90Nm3/H PSA Oxygen Genertor 93% Purity With Continuous Flow For Hospital Use

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Eco-Tech
- Certification: CE ISO13485 ISO9001
- Model Number: Eco-90
- 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: 90Nm/h
- Outlet Pressure: 4~5.5bar Adjustable
- Filling Pressure: 150Bar Or 200 Bar
- Size: 2500*1400*2900 5500kg
- Highlight: **90Nm3/H PSA Oxygen Genertor**, **PSA Oxygen Genertor 90Nm3/H**, **93% psa oxygen plant for hospital**

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Product Description

93% Purity 90Nm3/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

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

The oxygen plant employs the Pressure Swing Adsorption (PSA) process, a highly efficient method for separating oxygen from compressed air. This process capitalizes on the selective adsorption properties of Zeolite Molecular Sieve, a synthetic material that can selectively absorb nitrogen while allowing oxygen to pass through.

The PSA oxygen generation plant comprises two vessels, each filled with Zeolite Molecular Sieve as adsorbers. When compressed air is

introduced into one of the vessels, the molecular sieve captures and retains the nitrogen molecules, enabling the oxygen to exit as the product gas.
Once the adsorber becomes saturated with nitrogen, the airflow is switched to the second vessel. Meanwhile, the first vessel undergoes a regeneration phase. During this phase, nitrogen is desorbed from the molecular sieve through depressurization, and the adsorber is purged with a portion of the product oxygen. This process effectively removes nitrogen and readies the adsorber for the next cycle.
During the adsorption phase of the PSA process, the compressed air containing a mixture of oxygen and nitrogen is introduced into one of the adsorber vessels. As the air passes through the Zeolite Molecular Sieve, the nitrogen molecules are selectively adsorbed onto the surface of the sieve, while the oxygen molecules pass through and exit as the product gas. This selective adsorption is due to the different affinities of nitrogen and oxygen for the molecular sieve.
Meanwhile, the other adsorber vessel is in the desorption phase. The pressure is reduced, allowing the nitrogen molecules previously adsorbed onto the molecular sieve to be released. This desorption is facilitated by depressurization and purging with a portion of the product oxygen gas. The released nitrogen is vented out of the system, leaving the adsorber vessel ready for the next adsorption cycle.
The continuous cycle of adsorption and desorption ensures a continuous supply of high-purity oxygen gas. As one adsorber vessel is adsorbing nitrogen, the other is being regenerated, creating a seamless operation. The alternating pressure levels optimize the adsorption and desorption processes, maximizing the efficiency of nitrogen removal from the compressed air stream.
By utilizing the unique properties of Zeolite Molecular Sieve, such as its high surface area and selective adsorption characteristics, the oxygen plant achieves efficient separation of oxygen from compressed air. The PSA process enables the production of high-purity oxygen gas, meeting the specific requirements of various industries and applications.
The reliable supply of high-purity oxygen gas from the PSA oxygen generation plant supports diverse applications, including medical facilities, aquaculture systems, ozone generation, glass blowing, leaching processes, welding operations, and more. The ability to continuously produce oxygen gas with high purity and efficiency makes the PSA process a valuable technology in meeting the growing demand for oxygen in various sectors.

PB-90 PSA Oxygen Plant Technical Specification				
lot	Item		Description /Specification	
1	Model/Place of Manufacture		PB-90	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		90	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	19.5 m³/min	Recommend Air compressor	132Kw 23.2 m³/min 8Bar
12	Inlet Diameter		DN50	
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:2500*1400*2900// 5500kg	

-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?
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.

COMPANY INTRODUCTION—BUSINESS LINE

1) Fabrication line and Automation system
2) Calibration/Testing system, ICT/FCT
3) PSA Oxygen and Nitrogen Generator
4) ABB Instrumentation Agent(Pressure, flow, Level, Temp, Drive, Motor)
5) ODM include Software & Hardware development and structure/fluid simulation
6) Onsite engineering Services / Technology Services: Installation, Commissioning and Maintenance

OUR CLIENTS:

OUR PARTNERS:

OUR SERVICE

1. Setting trace file for every sold product, quarterly survey for every sold product.
2. Providing remote instruction and training for free.
3. Providing on-site services and repairs for free during warranty period
4. Spare parts and on-site service would be charged with best price after warranty period.
5. 7*24 hours online service for free, solution within 48 hours.
6. If customer required, assigning experienced after-sales engineer for on-site service with 7 days. (Visa apply should be considered)

After Sales Support

Warranty

The Guarantee/Warranty Period shall be a period of twelve months after on-site startup & commissioning or eighteen months after shipment, whichever occurs first. If any trouble or defect, originating with the design, material, and workmanship or operating characteristics of any Goods, arises at any time during GUARANTEE/WARRANTY period, PB shall, at his own expense and as promptly as possible, make such alterations, repairs and replacements.

On-Site Support

PB can do paid services of on-site startup, commissioning, installation supervision, training, by providing purchaser with the services of qualified English-speaking
engineer at step shall obtain all permits and licenses required to perform the services under this Agreement.

Our Certifications

Eco-Tech Suzhou Limited

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