

A clean performance: igus gets the REINER! Award for modular cleanroom chain

Fraunhofer Purity Technology Award goes to the particle-free and compact “e-skin” flat cable guide

Electronics manufacturing demands high purity manufacturing environments and requires particle-free machine elements in clean rooms to ensure product quality. The Fraunhofer Institute in Germany recognises innovative developments in clean manufacturing every two years with the REINER! Award. Motion plastics specialist igus has been awarded 2nd prize for its e-skin flat cable guide. An alternative to the ribbon cable, the e-skin is compact, modular and has achieved the cleanroom Class 1 standard. Cables can be easily placed in the chain using a zipper principle and can be quickly replaced for fast maintenance.

Microchips, flat screens, electronic implants, pharmaceutical active ingredients and micro and nanoproducts would be impossible to produce safely without high-purity manufacturing environments. Storage ICs (integrated circuit chips) used across the IT infrastructures of companies, in medical electronics and the automotive industry are in high demand, where some car plants have had to pause production due to chip shortages. At the same time, manufacturers are looking for machines and equipment that work quickly and safely to meet the growing demand for these semiconductors.

One of the biggest challenges is particles that detach from machine components and contaminate the ambient air. New solutions are needed that make production processes economical while applying high safety and hygiene requirements. To acknowledge advances in clean technology, Fraunhofer IPA – Germany’s national technology innovation centre – runs the Fraunhofer Purity Technology Award “REINER!” every two years. igus has been awarded 2nd place for the development of the e-skin flat power supply, as part of the Digital 365 Cleanroom Process.

e-skin flat: modular and compact cable guide

The e-skin flat is a modular cable management system made of high-performance, abrasion-resistant plastic that has almost no visible wear. Using the modular "single pod" profiles, energy guidance can be easily extended to a wider chain. A zipper system allows easy replacement of the cables.

In combination with CFCLEAN cable wires for power transmission, motor control, bus and Ethernet signals, the user receives a ready-to-connect power guidance system. Tests carried out by the Fraunhofer Institute for Production Technology and Automation IPA have shown that the system achieves the class 1 cleanroom standard, ISO 14644, the strictest cleanroom requirements.

igus has been producing particle-free energy guides since 2003. Since 2020, the company has also operated a cleanroom laboratory for in-house development, which was installed in cooperation with the Fraunhofer Institute at igus's main location in Cologne. Here, igus tests the e-skin flat cable system as well as other motion plastics such as cables and plain bearings.

More information about e-skin flat can be found at:

<https://www.igus.co.uk/info/e-skin-flat>

Caption:



Figure PM1221-1

Motion plastics specialist igus took 2nd place at the REINER! awards with the e-skin flat.

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About igus:

Based in Northampton in the UK and with global headquarters in Cologne, Germany, igus is a leading international manufacturer of energy chain systems and polymer plain bearings. The family-run company is represented in 31 countries and employs over 4000 people around the world. In 2019, igus generated a turnover of 764 million euros with motion plastics, plastic components for moving applications.

With plastic bearing experience since 1964, cable carrier experience since 1971 and continuous-flex cable experience since 1989, igus provides the right solution based on 100,000 products available from stock, with between 1,500 and 2,500 new product introductions each year. 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.

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