
Press release

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MAN technology takes root in the paper industry

Rising energy prices and growing environmental awareness account for the ongoing success of the vacuum systems developed and built by MAN Energy Solutions under the TURBAIR® brand.

"2017 was the most successful financial year in the history of TURBAIR®. A continually growing number of paper manufacturers are replacing their systems fitted with traditional water ring pumps with MAN vacuum systems," according to Manfred Dobler, Head of Paper Industry at MAN Energy Solutions.

The paper industry has been undergoing changes ever since the turn of the millennium. Having primarily focused on product quality improvements in the 1990s, requirements in the industry have now shifted towards cost optimization. In particular, the rise in electricity and gas prices has led to a rethink concerning the dimensions of the systems – in the past, paper machines were designed to be as large as possible and based on the maximum output. Nowadays, cost savings and thus energy saving measures are becoming increasingly important in production systems consuming large amounts of electricity. This results in an increased demand towards systems for the production of paper and board which save resources and reduce costs.

MAN's vacuum blowers are used during production at the point where the system dewateres the paper via a vacuum. Compared with water ring pumps, the TURBAIR® system needs 30% less energy and, unlike normal, does not use any water. In addition, the heat exchanger ensures that the hot waste air can be fed back into the energy cycle – leading to a reduction in energy consumption of up to 60%.

The well-known paper manufacturer UPM Nordland Papier decided to convert a large paper machine in Dörpen (Germany) and replaced eight water ring pumps with two MAN vacuum blowers. "By using waste heat recovery and saving fresh water, the TURBAIR® technology not only makes a significant contribution to protecting the environment, but also reduces the production costs in paper manufacturing," explains Manfred Thomann, Project Manager at UPM Nordland Papier.

The public demand for products with a low ecological footprint is continually on the rise. For the paper industry, this means that water – and above all energy consumption – must be drastically reduced in order to give this CO₂-intensive industry a sustainable future. At the same time, the global requirements for board and tissue products are increasing, which is leading to the construction of new plants.

"When new plants are built, the decision between using MAN vacuum systems and conventional water ring pumps is generally no longer necessary. In addition to the very wide operation range of the blowers, frequency-controlled drives are increasingly being used. This means that both the air volume and the vacuums can be optimally adapted to the conditions of the paper machine. Together, these benefits result in a simple ROI calculation for paper producers. A TURBAIR[®] system has a payback period of less than two years," explains Dobler.

In 2017, MAN Energy Solutions installed the TURBAIR[®] technology in 40 paper and tissue machines. The 53 blowers in total are used in 25 board and 15 tissue machines. The replacements made up around half of all vacuum systems sold.



TURBAIR[®] blower type RC in operation at UPM Nordland Papier in Dörpen (Germany)



UPM's PM3 paper machine mainly produces uncoated fine paper weighing 60–120 g/m²



TURBAIR[®] blowers type RT are used for dewatering in paper production

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.