

# Oxygen Solutions for Aquaculture



Worldwide Manufacturer of PSA Generators

# Oxymat at a Glance

Oxymat is a Danish based company specialized in designing and manufacturing on-site Oxygen and Nitrogen solutions, using Pressure Swing Adsorption (PSA) Technology.

We have been designing, engineering and manufacturing Oxygen generator systems since 1978 and nitrogen systems since 2001. We possess first hand knowledge of the market, developments demands and possibilities the PSA technology holds.

It is our mission to be your preferred innovative, dynamic and environmentally responsible supplier of on-site oxygen and nitrogen solutions worldwide.

Our team of more than 60 skilled and dedicated employees, based in 3 different locations:

- Denmark: Administration, R&D and Sales
- Slovakia: Administration, Production, Project management and Sales
- China: Administration and Sales

With more than 20 engineers, project managers, 3D CAD designers, automation engineers and experienced sales engineers, making sure we offer the right solution for any demand.

Through an ever ongoing process we are always focused on developing Oxymat to be cost-effective and ahead of the competition in terms of quality, performance and price. This strategy has made it possible to grow to the size and position Oxymat has in the market today. Our 2010 turnover was 11 mil. € and our product range is the most energy efficient in the market and even at a competitive price.

Our team of specialists will always be able to serve any demand. From our extensive standard industrial or marine programme to highly specialized turnkey projects, Oxymat will provide the quality solution. We offer a wide range of standardized control systems, and remote access and can offer to tailor made automation solutions according to your requirement.

It is our priority to always deliver high quality products and services. Oxymat holds all relevant approvals for serving the numerous applications we supply.

ISO 9001:2008

ISO 13485:2004

ISO 14001:2004/2007

PED 97/23/EC Module B+D

MDD 97/42/EC (Medical Device Directive)

MARINE Class societies - we can deliver according to the rules of:

- American Bureau of shipping
- Bureau Veritas
- Det Norske Veritas
- Germanischer Lloyd
- Lloyd's Register
- Nippon Kaiji Kyokai
- RINA

# Bringing Oxygen Generators to Your Aquaculture Business

## **Why Oxymat PSA generators are the wise choice?**

At Oxymat, we only see challenges - not problems! No matter your need or application we can provide state-of-the-art design to meet your requirements. In close corporation with our increasing Number of medical customers, we have designed and developed a product line specifically for this application.

Product range includes models supplying from 0,6 to 1000 m<sup>3</sup>/h, up to 95% purity.

Special design features include:

- Low energy consumption (1,0 kW/m<sup>3</sup>)
- Low CO<sub>2</sub> emission
- Heavy duty construction designed for rough conditions
- High quality & durable components
- Container installed systems - Optional
- Frame build design - Optional
- Trouble-free installation
- High quality Touch Screen Control Unit
- Remote Control Access
- Specialist support from planning, installation and operation of your project

## **The essence of PSA**

The PSA process is an extremely clean operation and the only 'raw material' is air.

On-site generators allow for an uninterrupted supply of gas with a high purity output. This means that you can produce gas where and when you need it, and in the exact quantity and quality you need. In other words; you become selfsufficient and you no longer have to rely on delivery from external suppliers.

## **Worldwide manufacturer**

More than 2000 Oxymat generator systems are currently in operation around the world.

To provide first class aftermarket service, we have a team of four service technicians, always ready to make sure your equipment stays in good condition. Our service team can be reached 24 hours 7 days a week.

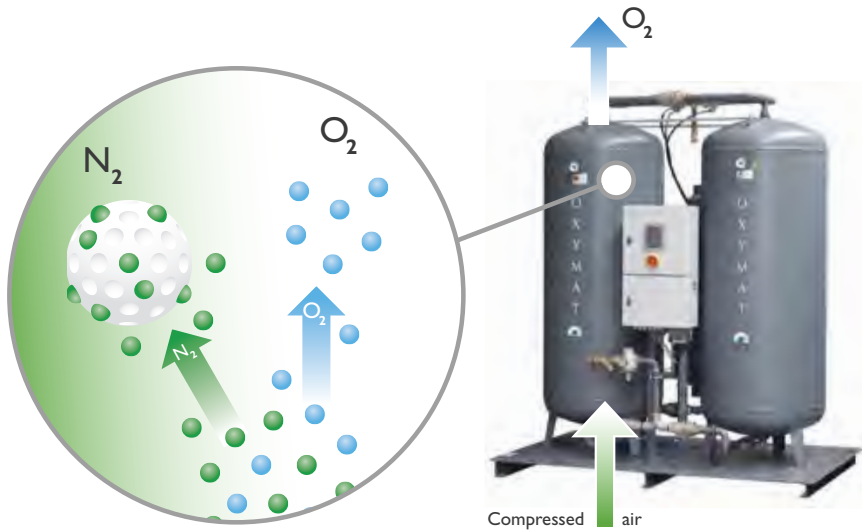
Our products and services are well known around the world, and via our extensive network of more than 100 distributors and agents worldwide, you are never far from qualified feedback, when it comes to onsite gas solutions.

Some of the industries we have served so far...

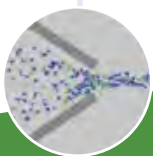
Medical	Laser cutting	Petrochemical
Food and Beverage	Electronics	Marine & Offshore
Process Industry	Aquaculture & Ozone	Goldmining

...and waiting to serve yours.

# Technology / Process description



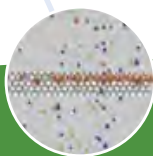
Our generators are very easy to operate and require a minimum of maintenance and service. OxyMAT uses only high quality components and our systems are design for 24 hours, 365 days a year operation. An Oxygen generator combined with cylinder back up gives the highest level of safety. In comparison with cylinders it gives overall cost reduction up to 80%. The average oxygen production cost is 1.1kWh per cubic meter of oxygen.



**Compressor**  
increases air to required level of pressure



**Dryer**  
removes moisture from air (air humidity) by cooling



**Coal tower**  
adsorbs fractional impurities (oil)



**Air tank**  
accumulates necessary volume of air for PSA generator



**Zeolite**  
filling with its ion-exchange beds traps Nitrogen molecules and allows Oxygen molecules to stream through



**High Purity Oxygen**  
flows from PSA generator to product tank and is ready for use





### Oxymat Cones

Oxygen Cones are widely used in the aquaculture industry because of their high saturation efficiency.



### Oxymat Diffusers

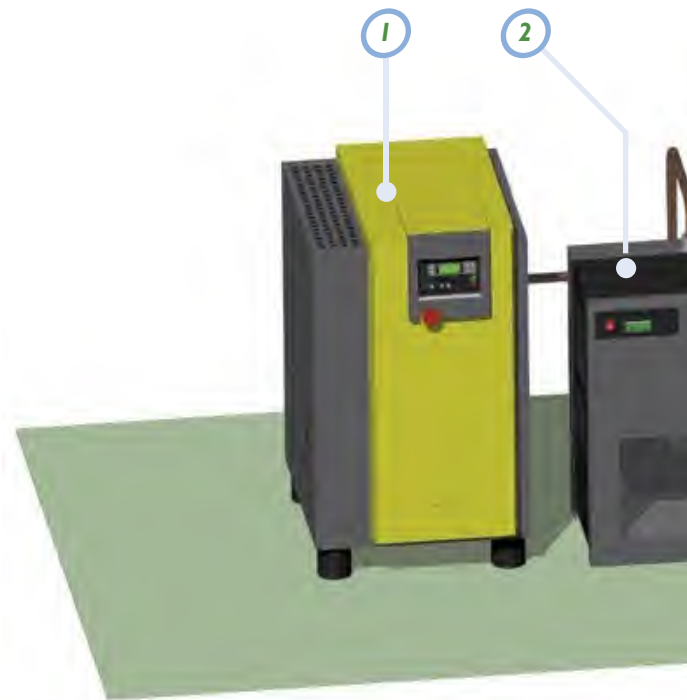
One of the simplest ways to dissolve oxygen into the water is using a diffuser which generates small bubbles directly in the water, the smaller the bubbles are - the more efficient will the absorption of the oxygen be.



With our optional **SMS warning system** you are able to receive messages like: "Purity alarm", "PSA stopped operation" etc.

# Concept

1. Air compressor
2. Refrigeration/adsorption dryer
3. Filter package (prefilter & micron filter)
4. Coal tower (activated carbon tower & dust filter - optional))
5. Air tank
6. SMS warning system (optional)
7. Full remote control (optional)
8. PSA generator
9. Product tank
10. Bacterial/sterile filter & active coal filter (optional)



### Adding oxygen increase your business

In recent years, fish farming has turned to high density farming practices using ponds, large scale tanks etc. Fish need oxygen to live and grow, when fish grows the density of fish in the ponds increases then the oxygen level in the water per fish will decrease and the loss of fish will be high.

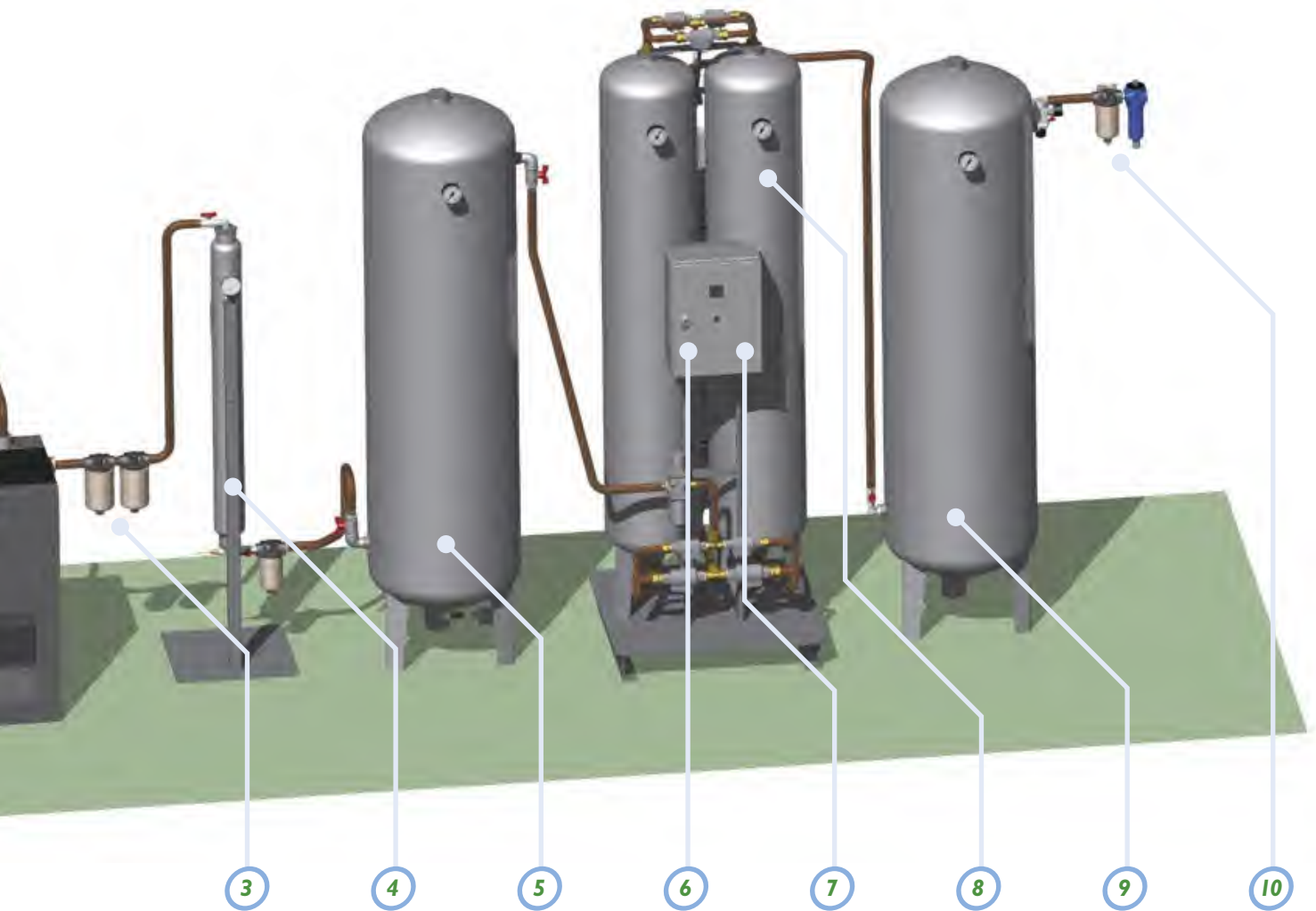
Adding oxygen into the water will not only prevent the loss of fish, it will also gain the growing process for the fish and hereby your business.

Oxymat has many years of experience delivering oxygen generators to the fish farming industry, our oxygen generators are known as: reliable, easy to use and low operational cost.

### Control panel description



1. Start the generator by pressing either Auto or Manuel
2. Message if the purge valve is closed or open according to the purge settings.
3. Message if the generator is stopped, running or in stand-by mode.
4. Indicate oxygen purity in the product tank.
5. Indicate pressure in product tank.
6. Operation hours for generator.



### Watertreatment

Our oxygen generators are often used in water treatment systems. Adding oxygen directly into the waste water increase the effectivity removing pollutants.

Ozone is also often used in water treatment plants, and here are the Oxymat generators a natural money saving part of the proces making oxygen molecules to ozone molecules.



- **Distributors**
- **Nitrogen Plants**
- **Oxygen Plants**

The sky is the limit when it comes to the type of industry Oxyamat PSA generators serve.

While the bulk of our generators are used in marine and offshore, medical and aquaculture, we also serve many other interesting sectors.

Oxygen generators, for instance, are used in areas ranging from glass work, mining and ozone production to steel and metal cutting and waste water treatment.

The range of use for nitrogen generators is just as wide ranging from petro-chemical and oil industry to electronics and food and beverage.

Oxyamat products can be found in all corners of the world, from Asia, Africa and Australia to South America and Europe.

We embrace new challenges and out-of-the-box solutions are designed and developed to serve any need.

Through the years this approach has resulted in state-of-the-art solutions ranging from field hospital filling stations for NATO and Swedish Nuclear power stations to gold mines in Sahara and hospitals in Greenland.



We know that service plays a key role to PSA generator systems, from project start-up to evaluation, and throughout the life-span of the generator system. Once installed our customers rightly expect the generator operate flawlessly and we know that any unforeseen problems can have an immediate and major impact to running any business, whether it is fish farm, an oil tanker or a medical facility. Our highly educated specialist can travel worldwide at short notice. At headquarters in Denmark and branches in Slovakia and China they have a call centre with technically trained staff on duty 24 hours a day.

In addition to our call centre, we have a global network of skilled partners and distributors, who

are always at your service, whether your demand is finding an answer to a simple question or helping you, solve a complex issue. Our customers are always our top priority.

Our extensive spare part program ensures day-to-day delivery of high quality original spare parts throughout the lifetime of your plant.

#### **Service agreements**

Oxymat Service Agreements are the easiest and best way to ensure you keep the system in perfect working condition. This way, you make sure you will always have the unique performance and reliability that comes with every Oxymat system.





## GLOBATRONIC ENGINEERING

No26, Jalan Bayu 2/1,  
Taman Perindustrian Tampoi Jaya  
81200 Johor Bahru, West Malaysia.  
Tel: +607 238 9426 Fax: +607 238 1314  
Email: info@globatroniceng.com



### Highest level of international approval

Oxymat Medical systems are designed and manufactured according to :

- MDD(63/42EEC) Medical Devices Directive
- US Pharmacopoeia
- European Pharmacopoeia
- ISO 10083

Oxymat has long experience in design, engineering and delivery of hundreds of Oxygen systems all over the world, in accordance with international and national authorities.

Oxymat operates a QA system in accordance with EN ISO 9001:2000 and is certified by Apragaz.

- ISO 13485
- ISO 14001

