

Safely guided in any orientation: new igus e-chain concept with dynamic pins

igus has developed the lokchain energy chain with extending and retracting pins for new machine design concepts

The goal of the new lokchain energy supply system from igus is to automatically increase the operational reliability. This has the potential to reinvent power, data and media supply in many dynamic applications. Automatically extending pins hold the e-chain securely in the guide, allowing completely new solutions in vertical, hanging or circular movement applications.

Whether high-tech or low-tech applications, igus is constantly researching new energy chain solutions to meet the special requirements of industrial applications for flexibility, reliability and low costs. For this reason, the motion plastics specialist developed the lokchain, a new concept consisting of an e-chain with automatically extending pins and a compact guide trough for the dynamic guidance of energy chains. This allows hanging, vertical or side-mounted use of the system with or without lateral acceleration. Even long travels with a moving lower run are possible by fixing the lokchain in the upper run trough. The system can also be used in vertical circular applications. For example, the lokchain is an obvious choice for use in the compact space of rotating C-arm X-ray scanners. The flexibility of this e-chain offers the user the opportunity to develop completely new machine design concepts.

The lokchain principle: automatic locking pin system

The basic principle of lokchain is simple: pins integrated into the side links hold the energy chain firmly in the guide trough. When the chain link is bent into a radius, the pin retracts automatically and releases the chain from the guide. When the chain link comes out of the radius and engages the trough, the pin extends and automatically secures itself back into the trough. This eliminates the need for more costly guide trough systems. In this way, the machine builder saves money.

Silent operation and long service life, even with small bend radii

Due to the special construction of the lokchain there is hardly any abrasion and wear, so the service life of the e-chain is increased. The prototype proved its durability successfully in an endurance test carried out in the 2,750 square metre laboratory at igus. Another advantage of the new e-chain system is the mobility of the chain links. They ensure that the energy chain operates safely and quietly, even with small bending radii and over long travel distances. The new e-chain is currently in the prototype phase, which gives customers the opportunity to help shape the required size and design. Individual requests are always welcome and will be implemented quickly – from prototypes and small batch sizes up to volume production.

Caption:



Picture PM3918-1

The lokchain principle: automatically extending pins (blue) hold the lokchain firmly in the guide trough. When the chain link bends into the radius, the pin retracts automatically (green) and releases the chain. Due to its flexibility, the e-chain can be used for example in a rotating C-arm X-ray device. (Source: igus GmbH)

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ABOUT IGUS:

igus GmbH is a globally leading manufacturer of energy chain systems and polymer plain bearings. The Cologne-based family business has offices in 35 countries and employs around 3,800 people around the world. In 2017, igus generated a turnover of 690 million euros with motion plastics, plastic components for moving applications. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs.

The terms "igus", "Apiro", "chainflex", "CFRIP", "conprotect", "CTD", "drylin", "dry-tech", "dryspin", "easy chain", "e-chain", "e-chain-systems", "e-ketten", "e-kettensysteme", "e-skin", "flizz", "igear", "iglide", "iglidur", "igubal", "kineKIT", "manus", "motion plastics", "pikchain", "plastics for longer life", "readychain", "readycable", "ReBeL", "speedigus", "triflex", "roboink", and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.