



# Onsite Oxygen Supply for Goldmining

*Low Pressure Oxygen PSA Systems 2,5 - 30 TPD*



Worldwide Manufacturer of PSA Generators

# OXYMAT at a Glance

## Bringing Oxygen Generators to Your Goldmine

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

### 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 gold mining customers, we have designed and developed a product line specifically for this application.

Product range includes models supplying from 2.5 to 30 TPD.

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
- Frame-built design
- 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 self-sufficient 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.

### Goldmining Solutions Reference

model O3000DB (2), 11 TPD @ 93% @ 8.0 bar(g), Mali, 2009

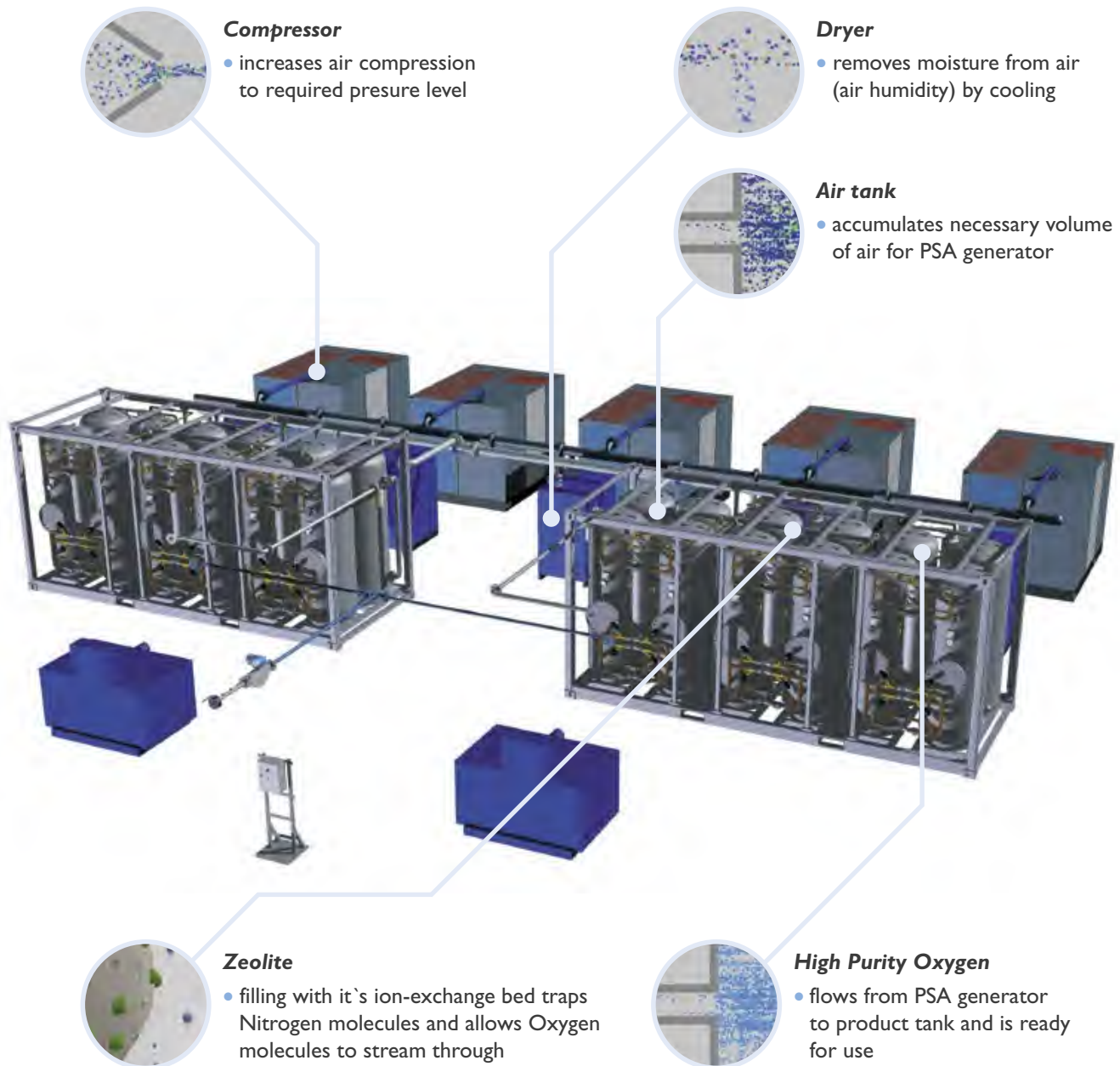
model O3000DB (1), 5,5 TPD @ 93% @ 8.0 bar(g), Ghana, 2009

model O800x5 (2), 20 TPD @ 93% @ 12.0 bar(g) Ivory Coast, 2010

model O600x3 (1), 5 TPD @ 93% @ 3.0 bar(g), Mauritania, 2011

model O800x5 (2), 20 TPD @ 93% @ 8.0 bar(g), South Africa, 2011

# Taylor Made Solutions



Oxygen generator model	Capacity TPD @ 93% Oxygen	Power consumption @ 3,5 bar (g) Oxygen Pressure	Power consumption @ 8 bar (g) Oxygen Pressure
OXG 3	3 TPD	101 kW (808 kWh/t)	112 kW (896 kWh/t)
OXG 5	5 TPD	155 kW (744 kWh/t)	166 kW (797 kWh/t)
OXG 10	10 TPD	310 kW (744 kWh/t)	325 kW (780 kWh/t)
OXG 15	15 TPD	465 kW (744 kWh/t)	487 kW (780 kWh/t)
OXG 20	20 TPD	620 kW (744 kWh/t)	650 kW (780 kWh/t)
OXG 30	30 TPD	930 kW (744 kWh/t)	975 kW (780 kWh/t)

# Technical Features



## Advanced control system



- with complete PSA wiring inside of the skid is designed for fast end easy installation on site. System is prepared for a remote control and monitoring of process parameters via ethernet or other interface connection requested by the customer.



## Advanced flow control system



- allows customer to choose the portion of oxygen for each of the leaching silos to fine tune the process of the gold extraction from the ore.



## Heavy duty construction



- is designed for rough conditions of the mining environment. Minimum maintenance of the PSA generator gives easy and long lasting operation for the personnel on site.



## Process monitoring



- of feed air quality and produced Oxygen serves as a protection of the PSA against breakdown as well as assurance that customer receives Oxygen specified quality and quantity necessary for smooth and safe operation.



3D Engineering



### Oxygen is used in process



- of recovery of gold to increase the level of dissolved Oxygen in leaching process. Complete Oxygen producing plant is suitable for installation right next to the use of Oxygen on site, substituting the need of liquid Oxygen transport from remote locations.

### Special control features:



- Monitoring Oxygen flow, temperature, pressure and purity and feed air dew point, temperature and pressure provide safe operation of the plant. Together with user friendly touch screen and remote contole PSA system gives unique operator friendly solution on the market.

### Easy civil works

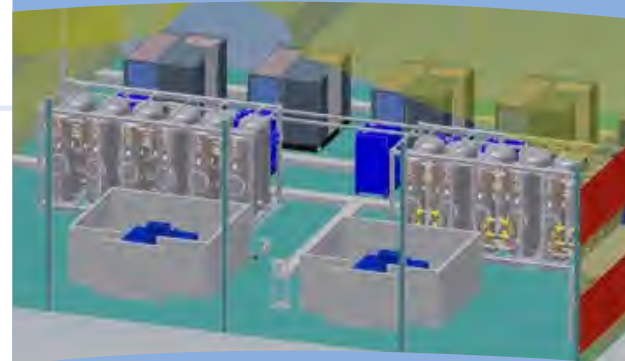


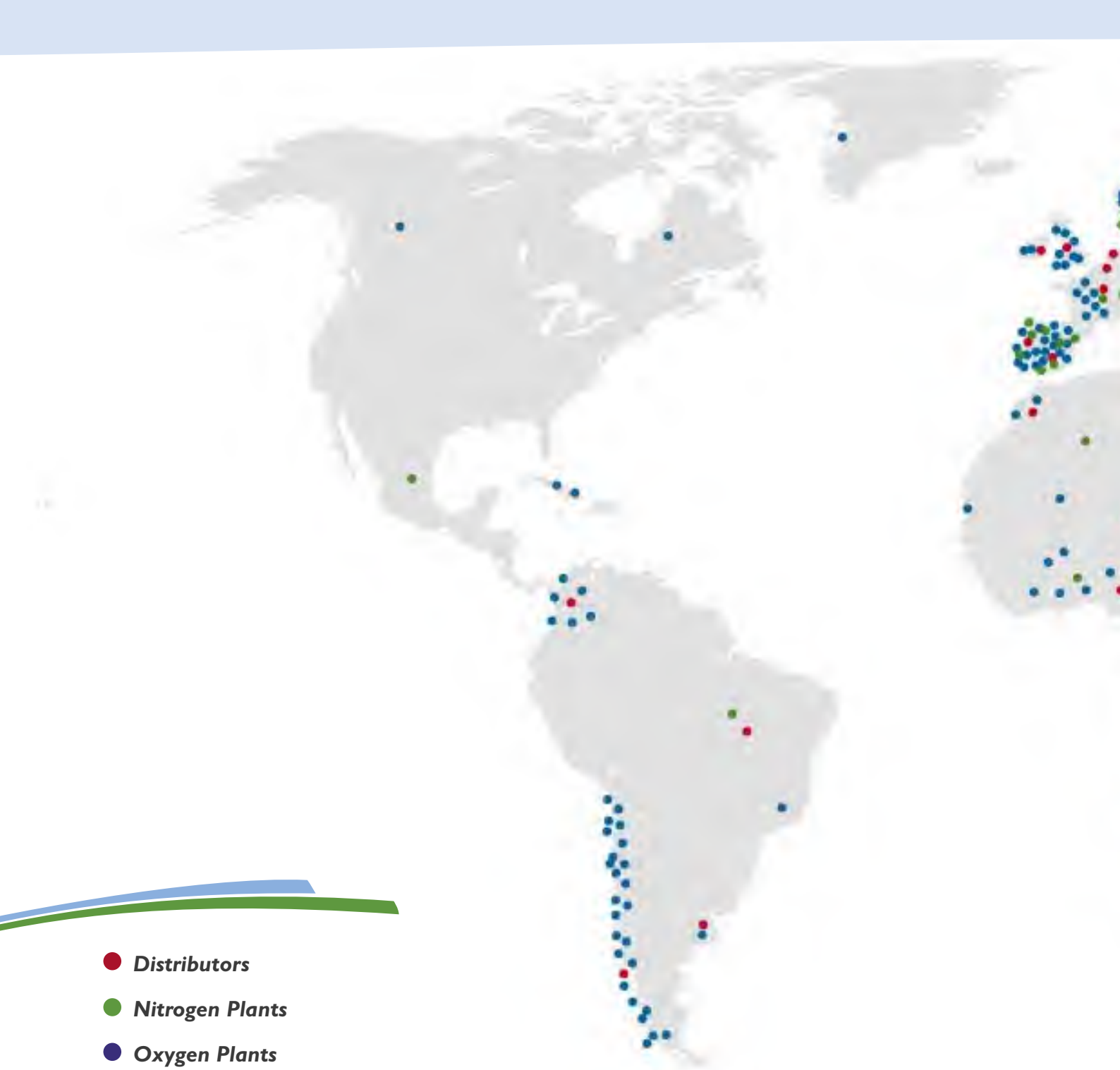
- are needed to install complete Oxygen plant. Power connection to the system, interconnection piping and shelter need to be provided. Complete 20 TPD system requires only 5 working days of installation.

### Easy transport



- PSA build in standard container frames in different configurations custom made for the mining industrial needs.





- **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

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### Highest level of international approval

Oxymat Oxygen systems are designed and manufactured according to :

- PED(97/23/EC)
- ISO 10083
- ISO 14001

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

