

AERsmart

TAKING AERATION TANK EFFICIENCY TO THE NEXT LEVEL

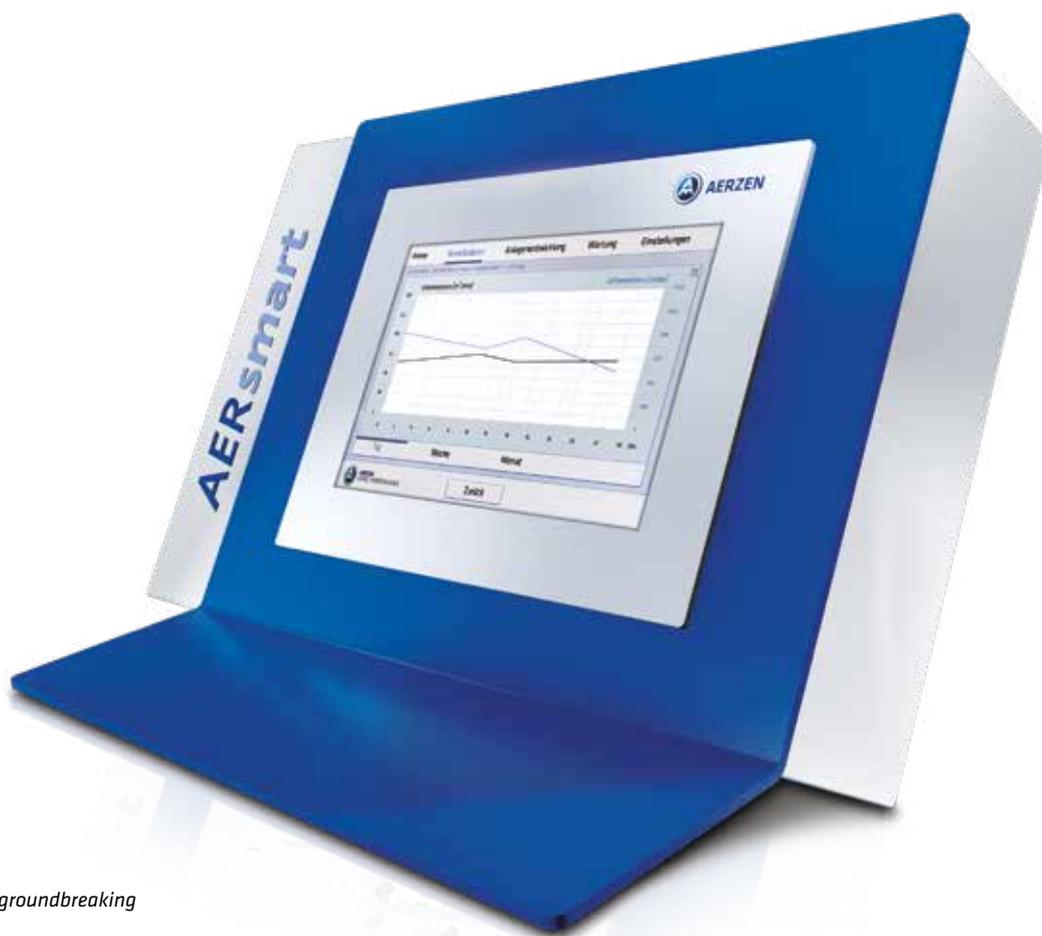
Master control system for up to 12 machines



AERZEN

CONTROL YOUR BLOWER COMBINATION INTELLIGENTLY FOR SIGNIFICANT EFFICIENCY IMPROVEMENTS.

No matter whether it is Blower, Hybrid or Turbo machine technologies, AERZEN has the right solution for you. AERsmart, AERZEN's new intelligent machine control, takes their performance to the next level. AERsmart ensures optimal air flow distribution between various technologies and their individual efficiency levels. The end result is standalone efficiency levels that approach the theoretical maximum, resulting in additional savings of up to 15%. Compatible with third-party manufacturers' technology.



AERsmart – intelligent, efficient, groundbreaking

Handling needs-oriented load changes.

Strong fluctuations in load operations are typical for biological waste water treatment plants. The innovative AERsmart machine control provides an intelligent building block for distributing the required oxygen to the machine pool, ensuring that low, medium and heavy loads are executed as efficiently as the current configuration permits. Machine characteristics and efficiency levels are built into the control algorithm. In this way, the installed machine pool operates as close as possible to the theoretical maximum efficiency. But that's not all ...

Autopilot for up to 12 machines.

AERsmart is able to assume complete control and rules management for a group of compressors, leveraging the enormous energy savings potential that Performance³ can yield by operating various types of machine in combination. Even third-party machines and installations using a single machine technology can be adjusted via this higher level of control. AERsmart can control up to 12 machines in this way to deliver the highest possible efficiency – close to the theoretical maximum. For a new level of efficiency in aeration tanks.

Even better performance from the water treatment 'dream team'.

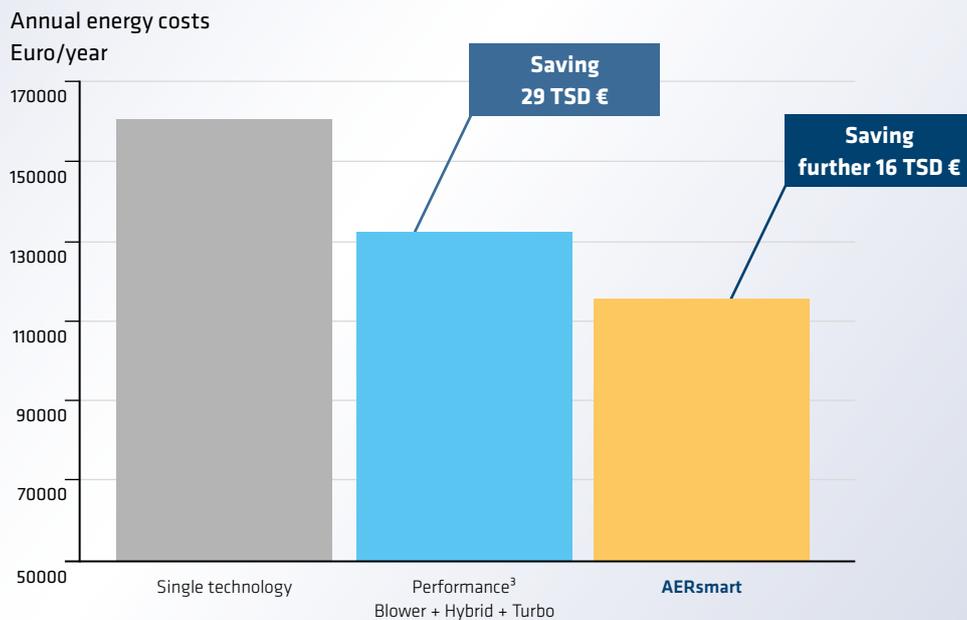
AERsmart distinguishes itself from traditional 'group controls', which only regulate identical compressors. AERsmart also controls compressors using different technologies, notably Performance³ configurations from AERZEN. Each type of machine technology and machine size is characterised by differing efficiency levels. AERsmart distributes the required air flow to ensure that the highest level is used for each individual machine (or machine configuration). In this way, the machine pool operates at close to the highest theoretical level of efficiency.



A powerful trio – AERZEN's Blower, Hybrid and Turbo

Savings potential in numbers. Shortest time to ROI.

AERsmart's innovative machine control represents an enormous savings potential. Investments pay for themselves in just a few years. Realised example of a waste water treatment plant with 100,000 population equivalents (PE).



FINE-TUNE YOUR AIR SUPPLY. MANAGE LOAD CYCLES MORE EFFICIENTLY.

AERsmart is a combination of innovative software and hardware components. The required amount of oxygen is communicated to the AERZEN blower control as a set value, for example via a 4-20 mA signal or a bus connection. AERsmart chooses the optimal machine combination and the most efficient load distribution, and visualises the results in real time.

Configuration and features

Universal interface

- For networking with the machine pool and the process control system
- Linkage via analogue signal and various bus protocols such as Modbus, PROFIBUS, PROFINET
- Internal data storage as well as USB and SD card slot
- Optional embedded web server for data transfer via internet, remote diagnostics

Flexible implementation

- Wall mounting or desk console
- Simple installation



Efficient control

- AERZEN algorithm and precise integration of machine performance wraps
- Highest levels of efficiency, close to the theoretical maximum. Efficiency increases of up to 15%
- Manage load cycles efficiently and with pinpoint accuracy
- Combines multiple technologies, both displacement and turbo machines
- Integration of third-party equipment
- Central control of up to 12 machines



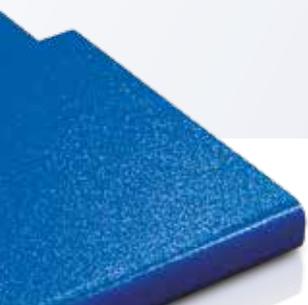


Comprehensive visualisation and analysis

- Display and recording of required air volumes, machine pressures, temperatures, power consumption, machine data
- Real time display, trend analysis, comparison of yearly values, reporting functionalities
- Service and maintenance intervals for integrated machines, predictive maintenance
- Comprehensive energy analyses and checks according to German Water Association worksheet A-216
- Landmark building block for Water 4.0

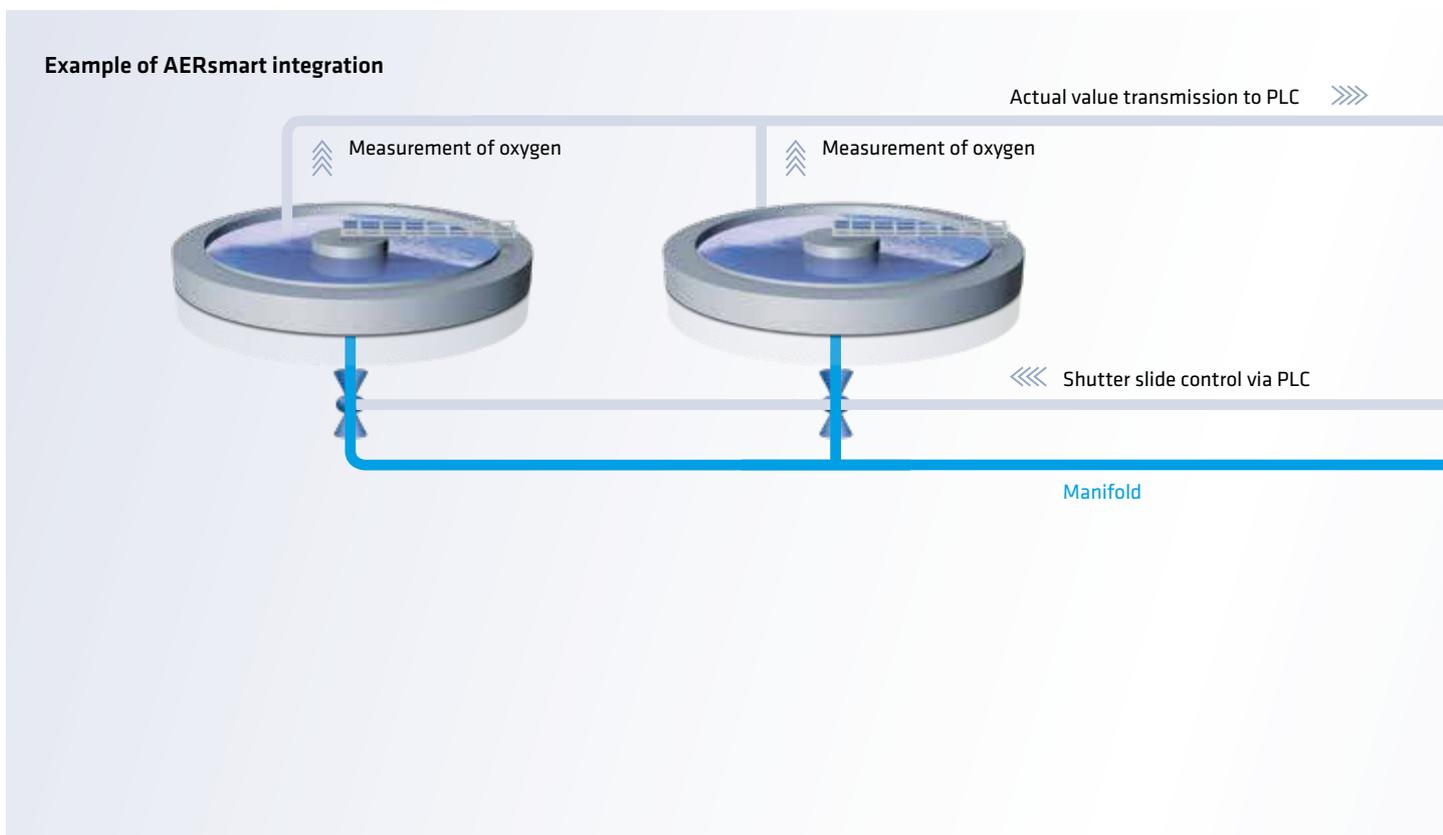
User-friendly interface

- High resolution 12" touch-screen
- Intuitive menu navigation
- Everything at a glance: overview data and data for individual machines
- Extensive choice of languages



SEE WHAT'S GOING ON. CONTROL MACHINES IN REAL TIME.

User-friendly, transparent, real-time control of linked machines: AERsmart fulfils demanding requirements for information and visualisation. As an intelligent module, it can be universally networked into the process control system. Precise details regarding air flows and power consumption for the aeration system are often inadequate or incomplete. In this case, AERsmart provides transparency for the entire life cycle.

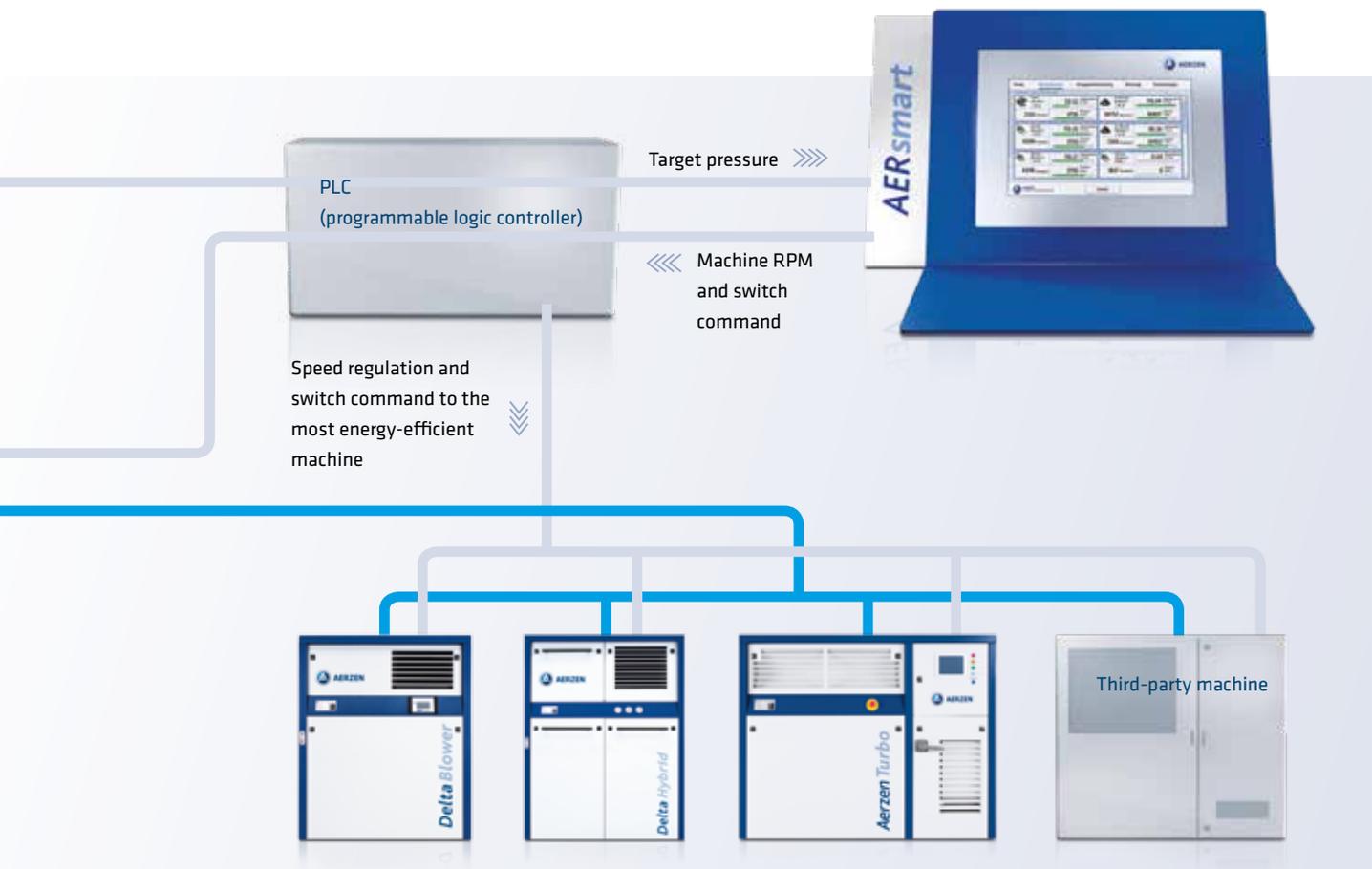


Superior knowledge as a software solution.

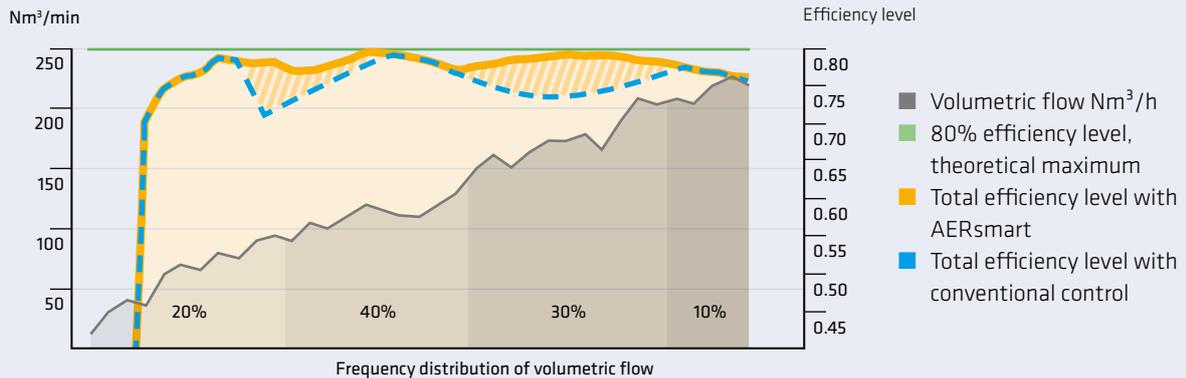
Especially when a variety of machine types are deployed, the control of compressors in a grouped operation requires fundamental knowledge of the machines and special rule sets. AERsmart software includes detailed information about the connected machines and calculates the optimum load distribution across the combination accordingly.

Intelligent activation and deactivation.

Operational performance and the variety of unique characteristics of turbo and positive displacement machines influence the control range and efficiency curve, depending on the air volume and compression pressure of the various types of equipment in use. AERsmart software leverages the advantages of each technology and avoids their weaknesses within their respective load ranges. The end result is intelligent activation and deactivation, as well as smart load distribution for the combined machines.



AERsmart – for a new level of efficiency





Current data from the entire machine park is displayed in real time. Utilisation values including the current volume flow, the speed of each individual machine, and number of operating hours are presented clearly.



Clicking on an individual machine calls up detailed, real-time data. All the relevant machine data, such as intake and discharge pressure, temperatures, and performance can be reviewed at a glance. For a detailed view, the user can zoom in on the utilisation and the volume flow process.



The usage rates of the individual machines are recorded and can be displayed in weekly or monthly view on the AERsmart monitor. The number of operating hours is displayed in the form of a bar chart.





AERZEN. Compression - the key to our success.

AERZEN was founded in 1864 as Aerzener Maschinenfabrik. In 1868, we built Europe's first positive displacement blower. The first Turbo blowers followed in 1911, the first screw compressors in 1943, and in 2010 the world's first rotary lobe compressor package. Innovations "made by AERZEN" keep driving forward the development of compressor technology. Today, AERZEN is among the world's longest established and most significant manufacturers of positive displacement blowers, rotary lobe compressors, screw compressors, and Turbo blowers. AERZEN is among the undisputed market leaders in many areas of application.

At our 50 subsidiaries around the world, over 2,000 experienced employees are working hard to shape the future of compression technology. Their technological expertise, our international network of experts, and the constant feedback we get from our customers provide the basis for our success. AERZEN products and services set the standard in terms of reliability, stability of value and efficiency. Go ahead - challenge us!

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