200Nm3/H, 99.99% Purity PSA Technology For Nitrogen Generation

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Eco-Tech
- Certification: CE ISO13485 ISO9001
- Model Number: PN4200
- Minimum Order Quantity: 1
- Price: USD 12000-25000 pieces
- Packaging Details: Wooden Case
- Delivery Time: 20 days
- Payment Terms: L/C, D/A, D/P, T/T, Western Union, MoneyGram
- Supply Ability: 1000 pieces per year

Product Specification

- Capacity: 200Nm/h
- Inlet Diameter: DN50
- Outlet Diameter: DN40
- Size: 2200*1500*2650mm 3400 Kg
- Demand For Clean Compressed Air: 16.67
- Recommend Air Compressor: 132Kw 19.0m3/min 10Bar) Or 90Kw (16.8m3/min 8Bar)
- Control System: PLC
- Type: Nitrogen Generator
- Warranty: 1 Year
- Highlight: **dn40 psa tower in nitrogen plant**, **200Nm3/H psa tower in nitrogen plant**, **99.99% psa technology for nitrogen generation**

Our Product Introduction

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Product Description

PSA Nitrogen Generator: 200Nm3/H, 99.99% Purity, for Food, Metallurgy, Chemical
Description of 99.99% Purity 200Nm3/H PSA Nitrogen Plant Food, metallurgy, chemical industry applicable

The nitrogen plant is a specialized industrial facility that focuses on the production of nitrogen gas. It utilizes various processes, such as the fractional distillation of air, pressure swing adsorption, or membrane separation, to extract and purify nitrogen from the surrounding atmosphere. The plant consists of sophisticated equipment and advanced technologies, enabling it to efficiently separate nitrogen from other gases, particularly oxygen and trace impurities.

The nitrogen plant plays a crucial role in various industries, including chemical manufacturing, electronics, food preservation, and pharmaceuticals. It supplies high-purity nitrogen, which is essential for numerous applications such as inerting, blanketing, and purging. Inerting involves displacing oxygen in a given environment to prevent combustion or oxidation, while blanketing creates a protective layer of nitrogen to safeguard sensitive materials. Additionally, nitrogen is utilized in cryogenic processes, where its low-temperature properties are harnessed for freezing and preserving perishable goods or conducting experiments in research laboratories.

The nitrogen plant operates through a well-coordinated system of compressors, filters, and gas separation units. It continuously draws in air, removes impurities, and employs the chosen separation technique to obtain nitrogen gas of the desired purity level. The plant's capacity and production output can vary depending on the specific design and requirements of the facility. Advanced monitoring and control systems ensure the plant operates safely and efficiently, with routine maintenance and periodic inspections conducted to uphold its performance and longevity. Overall, the nitrogen plant serves as a vital source of nitrogen gas, meeting the diverse needs of industries that rely on this versatile and valuable gas for their operations. Through its sophisticated processes and cutting-edge technology, the plant plays a crucial role in ensuring a steady and reliable supply of nitrogen for various industrial applications.

We have been engaged in the assembly of PSA nitrogen generators and oxygen generators in our factory for 15 years, providing approximately 400 sets of PSA nitrogen generators and oxygen generators for domestic and international customers each year, including production, and debugging.

Through our partnership with Burkert Valves, we have developed a bespoke double-acting pneumatic valve, tailored to our specific needs. This valve incorporates innovative features such as top and middle pressure equalization and airflow orifice plates. These design elements enable us to continually optimize and reduce the air consumption ratio of our equipment, resulting in significant energy savings. In fact, our equipment boasts the highest energy consumption ratio in China.

To further enhance the user experience, we have implemented our patented silencer technology. This advanced feature effectively controls device noise, ensuring that it remains below 55 dB. This ensures a quieter and more comfortable operating environment for our customers.

In terms of process flow, we have cutting, welding, assembly, filling of molecular sieves, automatic rust removal, spraying, and complete procedures and supporting equipment for commissioning.

In the supply chain aspect, we provide first-line brands such as Atlas Copco, Ingersoll Rand, GDK, Liutech, Bolaite, Hanbell, and BK for air compressors, and provide Boly, Atlas Copco, and Liutech refrigerated dryers, as well as Anshan Jiapeng and Anqing Bailian boosters. We can provide supporting equipment and accessories.

Currently, our company's products are aimed at end-users and distributors worldwide. We provide customized remote systems, color customization, display interface customization, and many other OEM services. And we also provide ASME standard equipment and pressure tanks for USA and Australian market.

For specific selection, please contact our customer manager. We hope to become your trusted long-term partner.

PN4200 PSA Nitrogen Plant Technical Specification				
lot	Item		Description /Specification	
1	Model/Place of Manufacture		PN4200	
2	Nitrogen 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		200	Nm3/hr
5	Nitrogen Gas Purity		≥99.99 % Test at outlet of psa Nitrogen	
6	Nitrogen Purity Sensor		HT-TA261 1set	
7	Nitrogen Flowmeter		Japan SMC flowmeter 1 sets	
8	Inlet compress air pressure		0.75 -0.99Mpa	
9	Inlet Oil Content		≤0.001mg/m3	
10	Residual dust		≤0.01um	
11	Residual water		≤0.069mg/m3	
12	Air inlet atmospheric dew point		-15	

13	Demand for clean compressed air	16.67	Nm^3/min	Recommend Air compressor	132Kw (19.0m3/min 10Bar) or 90Kw (16.8m3/min 8Bar)
14	Inlet Diameter			DN50	
15	Outlet Diameter			DN40	
16	Maximum inlet temperature			MAX 30	
17	Allowable working pressure range			Min7.5Kgf / cm2 Max9.9Kgf / cm2	
18	Carbon molecular sieve model/origin			CMS-240	
19	The tower body pipe			2 sets	
20	Air and nitrogen buffer tank			Piped storage tank	
21	Instrument Tank, silencer			PB Silencer ≤55dB(A) patent number:ZL 2015 2 0545860.3	
22	Solenoid valve brand/origin			AirTAC	7 sets
23	Pneumatic valve brand/origin			PB-Customized	11 Sets (two for auto drain unqalified Gas)
24	Control System	Control Power Supply		0.2kw/set 220V 50 HZ	
		PLC		Mitsubishi core integrated screen /or Siemens S7-200 Smart	
		electrical box		built-in	1 set
		touch screen		Mitsubishi core integrated screen/ MCGS	
25	size LxWxH (mm) / Weight:(Kg)			About:2200*1500*2650mm 3400 kg	
26	Price			含税含　交期20天	

2. Working Principles for PSA Nitrogen Generator

The PSA nitrogen generator is an advanced and automated equipment designed to produce nitrogen gas. It operates by utilizing air as the input material and employs carbon molecular sieves as highly efficient adsorbents. The principle of pressure reduction desorption is applied in the system, allowing for the selective adsorption of oxygen molecules from the air, thus effectively separating nitrogen gas.

3. Main Features for PSA Nitrogen Generator

- Raw material air is taken from nature. Nitrogen can be produced by supplying compressed air and power.
- Nitrogen purity can be adjusted conveniently and be produced by supplying compressed air
- The equipment is highly automated, produces gas quickly, and can be unattended. Nitrogen can be produced within 10-15 minutes of startup.
- The equipment process is simple, occupies a small area, consumes less energy and costs.
- Molecular sieves are filled by snowstorm method to avoid the pulverization of molecular sieves caused by avoid the pulverization of molecular sieves caused by high-pressure airflow impact and ensure the long-term use of molecular sieves.
- On-line inspection of imported analyzer with high access is simple, occupies a small area, consumes less energy,and costs.

4. Technical indicators

- Capacity Range : 2~2000Nm3/H
- Purity Range : 95%~99.9999%
- Outlet Pressure :0~6Bar or 0~ 8Bar
- Booster outlet pressure range : 10 to 200Bar
- Service Life 8-10 years as long as regular maintenance

Carbon Molecular Sieve

High quality,high density, compact spring loaded, top/bottom balance, protected by a dedicated pressure sensor.
We usually use CMS-240 for purity below 99.99%
And use CMS-260 for purity of 99.999% in one step .

5. Standard Features

- Siemens PLC
- Customized and improved domestic valves
- 7-inch LCD display
- Taiwan AirTAC solenoid valve
- Chengdu Jiuyin Nitrogen analyzer
- SMC flowmeter
- Professional brand molecular sieve

6. Optional Features

- Remote control system
  - Better valve of brand Gemu, Burkert
  - Dew point analyzer
  - Import Molecular Sieve
  - Italian ODE solenoid valve

Item No.	Capacity	Purity	Size mm	Inlet Diameter	Outlet Diametee r	Weight Kg	Power
PN4005	5Nm3/H	≥99.99%	1200*850*1 500	DN15	DN15	300	AC220V/0.2 KW
PN4010	10Nm3/ H	≥99.99%	1200*900*1 900	DN15	DN15	500	AC220V/0.2 Kw
PN4020	20Nm3/ H	≥99.99%	1450*900*1 900	DN25	DN15	600	AC220V/0.2 Kw
PN4030	30Nm3/ H	≥99.99%	1450*900*2 250	DN32	DN15	700	AC220V/0.2 Kw
PN4040	40Nm3/ H	≥99.99%	1600*1100* 1950	DN32	DN15	800	AC220V/0.2 Kw
PN4050	50Nm3/ H	≥99.99%	1700*1100* 2200	DN40	DN15	1000	AC220V/0.2 Kw
PN4060	60Nm3/ H	≥99.99%	1800*1000* 2300	DN40	DN25	1200	AC220V/0.2 Kw
PN4070	70Nm3/ H	≥99.99%	1800*1000* 2300	DN40	DN25	1800	AC220V/0.2 Kw
PN4080	80Nm3/ H	≥99.99%	1800*1000* 2300	DN40	DN25	1900	AC220V/0.2 Kw
PN4100	100Nm3/ H	≥99.99%	1800*1300* 2450	DN40	DN25	2500	AC220V/0.2 Kw
PN4120	120Nm3/ H	≥99.99%	1800*1300* 2450	DN40	DN25	2600	AC220V/0.2 Kw
PN4150	150Nm3/ H	≥99.99%	2000*1300* 2450	DN40	DN25	2900	AC220V/0.2 Kw
PN4200	200Nm3/ H	≥99.99%	2200*1500* 2650	DN50	DN40	3400	AC220V/0.2 Kw
PN4250	250Nm3/ H	≥99.99%	2500*1600* 2680	DN50	DN40	3800	AC220V/0.2 Kw
PN4300	300Nm3/ H	≥99.99%	2500*1600* 2900	DN50	DN40	5000	AC220V/0.2 Kw
PN4350	350Nm3/ H	≥99.99%	2500*1600* 2900	DN80	DN50	5500	AC220V/0.2 KW
PN4400	400Nm3/ H	≥99.99%	3000*2000* 3750	DN80	DN50	7500	AC220V/0.2 Kw

-Applications-

- **Application of SMT industry**
- **Semiconductor silicon industry application**
  Semiconductor and integrated circuit manufacturing process atmosphere protection, cleaning,chemical recovery,etc.
- **Electronic components industry application**
  Selective welding, puring and encapsulation with nitrogen. Scientific nitrogen inert protection has proven to be an essential step in the successful production of high quality electronic components.
- **Semiconductor packing industy application**
  Packaging, reduction, strage with nitrogen.
- **Powder metallurgy, metal processing industry**
  Heat treatment industry application, Steel, iron, copper, aluminum products annealing, carbonization, high temperature furnace protection, Low temperature assembly and plasma cutting of metal parts.
- **Chemical industry, advanced material industry application**
  Nitrogen is used to create oxygen - free atmosphere in chemical process, improve the safety of production process, fluid transmission power source, etc: It can be used for nitrogen purging of pipes and vessels in the system, filling nitrogen Storage tank, gas displacement, leak detection, combustible gas protection, chemical reaction agitation, chemical fiber production protection, also used in diesel hydrogenation and catalytic reforming.
- **Oil and gas industry**
- Oil refining, container machine pipeline nitrogen-filled purge box leak detection, nitrogen injection oil recovery.
- **Food and medicine industry Application**
  Mianly used in food packaging, food preservation, food storage, (Configurable sterilization filter), food drying and sterilization, medicine packing, medical replacement gas, medicine delivery atmosphere, etc.

Ten common questions about nitrogen generators

1.What purity of nitrogen gas can a nitrogen generator produce?
A nitrogen generator can produce nitrogen gas of various purities, ranging from standard industrial-grade nitrogen (typically 95% to 99% purity) to high-purity nitrogen (usually exceeding 99.9%), and even ultra-high purity nitrogen (typically exceeding 99.999%). The choice of purity depends on specific application requirements.

2.What is the working principle of a nitrogen generator?
The working principle of a nitrogen generator is primarily based on either the adsorption technology using molecular sieves or membrane separation technology. Adsorption technology selectively adsorbs oxygen and moisture using a specific adsorbent material, such as molecular sieves, while allowing nitrogen to pass through. Membrane separation technology, on the other hand, utilizes the size and permeability of gas molecules to achieve the separation of nitrogen from other gas components on a membrane.

3.What inputs does a nitrogen generator require, and how does it operate?
A nitrogen generator typically requires air as the input source. When operating the nitrogen generator, air is compressed using an air compressor and then processed through the adsorber with molecular sieves or the membrane separator within the nitrogen generator. Finally, pure nitrogen is obtained as the output. Some nitrogen generators may also require an electrical power supply.

4.How is a nitrogen generator different from nitrogen supply in gas cylinders?
The main difference between a nitrogen generator and nitrogen supply in gas cylinders lies in the mode of nitrogen supply. A nitrogen generator continuously extracts nitrogen from the air, providing a continuous nitrogen supply without the need for cylinder replacements. In contrast, nitrogen supply in gas cylinders requires periodic cylinder replacements, and the supply quantity is limited by the cylinder capacity.

5.What should be considered for the maintenance of a nitrogen generator?
Maintaining a nitrogen generator involves several essential tasks to ensure its optimal performance and longevity. Regular cleaning and replacement of the adsorber with molecular sieves or the membrane separator are crucial to maintain their efficiency in separating nitrogen from other gases. This helps to uphold the purity and effectiveness of the generated nitrogen.
In addition, it is necessary to inspect and maintain the compressed air system associated with the nitrogen generator. This includes checking for leaks, ensuring proper pressure regulation, and addressing any issues that may arise in the air compressor or related components. Proper maintenance of the compressed air system is vital for the overall performance of the nitrogen generator.
Monitoring the nitrogen generation performance is another important aspect of maintenance. Regular checks on nitrogen purity, flow rate, and pressure help identify any deviations or abnormalities that may require adjustments or troubleshooting.
To ensure proper maintenance, it is recommended to refer to the user manual or follow the guidelines provided by the manufacturer of the nitrogen generator. These resources provide specific maintenance requirements and recommendations tailored to the particular model, ensuring that the nitrogen generator operates reliably and efficiently over time.

6.Which industries are nitrogen generators suitable for?
Nitrogen generators are widely used in various industries, including industrial, medical, food and beverage, and laboratory applications. They are commonly used in industries such as chemicals, electronics, and metal processing. In the medical field, they are used for anesthesia and gas delivery. In the food and beverage industry, they are used for packaging and preservation. In laboratories, they are used for atmospheric control and protection of equipment.

7.What is the noise level of a nitrogen generator during operation?
The noise level of a nitrogen generator varies depending on the model and design. Generally, nitrogen generators have low noise levels, especially when compared to traditional compressed air systems. Specific noise levels can be referred to the technical specifications or noise test reports of the nitrogen generator.

8.How long does it take for a nitrogen generator to start producing nitrogen gas?
The startup time of a nitrogen generator depends on the model and specifications. In general, nitrogen generators have short startup times, typically ranging from a few minutes to several tens of minutes. Larger capacity or higher purity requirement nitrogen generators may require longer startup times.

9.Can a nitrogen generator simultaneously produce nitrogen gas and oxygen gas?
The design purpose of a nitrogen generator is to separate oxygen and nitrogen to produce high-purity nitrogen gas. Therefore, in most cases, a nitrogen generator does not simultaneously produce nitrogen gas and oxygen gas. If simultaneous production of nitrogen and oxygen is required, additional equipment or techniques need to be used for further processing.

10.What is the energy consumption of a nitrogen generator?
The energy consumption of a nitrogen generator varies depending on the model, specifications, and operating conditions. Generally, nitrogen generators have relatively low energy consumption, especially when compared to traditional nitrogen supply in gas cylinders. Nitrogen generators are typically adjusted based on the actual nitrogen demand to improve energy efficiency and minimize energy consumption.

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)

Our Certifications





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:

Honeywell 霍尼韦尔 · ABB · 上海电气 SHANGHAI ELECTRIC · ZKH 震坤行 · Cindanda · MGM MULTI GAS MEDIKA · BOSCH Invented for life · Yanfeng · ICA · SIMCO · AMETEK FLOORCARE & SPECIALTY MOTORS · 绿塔 AIR CLEANSE · YOKOGAWA · Unit Safety Ltd · BYD 比亚迪汽车 BYD AUTO

OUR PARTNERS:

上海交通大學 SHANGHAI JIAO TONG UNIVERSITY · 富士康 FOXCONN · 迈邦生物 MediumBank

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Warranty

After Sales Support

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.

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