

OXYGEN AND NITROGEN

GENERATING
SYSTEMS



EXPERIENCE THE DIFFERENCE

Oxywise, s.r.o. – where we manage the production of on-site Oxygen and Nitrogen Generators overseeing the process from the initial design to manufacturing the end product ensuring and guaranteeing the top quality our customers seek. Launching our production of nitrogen and oxygen generators, filling stations and container units, we have successfully entered the on-site market providing products which are safe, reliable, and easy to maintain and operate. Our team of experienced designers strives to bring effective and affordable solutions that meet our customers' expectations while developing products and components of the highest quality. Plus we pride ourselves for providing excellent services related to installation and maintenance.

In the future we shall continue to be innovative, progressive, dynamic and environmentally responsible manufacturer of on-site generators. Therefore, in an effort to continue its successful work and achieve a stable position on the challenging international markets, Oxywise has implemented Quality Management System according to ISO 9001 and ISO 13485. Our devices are approved by TUV NORD (N.B. 0045) and labeled with CE mark (PED 97/23/EC).




CONCEPT SOLUTIONS

Production range:

- Oxygen from 0,6 to 500 Nm³/h with purities up to 95%
- Nitrogen from 0,3 to 5000 Nm³/h with purities up to 99,9995%



Stand-alone system

This cost effective and maintenance friendly solution, where all components are placed separately, is suitable for indoor installation. Waste heat from compressors can be used for heating. The supply includes a 3D  visualization of component placement in the actual place of installation.



Skid mounted unit

System is built up on one steel plate including piping, hoses, support brackets, electrical connections and drain connections. It is available for small and medium size units. Gives the advantage of easy transportation with minimum installation needed. Just plug and play.

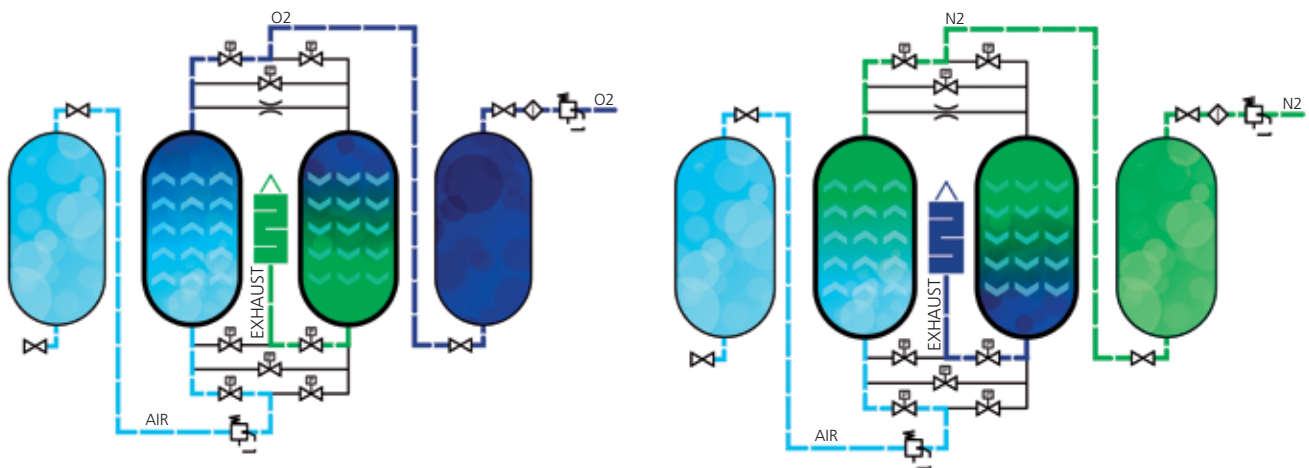


Containerized unit

The gas supply system is mounted in standard ISO container with CSC plate. The ISO container has all the advantages of skid mounted system plus it gives the option to maintain ideal operating conditions. Container has also the function of the rain shelter, sunshade and if supplied with air conditioning and insulation it helps to keep the right operating temperature in the container and keeps the noise locked inside.

TECHNOLOGY

Pressure Swing Adsorption (PSA) is the most commonly used non-cryogenic oxygen & nitrogen production process; the most effective for small and medium capacities. The process operates by using two columns filled with adsorbent, a molecular sieve. Clean & dry compressed air enters the first column, unwanted molecules are being trapped while the product gas is allowed to pass through. When the active column is saturated, the air flow is redirected to second column. The saturated column depressurizes allowing the molecular sieve to completely regenerate. The process is repeated continuously.



FEATURES

Standard:

- Control system with 4" SIEMENS colour touch operated panel
- Automatic start/stop
- Built in purity analyser for continuous monitoring
- Reliable – built for uninterrupted operation
- Designed for dynamic pressure loading
- Robust design, piping from Stainless Steel (AISI316)
- Data-logging on USB storage

Optional:

- Molecular sieve moisture protection with automatic recovery
- SMS alarm & control (remote start/stop, status SMS, alarm warning SMS)
- Sequential start/stop system (one button operation)
- Flow meter with totalizer
- Product gas monitoring – dew point, CO, CO₂, VOC, NO, NO₂, SO₂
- Temperature sensor
- Purity and pressure control
- 7" and larger touch screen
- Audio/visual alarm
- Modbus TCP/IP connection
- Remote control

THE MOLECULAR SIEVE PROTECTION

The inlet air dew point sensor protects the generator from water contamination.

If the refrigeration dryer stops working either by operator's mistake or a malfunction, the dew point sensor sends an alarm signal to the control system. The control system stops the generator and avoids the contamination of the molecular sieve, until the air dewpoint comes back to the normal values. The control system informs user about the alarm both on the touchscreen and through the digital output signal!

This optional feature helps to detect the dryer problem at the beginning and saves a lot of money on molecular sieve replacement.



EQUIPMENT DESIGNED FOR DYNAMIC LOAD

The PSA generator operates in cycles; the generator's pressure vessels pressurize up to maximum pressure (6-10bar) and depressurize to 0 in less than 5 minutes. This pressure fluctuation creates tension that must be considered while designing these vessels.

Oxywise uses only vessels designed for dynamic load. The vessel is guaranteed to last 2 million pressure cycles, where standard vessels can be used only for static load. After 2 million cycles, the pressure vessel needs to undergo an inspection.

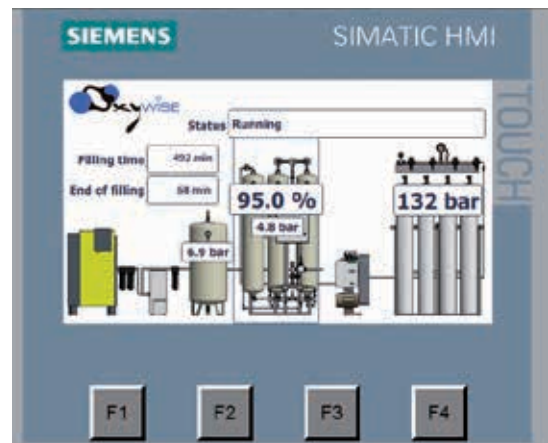


CONTROL SYSTEM

Oxywise implements Siemens based control system. The operation is very easy and intuitive. Optional sequential start/stop system is unique on the market. There is unlimited scale of add-on features like wifi screen, remote control by Teleservice, SMS alarm and control, etc.

The control system can be accessed over the Web Server, depending on the users hierarchy he might just monitor or control and adjust the operation.

You name it, we do it!



STAINLESS STEEL PIPING

The robust design will last bumps or challenging transport. Valves are easy to access and can be disconnected individually for maintenance.



OXYGEN APPLICATIONS



MEDICAL CENTER OF KURDISH OIL FIELD

Healthcare

The unit is delivered as skid mounted version, all components are mounted on a steel plate and properly connected which makes the start-up very easy. This unit is equipped with closed circuit water-cooling system to deal with 55°C ambient temperature.

- ✓ Reliable source for medical grade oxygen
- ✓ Solution for high ambient temperatures



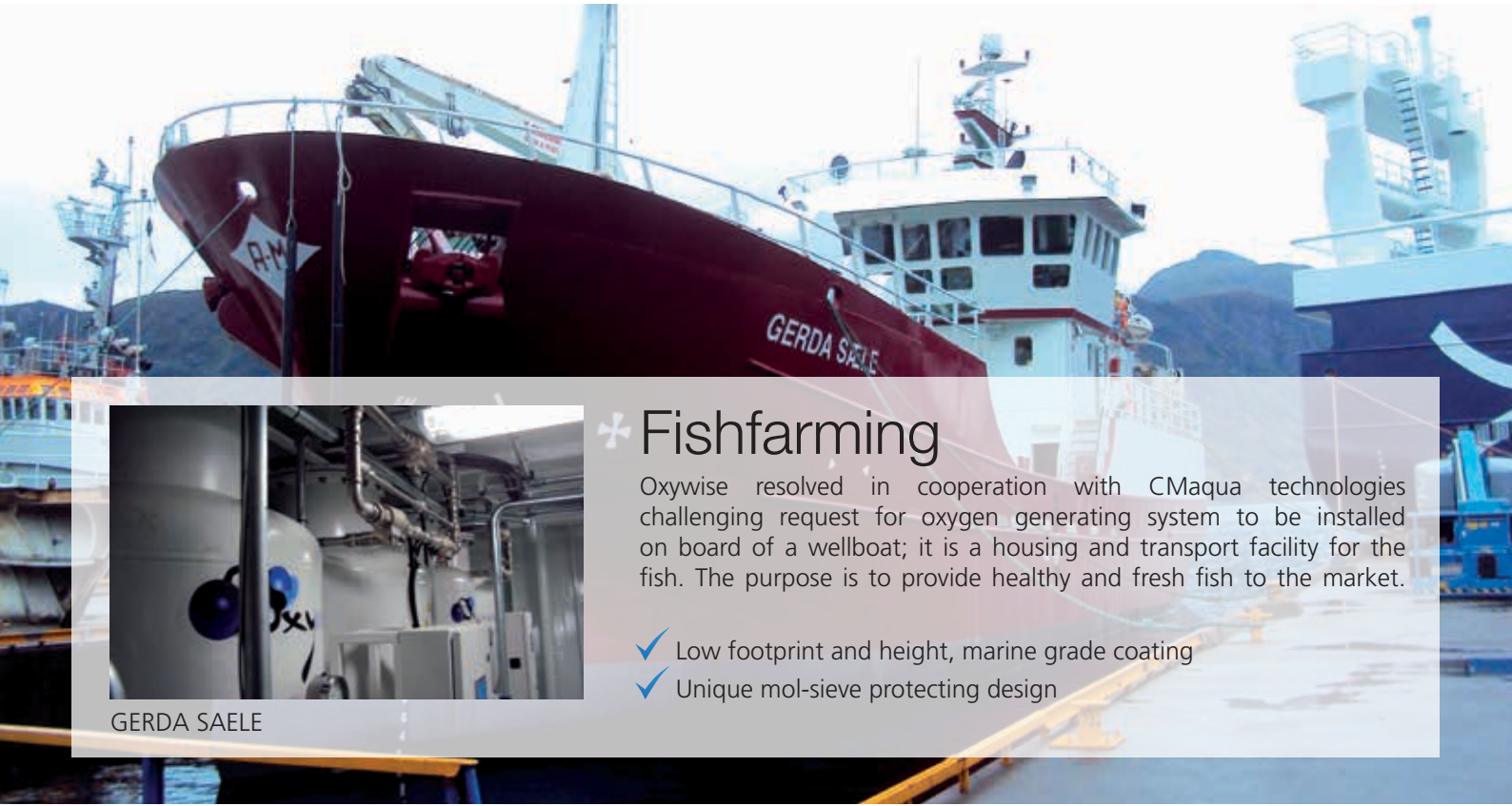
ARMED FORCES OF THE SLOVAK REPUBLIC

Military

Oxygen in a war zone? In a desert or high remote areas? No problem for our portable containerized oxygen filling station. Connect to the power supply, initiate the starting sequence and you can start filling cylinders with medical grade oxygen.

- ✓ One button operation
- ✓ Easy to transport

OXYGEN APPLICATIONS

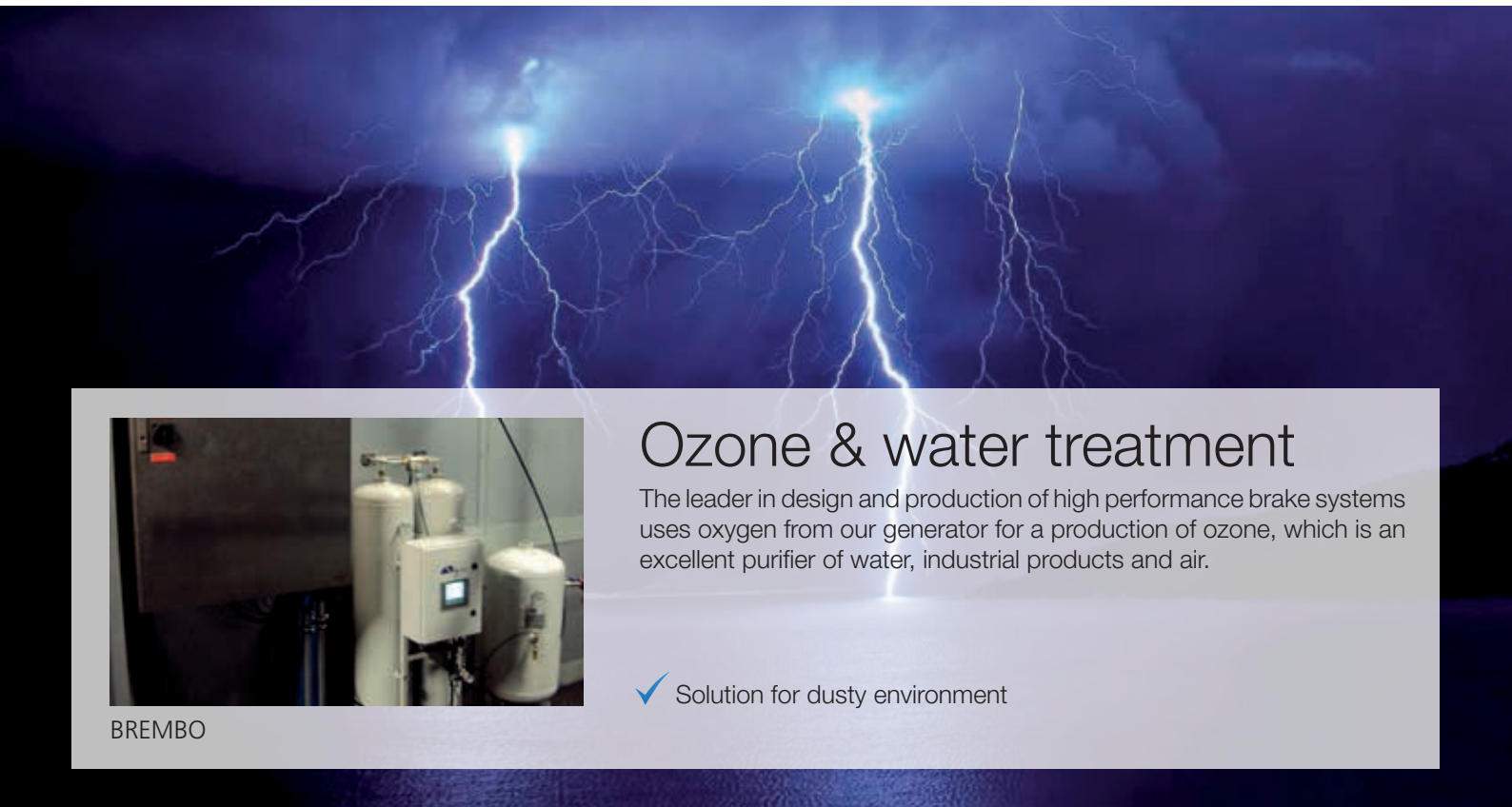


* Fishfarming

Oxywise resolved in cooperation with CMaqua technologies challenging request for oxygen generating system to be installed on board of a wellboat; it is a housing and transport facility for the fish. The purpose is to provide healthy and fresh fish to the market.

- ✓ Low footprint and height, marine grade coating
- ✓ Unique mol-sieve protecting design

GERDA SAELE



Ozone & water treatment

The leader in design and production of high performance brake systems uses oxygen from our generator for a production of ozone, which is an excellent purifier of water, industrial products and air.

- ✓ Solution for dusty environment

BREMBO

OXYGEN APPLICATIONS



MACHTRADE

Metallurgy

Large processor of used up leaden accumulators and other leaden waste products introduces oxygen into the furnace to enhance combustion process and separate all components of the leaden waste.

✓ Cost effective alternative to liquid oxygen



R-GLASS TRADE

Glass industry

Oxygen in glass industry plays very important role and is typically used to enhance combustion. Oxywise installed oxygen generators with total capacity of 300 Nm³/h @ 93% purity of O₂ in glass factory R-Glass Trade.

✓ Reliable solution for remote areas

NITROGEN APPLICATIONS



METAL SHEETS SERVICE RIM-PONA

Laser cutting

Oxywise LaserGas system supplies nitrogen at right pressure and purity needed for laser cutting machine. The complete solution is optimized in terms of economy and performance.

- ✓ Considerable savings
- ✓ Laser gas of required quality



BREWERY CLOCK

Food and beverage

Every modern brewery has continual consumption of nitrogen for storage of hops, malt or other ingredients in inert atmosphere, for blanketing of brewed beer in the large tanks, for purging and filling of the bottles, cans and kegs.

- ✓ Space saving solution
- ✓ Independent from gas cylinder rentals

NITROGEN APPLICATIONS



SALUT

Electronics

Oxywise installed nitrogen generator in Nizhny Novgorod in Russia. The unit produces nitrogen with purity 99,999% (less than 10ppm oxygen impurity) and pressure dew point below -70°C for local manufacturer of microelectronics.

- ✓ Extremely low dew point
- ✓ High purity of nitrogen



NATURAL GAS POWER PLANT

Power generation

Nitrogen is used as a preservation medium of sensitive parts of the gas turbine and boiler against corrosion. The unit is designed for operating in outdoor conditions, all components are from stainless steel.

- ✓ Generator in SS design
- ✓ IP 66

NITROGEN APPLICATIONS



TORAY TEXTILES JAPAN

Printing

New Toray printing plate technology requires nitrogen for inertization in their production process. Special aluminum plates are fully recycled and used for the same purpose again.

- ✓ Custom made intelligent control system



RECTICEL AUTOMOTIVE

Plastics

Manufacturer of dashboards, door panels and other interior automotive parts. Polyurethane mixture is injected into the mould and nitrogen is introduced to push the plastics into every corner of it.

- ✓ Original solution of fluctuating consumption of high quality nitrogen

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Oxywise, s.r.o.
Hurbanova 21
921 01 Piešťany, Slovakia

+421 948 518 655
+421 948 526 511

www.oxywise.com