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Uhing Motion Drive: Rolling Ring Drive With Freely Programmable Control Unit

It is the latest innovation by Joachim Uhing GmbH & Co. KG. In early April, it had its roll-out on the wire2016 at Düsseldorf. Meanwhile, customers of the engineering company headquartered in Schleswig-Holstein have started implementing the Uhing Motion Drive and were right away convinced of its flexibility and efficiency.

The system is based on an Uhing rolling ring drive extended by sensors and an electronic control unit. The software running on the control unit was also engineered by Uhing. This ensures that both components, control unit and rolling ring drive, are perfectly matched to each other.

Being a component of the new system, the classical rolling ring drive was modified because neither the reversing lever nor the pitch setting scale are required for the Uhing Motion Drive. The stepping motor controlled by a Siemens S7 PLC adopts these functions.

Freely definable parameters provide flexibility

“The Uhing Motion Drive allows the user to freely define a great number of parameters and to save them in the control unit,” explains Jörg Wadehn, Uhing's Technical Director. “You specify the key application data and store them in the software. This can be the maximum stroke width, but also the shaft speed and the pitch per shaft rotation that roughly corresponds to the width of the material to be wound.” This also applies to the spool type because the Uhing Motion Drive can handle spools of any contour: rectangular, bi-conical, single conical, etc.

The user can specify action points that identify repetitive points where an action such as a reversal, speed change or a stop followed by a start can be triggered. Apart from motion programs, winding patterns can also be defined.

To sum up: the Uhing Motion Drive, conveniently controlled with individual parameters by the control unit, performs all options the classical rolling ring drive features in the standard or the special variants except for the roller guide and the release lever. Reference travels prior to actual operation are unnecessary.

Time and cost savings, error prevention

The Uhing Motion Drive was designed in particular for winding and traversing processes in the wire and cable industry, and for handling and XY gantry systems. Other feasible applications

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are general drive technology processes where a linear motion is required within limits specified by the respective systems.

“The Uhing Motion Drive offers various advantages to the user companies,” says Wolfgang Weber, Uhing’s Marketing Director. “Being able to store the drive’s stroke width lets you adapt a given winder to another material, another spool or even both at the push of a button. In consequence, the number of steps the set-up man has to perform to make an appropriate change is reduced considerably. This not only cuts down the process costs but also reduces the error rate.”

Integration with existing Uhing drive or motor possible

The aim was to design Motion Drive to be compatible with all standard Uhing drives. If the user company already operates a drive of the engineering enterprise headquartered at Mielkendorf, the Uhing Motion Drive can be implemented in it and integrated into the control unit. It is not mandatory to use a Uhing motor because the motion of the winding shaft can be transferred to the Uhing Motion Drive with a chain or a timing belt. In this context, the shaft speeds are synchronised automatically.

Another interesting feature: the Uhing Motion Drive can be integrated into the customer’s machine controller. Upon demand, Uhing can perform the mechanical and the electronic integration. If desired, the company’s experts also perform special software customisation.

The Motion Drive offers the tried and tested robust and reliable technology Uhing products are renowned for because all used components comply with current industry standards. The scope of delivery comprises the Siemens PLC with operating panel, a switch cabinet, sensors, and connection elements.

“With the Uhing Motion Drive we developed a product suited not only for standard winding and traversing processes but also for further purposes,” says Wolfgang Weber. “It allows for fast, trouble-free working with utmost flexibility.”