BERG GASE TECH®

Made in Germany

# NITROBERG® | OXYBERG®

## Oxygen and Nitrogen Generators

# PSA OXYGEN GENERATOR

## OXYBERG®

BERG GaseTech® GmbH PSA Oxygen technology produces Oxygen in a purity of 90% up to 95% and quantities of 1 - 280 $Nm^3/h$.

### PERMANENT $O_2$ SUPPLY

**PROCESS:**

The OXYBERG® pressure swing adsorption process separates the Nitrogen molecules from Compressed air or the Oxygen molecules from Compressed air.
The pure Oxygen can now be used in a wide range of applications.

**BENEFITS:**

- Plug and Play, simple/constant oxygen supply
- Constant measurement of oxygen purity
- Savings from the very first minute
- Low-maintenance, compact design
- Longest Lifetime of High quality ZEOLITE
- Less Compressed air and Low energy cost

**Compressed Air Specification**

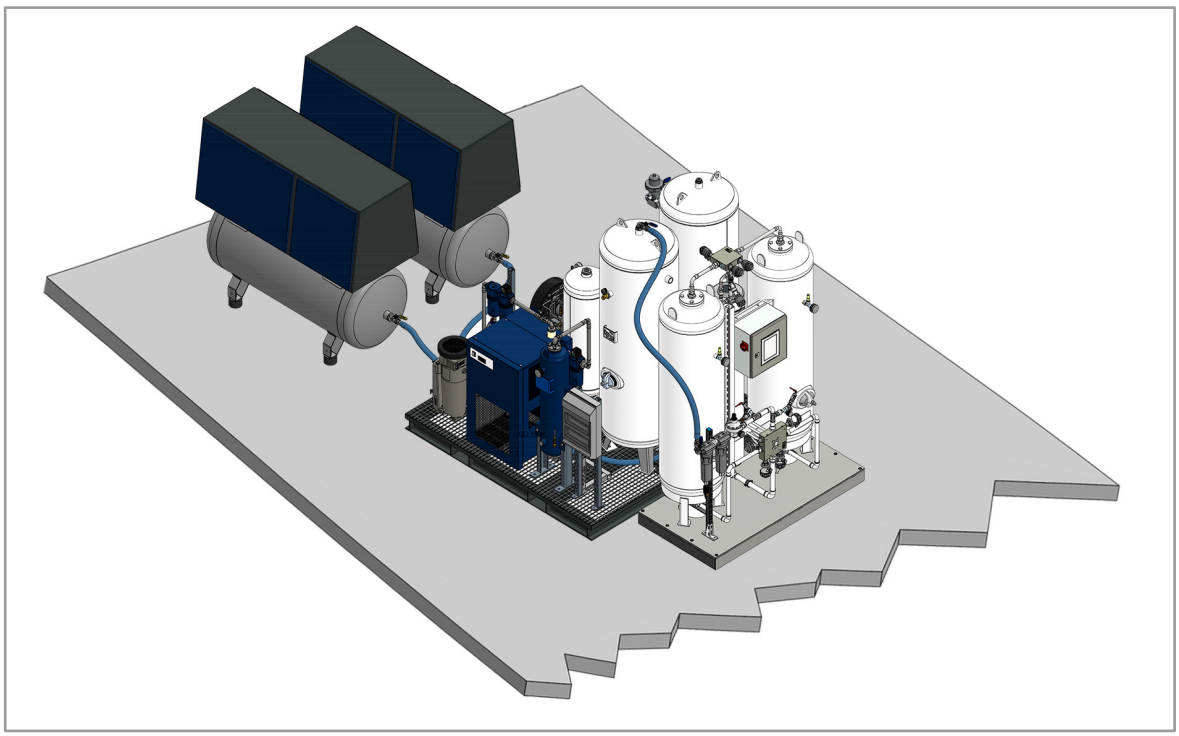
Temperature range: +5 to +40ºC
Air quality: ISO 8573.1, Class 1.4.1
Operating pressure: 10 bar

**The Complete Oxygen Plant, Skid Mounted**

A) Compressed Air Station
B) Air treatment to ISO 8573-1 Class 1.4.1 (1.2.1)
C) Compressed Air Buffer Tank
D) PSA Oxygen Generator, OXYBERG®
E) Product Oxygen Tank
F) Boosting Station / Cylinder Filling Station

**Ambient Conditions**

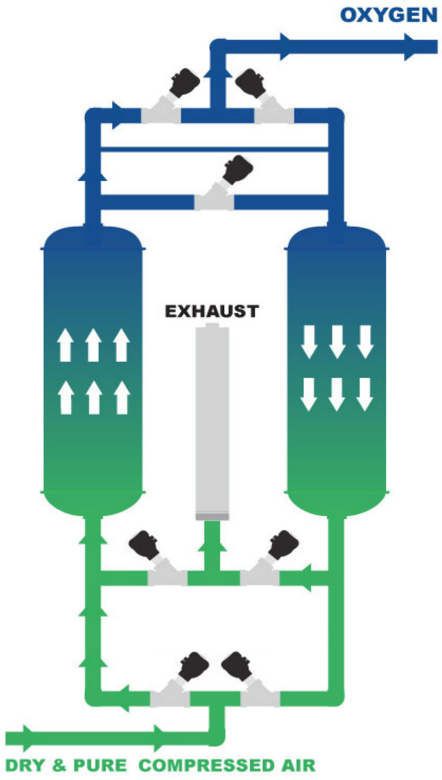
- Temperature range: +5ºC to +40ºC
- Electrical connection: 110-230 V/60-50 Hz
- Noise level: from 55 to max. 78 dB(A)
- Certified in accordance with DIN ISO 13485:2003 & in accordance with Pressure Equipment Directive 93/27/EC



# PSA OXYGEN GENERATOR

## PRODUCTION PRINCIPLE

The Oxygen generator consists of two separating vessels filled with molecular sieve absorbers (zeolite). When pure compressed air pressurizes a vessel, the nitrogen is retained by the molecular sieve and the Oxygen goes straight into the Oxygen buffer. As soon as the tank approaches Nitrogen saturation, the process switches to the second tank and the adsorbed Nitrogen in the first tank is released to the ambient air. The OXYBERG® series offers all the advantages of a fully integrated in-house production system.




### Product Specification

**Description**

Twin column, heavy duty, medical Oxygen generator made to work 24/7 in demanding healthcare environments with load conditions of up to 100%.

**Column vessels**

Twin vessels manufactured according to the Pressure Equipment Directive and with the stringent German Technically Supervisory Board [TÜV] approval. Vessels are powder coated and calculated for the demanding high load cycle.

**Adsorbent material**

High quality, long-life molecular sieve ZEOLITE with industry leading energy air factors resulting in lowest possible differential pressure.

**Process valves**

Angle seat pneumatic process valves with stainless steel body and piston stems are used which guarantee a very reliable operation in a long service life.

**Piping**

All process piping is in stainless steel, press-fitted pipes for maximum durability and leak free operation.

**Instrumentation & Measurement**

- Purity analyzer and sensor with Zirconium sensor
- Outlet pressure sensor – displays in HMI
- Pressure indicator on each column vessel
- Pressure indicator at inlet pressure regulator
- Pressure indicator at outlet pressure regulator
- Ready to connect with electro cable and plug in

**Control & Monitoring**

Multifunctional color touch control panel with 4“ or 7” HMI offering unique features and controllability is used as an industry leading, state of the art [HMI] Features Made by Siemens include:

- Automatic, Start Mode and Stop Button
- Display operating and measurement values - purity, outlet pressure, operating hours and all other connected measurement sensor values
- Values displayed in metric or imperial values
- Display of trends – all measurement values can be displayed as trend for 24 hours
- Alarm management – Audit trail of raised alarms, acknowledgement, deleted with time/date stamp and permanent alarm history
- Change of purities with a push of a button
- Access management with 3 hierarchy levels for access control
- Automatic service reminders for periodic maintenance
- Long term process data storage
- Automatic start option after power outage as required by ISO 10083

## Technical Data of PSA Oxygen Generator OXYBERG® - Capacity ($Nm^3/h$)

| Model | Oxygen Purity | 90% | 92% | 93% | 94% | 95% |
|---|---|---|---|---|---|---|
| OXYBERG® 500 | $O_2$, $Nm^3/h$ | 2.9 | 2.5 | 2.1 | 1.9 | 1.8 |
| | Comp.air, $Nm^3/h$ | 31.9 | 27.5 | 23.1 | 20.9 | 19.8 |
| | Oxygen vessel | 90 | 90 | 90 | 90 | 90 |
| | Comp. air vessel | 150 | 150 | 150 | 150 | 150 |
| OXYBERG® 600 | $O_2$, $Nm^3/h$ | 3.9 | 3.4 | 2.9 | 2.8 | 2.6 |
| | Comp.air, $Nm^3/h$ | 42.9 | 37.4 | 31.9 | 30.8 | 28.6 |
| | Oxygen vessel | 90 | 90 | 90 | 90 | 90 |
| | Comp. air vessel | 150 | 150 | 150 | 150 | 150 |
| OXYBERG® 700 | $O_2$, $Nm^3/h$ | 4.9 | 4.5 | 4.2 | 3.9 | 3.8 |
| | Comp.air, $Nm^3/h$ | 53.9 | 49.5 | 46.2 | 42.9 | 41.8 |
| | Oxygen vessel | 150 | 150 | 150 | 150 | 150 |
| | Comp. air vessel | 250 | 250 | 250 | 250 | 250 |
| OXYBERG® 800 | $O_2$, $Nm^3/h$ | 6.3 | 5.7 | 5.5 | 5.2 | 4.9 |
| | Comp.air, $Nm^3/h$ | 69.3 | 62.7 | 60.5 | 57.2 | 53.9 |
| | Oxygen vessel | 250 | 250 | 250 | 250 | 250 |
| | Comp. air vessel | 350 | 350 | 350 | 350 | 350 |
| OXYBERG® 900 | $O_2$, $Nm^3/h$ | 8.1 | 7.3 | 6.7 | 6.4 | 6.2 |
| | Comp.air, $Nm^3/h$ | 89.1 | 80.3 | 73.7 | 70.4 | 68.2 |
| | Oxygen vessel | 350 | 350 | 350 | 350 | 350 |
| | Comp. air vessel | 500 | 500 | 500 | 500 | 500 |
| OXYBERG® 1000 | $O_2$, $Nm^3/h$ | 10.6 | 9.4 | 9.1 | 8.5 | 8.1 |
| | Comp.air, $Nm^3/h$ | 116.6 | 103.4 | 100.1 | 93.5 | 89.1 |
| | Oxygen vessel | 500 | 500 | 500 | 500 | 500 |
| | Comp. air vessel | 750 | 750 | 750 | 750 | 750 |
| OXYBERG® 1100 | $O_2$, $Nm^3/h$ | 13.6 | 13.3 | 12.7 | 11.8 | 11.4 |
| | Comp.air, $Nm^3/h$ | 149.6 | 146.3 | 139.7 | 129.8 | 125.4 |
| | Oxygen vessel | 500 | 500 | 500 | 500 | 500 |
| | Comp. air vessel | 750 | 750 | 750 | 750 | 750 |
| OXYBERG® 1200 | $O_2$, $Nm^3/h$ | 15.7 | 13.8 | 14.2 | 13.6 | 12.9 |
| | Comp.air, $Nm^3/h$ | 146.7 | 146.6 | 146.5 | 143.0 | 141.9 |
| | Oxygen vessel | 750 | 750 | 750 | 750 | 750 |
| | Comp. air vessel | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| OXYBERG® 1300 | $O_2$, $Nm^3/h$ | 23.4 | 22.2 | 21.1 | 20.1 | 19.3 |
| | Comp.air, $Nm^3/h$ | 257.4 | 244.2 | 232.1 | 221.1 | 212.3 |
| | Oxygen vessel | 750 | 750 | 750 | 750 | 750 |
| | Comp. air vessel | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| OXYBERG® 1400 | $O_2$, $Nm^3/h$ | 32.5 | 31.9 | 30.2 | 28.9 | 27.6 |
| | Comp.air, $Nm^3/h$ | 357.5 | 350.9 | 332.2 | 317.9 | 303.6 |
| | Oxygen vessel | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| | Comp. air vessel | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| OXYBERG® 1500 | $O_2$, $Nm^3/h$ | 44.6 | 42.8 | 41.1 | 39.9 | 38.8 |
| | Comp.air, $Nm^3/h$ | 490.6 | 470.8 | 452.1 | 438.9 | 426.8 |
| | Oxygen vessel | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| | Comp. air vessel | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| OXYBERG® 1600 | $O_2$, $Nm^3/h$ | 53.4 | 51.4 | 49.3 | 47.4 | 46.2 |
| | Comp.air, $Nm^3/h$ | 587.4 | 565.4 | 542.3 | 521.4 | 508.2 |
| | Oxygen vessel | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| | Comp. air vessel | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 |
| OXYBERG® 1700 | $O_2$, $Nm^3/h$ | 64.7 | 63.4 | 61.6 | 60.3 | 58.8 |
| | Comp.air, $Nm^3/h$ | 711.7 | 697.4 | 677.6 | 663.3 | 646.8 |
| | Oxygen vessel | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| | Comp. air vessel | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 |
| OXYBERG® 1800 | $O_2$, $Nm^3/h$ | 89.1 | 85.2 | 82.2 | 79.7 | 77.1 |
| | Comp.air, $Nm^3/h$ | 980.1 | 937.2 | 904.2 | 876.7 | 848.1 |
| | Oxygen vessel | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| | Comp. air vessel | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| OXYBERG® 1900 | $O_2$, $Nm^3/h$ | 105.4 | 101.7 | 97.8 | 93.8 | 91.4 |
| | Comp.air, $Nm^3/h$ | 1,159.4 | 1,118.7 | 1,075.8 | 1,031.8 | 1,005.4 |
| | Oxygen vessel | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 |
| | Comp. air vessel | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| OXYBERG® 2000 | $O_2$, $Nm^3/h$ | 129.6 | 126.9 | 123.4 | 120.7 | 117.4 |
| | Comp.air, $Nm^3/h$ | 1,425.6 | 1,395.9 | 1,357.4 | 1,327.7 | 1,291.4 |
| | Oxygen vessel | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| | Comp. air vessel | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 |

*All values apply at 7 bar inlet pressure and 20ºC ambient temperature.

*If the bigger size or customized plant is needed, please contact us.

# BERG GaseTech GmbH

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Made in Germany