



High Purity Nitrogen Systems Oxymat Purifier Action System



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

OPAS in Your High Purity Application

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. Our wide range of standard generator

systems supplies:

- Oxygen from 0,6 to 2000 m³/h purities up to 95%
- Nitrogen from 0,3 to 10000 m³/h with purities up to 99,9999%

Oxymat Purifier Action System – an Add-on technology, making the most of any Nitrogen generator.

Unique OPAS design features include:

- High performance top quality solutions
- Small footprint - large capacity – high purity
- Top nitrogen quality with minimum space and energy requirement
- Low energy consumption (from 0,39 kW/m³)
- Low CO₂ emission
- Heavy duty construction designed for rough conditions and industrial use
- High quality & durable components
- 3D design
- Design and customization, to meet any specification
- Trouble-free installation
- High quality Touch Screen Control Unit
- Remote Control Access
- Specialist support from planning, installation and operation of your project
- Oxymat is approved and recognized as a quality supplier by major gas companies

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.

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.

Add example of calculation:

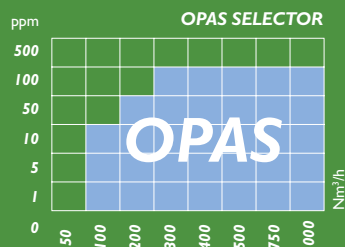
400 Sm³/h at 1 ppm PSA:
N6500X4 with 400 kW compressor
total price € 547.000

Energy consumption approx 420 kW

OPAS Solution 500 Nm³/h at 1 ppm
N4500X2 with 160 kW compressor
total price € 304.000

Energy consumption approx 180 kW
Hydrogen consumption approx 2,4 Nm³/h,
equivalent to 12 kW by Hydrogen generator

Add selection guide :



	Traditional PSA	OPAS
500 ppm	0,47 kW/m ³	
100 ppm	0,61 kW/m ³	
50 ppm	0,67 kW/m ³	
10 ppm	0,80 kW/m ³	
5 ppm	0,84 kW/m ³	
1 ppm	1,14 kW/m ³	0,39 kW/m ³

Technology / Process Description

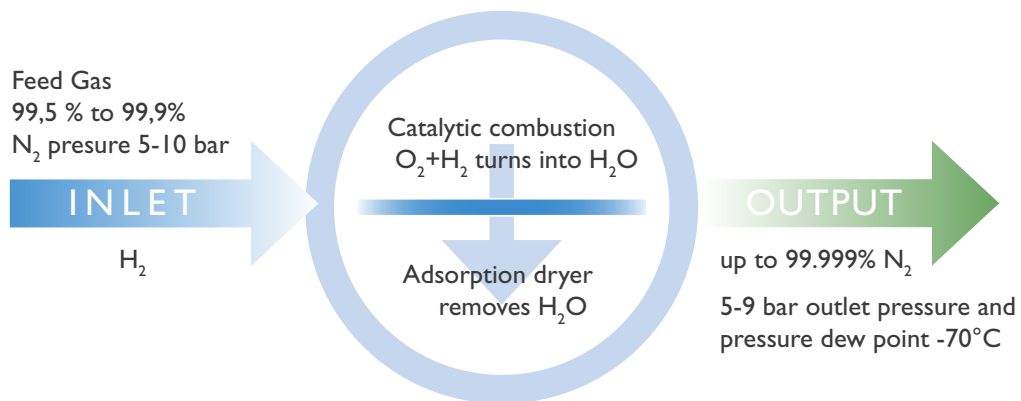


OPAS

is the true Add-On technology for Nitrogen application requiring 1-100 ppm.

OPAS can easily be integrated with already existing Nitrogen generation systems resulting in high purity Nitrogen at minimum costs.

This process, purifying Nitrogen from 99.5% up to 99.9999% costs as little as 0,39 kW/h produces Nitrogen and makes Oxymat OPAS the environment friendly choice.



Product Range

model	capacity	outlet pressure
OPAS 100	50-100 Nm ³ /h	5 - 9 bar
OPAS 200	101 - 200 Nm ³ /h	5 - 9 bar
OPAS 300	201 - 300 Nm ³ /h	5 - 9 bar
OPAS 400	301 - 400 Nm ³ /h	5 - 9 bar
OPAS 500	401 - 500 Nm ³ /h	5 - 9 bar
OPAS 750	501 - 750 Nm ³ /h	5 - 9 bar
OPAS 1000	751 - 1000 Nm ³ /h	5 - 9 bar

All versions will use 5% feed gas as scrubbing gas for the heated adsorption dryer. Example: Needed capacity 1000 m³/h means that you need feed gas of 1050 Nm³/h.

Purity of feed Nitrogen 99,5- 99,9%.

Technical Features

Blanketing or Flushing



- By flushing or purging with an inert gas, air is removed from the vessel/cylinder, which then is prepared for refilling.
- Blanketing with nitrogen is relevant in any vessel/storage/container etc. where Oxygen/air for one reason or another is undesirable. As the name implies, a nitrogen layer forms a blanket on top of the produce in the vessel.

The Oxymat PurifierAction System (OPAS) Technology



- The OPAS is fed with nitrogen from either a PSA or from external supply.
- A Palladium catalyst process removes the Oxygen content from the Nitrogen feed gas by adding Hydrogen and consequently creating water.
- The water is followingly removed, leaving the final product: Nitrogen with required purity up to 99.9999%!
 - Residual Oxygen < 1 ppm
 - Residual Nitrogen < 100 ppm

Protection of Surfaces



- High purity Nitrogen is used in soldering applications, preventing oxidation of the process and leaves a clean, durable solder point. This results in increased product quality. The OPAS technology is high purity Nitrogen at low production costs.





Key Benefits



- Less energy consumption
- Less greenhouse gases
- Smaller compressed air package
- Best A/N ration on market
- Nitrogen purity up to 99.9999 %
- Nitrogen purity monitoring system
- Competitive pricing
- Independency of gas companies
- Significant decrease in nitrogen costs
- No handling of nitrogen cylinders

Industrial Applications (Electronic & Metal)



- Selective / Wave Soldering
- Laser Cutting Processes
- Nitrification of Steel
- Surgical Manufacturing
- LCD Manufacturing
- Hard Drive Manufacturing

OPAS Control Features



- 6" colour touch screen with:
- Flowmeter and control for Hydrogen
- Flowmeter for Nitrogen in and out
- Oxygen analyser for nitrogen in and out
- Hydrogen analyser for hydrogen carry-over
- Dew point analyser
- Temperature transmitters
- Pressure transmitters



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

The sky is the limit when it comes to the type of industry Oxymat 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.

Oxymat 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@globaltroniceng.com



Highest level of international approval

Oxymat Nitrogen systems are designed and manufactured according to :

- PED(97/23/EC)

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 management systems in accordance with international standards

- ISO 9001 (Quality Management Systems)
 - ISO 14001 (Environmental Management Systems)
- certified by Apragaz.

