

Openable igus energy chain for cleanrooms gets ISO Class 1

The modular e-skin energy supply systems show best values in cleanroom tests of the Fraunhofer Institute IPA

For a reliable energy supply in cleanrooms, igus has developed its modular and openable e-skin energy supply range. The energy chains provide plant with data, media and energy without unwanted particles contaminating the air. This was also proven by the Fraunhofer Institute IPA. All four energy chain types were convincing in the tests - with and without cables - and received the Fraunhofer Tested Device Certificate of ISO Class 1 for use in cleanrooms.

Without a cleanroom, it would be impossible to produce pharmaceutical products, microchips, OLEDs, LCDs or semiconductors. Because even the smallest contamination leads to an impairment and ultimately to the destruction of the product. Therefore, almost particle-free rooms with abrasion-resistant machine components are the be-all and end-all. For companies that manufacture machines and plant for cleanrooms, the certifications of the Fraunhofer Institute IPA via the ISO classes make the search for suitable - cleanroom-compatible - components, significantly easier. The class of a cleanroom is representative of a prescribed and approved amount of microorganisms or particles. The motion plastics specialist igus has now had its modular and easily openable energy supply range called 'e-skin' tested at the Fraunhofer Institute IPA, with and without cables. Among them is the e-skin energy supply, which has already won the Fraunhofer clean manufacturing award "Clean! 2018", the e-skin soft for compact installation spaces and short unsupported lengths, as well as the e-skin flat for extremely flat inserts, in an enclosed and openable chamber version. All energy chains received the Fraunhofer Tested Device certificate of ISO Class 1 and have the first class cleanroom-compatibility.

Special test procedure

In the test conducted by the Fraunhofer Institute IPA, in accordance with ISO14644-14, the inspectors mounted each of the four igus energy chains on a

test rig. There they were in motion for over 100 minutes. The particles that peel off from the plastic energy chains were measured at three different measuring points. All four types of energy chains performed with ISO Class 1, both with and without cables. Class 1 stands for a particle load that should not exceed two particles with a size of $\geq 0.2 \mu\text{m}$ per cubic metre of air.

Flexible cable guidance in cleanrooms with four e-skin solutions

All e-skin energy supply systems from igus are made of tribologically optimised high-performance polymers, which are very abrasion-resistant. The "classic" e-skin is an enclosed corrugated tube, which is easily openable and fillable using a zipper system due to a modular structure. Costs can be saved and downtime minimised by a quick cable replacement. To make the e-skin suitable for use in compact spaces, it has been fitted with a soft material. In this way the e-skin soft can be used in small installation spaces on short unsupported lengths. For very flat installation spaces and very demanding cleanroom applications, igus offers a solution with a chamber design: the e-skin flat. The energy supply is available in an enclosed version as well as in another version with individually openable chambers. This is unique and an absolute innovation in the market. In the event of a need for maintenance, the cables can simply be re-inserted without having to install a new energy supply system. The user reduces the costs and improves their technology. All energy chains are available ready-harnessed with highly flexible chainflex cables from igus. igus gives a unique guarantee of 36 months for all its cables.

Caption:



Picture PM5919-1

Best values for cleanrooms: the e-skin energy supply systems received the ISO Class 1 in the Fraunhofer Test. (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 4,150 people around the world. In 2018, igus generated a turnover of 748 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", "ibow", "igear", "iglidur", "igubal", "kineKIT", "manus", "motion plastics", "pikchain", "plastics for longer life", "readychain", "readycable", "ReBel", "speedigus", "triflex", "robolink", and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.