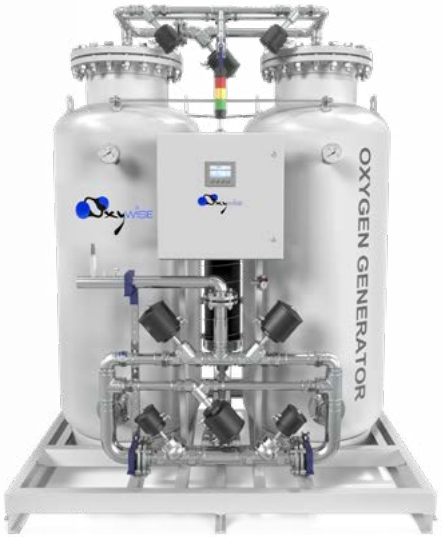
oxywise.com



Medical Oxygen Generating Solutions

Improve Patient Care and Cut Costs with Efficient On-Site Oxygen Generation

Oxygen: The Lifeline of Modern Healthcare

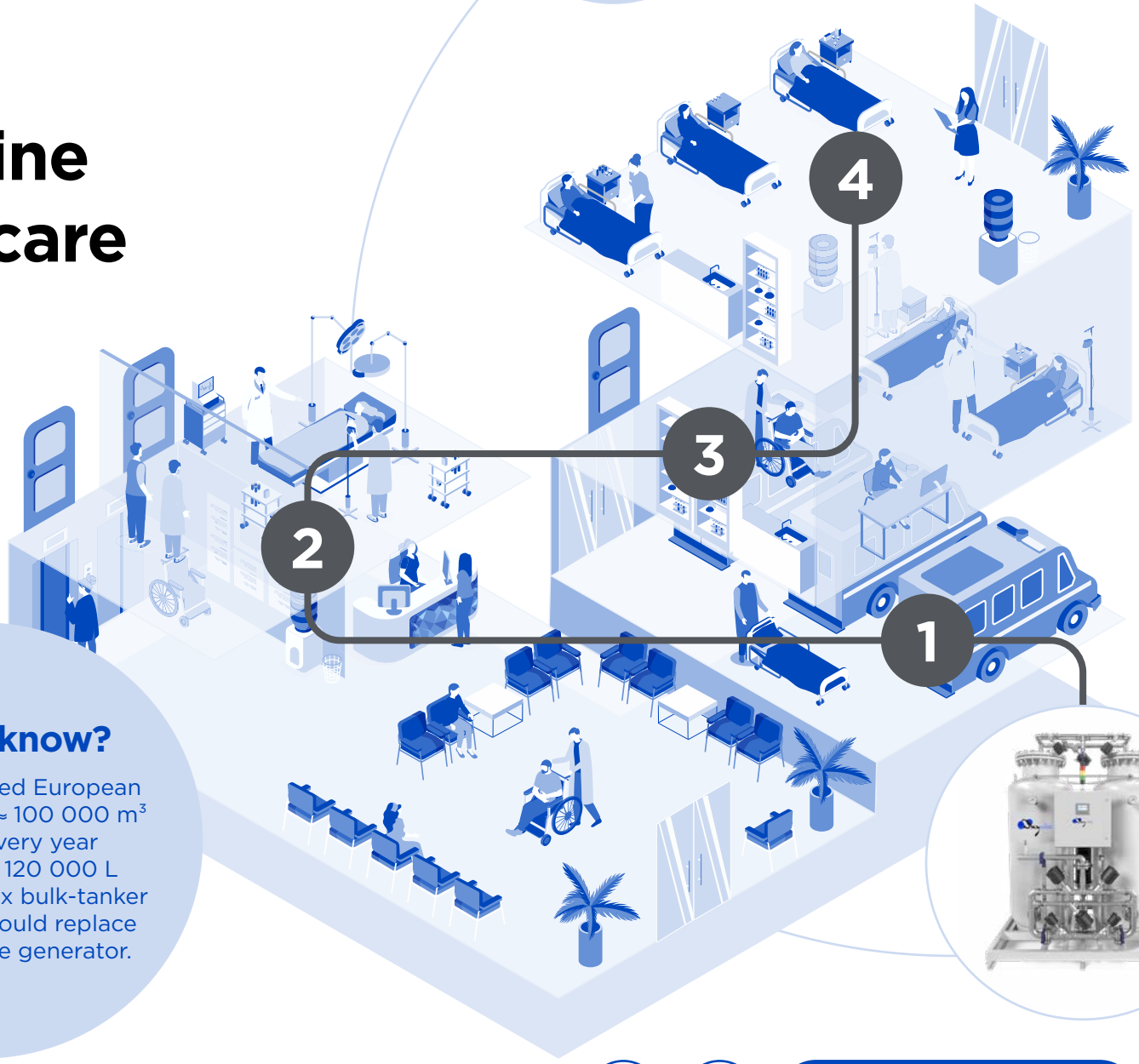
Oxygen is fundamental to modern medical care, serving as a critical component in various hospital operations. It is essential for treating respiratory conditions, supporting surgical procedures, stabilizing patients in emergency situations and more. Ensuring a reliable and efficient oxygen supply is paramount for healthcare facilities aiming to provide optimal patient care.

1. **Emergency Department:**
   Usage: Immediate oxygen provision for trauma and acute conditions.

2. **Operating Room:**
   Usage: Maintenance of patient oxygenation during surgeries.

3. **ICU:**
   Usage: Continuous oxygen therapy for critically ill patients.

4. **General Wards:**
   Usage: Oxygen therapy for patients with respiratory illnesses like pneumonia.



Did you know?

A typical 300-bed European hospital inhales ≈ 100 000 m^3 of oxygen every year —that's about 120 000 L of liquid O_2, or six bulk-tanker deliveries you could replace with one on-site generator.

Request a quote

Oxygen: The Lifeline of Modern Healthcare

Challenges with Traditional Oxygen Supply Methods

- **Unpredictable Costs:** Dependence on external suppliers for oxygen cylinders or liquid oxygen can lead to fluctuating and often increasing expenses.
- **Supply Chain Vulnerabilities:** Reliance on third-party deliveries exposes facilities to risks of delays or shortages, potentially compromising patient care.
- **Storage and Safety Concerns:** Handling and storing high-pressure oxygen cylinders require stringent safety protocols and substantial storage space, adding to operational complexities. Up to 15% of oxygen is lost through safety-pressure release due to storage temperature fluctuations.

Oxywise On-Site Oxygen Generation: A Strategic Solution

- **On-Site Production:** Generate medical-grade oxygen directly within your facility, eliminating reliance on external deliveries and ensuring a continuous supply.
- **Significant Cost Savings:** By producing oxygen on-site, facilities can reduce oxygen-related expenses by up to 70%, reallocating resources to other critical areas.
- **Uninterrupted Supply:** Ensure 24/7 availability of oxygen, crucial for intensive care units (ICUs), operating rooms (ORs), and emergency departments, thereby enhancing patient outcomes.
- **Enhanced Safety and Compliance:** Minimize risks associated with handling and storing high-pressure cylinders, aligning with safety standards and improving overall operational safety.

Request a quote

OXYGEN 93-95% PURITY

Oxygen Generators Overview

Oxygen generators produce gaseous oxygen from compressed air on site and offer a cost-effective, reliable and safe alternative to traditional oxygen gas supplies such as cylinders or cryogenic liquid. Oxywise design is made for round the clock 24/7 operation. Each generator is equipped with automatic start&stop function, enabling the generator to start and stop automatically according to the consumption.

Our unique PSA Oxygen generator consists of two columns filled with a molecular sieve. In order to secure a steady flow of each generator is built from two columns; one is active while the other is inactive. At the end of each columns cycle, they switch roles providing continuous trouble-free and efficient operation.

During operation, pre-treated compressed air enters the active column and flows up through the molecular sieve. Unwanted gases are adsorbed while the selected gas passes through. The active column then becomes fully pressurized. When this pressure is released, the column becomes inactive and completely regenerates during the depressurization.

The Key Benefits of Oxywise Oxygen Generation Systems:

Certified
ISO-9001,
ISO-13485,
CE, MDD, PED,
in line with Eur. Ph.

Optimized Cost of Ownership
Standard ROI is less than 2 years

User-friendly solutions
Plug &
produce options

Space saving
Compared to liquid source or cylinders

Application support

Energy-efficiency
Up to 70% cost reduction vs. traditional oxygen sources

Request a quote

Our Solutions

Oxywise provides end users, distributors, and compressed air OEMs with top-quality oxygen generation systems available in a **vast array of configurations** – from small standard units to tailor made systems. We collaborate closely with our customers to provide them with on-site oxygen generation **solutions perfectly suited to their business needs in virtually any industry.**

Medical Oxygen Generator

The unique design provides consistently high flow rates of oxygen with a minimum footprint.

Learn more

Skid Mounted Units

All components mounted on a common skid with a single electrical connection, ideal for ease of movement once at the install location and for regular relocation. The skid can be moved with a forklift truck or similar. Installation is semi-permanent but can be moved to a different location easily.

Learn more

Oxygen Filling Station

The stand-alone system consists of the essential components (compressor, dryer, generator etc.) and provides an innovative format when you are not restricted in terms of height, width or capacity etc. It is a cost-effective and maintenance friendly solution, suitable for indoor installation. Waste heat from the compressor can also be recovered and used to reduce heating costs. Great solution for large-scale operations.

Learn more

Containerized Oxygen Plant

Tailor-made system placed in a modified ISO container which includes all system components with the advantage of being easily maneuverable, with a single electrical connection.

It can be specified to withstand environmental conditions such as, tropical, subtropical, arctic, desert, and extreme saltwater exposure.

Learn more

Request a quote

Product specifications

Medical Oxygen Generator

Model		Flow @90%		Flow @93%		Flow @95%	
		kg/h	m³/h*	kg/h	m³/h*	kg/h	m³/h*
Standard	O2	1.6	1.2	1.5	1.1	1.4	1.1
	O4	3.4	2.6	3.2	2.4	2.9	2.2
	O6	4.2	3.2	3.9	2.9	3.5	2.6
	O9	5.8	4.4	5.4	4.1	4.9	3.7
	O12	8.2	6.2	7.7	5.8	6.9	5.2
	O15	11.2	8.4	10.5	7.9	9.5	7.1
SEP	O20	13.5	10.2	12.6	9.5	11.4	8.6
	O20+	15.2	11.4	14.2	10.7	12.8	9.6
	O27	19.4	14.6	18.1	13.6	16.3	12.3
	O27+	20.6	15.5	19.3	14.5	17.4	13.1
	O35	24.8	18.6	23.2	17.4	20.9	15.7
	O35+	27	20.3	25.2	19	22.7	17.1
	O50	31	23.3	29	21.8	26.1	19.6
	O50+	38.5	28.9	36	27.1	32.4	24.4
	O65	42.7	32.1	39.9	30	35.9	27
	O65+	49.6	37.3	46.4	34.9	41.8	31.4
	O80	54.3	40.8	50.8	38.2	45.7	34.4
	O80+	61.3	46.1	57.3	43.1	51.5	38.7
	O100	69.8	52.5	65.3	49.1	58.7	44.1
	O100+	76	57.1	71	53.4	63.9	48
	O125	85.3	64.1	79.8	60	71.8	54
	O125+	93.1	70	87	65.4	78.3	58.9
	O150	105.5	79.3	98.6	74.1	88.7	66.7
	O150+	114	85.7	106.5	80.1	95.9	72.1

Performance based on 7 bar inlet pressure.
Unit inlet air quality 1.4.1. according to ISO 8573-1:2010.
*ref. 20°C, 1.013barA.

Oxygen Filling Station

Model	Purity (%)	Capacity (m³/h)*	Max. outlet pressure (bar)	Cylinders filled (in 24h)	Dimensions (LxWxH) m	App. weight (kg)
O4FS	95	3.4	152	13.6	1.0 x 5.0 x 1.9	600
O8FS	95	6.8	152	27.2	1.5 x7.5 x 2.1	2200
O18FS	93/95	19	172	76	1.5 x 7.5 x 2.4	2600
O21FS	93/95	21	207	84	1.7 x 8.7 x 2.5	4000
O38FS	93/95	38	172	152	2.0 x 10.5 x 2.5	6000
O42FS	93/95	42	207	168	2.2 x 10.5 x 2.6	6300

6m³ volume cylinder considered.
Stated models are delivered in a stand-alone configuration. For skid-mounted and/or containerized units, please, contact us.
Larger capacities also available.
Unit inlet air quality 1.4.1. according to ISO 8573-1:2010.
*ref. 20°C, 1.013barA.

Containerized Oxygen Plant

Model	Filling capacity (m³/h)*	Cylinders filled (in 24h)	End pressure (bar)	Power (kW)	Container size (ft)	Dimensions (LxWxH) m	Weight (kg)
MOFS4	3.4	13.6	152	7	9	2.9 x 2.2 x 2.3	2100
MOFS8	6.8	27.2	152	12	20	6.1 x 2.5 x 2.6	4300
MOFS18	19	76	172	25	20	6.1 x 2.5 x 2.6	5300
MOFS21	21	84	207	38	20 (HC)	6.1 x 2.5 x 2.9	6000
MOFS38	38	152	172	50	40 (HC)	12 x 2.5 x 2.9	9200

6m³ volume cylinder considered.
Other options available on request.
Unit inlet air quality 1.4.1. according to ISO 8573-1:2010.
*ref. 20°C, 1.013barA.

Request a quote

Dynamic Load Protection: Engineered for 24/7 Performance

Most PSA generators operate in cycles, with pressure tanks fluctuating between **0 and 10 bar** every few minutes. **Standard pressure vessels wear out quickly** under these conditions, leading to **frequent inspections, expensive repairs, and unexpected downtime.** Oxywise oxygen generators are engineered for durability and efficiency in demanding medical environments. With dynamic load protection and an advanced molecular sieve safeguard, our systems minimize downtime, reduce maintenance costs, and ensure long-term reliability.

Oxywise pressure vessels last 2M+ cycles.

Standard vessels?
Only a fraction of that!

That's **years of savings** on maintenance and downtime costs.

How Oxywise Solves This:

Standard Pressure Vessels	Oxywise Dynamic Load Vessels
Designed for static loads; not suited for frequent pressure changes.	Built for dynamic loads; handles rapid pressure cycles easily.
Fatigue-prone under cyclic loading; may fail prematurely.	Lasts 2M+ cycles before requiring an inspection.
Frequent inspections and maintenance required.	Longer inspection intervals; lower maintenance costs.
Higher risk of downtime due to structural fatigue.	Continuous operation with minimal downtime.
Lower upfront cost, but high long-term expenses.	Higher initial cost, but long-term savings on maintenance.

Request a quote

Molecular Sieve Protection: Maximum Efficiency, Minimal Maintenance

The **Molecular Sieve** inside the PSA generator is what **separates oxygen from nitrogen.** If it gets contaminated with moisture, the entire system can **malfunction or degrade quickly,** leading to **expensive sieve replacements.**

How Oxywise Solves This:

Dew Point Sensor

Detects moisture before it can cause damage.

Automatic Shutdown Protection

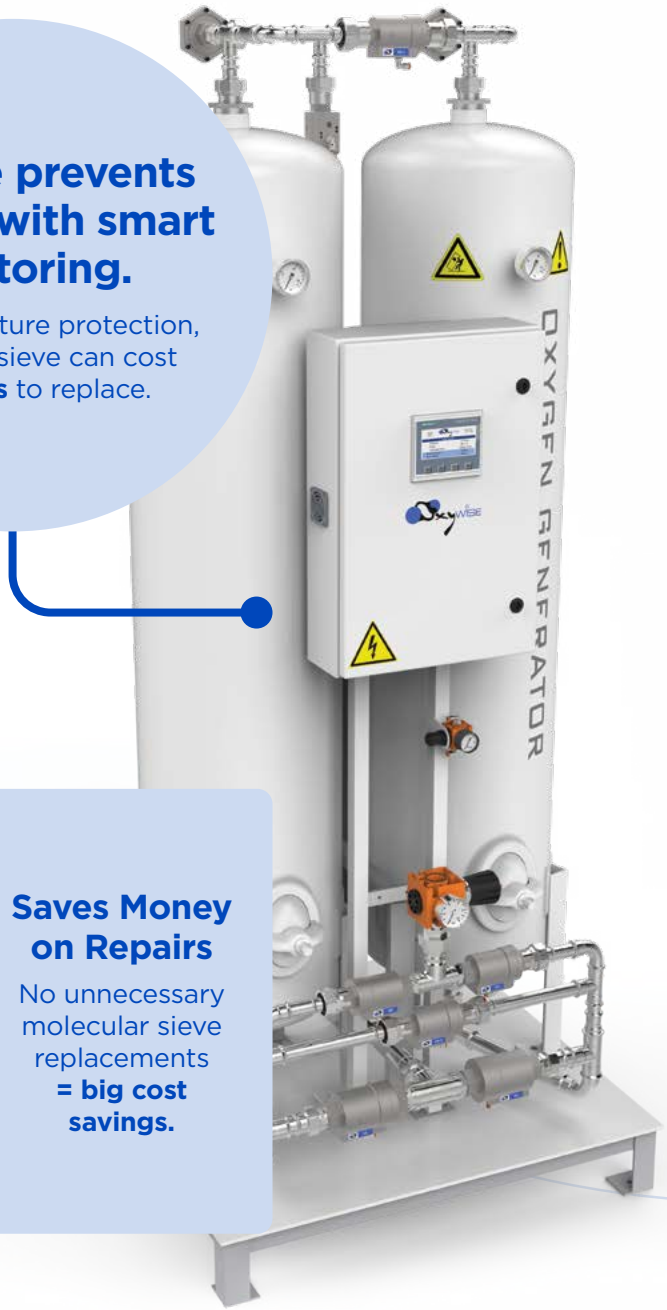
If abnormal moisture levels are detected, the system will vent that particular production cycle to prevent contamination.

Saves Money on Repairs

No unnecessary molecular sieve replacements **= big cost savings.**

Oxywise prevents that loss with smart monitoring.

Without moisture protection, a damaged sieve can cost **thousands** to replace.



Request a quote

Built-in Purity Controler

Built-in oxygen purity controllers on Oxywise medical generators continuously verify the gas you deliver—live, at the outlet. If purity drifts, they auto-divert sub-spec gas, trigger alarms (local and remote), and interface with changeover systems to protect patients and pipelines. You stay compliant without constant manual sampling, and you get trend data that flags tired sieves or valves before they cause downtime. Translation: safer supply, easier audits, planned maintenance—not panicked callouts.

Patient safety, protected	Off-spec oxygen is auto-diverted before it hits the pipeline	**Audit-ready records**	Built-in purity logs make compliance and audits straightforward and fast
Less firefighting, more uptime	Early warnings (trend data + alarms) let you fix issues before they become outages	**Lower operating costs**	Early monitoring of purity ensures product quality
Fewer manual checks	Continuous monitoring slashes staff time spent sampling and logging	**Smarter maintenance**	Data points to tired sieves/valves so you swap parts on schedule, not in panic

Request a quote

Intelligent Control & Durable Stainless Steel Piping

Managing oxygen levels shouldn't be complicated. **Oxywise's SIEMENS-powered control system** ensures **fully automated, easy-to-use,** and **precise oxygen management** for your medical operations. Combined with **corrosion-resistant stainless steel piping,** our system delivers **long-lasting reliability with minimal maintenance.**

Intelligent SIEMENS Control System: Precision at Your Fingertips

User-Friendly Touchscreen	Intuitive interface for real-time monitoring
Automated Oxygen Management	Adjusts supply to match demand, optimising efficiency
Remote Monitoring & Alerts	Get real-time notifications for system performance & maintenance needs
Reliable Global Support	SIEMENS technology ensures easy servicing worldwide

Stainless Steel Piping: Engineered for Durability

Corrosion-Resistant	Ensures clean oxygen delivery & long-term performance
Low Maintenance	No rust or leaks, reducing operational downtime
Built for Longevity	Performs reliably in all demanding applications

Request a quote

Service support

Maintain Peak Performance with OXYWISE Aftermarket Solutions

Proper maintenance of your nitrogen and oxygen generators is essential to unlocking maximum performance and efficiency. With regular upkeep, you can prevent costly downtime and unexpected breakdowns, ensuring your operations run smoothly and reliably. Routine maintenance not only extends the lifespan of your equipment but also boosts its overall performance, saving you money and enhancing productivity. Invest in maintenance today to safeguard your investment and keep your systems operating at peak efficiency. Oxywise offers and array of services to keep your gas generator running smoothly at all times:

- **Scheduled Inspections:** Conducting scheduled inspections to check all components of the generator for wear and tear.
- **Annual maintenance:** Regularly service of the equipment with original genuine annual service kits, to ensure clean and efficient gas production.
- **Genuine Spare Parts:** We provide genuine OXYWISE annual maintenance service kits and spare parts. Our kits are designed for 1 to 10-year maintenance cycles.
- **Calibration:** Periodically calibrating sensors and other related devices to maintain the purity levels and accuracy.
- **Component Testing:** Testing major components such as compressors, dryers, and sieves to ensure they are functioning correctly.

Service Kits and Components

- **1 to 10-year** service kits
- **Purity sensor** components
- **Main controller** components

Service Centres:

- **OXYWISE has a robust distribution and service network** around the world.
- **Our state-of-the-art Service and Repair Centre,** located in Slovakia, with highly educated engineers and technicians.

By adhering to a comprehensive maintenance schedule, you can significantly enhance the efficiency, reliability, and longevity of your nitrogen and oxygen generators.

For further details, information, and support, please visit our website www.oxywise.com, or contact your local OXYWISE distributor.

Request a quote

Oxywise s.r.o.
Hurbanova 21/7069
921 01 Piešťany, Slovakia

www.oxywise.com

Oxywise specializes in developing and producing PSA Oxygen and Nitrogen systems, leveraging extensive engineering experience.

Our product range includes dosing systems, filling ramps, and gas distribution systems, with installations available in ISO certified shipping containers tailored to customer specifications. We are committed to delivering effective, reliable, and affordable solutions that meet our customers' needs. Our goal is to continuously improve the quality of our products and services, focusing on installation and maintenance. Oxywise is your dependable partner in the industrial gases sector, driven by qualified staff, responsible management, and a customer-oriented approach. Contact us today to discuss how we can help you improve your operations and grow your business.

Request a quote