

Joachim Uhing GmbH & Co. KG
Kieler Straße 23
24247 Mielkendorf
Contact person: Wolfgang Weber

Phone: +49 (0) 4347 – 906 – 0
Fax: +49 (0) 4347 – 906 – 40

Phone: +49 (0) 4347 – 906 – 22
e-mail: weber@uhing.com



Proven in the field: FA II Flange Detecting System

Many companies producing material to be wound are familiar with this situation: Although spools of the same dimensions are used, their individual dimensions are not exactly identical. Minimal size deviations lead to an uneven winding pattern or even tangling. The result: Increased manual adjustment work – a cost item you could do without. What are the options for manufacturers to solve these problems?

The ideal solution would be an autonomous monitoring system so the operator can be sure the material is wound evenly from start to end. When searching for such a reliable monitoring and control system, you will inevitably hit the FA II Flange Detecting System manufactured by Joachim Uhing GmbH & Co. KG headquartered in Mielkendorf near Kiel.

The first generation of a flange scanning system for rolling ring drives launched in 2004 already convinced by its automated correction of reversal points for the most diversified wound material – wire, cable or rope. The second generation of this successful product, the non-contact FA II with integrated laser sensor launched in 2012, comes with a fully automatic correction of reversal points.

Intelligent system for pneumatically reversible rolling ring drives

The permissible height deviation is stored in the software of this intelligent system developed for application with pneumatically reversible rolling ring drives. A laser sensor mounted on the traversing system scans the spool flange. Between the flanges, this sensor continuously measures the distance to the wound material and compares the result with the maximum height tolerance of the wound material set before. The reference distance for the maximum height tolerance is measured each time the middle is passed and stored for the duration of one reversal cycle.

The flange scanning system measures the current distance layer by layer and compares it with the reference distance. The sensor triggers the reversal as soon as the permissible height deviation is exceeded. In this way, the system ensures that material cannot pile up at the flanges. The FA II also identifies the width of the loaded spool and whether the used flange is straight or deviates from the 90° angle. The flange scanning system adapts to the new position, width and spool type – conical or biconical – if a spool of a different width is used after a spool change.

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Added value beyond functionality and cost savings

“Manufacturers of wound material are eager to have a perfect winding pattern of their products, in particular in the flange area,” explains Wolfgang Weber, Uhing’s Managing Marketing Director. “A key factor is also that the operators can mount the flange scanning system without requiring special knowledge, and that the product is easy to operate. Our objective was not only to ensure a perfect winding pattern but also to offer the companies time and costs savings by fully automatically triggering the reversal.”

This gives rise to the question: Can such a product offer added value beyond convenience and cost reductions? “Yes,” says Jörg Wadehn, Uhing’s Managing Technical Director. “The FA II is a construction kit system, comprising standardised industrial components from renowned manufacturers. Our engineers designed the product’s intelligence, selected optimal components and built a smoothly operating system. If a component such as the sensor needs to be replaced, the customer may purchase it from us or directly from the manufacturer in question. This does not affect the precise and reliable function.”

The autonomous FA II system can be operated without connection to a machine controller. It can also be operated in moving winder. In this case, the sensor is installed in a fixed position and detects the moving flange. Further details regarding the FA II Flange Detecting System can be found at www.uhing.com. If you are interested, you can download the FA II brochure there and watch a video demonstrating how the product functions.