

China

Eco-Tech

Eco-25

40 days

Wooden Case

MoneyGram

1000 pieces per year

1

CE ISO13485 ISO9001

USD 12000-25000 pieces

L/C, D/A, D/P, T/T, Western Union,

# 25Nm3/H PSA Oxygen Generator 93% Purity High Purity Oxygen Generating Equipment

# **Basic Information**

- Place of Origin:
- Brand Name:
- Certification:
- Model Number:
- Minimum Order Quantity:
- Price:
- Packaging Details:
- Delivery Time:
- Payment Terms:
- Supply Ability:
- OENim/b
- Outlet Pressure:

**Product Specification** 

- Filling Pressure:
- Size:
- Highlight:

• Capacity:

- 25Nm/h
- 4~5.5bar Adjustable
- 150Bar Or 200 Bar
- 1800\*1000\*2300 1300kg
- 25Nm3/H PSA Oxygen Generator, PSA Oxygen Generator 25Nm3/H, 93% high purity oxygen concentrator



Our Product Introduction



# **Product Description**

## 93% Purity 25Nm3/H High Purity Oxygen Generator/Oxygen Generating Equipment/Oxygen Generation Plant Description for PSA Oxygen Generator

PSA Oxygen Generator is consisted of the screw air compressor, air dryer, filters, buffer tanks, oxygen generator, electricity control system and the optional oxygen cylinder filling station. The complete system is installed and tested at factory, delivery to customer's turn-key project. PB containerized oxygen generator is removable, and makes the onsite installation and operation very easy. It can also save the cost for the decoration cost of the machine room.

## Main Features for PSA Oxygen Generator

Runs automatically without human intervention

Routine maintenance reminder and 10 years spares parts available

Complete support, from installation to debugging to training to support

End-to-end monitoring of pressure, purity, flow rate and alarm function.

Quiet, safe and energy efficient

Automatic discharge of unqualified gas

PID output function Emergency Stop Control

All the tubing is in stainless steel bright tube ensuring a bactericidal action

# Some transport pictures





## PB PSA Oxygen Generator Model Select

Range of the PSA Oxygen Generator										
Model	O2 Flow (Nm3/h)	O2 Flow (LPM)	Equivalent cylinder- 7m3(per day Nos)	Power With booster(Kw)	Power Without HPBC(Kw)	Purity	Loading			
PB-5	5	83	17	13	9	93%±3%	LCL			
PB-10	10	167	34	22	16.5	93%±3%	LCL/20GP			
PB-15	15	250	51	28	20.5	93%±3%	LCL/20GP			
PB-20	20	333	68	43	32	93%±3%	20HQ/40HQ			
PB-25	25	417	85	43	32	93%±3%	20HQ/40HQ			
PB-30	30	500	102	55	40	93%±3%	20HQ/40HQ			
PB-40	40	667	136	63	48	93%±3%	40HQ			
PB-50	50	833	170	76	57.5	93%±3%	40HQ			
PB-65	65	1083	221	101	79	93%±3%	40OT			
PB-80	80	1333	272	145	115	93%±3%	40FR			
PB-90	90	1500	306	181	144	93%±3%	40FR			
PB- 100	100	1667	340	214	177	93%±3%	40FR			
PB- 120	120	2000	408	247	203	93%±3%	40FR+20GP			
PB- 150	150	2500	510	263	218	93%±3%	40FR+20GP			

### Working Principles for PSA Oxygen Generator

Air contains 21% Oxygen, 78% Nitrogen, 0.9% Argon and 0.1% other trace gases. Oxygen plant separates 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. Oxygen generation plant's use two vessels filled with Zeolite Molecular sieve as adsorbers. As Compressed Air passes up through one of the adsorbers, the molecular sieve selectively adsorbs the Nitrogen. This then allows the remaining Oxygen to pass on up through the adsorber and exit as a product gas. When the adsorber becomes saturated with Nitrogen the inlet airflow is switched to the second adsorber. The first adsorber is regenerated by desorbing nitrogen through depressurization and purging it with some of the product oxygen. The cycle is then repeated and the pressure is continually swinging between a higher level at adsorption (Production) and a lower level at desorption (Regeneration).

PD-2:					
lot			Description /Specification		
1	Model/Place of Manufac	ture	PB-25	China	
2	Oxygen making principle		PSA Pressure swing adsorption PSA 吸附( 放式)		
3	Application	place	Indoor		
	Environment	temperatur e	Min -5 /Max 50 / design temperature37 Min 40%RH Max90%RH		
		Ambient humidity			
4	Capacity		25 Nm3/hr		
5	Oxygen Gas Purity		93% ±3% Test at outlet of psa oxygen generator		
6	Oxygen Purity Sensor		HT-TA530 1set		
7	Oxygen Flowmeter		Japan SMC flowmeter 1 sets		
8	Inlet compress air press	ure	0.55~0.7 Mpa		
9	Inlet Oil Content		≤0.001mg/m3		
	Residual dust		≤0.01um		
	Residual water		≤0.069mg/m3		
10	Air inlet atmospheric dev	v point	-15		
11	Demand for clean compressed air	5.0 m³/min	Recommend Air compressor	30Kw 5.0 m³/min 8Bar	
12	Inlet Diameter		DN40		
13	Outlet Diameter		DN15		
14	Maximum inlet temperate	ure	MAX 30		
15	Allowable working press	ure range	Min7.5Kgf / cm2 Max9.9Kgf / cm2		
16	Carbon molecular sieve	model/origin	JLOX-500		
17	The tower body pipe		2 sets		
18	Air and Oxygen buffer ta	nk	Piped storage tank		
19	Instrument Tank, silence	r	PB Silencer ≤55dB(A)		
20	Solenoid valve brand/ori	gin	AirTAC	9 sets	
21	Pneumatic valve brand/c	origin	Eco-Tech	9 Sets+2 Sets	
22		Control Power Supply	0.2kw/set 220V 50 HZ Siemens PL Smart S7-200 or Mitsubishi ntegrated PLC		
	Control System	PLC			
		Electrical box	built-in	1 set	
		Touch screen	MCGS 7 inch or Mitsubishi integrated PLC with screen		
23	size LxWxH (mm) / Weig	jht:(Kg)	About:1800*1000*2300// 1300kg		

# -Standard Features -

Control system with SIEMENS touch operated panel

Automatic start/stop

Built in purity analyzer for continues monitoring

Reliable- built for uninterrupted operation

Designed for dynamic pressure loading

Robust design, piping from Stainless Steel

### -Optional Features-

Molecular sieve moisture protection GSM modem (remote start/stop, status SMS, alarm warning SMS) Flow meter with totalize Oxygen dew point sensor Temperature sensor Purity and pressure control Audio/visual alarm Modbus TCP/IP connection Remote control system Data-logging (saved on memory card)

## -Applications-

Aquaculture Feed Gas for Ozone Generators Glass blowing Leaching NOx Reduction for Fuel Burners Oxygen Lancing Welding, Brazing Wellness Ten frequently asked Questions about PSA oxygen generators

## 1.What is a PSA oxygen concentrator?

A PSA oxygen concentrator is a device that separates and purifies high-purity oxygen from the air using pressure swing adsorption (PSA) technology. It utilizes molecular sieve adsorbents to achieve the separation and purification of oxygen based on the differential adsorption properties of oxygen and nitrogen in the molecular sieve.

## 2.How does a PSA oxygen concentrator work?

The working principle of a PSA oxygen concentrator is based on the adsorption properties of the molecular sieve. It cycles compressed air and passes it through the bed of molecular sieve adsorbents. Nitrogen molecules are adsorbed onto the sieve, while oxygen molecules pass through, thereby achieving the separation and purification of oxygen.

#### 3.What are the advantages of a PSA oxygen concentrator?

PSA oxygen concentrators have several advantages:

They can generate oxygen on-demand in real-time, eliminating the need for oxygen storage.

They are easy to operate and maintain.

They can be used indoors without the need for external gas pipelines.

They produce high-purity oxygen, suitable for medical-grade applications.

### 4. What are the main uses of a PSA oxygen concentrator?

PSA oxygen concentrators find extensive usage across diverse industries, including medical, pharmaceutical, food processing, and electronics. They play a vital role in delivering high-purity oxygen to meet the specific demands of these industries and various applications.

In the medical field, PSA oxygen concentrators are indispensable for oxygen therapy in hospitals, clinics, and home care settings. They provide a continuous and reliable source of purified oxygen, ensuring patients with respiratory ailments receive the necessary oxygen support for their treatment and recovery.

In the pharmaceutical industry, PSA oxygen concentrators are utilized in various processes that require oxygen, such as fermentation, oxidation reactions, and synthesis of pharmaceutical compounds. The high-purity oxygen produced by these concentrators helps maintain optimal conditions and enhance the efficiency of pharmaceutical production processes.

The food processing industry also benefits from PSA oxygen concentrators. They are employed in applications like modified atmosphere packaging (MAP) to extend the shelf life of food products. By supplying oxygen with precise purity levels, these concentrators contribute to preserving freshness, preventing spoilage, and ensuring food safety.

Furthermore, PSA oxygen concentrators have applications in the electronics industry. Oxygen is used in various electronic manufacturing processes, including soldering, welding, and laser cutting. The high-purity oxygen generated by these concentrators enables precise control and enhances the quality of these manufacturing operations.

In summary, PSA oxygen concentrators serve a wide range of industries, including medical, pharmaceutical, food processing, and electronics. They fulfill the need for high-purity oxygen in critical applications such as oxygen therapy, pharmaceutical production, food preservation, and electronics manufacturing, contributing to improved healthcare, enhanced product quality, and efficient industrial processes.

#### 5.What is the oxygen purity achievable with a PSA oxygen concentrator?

Typically, PSA oxygen concentrators can provide oxygen with a purity of 93% or higher. For specific requirements, the oxygen purity can be further increased through additional oxygen purification processes.

### 6.Does a PSA oxygen concentrator require maintenance?

Yes, PSA oxygen concentrators require regular maintenance and servicing to ensure their proper operation and extended lifespan. Maintenance tasks include cleaning filters, inspecting, and replacing adsorbents, among others.

#### 7.What is the noise level of a PSA oxygen concentrator?

PSA oxygen concentrators generally have low noise levels, typically below 50 decibels. However, the noise level may vary depending on the model and brand of the concentrator, but most are designed to operate quietly.

#### 8.Does a PSA oxygen concentrator require a power source?

Yes, PSA oxygen concentrators require a power source to function properly. Typically, they need to be connected to a 220V AC power supply with a frequency of 50Hz.

### 9. Does a PSA oxygen concentrator need a compressed air source?

Yes, a PSA oxygen concentrator needs to be equipped with a compressed air source. It uses compressed air as the oxygen feedstock for its operation.

## 10.Is it necessary to frequently replace the adsorbents in a PSA oxygen concentrator?

Adsorbents are critical components in a PSA oxygen concentrator, and their lifespan is generally long, lasting several years. However, over time and with increased usage, the adsorbents gradually lose their effectiveness and need to be checked and replaced periodically. The specific replacement cycle depends on usage and the model of the oxygen concentrator, so it is recommended to follow the manufacturer's guidelines for proper operation.



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