

Safety at high speed with the igus e-chain system in a linear motor robot

Side-mounted energy chain from igus ensures reliable energy supply in high-speed lightweight linear robots

Twice as fast at half the weight: this is what makes the linear motor robot from FIBRO LÄPPLE TECHNOLOGY (FLT) different from many other solutions. In order for the linear robot to be able to get production up and running quickly and reliably, a compact, durable and silent energy supply was required. A side-mounted igus energy chain system with pre-harnessed chainflex cables proved to be the optimal solution.

Linear robots are the automation tool of choice for machine or press loading, order picking, high-bay warehouse loading or even for transport and handling tasks. Due to the demands of production for faster, more intelligent and economically profitable solutions, FIBRO LÄPPLE TECHNOLOGY has developed a linear robot which maximises production performance. In a new carbon fibre design, the linear motor robot saves up to 50 per cent in weight compared to conventional solutions. The weight reduction enables twice the speed, accelerations of up to 26m/s^2 at twice the positioning accuracy. Instead of a rack and pinion drive the designers chose a linear motor which allows very high dynamics. An unsupported energy chain of the E4.1 series from igus ensures a secure energy supply for the z-axis. The integration of a suitable energy chain solution in the compact installation space of the x-axis was a challenge. This was because a classic gliding or unsupported solution was out of the question due to the high forces. "Together with igus, we therefore decided on a side-mounted energy chain", explains Boris Bind, Head of Mechanical Design and Development at FIBRO LÄPPLE TECHNOLOGY.

Complete energy supply system directly from a single source

An E4.1 series energy chain is used with additional sliding pads that further reduce wear. The engineers also selected the igus range of cables. They chose pre-harnessed chainflex cables - readycables - that are specifically designed for use in energy chains. The large number of tests in the company's own 3,800 square metre test laboratory mean that they are able to give a guarantee for 36

months. The complete system is housed in a special guide trough, which further minimises noise and increases the reliability of the system.

Caption: ensure reliable cable guiding with igus energy chain

