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Case Study

3-Point Win for ABB

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Inductive flowmeters are essential to the paper industry.

The Zurich-based technology group is moving to the fore with a Coriolis mass flowmeter – with renewed success as demonstrated by Mayr-Melnhof Karton AG.

Text: Sandra Winter



He does not make purchases sight unseen, even if he knows and trusts the supplier. Franz Fuchs, head of the process control technology department at the Frohnleitner plant of Mayr-Melnhof, is a harsh judge. But he is also fair. He is not easily taken in – not by promises, not by irresistible



Franz Fuchs (l.) and Franz Cerv

prices. Any new products that this engineer might want to purchase end up, at least once, in a test installation. The product has to prove itself. The Coriolis mass flowmeter FCM2000 from ABB recently stood this test. Did the supplier of inductive flowmeters simply find themselves with the right product in the right place at the right time? The days of the existing oval gear meter were numbered. There were plans to replace it because of numerous signs of wear. For this reason, when asked whether there was a need for mass flow measurement, the answer was not directly "No" but rather "Yes, but we already have a product from the competitor." The door was slightly open and ABB used the opportunity to try the waters with a test device. An attractive argument for existing ABB users of the FCM2000 is as follows: with regard to operation, it resembles inductive flowmeters. Only the parameters are somewhat different. The last statement has since been verified by Franz Fuchs. Nevertheless, ease of use was one of the three points used to conquer four sites in his plant. Its accuracy and good price also won him over. "It features outstanding long-term and offset stability. In addition, the accuracy of up to 0.15 percent of the measured value and reproducibility of 0.1 percent is considerably higher than other flowmeters. Alongside mass flow, the device measures density with an accuracy of up to 0.001 kilograms

per liter,” states Peter Enge, sales representative for the Instrumentation division of ABB. It also mastered extreme ambient conditions – high air temperature and moisture – at Mayr-Melnhof. “Sales brochures don’t lie but these devices are calibrated under laboratory conditions. Extreme usage under air lock as found in practice must be tested by users,” states Franz Fuchs. He tests each device thoroughly before he releases it for use in the plant.

Paper is not just paper

Tearproof, absorbant and soft – these are the attributes required by the manufacturers of toilet paper. Cigarette makers require a much finer paper: they need filmy and tasteless paper. But cigarettes also have to withstand moist lips, deep drags or a light whiff. The paper industry counts as one of the difficult application areas for flowmeters. This is a field in which ABB, or the former Fischer & Porter, has been comfortable for some time. “We were previously number one worldwide in the IGM sector and were considered to be in a class of our own. Today micro-processor technology has helped virtually all providers attain the same level. At Fischer & Porter, we were pioneers in bringing inductive flow meters to the paper industry. The major equipment manufacturers in Finland and Sweden place their trust in our products. Word has spread,” states Franz Cerv, sales management in Vienna for Instrumentation. The paper industry is complex because of the need to process different fibers and a concentrated load of additives. There are bleaches, pigments and a large amount of additives that gives the paper certain characteristics. Complex conditions are a reality in the cardboard plant of Mayr-Melnhof. This plant works exclusively with recycling materials. Some 1,400 tons of cardboard are produced on a daily basis. The cardboard is used, for instance, for popcorn buckets in the movie theatre or by hamburger lovers at McDonald’s. “We have special knowledge regarding the formation of a fat barrier between the fibers and the food,” explains Franz Fuchs. In other words, everything depends on the packaging.

Long-standing supplier

It should come as no surprise that Mayr-Melnhof is among the top clients of ABB. For orders in the area of flowmeter technology, temperature measurement technology or compact controllers, Franz Fuchs is reminded of Fischer & Porter: “We have been a good team for many years.” At the beginning of the 1980s, the programmable controllers ensured the advantage over competitors: “We were able



even in those days to make more complicated designs in measurement technology.” Later, we both began troubleshooting. “ABB provided onsite analyses to prevent interference voltages from affecting fibers during the flow of recycled paper.” The department head for process control technology at Mayr-Melnhof is unfamiliar with complaints due to improper doses. It has never happened during his 29-year tenure. One reason might be that ABB always provides its customers direct contact to the development department, where feedback results in constructive solutions. At any rate, the new mass flowmeters offer little to complain about in the dye and coating kitchen. They do a good job. And ensure the perfect mix of fine-particle calcium carbonate – the basic material for paint, titan dioxide – and an especially expensive product, which is used to control the whiteness of the cardboard, dye and additives as well as the defoamer. Empty boasts are not wanted – neither in production nor from suppliers. ■

ABB is a leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 104,000 people.

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