Onsite PSA Nitrogen Generator 10Nm3/H 99.9% Purity For Food, Metallurgy, Chemical

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Eco-Tech
- Certification: CE ISO13485 ISO9001
- Model Number: EN3010
- 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: 10Nm/h
- Inlet Diameter: DN25
- Outlet Diameter: DN15
- Size: 1000×800×1600 Mm About 300 Kg
- Demand For Clean Compressed Air: 0.62
- Recommend Air Compressor: 11Kw 8Bar 1.6m3/min Or 11Kw 10Bar 1.4m3/min
- Control System: PLC
- Type: Nitrogen Generator
- Warranty: 1 Year
- Highlight: **onsite PSA Nitrogen Generator**, **10Nm3/H PSA Nitrogen Generator**, **99.9% onsite nitrogen generator**

Our Product Introduction

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

Product Description

Description of 99.9% Purity 10Nm3/H PSA Nitrogen Generator 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 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.

PN3010 PSA Nitrogen Plant Technical Specification					
lot	Item			Description /Specification	
1	Model/Place of Manufacture			PN3010	
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			10	Nm3/hr
5	Nitrogen Gas Purity			≥99.9 % 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	0.62	Nm^3/min	Recommend Air compressor	11Kw 8Bar 1.6m3/min or 11Kw 10Bar 1.4m3/min
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-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:1000×800×1600 mm // About 300 kg	
26	Price		含税含　交期20天	

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

- Through our partnership with Burkert Valves, we have developed a customized double-acting pneumatic valve for our equipment. This advanced valve incorporates top and middle pressure equalization design, along with airflow orifice plates, resulting in optimized air consumption and energy efficiency. Our equipment achieves the highest energy consumption ratio in China, offering significant energy savings.
- Additionally, we have integrated our patented silencer technology to effectively control noise levels generated by our equipment. With noise levels below 55 dB, we prioritize a quiet and comfortable working environment for our customers. Our nitrogen generation system provides a host of benefits:
- Convenient Nitrogen Production: By simply supplying compressed air and power, nitrogen can be readily produced. The purity of nitrogen can be easily adjusted based on specific requirements by manipulating input parameters.
- Automation and Quick Gas Generation: Our highly automated equipment enables unattended operation, delivering nitrogen within a short time frame of just 10-15 minutes after startup. This ensures swift availability of the gas whenever needed.
- Compact Design and Energy Efficiency: With its streamlined process flow and compact footprint, our equipment occupies minimal space. It is designed to consume less energy, resulting in reduced operational costs and a lower environmental impact.
- Snowstorm Method for Molecular Sieve Filling: To safeguard molecular sieves from pulverization caused by high-pressure airflow impact, we employ the snowstorm method during molecular sieve filling. This ensures the long-term effectiveness and efficiency of the molecular sieves.
- On-line Inspection with High Accessibility: Equipped with an imported analyzer, our system allows for convenient on-line inspection of nitrogen purity. The analyzer is designed for easy accessibility, occupying minimal space, and consuming low energy.
- With these optimized features, our nitrogen generation system offers a dependable and cost-effective solution for the efficient production of nitrogen gas, catering to a wide range of industrial needs.

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
PN3010	10Nm3/ H	≥99.9%	1000*800*1 600	DN15	DN15	300	AC220V/0.2 KW
PN3015	15Nm3/ H	≥99.9%	1200*850*1 900	DN15	DN15	400	AC220V/0.2 Kw
PN3020	20Nm3/ H	≥99.9%	1200*850*1 900	DN25	DN15	500	AC220V/0.2 Kw
PN3025	25Nm3/ H	≥99.9%	1450*900*1 900	DN32	DN15	600	AC220V/0.2 Kw
PN3030	30Nm3/ H	≥99.9%	1450*900*1 900	DN32	DN15	700	AC220V/0.2 Kw
PN3040	40Nm3/ H	≥99.9%	1450*900*1 900	DN40	DN15	800	AC220V/0.2 Kw
PN3050	50Nm3/ H	≥99.9%	1450*900*1 900	DN40	DN25	900	AC220V/0.2 Kw
PN3060	60Nm3/ H	≥99.9%	1600*1100* 1950	DN40	DN25	1100	AC220V/0.2 Kw
PN3100	100Nm3/ hr	≥99.9%	1800*1000* 2300	DN40	DN25	1850	AC220V/0.2 Kw
PN3120	120Nm3/ hr	≥99.9%	1800*1300* 2450	DN40	DN25	2400	AC220V/0.2 Kw
PN3150	150Nm3/ H	≥99.9%	2000*1300* 2450	DN40	DN25	2600	AC220V/0.2 Kw
PN3200	200Nm3/ H	≥99.9%	2000*1400* 2550	DN40	DN25	2900	AC220V/0.2 KW
PN3250	250Nm3/ H	≥99.9%	2200*1500* 2650	DN50	DN40	3400	AC220V/0.2 KW
PN3300	300Nm3/ H	≥99.9%	2500*1600* 2680	DN50	DN40	3600	AC220V/0.2 Kw
PN3400	400Nm3/ H	≥99.9%	2500*1600* 2900	DN50	DN40	5000	AC220V/0.2 KW
PN3500	500Nm3/ H	≥99.9%	2500*1600* 3750	DN80	DN65	7200	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 primary distinction between a nitrogen generator and nitrogen supply in gas cylinders lies in the mode of nitrogen provision. A nitrogen generator operates by continuously extracting nitrogen from the air, ensuring an uninterrupted and continuous supply of nitrogen without the need for cylinder replacements. In contrast, nitrogen supply in gas cylinders necessitates periodic cylinder replacements, and the quantity of nitrogen available is constrained by the capacity of the cylinders.
- With a nitrogen generator, the nitrogen production process is self-sustaining as it draws upon the surrounding air as its source. This eliminates the inconvenience of managing and replacing gas cylinders, providing a seamless and reliable nitrogen supply. The generator can adapt to varying demand levels, supplying nitrogen as needed without interruptions or delays.
- On the other hand, nitrogen supply through gas cylinders involves the use of pre-filled cylinders that contain a finite quantity of nitrogen. Once the nitrogen in a cylinder is depleted, it must be replaced with a new cylinder, which can be cumbersome and time-consuming. The available supply is limited by the volume of nitrogen contained within the cylinders, requiring careful monitoring and planning to ensure an uninterrupted nitrogen supply.
- When deciding between a nitrogen generator and nitrogen supply in gas cylinders, it is essential to carefully consider the unique requirements and preferences of the application at hand. Each option offers distinct advantages that can be tailored to specific needs.
- A nitrogen generator provides the significant advantage of continuous nitrogen production. It eliminates the hassle and cost associated with cylinder replacements, offering a reliable and uninterrupted nitrogen supply. This continuous nitrogen flow is particularly beneficial for applications that demand a constant and reliable source of nitrogen.
- On the other hand, nitrogen cylinders can be more suitable for applications with lower nitrogen consumption or situations where portability and space constraints are crucial factors. Gas cylinders provide a convenient and portable nitrogen source that can be easily transported and used in various locations. They offer flexibility and mobility, making them preferred options in scenarios where portability or limited space is a priority.
- The choice between a nitrogen generator and nitrogen cylinders depends on several factors, including the rate of nitrogen consumption, the need for a continuous supply, portability requirements, and available space. Carefully assessing these factors will help determine the most appropriate nitrogen supply solution for the specific application, ensuring efficient and reliable nitrogen provision while aligning with the unique needs of the operation.

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 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.

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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 · Qindanda · MGM MULTI GAS MEDIKA · ICA · BOSCH Invented for life · Yanfeng · SIMCO · AMETEK FLOORCARE & SPECIALTY MOTORS · 绿塔 AIR CLEANSE · YOKOGAWA · Unit Safety Ltd · BYD · 富士康 FOXCONN · 迈邦生物 MediumBank · 比亚迪汽车 BYD AUTO

OUR PARTNERS:

上海交通大學 SHANGHAI JIAO TONG UNIVERSITY

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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