Energy chains:
New guiding trough system for long distances

Wherever self-supporting energy chains glide over travel distances amounting to several hundred metres, they must be guided efficiently and reliably. This might be a travel distance of 50 metres in the high-bay warehouse of a logistics centre, or 500 metres in seawater-resistant form through the crane installation in a harbour. Initially, individually manufactured sheet-metal boxes were used, followed by standard steel systems. Today most users rely on the use of aluminium, even where the use of stainless steel alone prevailed (e.g. food-processing industry) for a long time. The main reasons have to do with corrosion resistance, saving weight, quicker assembly, but also with the possibility of being able to attach the energy chain in impact-resistant form to the inner or outer side of the guiding trough.

Energy chain manufacturer igus (Cologne) has now developed a new aluminium guiding trough system as a modular construction kit. Depending on the actual application of the flexible energy supply system, users receive a basic model or, for instance, for the demanding plant engineering sector, additional system components.

Four parts quickly assembled

Easily and quickly assembled, the basic package consists of only four parts: trough wall, slide rail, clamp shoe, and connector. The trough wall, which is made of extruded aluminium is lightweight, yet sturdy, seawater-proof and can also be used under rough environmental conditions. The slide rails, included in the delivery package for the system, are securely clicked into a continuous lateral groove and can be detached again. The clamp shoe is installed internally or externally with only one screw on the base surface or on fastening profiles (available as an option). Finally, a resilient plastic wedge dampens any impacts.

Picture PM0205-01: igus GmbH, Cologne

Guiding trough made of aluminium: The lateral plastic slide strips increase the life of the energy chain and reduce noise.

Large-scale plants or portal robots

On the one hand, the solid aluminium mounting brackets (connectors, instead of a plastic wedge) are additional system components for large-scale plants. These mounting brackets facilitate the installation work, because the trough elements are connected to one another during pre-assembly. However, in the case of portal robots, machine tools, wood-processing machines or textile machines, plastic wedges are quite sufficient.

Protection against lateral abrasion

On the other hand, two additional system components provide basic technical advantages for proper guidance of the energy chain. One of these system components is the lateral plastic slide strip, which - with life-increasing properties- protects the chain against lateral abrasion espe-

cially at high speeds of travel. Gliding along the plastic has a material-strengthening effect at critical points and also attenuates sound. If the running noise requires additional dampening, noise-reducing damping profiles made of EPDM are available.

Picture PM0205-02:
igus GmbH, Cologne

Guiding the energy chain over longer distances of travel. Users today rely increasingly on the use of aluminium (corrosion resistance, saving of weight, quicker assembly, etc.).

Picture PM0205-03:

igus GmbH, Cologne

Energy chain on the mast of a racking unit unrolls from one aluminium guiding trough into the other one on the opposite side.

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