40Nm3/H PSA Oxygen Generator 93% Purity Continuous Flow Portable Oxygen Concentrator

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Eco-Tech
- Certification: CE ISO13485 ISO9001
- Model Number: Eco-40
- Minimum Order Quantity: 1
- Price: USD 12000-25000 pieces
- Packaging Details: Wooden Case
- Delivery Time: 40 days
- Payment Terms: L/C, D/A, D/P, T/T, Western Union, MoneyGram
- Supply Ability: 1000 pieces per year

Product Specification

- Capacity: 40Nm/h
- Outlet Pressure: 4~5.5bar Adjustable
- Filling Pressure: 150Bar Or 200 Bar
- Size: 2000*1400*2450 1700kg
- Highlight: **40Nm3/H PSA Oxygen Generator**, **Continuous Flow PSA Oxygen Generator**, **portable oxygen generator psa system**

Our Product Introduction

for more products please visit us on psa-generators.com

Product Description

93% Purity 40Nm3/H PSA Oxygen Genertor Continuous Flow Po/rtable Oxygen Concentrator

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 semi-finished products

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).

PB-40 PSA Oxygen Plant Technical Specification				
lot	Item		Description /Specification	
1	Model/Place of Manufacture		PB-40	China
2	Oxygen making principle		PSA Pressure swing adsorption PSA 吸附(放式)	
3	Application	Operation place	Indoor	
	Environment	Ambient temperature	Min -5 /Max 50 / design temperature37	
		Ambient humidity	Min 40%RH Max90%RH	
4	Capacity		40	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 pressure		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 dew point		-15	
11	Demand for clean compressed air	8.0 m³/min	Recommend Air compressor	45Kw 8.0 m³/min 8Bar
12	Inlet Diameter		DN40	
13	Outlet Diameter		DN25	
14	Maximum inlet temperature		MAX 30	
15	Allowable working pressure 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 tank		Piped storage tank	
19	Instrument Tank, silencer		PB Silencer ≤55dB(A)	
20	Solenoid valve brand/origin		AirTAC	9 sets
21	Pneumatic valve brand/origin		Powerbuilder	9 Sets+2 Sets
22	Control System	Control Power Supply	0.2kw/set 220V 50 HZ	
		PLC	Siemens PL Smart S7-200 or Mitsubishi integrated PLC	
		Electrical box	built-in	1 set
		Touch screen	MCGS 7 inch or Mitsubishi integrated PLC with screen	
23	size LxWxH (mm) / Weight:(Kg)		About:2000*1400*2450// 1700kg	

-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 are widely used in medical, pharmaceutical, food processing, and electronic industries. They provide high-purity oxygen to meet the requirements of various industries and applications, such as oxygen therapy in hospitals and oxygen combustion in industries.

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?

Indeed, regular maintenance and servicing are essential for the optimal performance and longevity of PSA oxygen concentrators. These devices require periodic maintenance to ensure their proper operation and to maximize their lifespan.
Maintenance tasks for PSA oxygen concentrators typically involve several key activities. One important task is the cleaning or replacement of filters. Filters are crucial components that remove impurities, dust, and other contaminants from the incoming air, ensuring the production of clean and high-quality oxygen. Over time, filters can become clogged or dirty, hindering airflow and reducing the concentrator's efficiency. Regularly cleaning or replacing filters helps maintain optimal performance.
Another critical maintenance task is inspecting and replacing the adsorbents or molecular sieve beds. These beds are responsible for the separation and purification of oxygen from the air. Over time, the adsorbents can lose their effectiveness, becoming saturated with nitrogen and other gases. Periodically inspecting and replacing the adsorbents ensure the continued production of high-purity oxygen.
In addition to assessing and replacing the adsorbents, other maintenance activities play a crucial role in ensuring the optimal performance and safety of the PSA oxygen concentrator.
One important maintenance task is checking and calibrating pressure and flow sensors. These sensors play a vital role in monitoring and controlling the operation of the concentrator. Regular calibration ensures accurate measurements, allowing for precise control of pressure and flow rates.
Inspecting valves and connections for leaks is another essential maintenance activity. Leaks can compromise the concentrator's efficiency and oxygen purity. By conducting regular inspections, any leaks can be promptly identified and addressed, preventing potential issues and ensuring the integrity of the system.
Verifying the overall performance and safety features of the concentrator is also an important maintenance step. This may involve testing alarms, safety shut-off mechanisms, and other critical components to ensure they are functioning properly and in compliance with safety standards.
Following the manufacturer's guidelines and recommendations for maintenance procedures and schedules is crucial to ensure that the concentrator receives the necessary care. Regular maintenance not only keeps the concentrator functioning properly but also helps in early detection of any potential issues. This proactive approach can prevent sudden breakdowns, minimize downtime, and prolong the overall lifespan of the device.
For specific instructions and schedules tailored to a particular model of PSA oxygen concentrator, it is advisable to consult the user manual provided by the manufacturer or contact them directly. Authorized service providers can also offer valuable assistance in understanding the maintenance requirements and ensuring the continued reliable operation of the concentrator.
By performing regular maintenance tasks and adhering to the manufacturer's recommendations, users can maximize the performance, safety, and longevity of their PSA oxygen concentrators, ensuring the reliable production of high-purity oxygen for various applications and industries.

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?

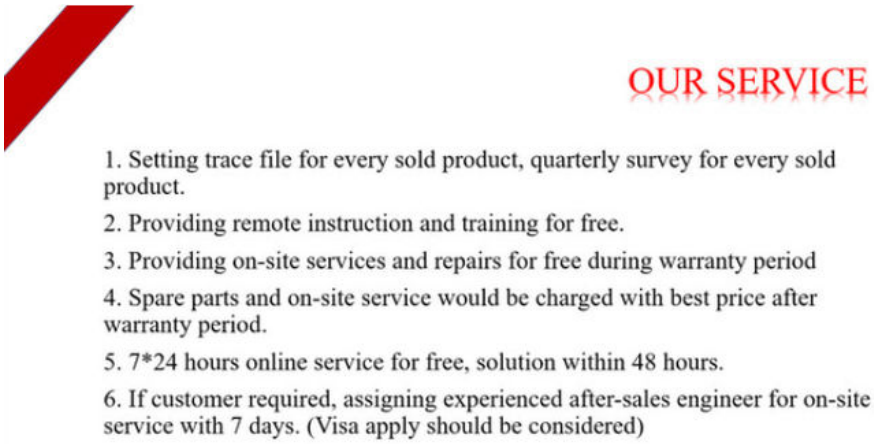
Yes, PSA oxygen concentrators require a power source to function properly. Typically, they need to be connected to a 220V AC power supply with a frequency of 50Hz.

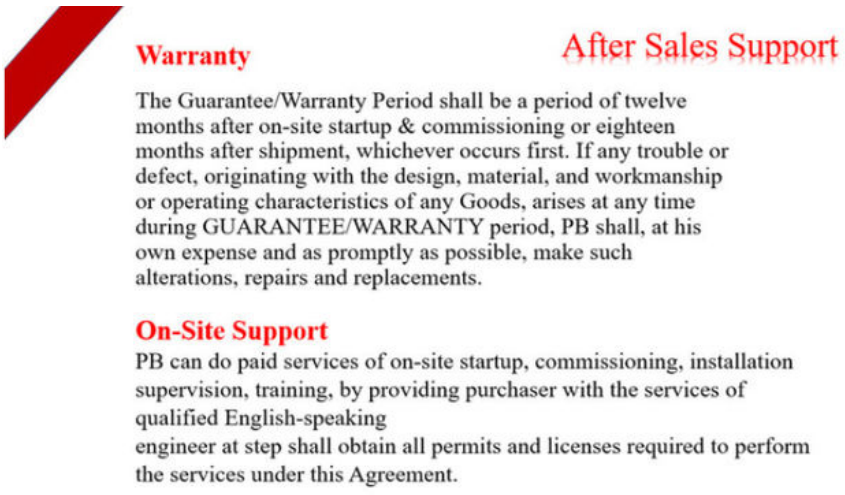
9.Does a PSA oxygen concentrator need a compressed air source?

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.





Our Certifications

Eco-Tech Suzhou Limited

18626217683 Melisss.Zhao@eco-techsz.com psa-generators.com

Room 101, Building 19, No. 4388 Dong Shan Avenue, Lin hu Town, Wu Zhong District, Suzhou, China zip 215106