

# Reliable and efficient solutions for mining and minerals processing



**AERZEN**  
EXPECT PERFORMANCE



# Greater efficiency, performance, sustainability and reliability

Innovative technologies are the key

Mining and mineral processing have shaped our civilisations for thousands of years and have contributed significantly to the development and continued existence of life on earth. Technological innovations have always been a decisive competitive factor here, and they play a key role in overcoming the current challenges in mining – including falling ore grades, rising energy prices, the introduction of environmental and social standards and carbon taxes.

## Focus on life cycle costs

For a long time, the motto in mining was: the lowest investment bid is awarded the contract. Energy consumption? Reliability? Lifespan? Maintenance effort? None of these was even a factor. But those days are a thing of the past. The total cost of ownership is increasingly an area of focus and is becoming a decisive criterion. This also applies in particular to blowers and compressors, the centrepiece of many mining applications.

## Efficient, reliable solutions for the mining industry

Whether air or gas, low pressure or compressed air, oil-free or oil-injected: we offer you the entire spectrum of solutions for process air supply and support you on your way to greater productivity, sustainability and efficiency. Our assemblies are state-of-the-art, exceptionally tough and extremely low-maintenance. At the same time, they enable significant energy savings and therefore also emissions reductions, which makes them an indispensable building block for resource-conserving, environmentally friendly, future-orientated and competitive mining.

The technical concept of AERZEN solutions is geared towards maximum efficiency and reliability as well as low operating costs – after all, time is money! Downtime can cost millions. AERZEN swears by safety. So you can swear by AERZEN. We're a partner the mining and mineral processing markets can count on.



## LET'S TALK

"... about the **process safety, reliability** and **efficiency** of your process air supply."

# Why AERZEN? Because experience and expertise make a difference

## Global reach with local roots

Raw materials form the backbone of industry and the economy. They are the basis for progress, development, innovation and prosperity, and they secure our future. But mining and extracting valuable resources is extremely tough – on people, machines and the environment. As an experienced technology partner, we know the challenges of the mining industry inside out and are by your side with innovative technology, targeted engineering and the full range of advice and services. Anytime, anywhere.

High dust exposure, harsh climatic conditions, extreme altitudes with correspondingly low ambient pressure, and 24-hour operations: the conditions in mining are extremely demanding. This poses major challenges for people and technology, so it's all the more important to have a strong partner like AERZEN, who understands your processes and is familiar with your requirements. We are one of the world's leading manufacturers of machines for conveying and compressing gases and have been supporting users for more than 160 years with customised engineering and sustainable high-end solutions. Application-oriented, targeted, and cost-optimised.

### Premium technologies built for resilience

Over many decades, we have taken our innovations to the peak of technology and accumulated expertise that sets standards worldwide. Our packages function regardless of whether it's hot or cold, damp or dry, high up or at sea level. Even pressure fluctuations do not upset these reliable endurance runners, so the volume flow remains constant under almost any conditions.

Maintenance according to the maintenance plan can be carried out with little effort and on-site – because our blowers are built to be extremely robust, so they can take whatever is thrown at them. When it comes to energy efficiency, we pursue a holistic approach that covers our customers' applications. This enables us to realise the biggest energy savings on the market, which can be as much as 30 percent.

### Performance and service with no ifs and buts

AERZEN's consulting expertise and service orientation are at least as legendary as the efficiency, service life and reliability of our machines. We realise integrated application solutions and adapt the packages precisely to your application-specific requirements. But that is by no means all: we look after your investment in the machine throughout its entire life cycle – from commissioning, maintenance, repair, servicing and spare parts to rental and replacement machines as well as complete all-round worry-free service contracts. We are by your side.



### Competent, experienced technology partner for the mining industry:

- Global player with more than 50 subsidiaries worldwide
- Robust and reliable engineering with maximum energy efficiency
- Broad product portfolio: technology mix from one single source
- Unrivalled engineering expertise thanks to more than 160 years of experience in the field of process air
- Customised low-pressure and compressed air solutions for individual processes
- Minimum life cycle costs with maximum process reliability
- Safe to use even under extreme environmental conditions and with the most difficult requirements
- ATEX-compliant versions
- Global network for sales, spare parts and services
- Flexible and reliable rental solutions around the clock
- Certificates and regional approvals (ASME, CRN, SELO, etc.)



Benefit from over 160 years of experience in the field of process air!

# Where there is air, there is AERZEN

## All-rounders above and below ground

Without blowers and compressors, a mine runs out of air – quite literally. Our compressors are at the heart of many underground and surface processes and are indispensable for the extraction of ores and minerals, so reliability has absolute priority. Thanks to robust construction and service-friendly design, we ensure high machine availability. Solutions from AERZEN move mountains – in every application and under the most adverse conditions.



### 01 Flotation

In flotation, a process for separating minerals, process air is used to form bubbles in the suspension. The fine mineral particles come into contact with the bubbles and are transported to the surface of the flotation cell, where they are skimmed off. Differential pressures of up to 4.5 bar are ideal for this.

### 02 Leaching and oxidation processes

Oil-free screw compressors and screw blowers supply the oxygen for carrying out controlled oxidation of the ores and minerals present in the brine. These precipitate as fine oxide particles, which are then removed. A constant volume flow is essential for this process.



### 03 Ventilation

A continuous supply of fresh air must be ensured so that there is sufficient air to breathe in the mine. At the same time, harmful gases such as methane have to be extracted. Consistent and reliable performance is the be-all and end-all – the very task that our **Delta Blower** and **Delta Screw** were made for.



### 04 Fluidisation

During fluidisation, powdery bulk materials are loosened up using process air, which improves flow properties and facilitates silo emptying. Fluidisation is a typical low-pressure application for our assemblies in the **Delta Blower** and **Delta Hybrid** series.

### 05 Running on air

Pneumatically operated tools, devices, pumps, regulators and valves depend on a reliable supply of compressed air. The oil-injected and oil-free screw compressors in the **SI** and **DS** series really come into their own in operational, instrumental and appliance applications, boasting high efficiency with a very compact design.

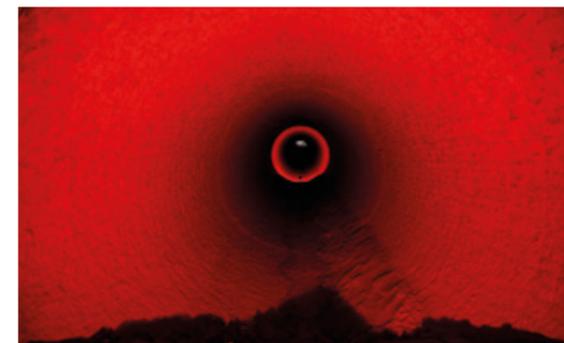


### 06 Wastewater treatment

Modern water treatment plants effectively remove pollutants and impurities that occur in the various processes. AERZEN is a leader in the field of wastewater tank aeration and realises efficient, resource-saving and economical solutions based on the **Delta Blower**, **Delta Hybrid** and **Aerzen Turbo**.

### 07 Pneumatic conveying

Constant material flow thanks to process air: our **Delta Blower**, **Delta Screw** and **Delta Hybrid** are powerful all-rounders and solve any transport task with unprecedented efficiency and reliability. The robust packages are likewise in their element when loading and unloading bulk materials and granulates.



### 08 Further processes

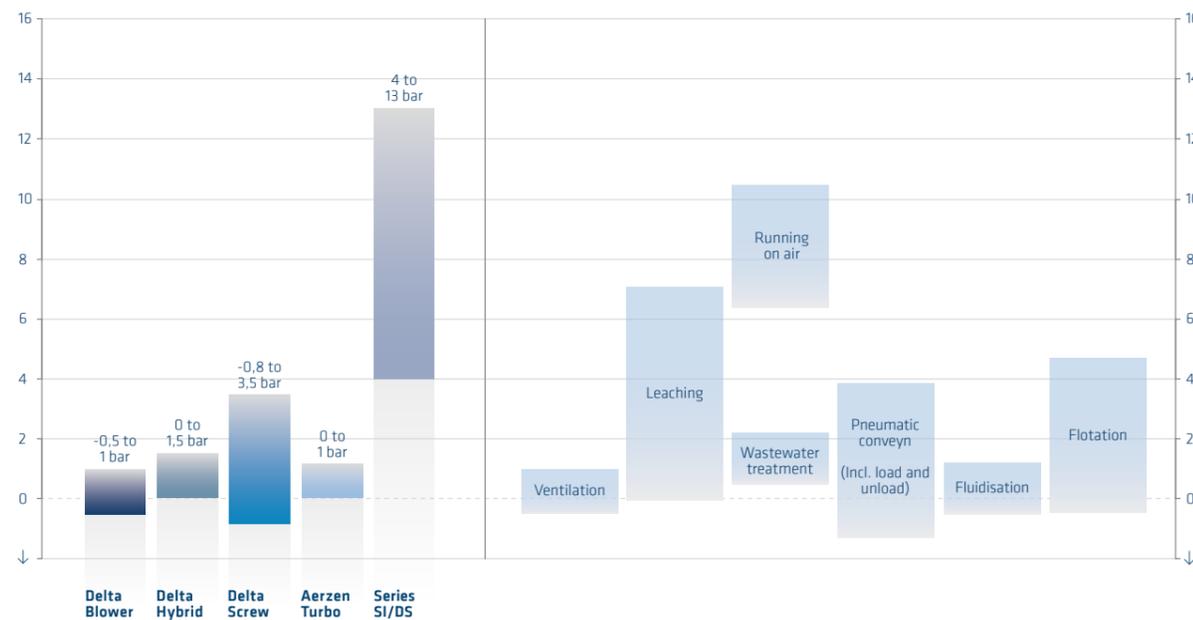
For downstream processes such as calcination, power generation from methane, coke oven gas compression or smelting, we have a variety of technologies with different strengths. Our engineers know what is important and realise solutions that are optimally tailored to the application, location and process.

# High five

## The optimum solution for every process

Our portfolio includes oil-free positive displacement blowers, screw blowers (rotary lobe compressors), screw compressors and turbo blowers, and covers intake volume flows of up to 16,000 m<sup>3</sup>/h and differential pressures of up to 13 bar. Based on this broad product range, we realise both efficient and sustainable solutions for the diverse requirements of modern mining. The main focus here is on reliability, energy efficiency and safety in challenging environments.

### AERZEN mining applications



### Series SI/DS

Compressed air made to measure  
Oil-injected and oil-free screw compressors with a lot of accessories

#### Product features:

- Outstanding efficiency with a very compact design
- Low life-cycle-costs
- High mechanical resilience for maximum process reliability



### Delta Blower

Robust pneumatic all-rounder  
Extremely resilient, durable positive displacement blower – ideal for pneumatic conveying processes.

#### Product features:

- Endurance runner in countless compression processes
- Multiple sizes for underpressure- and positive pressure operations
- Low-maintenance, user-friendly design



### Delta Hybrid

Efficient process air generator

Exceptionally efficient screw blowers with direct drive and very large volume flow control range.

#### Product features:

- Compact plug-and-play solution for the highest demands
- Up to 37% energy savings compared to other blowers
- Largest volume flow control range by integrated VFD



### Delta Screw

Flexible power package

Versatile screw compressor for difficult applications and challenging ambient conditions.

#### Product features:

- Very resilient, even under extreme conditions
- Comprehensive performance spectrum thanks to different series
- Wide range of applications and flexibility



### Aerzen Turbo

Specialist for wastewater and combustion air

Compact plug-and-play package: the turbo blowers stand for the best energy efficiency with the smallest footprint.

#### Product features:

- Reliable and low-maintenance permanent magnet motor
- Increased bearing service life of > 80,000 operating hours
- Lowest life cycle costs

# Always by your side

## The **AERZEN** service

AERZEN packages are known for their uncompromising quality and unconditional reliability. Even under the most extreme conditions – the order of the day in mining – these blowers and compressors run like clockwork. So why is there even a need for service? Because there's more to it than availability and original OEM parts. AERZEN's services secure investments, productivity and the crucial advantage over the competition. And that applies worldwide.



### AERZEN on-site service.

Our service teams work where our machines are, anywhere in the world. Onshore and offshore. Often under extreme conditions. How do we manage it? With short distances. AERZEN has established a dense network of service centres and decentralised parts warehouses for you around the globe. More than 200 outstandingly trained service technicians are available to assist you from there – anytime and wherever you need us.

### Individual services

The AERZEN service world is as individual as your applications. We offer bespoke service kits, replacement stages, machine diagnostics, sound optimisation and much more. What can we use to optimise your applications? Get in touch with us!

### Rent instead of buy

Whether as a temporary solution in an emergency or for planned maintenance work: our international rental service AERZEN Rental stands for an exceptionally broad portfolio of rental machines, bespoke services and an all-round stress-free offering that is second to none. If required, we can supply a complete turnkey rental system delivered anywhere worldwide. 24 hours a day, 7 days a week, 365 days a year.

[www.aerzenrental.com](http://www.aerzenrental.com)



### Contact worldwide

AERZEN employs 2,900 people who work across all continents. With six sales offices in Germany alone, we are on the spot for you. And we have 50 subsidiaries in more than 100 countries worldwide. This ensures short distances to you – wherever you need us. Give us a call: **+49 5154 81 0**

### Service Infoline

Our German service centre is available for customers and operators. We will be happy to help you. Find your local contact here:

[www.aerzen.com/services](http://www.aerzen.com/services)



### Customer Net

Where can you learn more about the company and the leading compressor technologies from AERZEN? It's simple: using the Customer Net on our website. You'll find everything you need to know there:

[www.aerzen.com](http://www.aerzen.com)



## LET'S TALK

Find your local contact

[www.aerzen.com/worldwide](http://www.aerzen.com/worldwide)

## **AERZEN.** Compression as a principle of success

AERZEN was founded in 1864 as Aerzener Maschinenfabrik. In 1868 we built the first positive displacement blower in Europe. The first turbo blowers followed in 1911, the first screw compressors in 1943, and in 2010 came the world's first rotary lobe compressor package. Innovations made by AERZEN continue to drive forward the development of compressor technology. Today, AERZEN is one of the world's longest established and most significant manufacturers of positive displacement blowers, rotary lobe compressors,

screw compressors, and turbo blowers. It is also one of the undisputed leaders in many areas of application. In more than 50 subsidiaries around the world, more than 2,900 experienced employees are working at full capacity on shaping the future of compression technology. Their technical expertise, our international network of experts and constant feedback from our customers form the basis of our success. Products and services from AERZEN set standards. In terms of reliability, value and efficiency. Go ahead – challenge us!



## **LET'S TALK**

**Find your local contact**

[www.aerzen.com/worldwide](http://www.aerzen.com/worldwide)

Aerzener Maschinenfabrik GmbH  
Reherweg 28 – 31855 Aerzen, Germany  
Telephone: +49 5154 81 0 – Fax: +49 5154 81-9191  
[info@aerzen.com](mailto:info@aerzen.com) – [www.aerzen.com](http://www.aerzen.com)



**AERZEN**  
**EXPECT PERFORMANCE**