acceleration: 0.5 m/s²
- e-chain®: P4.56.20.300.S40.0.AG
- Chainflex® types: CF300, CF330, CF9, CFLG
- Location: Germany
- More references: Asia
- In use since 2009

RTG

- Travel: 20 m
- Max. speed: 60 m/min.
- Max. acceleration: 0.4 m/s²
- Cable weight: 9.8 kg/m
- e-chain®: 4040.46.300.0
- Chainflex® types: CF34 / CF9 / CF11 / CFLG
- Location: Russia
- More References: worldwide
- In use since 2003
No additional drives ...

Grab cranes

Grab crane
Travel  115 m
Max. travelling speed  165 m/min.
Max. acceleration  0.7 m/s²
e-chain®  5050RHD.30.300.S10.0.E
Location  Europe
More References  worldwide
In use since 2007

Grab crane
Travel  28.6 m
Max. speed  80 m/min.
Max. acceleration  0.3 m/s²
e-chain®  400.25.300.0
chainflex® types  CF30 / CF31
Location  Europe
More References  worldwide
In use since 2000

Grab crane
Travel  21.3 m (trolley) / 52 m (crane)
Max. speed  1.33 m/s
Max. acceleration  0.25 m/s²
e-chain®  5050R.27.300.S10.0 / 5050R.35.350.S10.0
chainflex® types  CF5 / CF6 / CF30
Location  Europe
More References  worldwide
In use since 2003

... and steel construction

Mining crane / Garbage crane

Mining crane
“Rotating travel”  10 m
Max. speed  0.1 m/s
Max. acceleration  0.5 m/s²
e-chain®  600.35.300/4650.0
chainflex® types  Motor, data and control cables
Location  Europe
More references  worldwide
In use since 2001

Gantry crane
Travel  20 m
Max. speed  1 m/min.
Max. acceleration  1 m/s²
e-chain®  5050.40.200.0
chainflex® types  CF9
Location  Europe
More references  worldwide
In use since 2004

Spreader
Travel  8.4 m
Max. speed  18 m/min.
Max. acceleration  0.1 m/s²
e-chain®  3838.07.150.0
chainflex® types  Asia
Location  worldwide
More references  worldwide
In use since 1998

Spreader
Travel  8.4 m
Max. speed  15 m/min.
Max. acceleration  0.1 m/s²
e-chain®  3838.10.125.0
chainflex® types  Asia
Location  worldwide
More references  worldwide
In use since 1998
Energy, data, media ...

Straddle carriers / Goliath cranes

Straddle carrier
Travel 12 m vertically
Max. speed 17 m/s
Max. acceleration 1 m/s²
e-chain® 14550.06.200.0
chainflex® types CF46 / CF9, additional pneumatic hoses
Location worldwide
More References worldwide
In use since 2004

Goliath cranes
Travel 195 m
Max. speed 40 m/min.
Max. acceleration 0.1 m/s²
e-chain® 5050R.40.250.0
chainflex® types CF300 / CF9 / CF11
Location Asia
More references USA
In use since 2001

Reach Stacker
Travel 7.8 m
Max. speed 15 m/min.
Max. acceleration 0.25 m/s²
e-chain® 4040.15.250.0
Location Europe
More References worldwide
In use since 2004

Reach Stacker
Travel 2 m
Max. speed 5 m/min.
Max. acceleration 0.25 m/s²
e-chain® 3838.20.150.0
Location Europe
More References worldwide
In use since 2006

Reach stacker (cabin movement)
Travel 123 m
Max. speed 40 m/min.
Max. acceleration 0.5 m/s²
e-chain® 40.15/15.250.0
Location Asia
More references USA
In use since 1997

Goliath cranes
Travel 123 m
Max. speed 40 m/min.
Max. acceleration 0.5 m/s²
e-chain® 40.15/15.250.0
Location Asia
More references USA
In use since 1997

Goliath cranes
Travel 7.6 m
Max. speed 15 m/min.
Max. acceleration 0.2 m/s²
e-chain® E4.56.15.200.0
Location Asia
More References worldwide
In use since 2008

Goliath cranes
Travel 195 m
Max. speed 40 m/min.
Max. acceleration 0.1 m/s²
e-chain® 5050R.40.250.0
chainflex® types CF300 / CF9 / CF11
Location Asia
More references USA
In use since 2001

... guiding in one system
igus® services ...

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

www.igus.eu/cranes

Quickly find and configure products and calculate service life – all online.
Using our online product finders, you can find the right igus® product and get a service life prediction.

www.igus.eu/online

For any task - in any batch size

Different industries need different solutions. Whether in mechanical engineering, automotive-manufacturing or in the robot industry – igus® offers customised support for specialised applications. igus® already has many years of experience and specialised resources in many industries.

www.igus.eu/industry

... quick and reliable

The igus® delivery service
Over 97% availability of all catalogue parts – no need for you to stock
● Over 100,000 products from stock
● No minimum order
● No surcharges for small quantities
● No costs for cutting cables
● No packaging costs

www.igus.eu/24

Modern injection moulding technology
The igus® GmbH quality policy is based on the objective of identifying and meeting customer needs, and of always being a professional partner and reliable supplier. igus® has always been committed to producing products of the best possible quality and consistently developing innovative solutions.

The igus® lab
The industry’s largest test lab (2,750m²) conducts more than two billion test cycles per year on a total of 107 test rigs.
● Extensive test databases
● Customised tests on request

www.igus.eu/test

igus® motion plastics®

One vision has been driving us for 50 years – motion plastics®: moving parts made of plastic that cost less and last longer. Our core technology consists of tribo-polymers – high-performance plastics, which we have optimised for friction and wear. The technology has made us into a world-wide leader for developing and manufacturing energy supply systems and plain bearings.
Free of charge! Learn more about trends and innovations from the igus® motion plastics® world. Many exciting applications and videos, from your industry as well.
Register here: www.igus.eu/newsletter

Your contact person for your industry and your country: www.igus.eu/contact