WACHENDORFF
The Encoder Experts

Food Industry

Automated Control of the cutting thanks to profile protection

DEVELOPED AND
MADE IN GERMANY
5 YEARS WARRANTY

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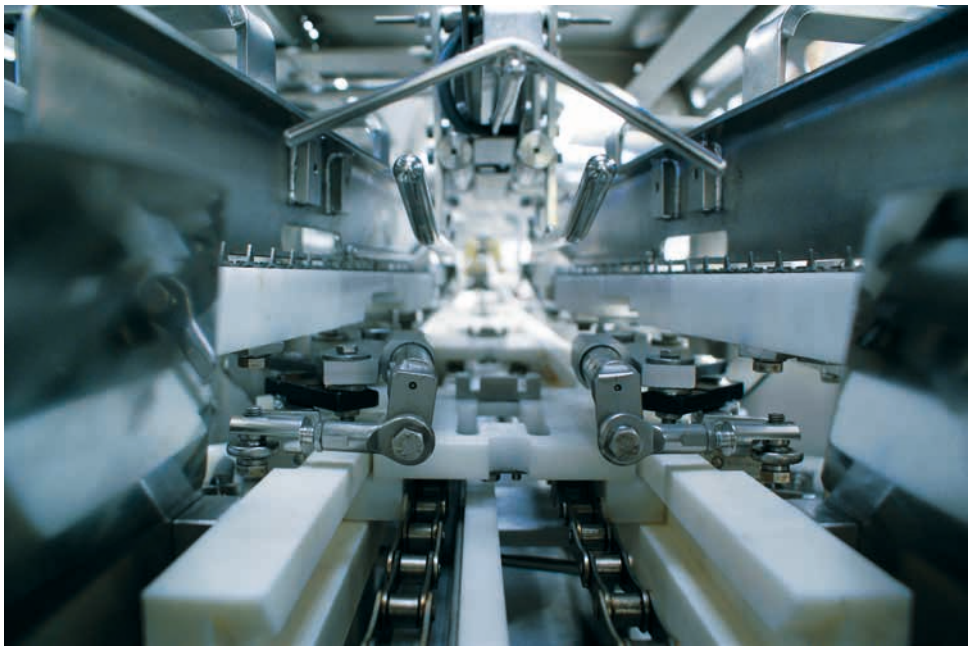
Lower wastage rate as a result of precise material positioning and cut control

Increased throughput quantities

Reduced downtimes

Encoders are food-grade and resistant to salt water

Totally reliable, even in frosty conditions



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Industrie ROBUST

Wachendorff encoders ensure accurate cutting and trimming

Tons of fish fillets pass daily over shop counters, yet hardly anyone spares a thought to how the contents of the nets outthere at sea end up being the ready-to-eat pieces that we can toss into a pan with no skin or bones to trouble us.

Somebody, who has made a business out of the intermediate steps, is the Baader company, based in Lübeck, North Germany. Here machines for the food industry are designed and manufactured; these carve meat of all types into portions suitable for sale – the main focus however is on machines that process fish – from a small grading machines up to large production equipment, which can completely skin and fillet the fish. The products from Lübeck are in use all over the world and can be found, wherever fish is caught or farmed.

The machines are fully automated and the process sequences are carried out seamlessly. In short, the freshly caught fish arrive at one end and the processed fillets drop off the conveyor belt at the other. A closed loop under vacuum ensures that everything remains inside the machine during the gutting process and all waste then lands in closed containers, which can be transported away for use in the feed and fertilizer industries.

High precision is of utmost importance, so as to ensure that on the one hand as little good flesh as possible is trimmed off and on the other that no bones remain behind to upset the customer. An automated control was designed for the processing, to minimize errors when cutting the flesh – Wachendorff encoders represent an integral part of this.

The first stage of the production process is to measure the fish; here a measuring wheel, attached to the encoder via a spring lever, travels over the fish, thus detecting its profile. The encoder registers the distance travelled by the wheel an makes this data available to the cutting controller.

Other processing alternatives can be discounted, as each fish is different, its surface being curved irregularly, wet and reflecting. This means that non-contact methods cannot be employed. Furthermore, all the internal machine components become soiled very quickly, so these need to be tough and very easy to clean.

This is why Rüdiger Eggert, who is in charge of the electrical engineering department at Baader, uses Wachendorff encoders here. They are perfectly suited to such extreme conditions thanks to their rugged construction and high IP67 level of protection (IP65 directly on the shaft). The stainless steel version of the 58 series is specially developed for food and beverage industry.

Once the profile of the fish has been established, it is transported via conveyor belts to the knives, which in a splitsecond remove the head, fins and innards and then the bones. Depending on the type of fish, this is then skinned as required. So that the knives can work accurately at all points, encoders are also used when moving the fish forward during the processing - these ascertain the exact position and supply this data at the start and end of each cut.

The big advantage of Wachendorff encoders lies in the fact that the encoder bearing can also assume the function of the counterbearing – this means that one mounting bracket can

be eliminated, saving on costs. The stainless-steel shaft withstands high loads, vibration and external forces. The operating temperature range of between -40 °C and +80 °C ensures reliable measurement in every environment – even with fish cooled on ice. Thanks to their optimal combination of mechanics, optics and electronics, the Wachendorff products are amongst the safest, most reliable devices available today. Naturally the Wachendorff product range also includes accessory products, such as the measuring wheel and spring lever.

Image 1
Cutting up fish is a precision job - every millimetre counts when removing the dorsal fins.

Image 2
Here the skin is removed.

Image 3
The final stage - the processed fillets drop off the conveyor belt.

Image 4
A wheel, mounted via a spring arm, measures - with the help of an encoder from Wachendorff - the length of each individual fish and then transmits the values on to the controller for the cutter motor.

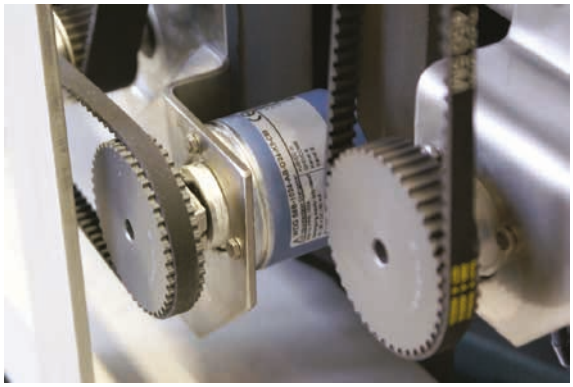

Image 5
The encoder bearing simultaneously assumes the function of the counterbearing, saving on the need for an additional mounting bracket.

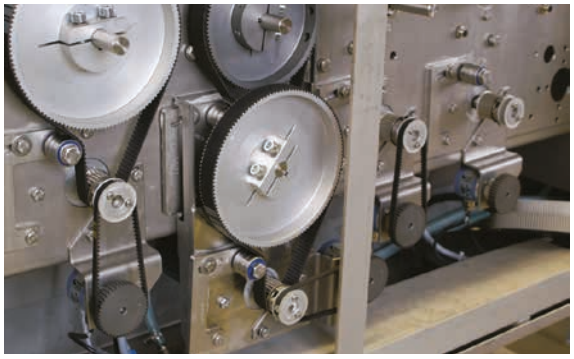

Image 6
Wachendorff encoders measure with millimetre accuracy the distance the fish have travelled in the machine.

Image 7
A view of the inside of the machine, showing in the foreground where initially the length is measured. In the background the knives can be seen, which are waiting to remove the head, fins, skin and bones.

Any Questions? Just call us at +49 (0) 67 22 / 99 65 414, send us an E-Mail to support-wa@wachendorff.de or call your local distributor: **www.wachendorff-automation.com/distri**

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