Press release

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MAN vacuum blower technology takes root in Mexican paper market

Empowering eco-friendly cardboard production: MAN Energy Solutions to deploy TURBAIR® vacuum blower systems for a board paper mill in Mexico

Smurfit Kappa, one of the world's leading packaging companies, has awarded MAN Energy Solutions with the delivery of two TURBAIR® vacuum blowers. The vacuum system will be put into operation in the dewatering process of a new Valmet PM5 board machine at the Cerro Gordo paper mill, located in Santa Clara, northeast of Mexico City. The plant specializes in the production of corrugated cardboard for packaging items such as boxes and trays, made from recycled paper and sustainable forestry resources. These packaging solutions are widely used in various sectors, including consumer electronics, industries, medicine and food.

The energy-intensive process of dewatering plays a critical role in reducing the environmental footprint of paper mills. By cutting consumption of energy and process water in the paper production flow, MAN's vacuum blower technology supports the paper producer's efforts to reduce OPEX and exceed environmental regulations.

Manfred Dobler, Head of Sales Paper Industry at MAN Energy Solutions, explains: "Our TURBAIR® vacuum blower systems provide an eco-friendly alternative to water ring pumps, enabling board and tissue manufacturers to achieve substantial savings of up to 80 % in energy consumption. As a result, our technology solution not only reduces CO_2 emissions but also significantly cuts down on paper production costs."

Smurfit Kappa's Cerro Gordo board mill is situated approximately 2,240 meters above sea level. The lower atmospheric pressure at this high altitude reduces the maximum vacuum levels attainable. To counteract this loss, the vacuum blower technology deployed needs to achieve high vacuum levels to sustain a consistent vacuum for the dewatering process.

"The plant's high-altitude position posed a considerable challenge in identifying a vacuum system capable of delivering the required high vacuum levels without compromising on the compactness and small-footprint criteria of the solution", explains Mario Olvera, Project Manager at Smurfit Kappa. "With the TURBAIR® vacuum systems, we have discovered a very efficient technology solution that not only meets our technical demands but also reinforces our strong commitment to operational resilience and sustainable practices."

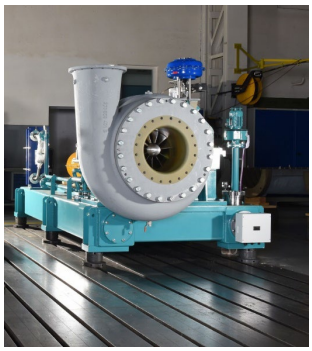
The scope of supply consists of two TURBAIR® vacuum systems, engineered and manufactured by MAN Energy Solutions in Zurich (Switzerland). The first, a single-stage RT 71-1 vacuum blower, achieves vacuum levels of up to 48 kPa. It features fully automatic outlet guide vanes, offering great flexibility for a broad airflow range while maintaining the required vacuum level. This makes the RT particularly well suited for the felt conditioning process. The second, a multi-stage RC 95-4 vacuum

blower, provides four different vacuum levels ranging from 21 kPa up to 56 kPa, which is particularly remarkable for high-altitude applications. Both blowers are driven by frequency-controlled electrical drives that ensure additional flexibility and a broad operating range. The delivery is scheduled for autumn 2024.

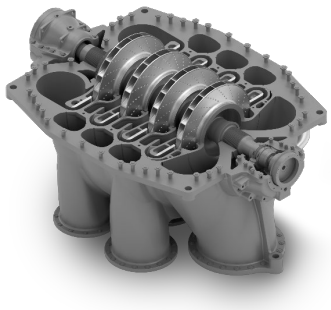
Manfred Dobler adds: “I’m very glad to collaborate with Smurfit Kappa on the Cerro Gordo project. This order further strengthens our presence in the Mexican paper market, which has already embraced our state-of-the-art technology solution thanks to numerous successful TURBAIR® vacuum systems installations in the Central American country.”

More about TURBAIR® vacuum systems

Compared to conventional water ring pumps, TURBAIR® vacuum systems account for energy savings of 40-60%. By harnessing hot exhaust air from the vacuum blowers and recuperating it into the plant energy cycle, energy reduction of up to 80% is achievable. Moreover, the TURBAIR® vacuum systems do not require sealing water, leading to water savings of up to 99% and a positive ecological impact by preserving fresh water resources.



TURBAIR® RT single-stage vacuum blower by MAN Energy Solutions



TURBAIR® RC multi-stage vacuum blower by MAN Energy Solutions

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.