

# Mentis Oxygen Generators S-PSA40 Series



## Features

- High-Quality oxygen gas (vol. 95% oxygen)
- Plug & Play design
- Low footprint
- Exceptional convenience
- Microprocessor controlled (Siemens PLC)
- Touchscreen control panel
- Low operating cost (0.7kW energy consumption per 1m<sup>3</sup> oxygen gas)
- Fully automatic operation
- Easy installation & maintenance
- 24/7 Pressure, purity, and consumption chart records
- Zirconia type oxygen sensor for exact oxygen purity
- Integrated own desiccant air dryer system
- Integrated own filtration system
- Volumetric oxygen gas flow control display
- High-Quality components
- 24/7 Online service
- Automatic maintenance and service alarms
- Remotely control via ethernet connection\*\*
- High purity oxygen up to 99.5% \*\*

\*\* *Optional*

## Mentis S-PSA40 Oxygen Generators

Mentis Engineering S-PSA Oxygen Generators use Serial Pressure Swing Adsorption technology to isolate oxygen molecules from other molecules in compressed air. The result is high purity oxygen gas at the outlet of the generator. The S-PSA series is the most cost-efficient source of oxygen used in various industries like health care, wastewater treatment, ozone production, glass industry, gold leaching, fish farming, and many others.

### How does PSA Works?

Air contains 21% Oxygen, 78% Nitrogen, 0.9% Argon, and 0.1% other trace gases. Mentis S-PSA Oxygen Generation Systems separate this oxygen from Compressed Air through a unique process called Pressure Swing Adsorption (PSA).

The Pressure Swing Adsorption process for the generation of enriched oxygen gas from ambient air utilizes the ability of a synthetic Zeolite Molecular Sieve to absorb mainly nitrogen. While nitrogen concentrates in the pore system of the Zeolite, Oxygen Gas is produced as a product.

### Mentis Engineering Serial-PSA Technology

#### "Management of Atmospheric Contamination Movement"

This is the most distinctive feature that distinguishes our technology from other PSA oxygen-generating technologies. Compressed air is a source of many contaminations while compressing. We are sure that; Pressurized air coming from compressors is not suitable for the separation process yet. That's why, pressurized air must be cleaned, separated until free from contaminants completely.

S-PSA technology is composed of two-stage PSA cycles.

The first stage cycle is purifying the compressed air from all contaminations and unwanted gaseous.

The second stage cycle is simply to separate the oxygen gas from other gases. In this way, all impurities and unwanted gases are separated from the oxygen gas and pure oxygen is stored.

This process is developed by Mentis Engineering Company for long life and high purity oxygen separation.

### Oxygen Applications:

- Health Care
- Metal Cutting
- Gold Leaching
- Fish Farming
- Waste Water Treatment
- Ozone Production
- Glass Industry
- Oxygen Cylinder Re-filling

### Standards Compliance:

- EN ISO 7386-1
- 93/42 EEC
- ISO 9001:2015
- ISO 13485:2016
- ISO 10002:2018
- ISO 14001:2015
- ISO45001:2018
- ISO27001:2013



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## Advantages of Mentis S-PSA40 SERIES

### Plug & Play Single Skid Design

Mentis S-PSA40 Oxygen Generators have their own Oxygen Generation System, Integrated Air Dryer, Integrated Line/Medical Filters, Integrated PLC with Touch Screen Monitoring Panel.

### Cost Reduction

Oxygen production from compressed air with Mentis S-PSA40 Oxygen Generator eliminates the cost of the unabated tube or liquid gas, rent, filling costs, purchase procedure.

### Non-Stop Gas Supply

Mentis S-PSA40 Oxygen Generator produces 24 hours of continuous oxygen gas as long as it is needed wherever you want.

### True & Reliable Purity

Mentis S-PSA40 Oxygen Generators can produce oxygen gas according to the purity required by your application. Don't pay more for high purity.

### Safety

Mentis S-PSA40 Oxygen Generator Eliminates the storing hazards, transporting, and handling heavy and high-pressure tubes.

### Product Gas Quality

Mentis S-PSA40 Oxygen Generator provides you with product quality certified by national and international organizations. Product quality can be continuously monitored and proven accurate.

### Typical Installation



## Mentis S-PSA40 Oxygen Generator

Mentis S-PSA40 Oxygen Generators Produce 40Nm<sup>3</sup> of gaseous oxygen per hour at 95% ±1% oxygen concentration at up to 6.5 bar oxygen outlet gas pressure.

### Specifications:

- Product Oxygen Flow: 40Nm<sup>3</sup>/hr (665LPM)
- Product Oxygen Purity: 95% ±1%
- Product Oxygen Pressure: up to 6.5 Bar
- Product Oxygen Dew Point: -70° C

### Requirements:

- Required Feed Air Flow: 6.7m<sup>3</sup>/minute
- Required Feed Air Pressure: 7.5 Bar
- Oxygen/Air Ratio: 1/10

### Product Characteristics:

- Product Dew Point: -70° C
- Water content : <67 ppm
- CO : < 2 pm
- CO<sub>2</sub> : < 150 ppm
- SO<sub>2</sub> : 0 ppm
- NO<sub>x</sub> : 0 ppm

### Physical Connections:

- Dimensions ( W x L x H ) : 150x 170x 245 cm
- Weight: Less than 1650 kg
- Compressed Air Inlet: 1 1/2"
- Product Oxygen Gas Outlet: 1 1/4"

### Ambient Operating Conditions:

Locate the S-PSA oxygen generator in a well-ventilated area that is protected from weather conditions and remains between 2°C and 44°C

### Power Requirements:

- 220V ~ 50/60 Hz, 3A, 100W (Single Phase)
- Colored Touch Screen with PLC: Siemens PLC & HMI

### Commodity Classification Number:

- Industrial: 8421.39.8040
- Medical: 9019.2.0000

### Terms of Warranty: 2 Years

Including 2 years Spare Parts, Installation, and Training

### Planned Service Life: 10 Years

10 years of service and spare parts supply

### Reference Conditions:

- Ambient pressure: 1013 mBar
- Inlet pressured air pressure: 7.5 bar
- Compressed air inlet quality: ISO8573-1 class 1-4-1

**Note:** An unprotected or inadequately ventilated environment or improper control power may cause damage to the oxygen generator not covered under warranty.