

Quickly assembled at your site ...

Installation

Complete e-chain systems[®] with warranty



plastics for longer life[®]... igus

service...

www.igus.com/installation

ECS-B13

Professional assembly

Improve technology and reduce costs

Moving energy made easy -



igus® offers a variety of installation and inspection services for our customers including new project installation supervision, assembly and installation services, maintenance and failure inspections and reports. With over 40 years of experience in cable management solutions in a variety of industries including port equipment, automotive manufacturing, steel production, mining equipment, aerospace, robotics, D.O.T., medical devices, material handling and more, igus® brings a wealth of knowledge, experience and expertise to your project. We have the capability to provide a full offering to our clients from something as simple as the assembly of the e-chain® links to something as complex as turn-key design-build services.

In addition, because we are confident in our ability to deliver world class solutions, we are able to offer warranty extensions up to 36 months for systems that we install. Please familiarize yourself with our service offerings in this brochure or visit us online to learn more. If you have additional questions please feel free to arrange an appointment directly with me.

I look forward to hearing from you.

Sincerely,



Sean McCaskill
Engineered Systems Product Manager
704.236.3568

smccaskill@igus.com

See more application examples:
www.igus.com/installation



with warranty ...

Innovative machine components from igus®



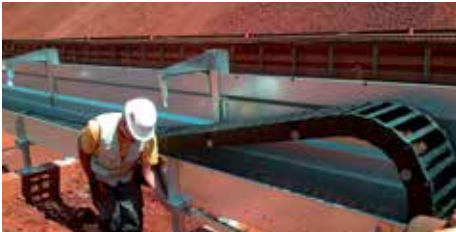
igus® assembly service

- Installation
- Renovation / Modernization / Retrofit
- Repair
- Inspection
- Maintenance
- Supervision services

Save time and money

Installation and maintenance of your e-chain system®





Installation

- Installation of your e-chain systems® solution
- On-site supervision and as-built documentation
- Design and delivery of custom brackets and other accessories
- Installation inspections to ensure proper operation
- Full system performance warranty

Modernization / Retrofit

- Complete modernization solutions for your existing energy supply system
- Upgrade performance in speed and length of travel
- Increase system service life
- Minimize downtime and increase machine safety
- Reduce operation costs with an energy saving solution

Failure Inspection Services

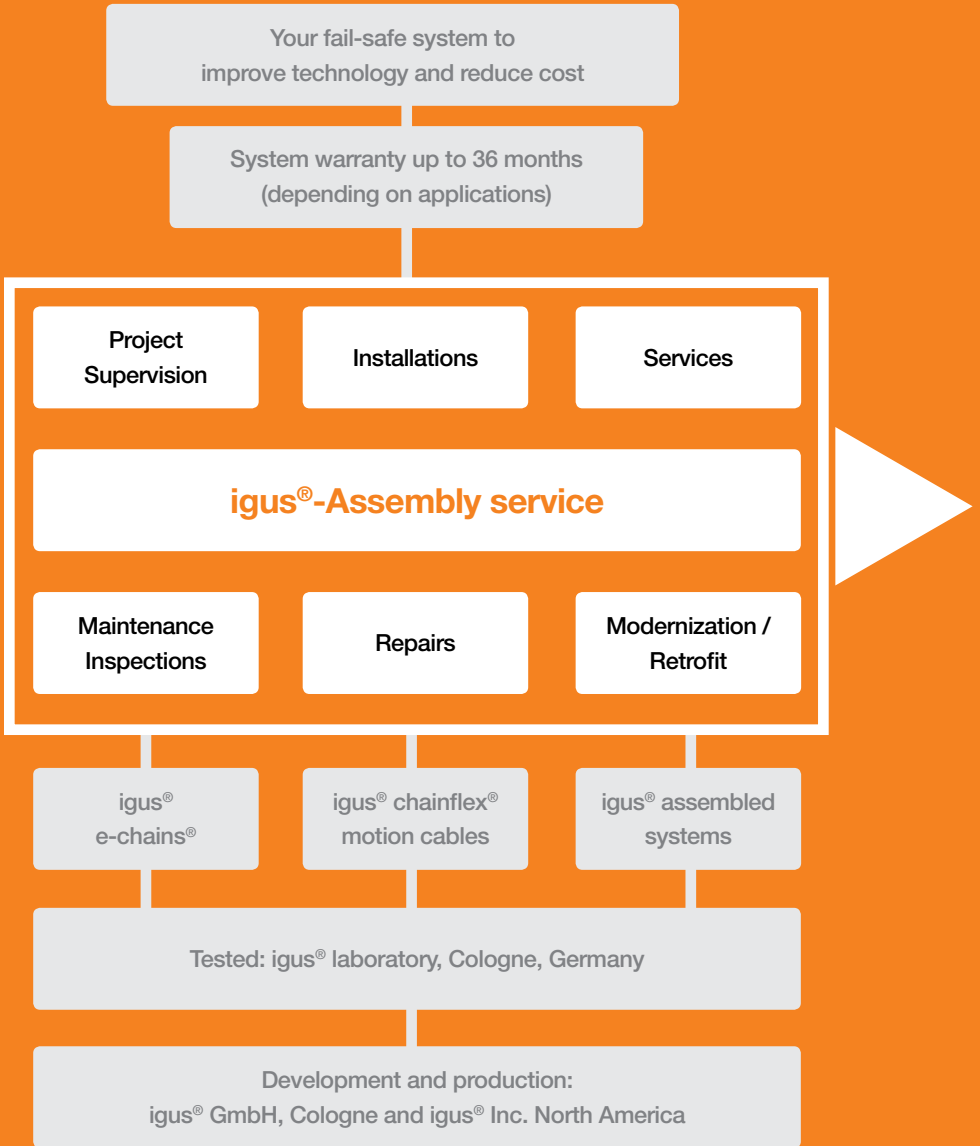
- Services to survey and report on the conditions of your current system
- Report of serviceable items and adjustments to prolong life
- Proposals for upgrades and optimizations

Maintenance Inspections

- Full system inspections to comply with warranty documentation
- Identification of problem areas and anticipated life expectancy of parts
- Adjustment of cables, chain, and trough components
- Repair or replacement of system components that are damaged or worn

igus® assembly service

From a single source - components, service and reliability





igus® certified installation personnel

Reduces installation time and costs, ensures long system life and prevents failures caused by installation error.



Fixed costs for assembly and maintenance

Offers savings in administrative costs with purchasing and planning.



Accurate estimates for resource planning

Systems are installed correctly, and on schedule



Our network of installers minimizes costs by providing local

Keeps travel and reaction times short and saves installation costs.



Flexible availability when you need us

Support available, even during nights and weekends.



Everything from a single source - including warranty!

From the design stage through delivery and installation, we will support you from start to finish.

References ...

from simple to complex ... from repairs to major projects ...



Mounting an igus® flizz® system to a longitudinal scraper (clarifier)



Equipping a crane's swivel beam with an e-chain® for rotating motion



Retrofit of a festoon system to a modern e-chain system®



Difficult access to the inner edge of a container bridge



Installation of an e-chain system® and guide trough on a ship-to-shore crane



Mounting an igus® triflex® R cable carrier 3D guide on an industrial robot

anywhere ... anytime ...



Updating a trailing cable system for Rol E-Chain® in a waste bunker crane



Mounting the trough along two crane bridges



Assembly of troughs inside a bridge crane



Assembly in rotating shifts or on weekends



Assembly of an e-chain system® in a rotary motion



Mounting in an electroplating plant in cramped conditions

More references:

from simple to complex ... from repairs to major projects ...



Modernization: replacement of the slip ring system on an e-chain®



Installation of a guide trough in a circular path for an indoor / outdoor loop



A reel holds the assembled e-chain® and manages the chain's extension



Fully assembled e-chain® with reverse bending radius for circular movement



Retrofit of eight passenger boarding bridges at the Cologne Bonn Airport



Modernization of the telescoping bridge with a counter-rotating e-chain system®

anywhere ... anytime ...



Treatment plant intake



Installation of the largest plastic e-chain® in the world - igus® series E4-350



Updating a bucket-wheel excavator with an e-chain system®



Calibration of the 1,200 ft. (366 m) horizontal installation of the system



Complete installation of the e-chain®, cables, hoses, and media lines



Replacing the chain's covered trough, which protects the system from the weather

Research and development

29,600 ft² lab ... 15,000 tests ... 1,000 datasets on service life of chains and cables created every year



A peek into igus® e-chain® test lab, Cologne, Germany



Quality assurance: Continuing batch testing to ensure the level of quality



Custom solutions: unique installation solutions for all applications and environments



Test for combined movements: Simulation of complex movements for robotic applications



Chemical tests: Testing the effects of a variety of materials on e-chains®



Rotary motion tests: Demanding applications with small radii



Cold test: chainflex® cables and e-chains® are tested at -40°F (-40°C)

energy chain® from stock ...

Moving energy made easy: igus® e-chain systems®

Designed for carrying and protecting

e-chain systems® are the lifeline of modern machinery and can be used to reduce downtime and increase the service life of cables and hoses in all applications. igus® tribo-polymers or “motion plastics” have been developed and tested since 1971 and have been proven as an effective solution time and again in the most demanding applications. igus® has the ability to deliver “custom solutions off the shelf” with a toolbox of over 90,000 stock parts to configure for your application. From the smallest plastic e-chain® in the world to the largest plastic e-chain® in the world we have a solution to fit your unique application. If we don't, we will be happy to develop a special solution with you to fit your needs.

Easy to fill



E-Z Chain® - Easy insertion lines

- Can be filled from the inside [▶ www.igus.com/E-Zchain](http://www.igus.com/E-Zchain) or the outside
- One-piece e-chain®
- Economical



Zipper e-chain® - “zip” e-chain®

- For quick installation
 - Small and medium
 - Fast opening and closing
- [▶ www.igus.com/zipper](http://www.igus.com/zipper)

Micro to mini sizes



System E2 micro – e-chains® for small space

- One piece
 - Lightweight
 - Smallest sizes .20-.59” (5-15 mm) inner heights
 - Small pitch, quiet running
 - Smooth interior
- [▶ www.igus.com/E2micro](http://www.igus.com/E2micro)



System E2 mini – Small and medium sizes

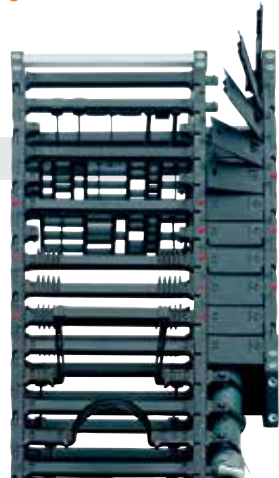
- One and two piece design
 - Small pitch, quiet running
 - .71-.83” (18-21 mm) inner heights
 - Optimized ratio of weight/stability
 - Interior separation possible
- [▶ www.igus.com/E2mini](http://www.igus.com/E2mini)

E2 Standard-Medium



System E2/000 – Two-piece e-chains®

- Medium sizes, .83-1.77” (21-45 mm)
 - Both sides hinged
 - Rapid installation
 - Versatile, modular interior layout
 - Interior separation possible
- [▶ www.igus.com/E2000](http://www.igus.com/E2000)



RX Energy Tube



System RX – Heavy-duty chip protection

- Opens from the outer radius
 - Smooth, curved outer contour prevents chip accumulation
 - Almost completely airtight
- www.igus.com/RX

Standard kit for almost all applications



System E4-1 - Universal e-chain®

- Interior heights of .82-13.78" (21-350 mm)
 - e-chain® and Energy Tube
 - Cable-end design
 - Open from both sides
 - Quick installation
- www.igus.com/E4-1

Quiet, low abrasion, vibration-free



System E6/E6-1 - extremely low noise

- Extremely quiet operation, 46 dB (A)
 - Low vibration
 - High speeds and accelerations
 - Suitable for clean room
 - Open from both sides
- www.igus.com/E6-1

Robotic, 3D and circular motions



triflex® R - 3D e-chain® specifically for robotic applications

- Three versions: closed, E-Z or light version
- www.igus.com/triflexR



twisterchain® and twisterband - circular and spiral movements

- Turning movements to 7,000°
 - For circular movements to 540°
 - Compact, modular, low cost
 - Rotational speeds of up to 360°/s
 - Modular design - variable widths
 - Works even in confined spaces
 - Adjustable and lengths
- www.igus.com/twisterband
► www.igus.com/twisterchain

For long travels

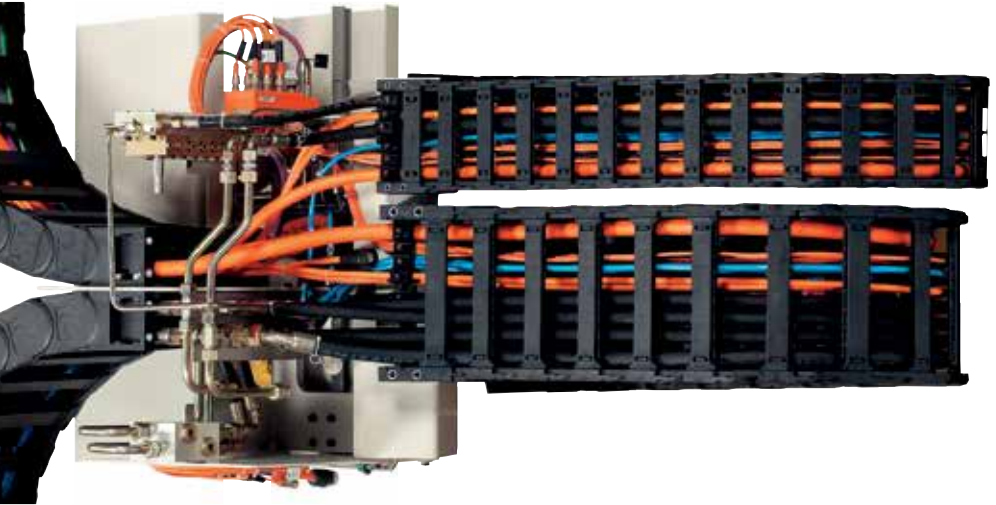


System P4

- Up to 2,625 ft. (800 m)
 - Speeds up to 32.81 ft/s (10 m/s)
 - Quiet operation
- www.igus.com/P4

Assembled chain ...

readychain®: Chain - Cable - Warranty



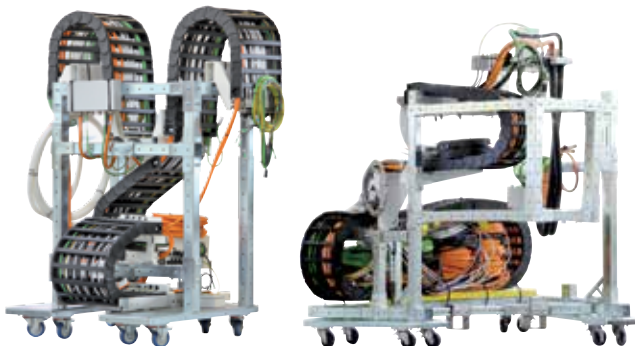
readychain® - Ready-made systems in 3-10 days

700 systems per week in 11 readychain® factories worldwide - reduce assembly time and optimize cash-flow

- Reduce storage costs for cables, chains and connectors to zero
- Reduce throughput times by half
- Get flexibility in production demand fluctuations
- Reduce number of suppliers and purchase orders by 75%
- Minimize machine downtime for your customers
- Receive a system warranty based on a free design review

More information:

▶ www.readychain.com



readychain® Rack

80% off when prototyping
Assembly caddy for ready to install
energy management systems.

and drive cables

readycable: Assembled drive cables



readycable - Allen Bradley, Siemens and Fanuc order today, deliver tomorrow*

igus® offers over 2,800 cables pre-harnessed to 20 different manufacturers standards*. Professionally manufactured, 100% tested.

- Servo, motor and signal / encoder cables
- No cutting costs, no minimum charge for small quantities and packaging
- Cable length according to your needs
- Smallest bending radii from 7.5 xd
- Reduce storage costs and increase cash flow

More information:

► www.igus.com/readycable

*Call for lead time

Intercontec SpeedTec

Service Packs (1 piece), or directly harnessed according to customer specifications.



chainflex® cables ...

In stock, no minimum quantity, no cutting costs

chainflex® lasts.

Made for use in the e-chain®

- Highly abrasion-resistant TPE, PUR and oil resistant PVC sheathing materials
- Halogen-free and / or flame-resistant materials
- Various Approvals and Standards
- Smallest radii up to 4 x d
- Cleanroom certified

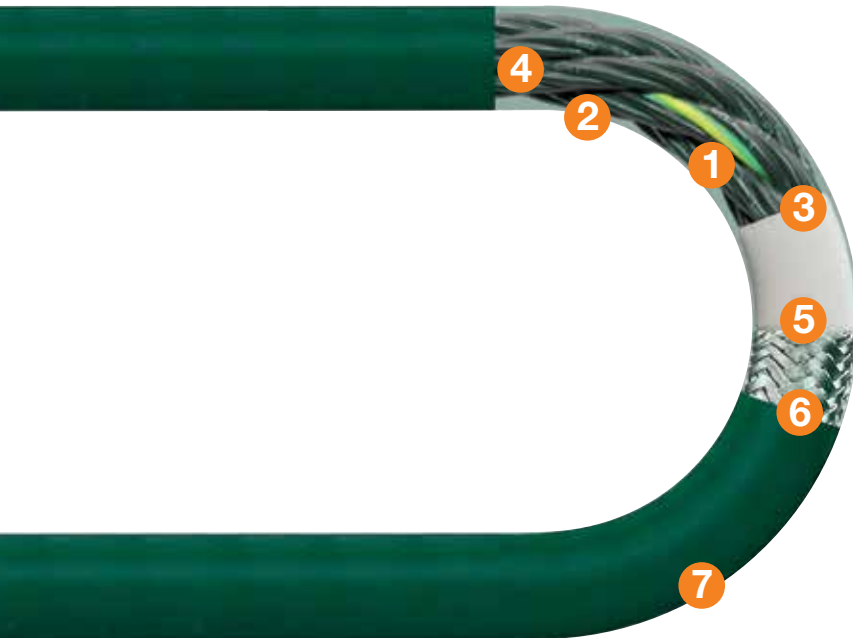
More information:

▶ www.chainflex.com

7 features of a good cable

chainflex® cables to prevent cable failures in e-chain® applications.

1. Strain relieving center conductor element
2. Optimized stranding
3. High-quality insulation
4. Cable construction with short lay lengths/pitch
5. Gusset-filled pressure extruded inner jacket
6. Overall shield with optimized braiding angle
7. Pressure extruded, abrasion-resistant outer jacket



1,000 types in stock

Selected chainflex® cables

chainflex® Control cables

▶ www.igus.com/CF5



Control cables for heavy duty applications, oil resistant, flame resistant, shielded or unshielded

chainflex® Data Cables

▶ www.igus.com/CF211



Data cables now with up to 32% smaller bending radius: 6.8 xd with TPE and 7.5 xd with PVC data cables. For high stress, abrasion-resistant outer jackets, shielded, twisted pair, oil resistant and flame retardant

chainflex® Bus Cables

▶ www.igus.com/CFBUS



Bus cables for maximum load requirements, shielded, oil and resistant to organic oils, flame retardant, hydrolysis and microbe resistant

chainflex® Servo and Measuring System Cables

▶ www.igus.com/CF27-D



Servo and measuring system cables for heavy duty applications, shielded, oil-resistant, flame-retardant

chainflex® Motor Cables

▶ www.igus.com/CF30



Motor cables for heavy duty applications, oil resistant, flame resistant, shielded or unshielded

chainflex® Robot Cables

▶ www.igus.com/CFROBOT4



Twistable robot cables (CFROBOT-line family) available from stock, with UL, CSA certification, for twistable loads, unshielded or shielded, cut resistant, flame-retardant

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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