

RETROFIT OF A FOUNDRY IN THE AUTOMOTIVE INDUSTRY WITH NOVENCO® ZERAX®



RETROFIT OF PRODUCTION HALL VENTILATION

NOVENCO Building & Industry has retrofitted the production hall ventilation in the foundry of a German car manufacturer together with the contractor T&S Klimatechnik und Montagebau GmbH. The old system from 2012 consisted of seven large axial fans, each with an air volume of 240,000 m³/h. The fans were driven by 160 kW motors on the inlet side by means of separately mounted intermediate shafts. In case of failures, the customer had considerable difficulties with repairs, replacement was simply not possible due to the size. The result was long downtimes. The maintenance effort was enormous due to the system design and the many wear parts.

FAN ARRAYS IN MODULAR DESIGN

The system was replaced with modular NOVENCO fan arrays originally developed for large data centre projects. Special double-diffusers made for the existing interfaces, made it possible to make the dynamic pressure available to the system. State-of-the-art motors and highly efficient converter control has meant that system efficiencies above 80% are achieved. The modular fan arrays allow for quick fan replacement through use of compact electric pallet trucks in a plug-and-play process. The modular design and low weight thereof made it possible to use existing installation routes via doors and lifts, which made the installation simple and effective.

In the event of a fan failure, it is possible



Fan array with double-diffuser

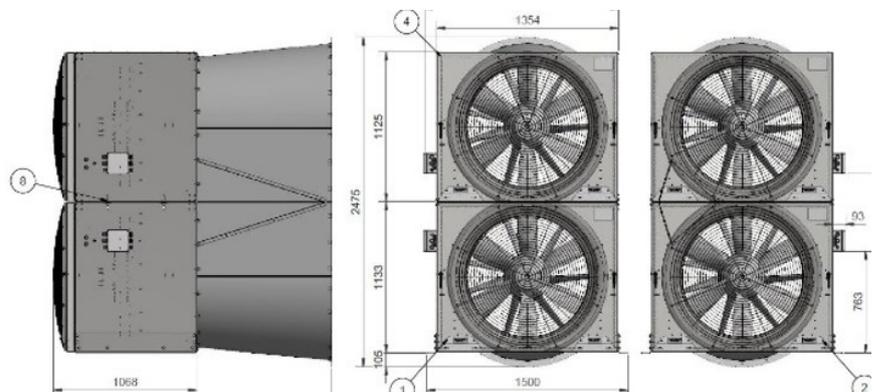
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to prevent backflow by means of a plug-in disc on the outlet side of the fan, which provides almost 90% redundancy.

A total of 28 NOVENCO® ZerAx® AZL900 axial fans were installed, each with an air volume of 60,000 m³/h (@ 1,600 Pa). With a total air volume of 1.68 million m³/h and an energy saving in the operation of more than 50%, among other things due to the implementation of intelligent demand-responsive control, annual energy savings of 4.9 million kWh are achieved.

RETROFIT OF SEVEN LARGE AXIAL FANS

- **CONTRACTOR: T&S KLIMATECHNIK & MONTAGEBAU GMBH**
- **FOUNDRY IN THE GERMAN CAR INDUSTRY**
- **28 NOVENCO® ZERAX® FANS,**
EACH WITH 60.000 m³/h IN SEVEN FAN ARRAYS
- **AIR VOLUME CAPACITY: 1.680.000 m³/h**
- **ENERGY SAVINGS UP TO 50%**
- **WEIGHT SAVINGS UP TO 40%**
- **TOTAL ENERGY SAVINGS**
APPROX. 4.9 MIO. kWh/YEAR
- **REDUNDANT FAN ARRAYS AS PLUG-AND-PLAY**



NOVENCO Fan Array with double-diffuser



Fan from 2012 in old installation



NOVENCO ZerAx® AZL 900 with extractable fan unit for easy access