

For Immediate Release
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Dyneo+ by Nidec Leroy-Somer delivers an efficient and sustainable solution together with NOVENCO® ZerAx® fan

The Danish manufacturer of highly efficient ventilation fans and systems called on the world-class specialist in electrical motors for driving the largest fan in their ZerAx range of axial fans. The fan was specially designed for the extraction of the carbon dioxide in a German backfill mine. The objective was to supply the most climate-neutral solution. Thanks to its IE5 highly efficient synchro-reluctant Dyneo+ motor, Nidec Leroy-Somer has brilliantly met the challenge.

With more than 70 years of experience, NOVENCO Building & Industry, a member of the SCHAKO Group, ranks among the world leaders in design, development and manufacture of ventilation products and systems on the technological forefront of performance and durability. The company provides a vast choice of energy-efficient and life safety ventilation systems worldwide, which are well-known for uncompromising quality and the highest standards within a wide range of industries.

With focus on a sustainable green solution for the latest renovation project of the Teutschenthal backfill mine in Germany, operated by GTS (Grube Teutschenthal Sicherungs GmbH & Co. KG), in the Geiger Group, the NOVENCO ZerAx® axial flow fan was approved as an obvious choice.

Since the mining of potash and rock salt was stopped in 1982, the mine is used to store every year more than 200,000 tons of mineral waste materials produced by municipal and industrial plants. By using the cavities for the environmentally friendly and long-term safe disposal of mineral waste at a depth of approx. 700 metres, the backfill mine makes a significant and sustainable contribution to environmental protection.

To improve ventilation systems under the ground intended for removing CO₂ from stored mineral waste, the main contractor Jeremias® Chimney Systems delivered a specially designed 36 m tall chimney.

To support this, NOVENCO delivered a 2-meter diameter giant Zerax® fan with efficiency up to 92%, driven by a Nidec Leroy-Somer's Dyneo+ eco-efficient permanent magnet motor delivering a power output of 220 kW.

Compact, robust and easy to commission, the Dyneo+ permanent magnet-assisted synchronous reluctance motors offer IE5 Ultra Premium efficiency level. With the lowest TCO (Total Cost of Ownership) on the market, a very short ROI (Return On Investment) and low maintenance, Dyneo+ provides a cost-effective, efficient and environmentally-friendly drive solution.

Implementing the Dyneo+ technology means less kWh consumed, fewer raw materials used and lower CO₂ emissions. Combined with the ZerAx® fan efficiency of up to 92%, 98% recyclability rate and 20+ years of lifetime, this solution is of great benefit to the environment for many years to come. Compared with an IE3 induction motor, the frame size would be 315 mm and even 355 mm instead of 280 mm with the Dyneo+ motor. As for the weight, it would total 1300 kg in frame size 315, instead of 820 kg, i.e. half a ton lower, and the efficiency level of the motor powered by drive less than 96.5%.

By combining an efficient extraction fan to a Dyneo+ energy-saving motor controlled by a frequency inverter, NOVENCO provides the greenest solution for the earth's surface. This unique configuration offers the highest possible system efficiency that goes beyond the requirements of current regulations.

ENDS

About Nidec

Nidec was established in Kyoto, Japan in 1973 by its Chairman, President and CEO Shigenobu Nagamori. In 1979, Nidec became the first company in the world to successfully commercialize a direct drive spindle motor for HDDs based on a brushless DC motor. Since then, the Company has grown into a world-leading comprehensive motor manufacturer encompassing approximately 300 subsidiaries employing 120,000 people throughout the world and with annual sales of about US\$ 15.4 billion. Nidec's motors, drives, generators and related products are found in a diverse range of applications including computers, smartphones, home appliances, automobiles, manufacturing plants, robots and more.

About Leroy-Somer:

Leroy-Somer is one of the world's leading manufacturers of electric motors and associated electronics, as well as the world leader in industrial alternators. The company which was established in 1919 in France and employs around 6200 people worldwide has become part of the Nidec Group in 2017.