

Case study

Auxiliary mine ventilation fans

K+S Salt and Potash Mines, Germany



Photography courtesy of K+S AG

Design and supply of auxiliary ventilation fans for multiple underground salt and potash mines producing over 12 million tonnes per annum.

As a major global salt producer with multiple mines, K+S has a constant need for reliable auxiliary ventilation fans to ensure continuous operational safety. Howden's comprehensive fan range and responsive engineering support ensures K+S has a trusted source of durable high performance fans ready to install in existing and newly developed seams.

Challenge

K+S is one of the largest salt producer in the world and belongs to the leading group of international potash suppliers.

Their mines located in Germany, including Werra-Fulda, Zielitz, Bernburg, Borth and Braunschweig-Lüneberg provide a large resource from which crude rock salt and potassium-containing salts are extracted. Once extracted they are processed for use within multiple applications including other industrial processes, agriculture, pharmaceuticals and consumer products.

Each of these mines operate deep underground with seams located at a depth of up to 1000 metres.

As the production area expands within each mine, there is increasing demand placed on the ventilation technology to supply higher volumes of critical air for safe working conditions.

The harsh conditions underground means that the fans used need to be of a robust and reliable design. They need to operate continuously due to the criticality of ventilation to ongoing production.

Due to increased production within the mine, the ventilation system needs to be flexible to move to where the demand is and support expansion to explore and develop new seams.

As a major operator with multiple sites, K+S looks to their supply chain to be able to deliver fans that can not only meet the operational demands, but are also available within short timeframes.



Photography courtesy of K+S AG



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Solution

Howden has a wide range of ventilation fans designed for underground mining. The fans used by K+S are from our pre-engineered VAN axial series and are supplied in 3 different sizes – 800mm, 1000mm and 2500mm - to meet the volume requirements for auxiliary ventilation in each mine.

Each fan operates in single stage and provides between 4m³/s and 56m³/s of air depending on model and location requirement.

Howden's flexible approach means that fans are modified according to K+S specifications to ensure each fan is optimised.

This involves more robust casings, diffuser placement and the use of sliding rails for ease of movement within the mine. The larger fans are also supplied with shut-off dampers for isolation and control.

Manufacturing in our German plant ensures the ability to respond quickly to demands for additional fans as well as assure that our high quality standards are achieved. Fan units are shipped in one piece for easy installation at site.

Ongoing supply of spare parts and fan revisions are provided by Howden's regional aftermarket network.

Outcome

Having supplied K+S for over 20 years, the fans continue to deliver strong performance and prove their design quality and reliability.

As a trusted supplier, Howden supplies fans on an annual basis as K+S replaces their operational fan base or expand as they develop new seams.

In addition to the performance and reliability of the fans, K+S values the level of support provided by Howden's engineering and sales team, which ensures the right solution is provided and the whole process is managed smoothly.

