

Tests by independent experts confirm that the E6 energy chain series from igus runs more quietly and with less abrasion than comparable systems on the market

Smooth operator

When the laboratory for tooling machines (WZL) at RWTH Aachen University recently carried out a study into the vibration behaviour of energy chains, it found that the E6 energy chain from igus stood out due to its minimum levels of vibration and its extremely smooth running.

The WZL tested five energy chains on a highly dynamic linear test stand with direct drive. The E6

energy chain and the 380 series from igus's E4.100 range were investigated, as well as three comparable energy chains from other suppliers. The energy chains all had interior widths from 100 mm to 105 mm and interior heights from 42 mm to 52 mm, while the speed of movement and acceleration of the system were varied.

The energy affecting the towing arm was found to be

up to 28% lower with the E6 energy chain than with any of the others. RWTH Aachen found it to have by far the lowest vibration level, a finding supported by a recent report from TÜV Rhineland.

The key design feature of the E6 series is that the classic pin/bore connection has been replaced with a resilient polymer spring. This has reduced to a minimum

the 'polygon effect' that can occur when an energy chain is unrolled, leading to extremely low noise development and almost vibration-free running.

Thanks to its modular design, the E6 energy chain can be lengthened or shortened at any point. The spring element connects the individual side parts into a sturdy energy chain that works fault-free during highly dynamic



The igus E6 energy chain, with its resilient spring element, has been shown to have extremely low levels of vibration

applications, even after millions of cycles. The polymer spring elements are almost abrasion-free, according to tests conducted by the IPA Fraunhofer Institute.

Finally, the E6 energy

chain is also available in an electrostatic discharge (ESD) version, particularly designed for safety in explosion protection areas and for ESD interference resistance in sensitive production areas.

An energy chain system from cable manufacturer igus of Germany is proving its worth in an eye-catching outdoor display in Dallas, Texas

Crucial connection

Located at the Victory Plaza, just outside the American Airlines Centre in Dallas is a large moving-screen LED display with eight 26 ft screens, developed by the Belgian Barco Group, a leading designer and developer of solutions for large-screen visualisation. Eight corrosion-resistant igus E4/4 energy chains from the 4040 series, with 'Chainflex' fibre-optic cables, motor and control cables, have been guaranteeing safe energy and data supply for the display for the past year.

The maintenance-free plastic energy chain system and its cables are exposed to harsh environmental elements – extreme heat, sun, rain and snow – with the LED screens' operating schedule of up to 18 hours per day, 360 days per year.

To guarantee high data rates for perfect pictures, even after many million of cycles, the system uses CFLG.6G Chainflex fibre-optic cables. These consist of six to 12 fibres and have been especially developed for use in energy chains. They run at temperatures of 40°C and have also been successfully tested in the igus deep-freeze laboratory. They are currently running successfully in thousands of crane applications worldwide.

igus's single-core CF300 motor cable, typically used for high-performance cranes, supplies the power. The jacket materials of both Chainflex cables are made of TPE to fulfill the high demands regarding temperature and low abrasion at million of cycles.



The igus E4/4 Energy Chain System with Chainflex cables supplies the giant LCD screens in Dallas, Texas with power and data