

15Nm3/H PSA Nitrogen Generator 99.999% Purity Liquid Cryogenic Oxygen **Nitrogen Generator**

Basic Information

- Place of Origin:
- Brand Name:
- Certification:
- Model Number:
- Minimum Order Quantity:
- Price:
- Packaging Details:
- Delivery Time:
- Payment Terms:

China Eco-Tech CE ISO13485 ISO9001

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- Supply Ability:

EN5015

USD 12000-25000 pieces Wooden Case 20 days

L/C, D/A, D/P, T/T, Western Union, MoneyGram 1000 pieces per year



Product Specification

Capacity:	15Nm/h
 Inlet Diameter: 	DN25
Outlet Diameter:	DN15
• Size:	1450*1000*1900 700Kg
 Demand For Clean Compressed Air: 	1.63
 Recommend Air Compressor: 	15Kw 2.1 M3/min 10 Bar) Or 15Kw (2.4m3/min 8Bar)
Control System:	PLC
• Type:	Nitrogen Generator
• Warranty:	1 Year
• Highlight:	15Nm3/H PSA Nitrogen Generator, Cryogenic PSA Nitrogen Generator, 2.4m3/min nitrogen psa unit

Our Product Introduction

Product Description

Description of 99.999% Purity 15Nm3/H PSA Nitrogen Generator Food, metallurgy, chemical PSA Nitrogen Generator/Nitrogen Gas Generator: 15Nm3/H, 99.999% Purity, For Food, Metallurgy, Chemical industry applicable

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.

In collaboration with Burkert Valves, we have customized our own double-acting pneumatic valve. Through the design of top and middle pressure equalization, and airflow orifice plates, we continuously optimize and reduce the air consumption ratio of the equipment, thus achieving energy savings. The energy consumption ratio of our equipment has reached the highest level in China. And through our patented silencer, our device noise is controlled to less than 55 db.

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 Anging 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.

PN501	15 PSA Nitrogen Pl	lant Technical Spe	ecification				
lot	Item			Description /Spec	Description /Specification		
1	Model/Place of Manufacture			PN5015	PN5015		
2	Nitrogen making principle			PSA Pressure sw adsorption PSA	PSA Pressure swing adsorption PSA 吸附(放式)		
	Application Operation place			Indoor	Indoor		
3	Environment	Ambient temperature		Min -5 /Max 50 / design temperature37			
		Ambient humidity		Min 40%RH Max90%RH			
4	Capacity			15	Nm3/hr		
5	Nitrogen Gas Pur	ity	≥99.999 % Test a psa Nitrogen	≥99.999 % Test at outlet of psa Nitrogen			
6	Nitrogen Purity Se	ensor		HT-TA261 1set	HT-TA261 1set		
7	Nitrogen Flowmet	ter		Japan SMC flowr	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 atmosphe	eric dew point		-15			
13	Demand for clean compressed air	1.63	Nm ³ /min	Recommend Air compressor	15Kw (2.1 m3/min 10 Bar) or 15Kw (2.4m3/min 8Bar)		
14	Inlet Diameter			DN25			
15	Outlet Diameter			DN15			
16	Maximum inlet temperature			MAX 30			
17	Allowable working pressure range			Min7.5Kgf / cm2 Max9.9Kgf / cm2			
18	Carbon molecular sieve model/origin			CMS-260			
19	The tower body pipe			2 sets			
20	Air and nitrogen buffer tank			Piped storage tank			
21	Instrument Tank, silencer			PB Silencer ≤55c number:ZL 2015	PB Silencer ≤55dB(A) patent number:ZL 2015 2 0545860.3		
22	Solenoid valve brand/origin			AirTAC	7 sets		

23	Pneumatic valve	Pneumatic valve brand/origin		11 sets (two for auto drain unqalified Gas)		
		Control Power Supply	0.2kw/set 220V 5	0.2kw/set 220V 50 HZ		
24	Control System	PLC	Mitsubishi core ir screen /or Sieme Smart	Mitsubishi core integrated screen /or Siemens S7-200 Smart		
		electrical box	built-in	1 set		
		touch screen	Mitsubishi core ir screen/ MCGS	itegrated		
25	size LxWxH (mm) / Weight:(Kg)		About: 1450*100 700KG	About: 1450*1000*1900 700KG		

2. Working Principles for PSA Nitrogen Generator

Pressure swing adsorption(PSA)nitrogen generator is an automatic equipment that uses air as material, use carbon molecular sieve as adsorbent, pressure reduction desorption principle to adsorb oxygen from the air, thereby separating nitrogen.

3. Main Features for PSA Nitrogen Generator

- The raw material for nitrogen generation is ambient air sourced from nature. By supplying compressed air and power, nitrogen gas can be produced. The purity of nitrogen can be conveniently adjusted by regulating the supply of compressed air.
- The nitrogen generator is highly automated, allowing for quick gas production without the need for constant monitoring. It can operate unattended, and nitrogen gas can be generated within 10-15 minutes after starting up the equipment.
- The equipment itself has a straightforward process, requires minimal space, and consumes less energy, resulting in cost savings. To ensure the long-term usability of molecular sieves, they are filled using the snowstorm method, which prevents their pulverization caused by the impact of high-pressure airflow.
- To facilitate convenient and effective supervision, the nitrogen generator is outfitted with an imported analyzer that enables real-time inspections. This analyzer offers excellent accessibility, occupies minimal space, and enhances energy and cost effectivenes

4. Technical indicators

- Capacity Range : 2~2000Nm3/HPurity 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 Nm3/H	Purity	Size mm	Inlet Diameter	Outlet Diameteer	Weight Kg	Power
PN5003	3	≥99.999%	900*500*1400	DN15	DN15	200	AC220V/0.2K W
PN5005	5	≥99.999%	1200*850*1550	DN20	DN15	300	AC220V/0.2K W
PN5010	10	≥99.999%	1450*1000*190 0	DN25	DN15	600	AC220V/0.2K W
PN5015	15	≥99.999%	1450*1000*190 0	DN25	DN15	700	AC220V/0.2K W
PN5020	20	≥99.999%	1450*1000*190 0	DN25	DN15	800	AC220V/0.2K W
PN5030	30	≥99.999%	1650*750*1900	DN32	DN15	900	AC220V/0.2K W
PN5040	40	≥99.999%	1800*1200*230 0	DN32	DN25	1100	AC220V/0.2K W
PN5050	50	≥99.999%	1800*1200*230 0	DN25	DN25	1200	AC220V/0.2K W
PN5060	60	≥99.999%	1800*1200*230 0	DN40	DN25	1500	AC220V/0.2K W

PN5080	80	≥99.999%	1800*1200*245 0	DN40	DN25	2500	AC220V/0.2K W
PN5100	100	≥99.999%	2000*1400*255 0	DN50	DN25	2600	AC220V/0.2K W
PN5120	120	≥99.999%	2000*1400*255 0	DN50	DN25	2800	AC220V/0.2K W
PN5130	130	≥99.999%	2000*1400*255 0	DN50	DN25	2950	AC220V/0.2K W
PN5150	150	≥99.999%	2200*1600*265 0	DN50	DN25	3200	AC220V/0.2K W
PN5180	180	≥99.999%	2500*1600*320 0	DN65	DN40	4500	AC220V/0.2K W
PN5200	200	≥99.999%	2500*1600*290 0	DN65	DN40	5500	AC220V/0.2K W
PN5250	250	≥99.999%	2500*1600*290 0	DN65	DN50	5500	AC220V/0.2K W
PN5300	300	≥99.999%	3000*2000*355 0	DN80	DN50	8500	AC220V/0.2K W

-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?

The maintenance of a nitrogen generator typically involves regular cleaning and replacement of the adsorber with molecular sieves or membrane separator, inspection and maintenance of the compressed air system, monitoring nitrogen generation performance, etc. Specific maintenance requirements should be referred to the user manual or guidance provided by the manufacturer of the nitrogen generator.

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 is influenced by factors such as its specific model, specifications, and operating conditions. Overall, nitrogen generators are known for their relatively low energy consumption, particularly when compared to traditional nitrogen supply methods that involve gas cylinders.

Nitrogen generators are designed to optimize energy efficiency by adjusting nitrogen production based on the actual demand. This helps minimize energy waste and ensures that nitrogen is generated only when needed, reducing unnecessary energy consumption. By dynamically adjusting nitrogen production, nitrogen generators can adapt to varying usage patterns and maintain a steady nitrogen supply while optimizing energy efficiency.

The energy consumption of a nitrogen generator can be further optimized through various design features and technologies. For example, some nitrogen generators incorporate energy-saving components such as high-efficiency compressors, advanced control systems, and heat recovery systems. These features help minimize energy losses and improve the overall energy efficiency of the system.

It is worth noting that the specific energy consumption of a nitrogen generator can vary depending on factors such as the purity level of the generated nitrogen, the capacity of the generator, and the ambient conditions in which it operates. Manufacturers typically provide energy consumption specifications or guidelines based on standard operating conditions, allowing users to evaluate and compare different models based on their energy efficiency.

Lower Environmental Impact: The energy efficiency of nitrogen generators contributes to reducing their environmental impact. By consuming less energy, nitrogen generators help conserve natural resources and reduce greenhouse gas emissions associated with energy production. This aligns with sustainability goals and environmental regulations, making nitrogen generators a more eco-friendly choice compared to traditional nitrogen supply methods.

Cost Savings: The energy efficiency of nitrogen generators translates into cost savings for users. By minimizing energy consumption, nitrogen generators help reduce electricity bills and operational expenses. Over time, these savings can be significant, especially in applications with high nitrogen demand. The cost-effectiveness of nitrogen generators makes them a financially viable alternative to relying on nitrogen cylinders, which require frequent refills and transportation costs.

Enhanced Performance and Reliability: Energy-efficient design features and technologies incorporated into nitrogen generators not only reduce energy consumption but also improve overall performance and reliability. For example, high-efficiency compressors and advanced control systems ensure smooth operation and consistent nitrogen production. This leads to increased uptime, reduced maintenance requirements, and enhanced productivity in various industries and applications.

Customization and Optimization: Nitrogen generators offer the advantage of customization and optimization to meet specific user requirements. Manufacturers can tailor the design and configuration of nitrogen generators based on the desired purity level, flow rate, and pressure requirements. By aligning the system precisely with the user's needs, energy efficiency can be maximized, ensuring that nitrogen is produced efficiently and effectively.

Energy Monitoring and Control: Many nitrogen generators feature advanced monitoring and control systems that provide real-time energy consumption data. This allows users to track and analyze energy usage, identify areas for improvement, and optimize nitrogen generation processes. By closely monitoring energy consumption, operators can make informed decisions to further enhance energy efficiency and reduce operating costs.

Overall, the energy efficiency of nitrogen generators offers numerous benefits, including reduced environmental impact, cost savings, improved performance, and the ability to customize nitrogen production. As industries increasingly prioritize sustainability and energy conservation, nitrogen generators provide a reliable and efficient solution for on-site nitrogen generation.

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)

