BOGE AIR. THE AIR TO WORK.

PO Oxygen Generators

Highly efficient availability on-site

Made in Germany since 1907

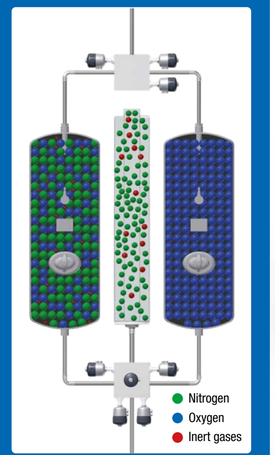
A declaration of independence that will pay off

Generating oxygen independently instead of buying it – those who decide to produce it themselves not only save money but also remain independent of liquid gas manufacturers. After all, liquid oxygen is expensive. High transport and storage costs as well as long-term supply contracts create additional expenses. With highly efficient onsite oxygen generation, you will not only be independent but you will also produce exactly the purity your application requires – with complete transparency onsite. And after even just a few years, investing in independent oxygen generation will pay off.

Highly efficient and safe: PSA Technology

The mode of action is based on the adsorption principle. For oxygen generation, compressed air alternately flows through two receivers filled with ZMS. The nitrogen molecules of the ambient air, which is supplied under pressure, is absorbed on the surface of the ZMS. The free oxygen molecules pass through the ZMS without being obstructed and are directed into a separate downstream product receiver. This is where the oxygen is stored for subsequent use.

After the ZMS in the first receiver have been saturated with nitrogen molecules, the process is switched to the second receiver. While the ZMS in the first receiver regenerate under pressure relief and by being flushed, the nitrogen molecules are absorbed under pressure in the second receiver. This generates a continuous flow of oxygen.



Oxygen analysis (Zirconium oxide sensor)

The zirconium oxide sensor installed as standard is durable and particularly reliable. Temperature-resistance and quick response times guarantee continuous and reliable monitoring of purity.

Sensor and control technology

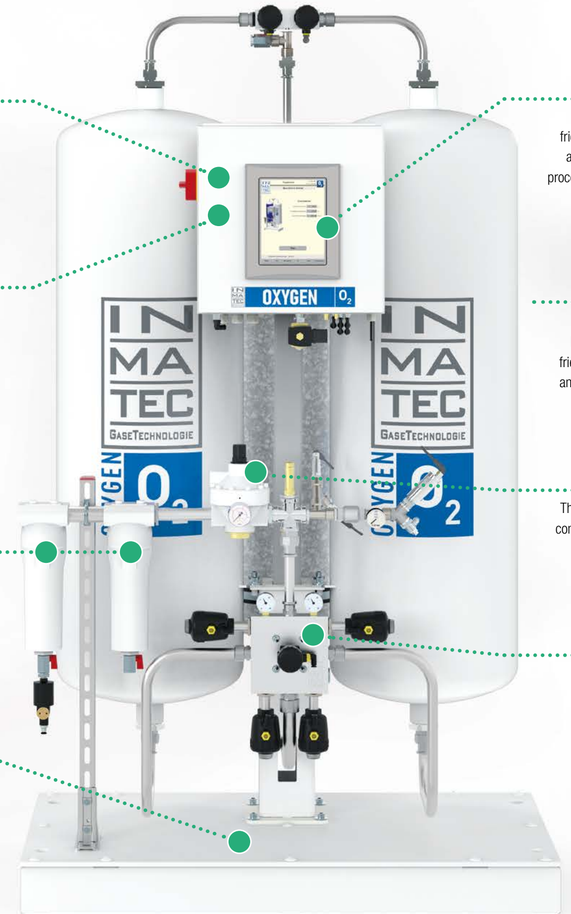
A pressure sensor and a flow control located at the outlet of the generator ensure efficient operation and continuous monitoring of the oxygen quality. The perfect interaction between sensor and control technology is not just energy-efficient and optimised for consumption but it also guarantees maximum operational safety and excellent product quality.

Micro and activated carbon filter

Two inlet and outlet filters ensure a high degree of compressed air quality, maximum protection of the molecular sieve used as well as a high level of oxygen quality for the consumer. This is how the system stands out with a particularly long service life.

Console and receiver

All receivers have been designed for ≥ 2 million load cycles in accordance with DGRL and feature fatigue strength. From series PO 220, high-quality sieve bottoms ensure a flow-optimised design. The integrated sinter filters prevent particle transfer from the ZMS in use, increase service life and ensure the best possible product quality.



9"touchscreen control

The high-quality control offers maximum user friendliness. The entire process is presented visually and clearly. Numerous interfaces allow transparent process monitoring as well as easy integration into the customer's existing infrastructure.

High-quality zeolite molecular sieve

The zeolite molecular sieve (ZMS) made of biodegradable material is not just environmentally friendly, it is also characterised by a long service life and low air factors, thanks to exceptional adsorption properties. Sustainable, powerful and efficient .

Inlet and outlet pressure regulators

The inlet and outlet pressure regulators guarantee a constant flow of the incoming or outgoing gas, which increases process stability.

Valve block and high-quality pneumatic valves

The valve block's compact design minimises leakage risks and allows easy accessibility for maintenance. The efficient arrangement of the high-quality pneumatic valves results in quick response times and precise control. Reliable and maintenance-friendly.

PO 150 Oxygen Generator

AutoPure Technology: high purity, a long service life, maximum safety

During start-up or a minor decrease in product purity, the receiver is flushed with oxygen until the required purity class has been reached – until then, product gas of lower quality will be released via the purging valve. Only when the desired purity has been reached, will the generator open the oxygen outlet. This ensures a constantly high and consistent product quality and is therefore particularly suitable for sensitive applications, in the pharma or medical industry for example. At a great price, **Package Option 1** combines AutoPure Technology with a pressure sensor to monitor the generator's intake pressure and a flow sensor to continuously monitor the flow quantity.

Base load switching: Efficiency increase and stability during the production process

The base load switching function controls two redundant supply systems. One system is in charge of the master function, while the second system manages the slave function. Switching between the two systems is automatic and is controlled by pressure and flow. Thanks to this redundancy, supply is guaranteed at all times, and in the event of necessary surplus production, capacities can be flexibly adapted to the additional requirement and optimised. Furthermore, uniform utilisation increases generator service life. Another advantage: Even required servicing and maintenance will not necessarily lead to downtimes because a backup system is available.

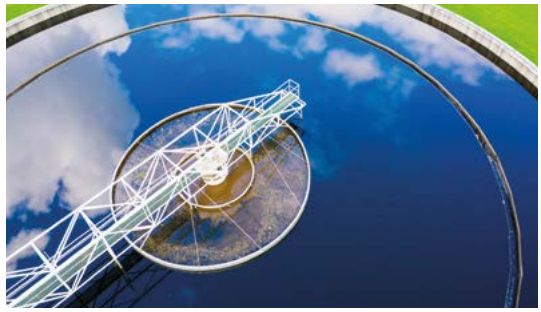
Redundant valve block: simple, maintenance-friendly and cost-effective

If needed, the availability or reliability of the system can be increased by using a redundant valve block in the generator's inlet and outlet. Ball valves allow switching to second (redundant) pipework during generator operation. In most cases, a fault involves the process valves. The valve block therefore covers redundancy in about nine out of ten cases. The switch takes place manually. Process valves can be cleaned or replaced without system downtimes. This results in easy, maintenance-friendly and cost-effective redundancy compared with two parallel systems.

Benefits of PSA Technology for oxygen

Water and waste water treatment

Oxygen has various functions in water management, whether in ozone production – required for disinfection and removal of dirt and impurities from water for example – or for chemical oxidation where organic dirt and impurities are removed from water as are the by-products of disinfection. Furthermore, adding oxygen activates bacteria in waste water which then eradicate carbon and other dirt particles.



Biogas treatment

PSA systems can generate high-purity oxygen which pre-destines them for the desulphurisation of biogas – be it to separate certain gases such as oxygen (O_2) from a gas mixture, to obtain methane or to remove other unwanted gases such as carbon dioxide (CO_2). Only by adding oxygen can hydrogen sulphide, for example, be oxidised from micro-organisms into elementary sulphur and water, and thus removed from the biogas.

Aqua cultures

Without oxygen, fish can neither live nor grow. However, in over-crowded cages or tanks, the water's oxygen content can quickly reduce significantly. PSA Technology ensures sufficient oxygen supply: Oxygen generators produce a concentrated oxygen flow from the air which is introduced into the water. This improves the health of the fish, it promotes their growth and increases their resilience against disease. This can also increase stock density in aqua culture systems.

Glass-blowing

In order to melt glass, such high temperatures are required that oxygen has to be added so the fuel in the furnace can burn more effectively. During certain glass-shaping processes, such as turning glass vessels or producing glass objects, oxygen is used to stabilise the flame. Whether for removing gas bubbles from the melted glass or when producing glass fibres – in any case, high-purity oxygen is required.

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BOGE

Best Of German Engineering

Customers in more than 120 countries worldwide trust the BOGE brand. Already in its fourth generation, this family-run company directs all its experience into developing innovative solutions and exceptionally efficient products for the compressed air industry.

INMATEC GaseTechnologie — Member of the BOGE group

Supported by our subsidiary INMATEC, global leader in nitrogen and oxygen generators, the BOGE Group is continuing to sustainably expand its competitive edge in premium technology. After all: “Best of German Engineering” has been part of our DNA – since 1907.

MANAGEMENT SYSTEM CERTIFICATION
DNV·GL
ISO 9001 = ISO 14001

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