

Chemical Industry PSA Nitrogen Generation System : 60Nm³/H, 99.99% Purity

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Eco-Tech
- Certification: CE ISO13485 ISO9001
- Model Number: EN4060
- 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: 60Nm³/h
- Inlet Diameter: DN40
- Outlet Diameter: DN25
- Size: 1800*1000*2300mm 1200 Kg
- Demand For Clean Compressed Air: 5.0
- Recommend Air Compressor: 45Kw 6.5 M³/min 10Bar) Or 37Kw 4.7m³/min 10Bar Or 30Kw (5.0m³/min 8Bar)
- Control System: PLC
- Type: Nitrogen Generator
- Warranty: 1 Year
- Highlight: 6.5m³/min psa nitrogen generation system, 60Nm³/H psa nitrogen generation system, psa nitrogen 99.99%



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Product Description

PSA Nitrogen Generator / Psa Nitrogen Generation System : 60Nm³/H, 99.99% Purity, For Food, Metallurgy, Chemical
Description of 99.99% Purity 60Nm³/H PSA Nitrogen Generator Food, metallurgy, chemical industry applicable

We have been engaged in the assembly of **PSA nitrogen generator**s and oxygen generators in our factory for 15 years, providing approximately 400 sets of **PSA nitrogen generator**s 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.



PN4060 PSA Nitrogen Plant Technical Specification

lot	Item		Description /Specification
1	Model/Place of Manufacture		PN4060
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		60 Nm ³ /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/m ³
10	Residual dust		≤0.01um
11	Residual water		≤0.069mg/m ³
12	Air inlet atmospheric dew point		-15

13	Demand for clean compressed air	5	Nm³/min	Recommend Air compressor	45Kw(6.5 m3/min 10Bar) Or 37Kw (4.7m3/min 10Bar) or 30Kw (5.0m3/min 8Bar)
14	Inlet Diameter			DN40	
15	Outlet Diameter			DN25	
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:1800*1000*2300mm 1200 kg	
26	Price			含税含 交期20天	

2. Working Principles for PSA Nitrogen Generator

An automatic nitrogen generator based on the Pressure Swing Adsorption (PSA) technology is designed to produce nitrogen by utilizing air as the source material. The system employs carbon molecular sieve as the adsorbent and relies on the principle of pressure reduction desorption to selectively remove oxygen from the air, resulting in the separation of nitrogen. This process ensures the efficient and reliable generation of high-purity 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 has a simplified process, compact footprint, low energy consumption, and cost-effectiveness.
- To ensure the long-term usability of molecular sieves and prevent their pulverization due to high-pressure airflow impact, a snowstorm filling method is employed during the molecular sieve filling process.
- The imported analyzer used for online inspection offers easy accessibility, occupies minimal space, consumes low energy, and is cost-effective.

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

Our spring-loaded system offers exceptional quality, high density, and compact design. It features a top/bottom balance mechanism and is equipped with a dedicated pressure sensor for enhanced protection.

When aiming for a purity level below 99.99%, our preferred choice is the CMS-240 system.

For applications requiring an even higher purity level of 99.999%, we rely on the CMS-260 system, which achieves this level in a single 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 Diameter	Weight Kg	Power
PN4005	5Nm3/H	≥99.99%	1200*850*1500	DN15	DN15	300	AC220V/0.2 KW
PN4010	10Nm3/H	≥99.99%	1200*900*1900	DN15	DN15	500	AC220V/0.2 Kw
PN4020	20Nm3/H	≥99.99%	1450*900*1900	DN25	DN15	600	AC220V/0.2 Kw
PN4030	30Nm3/H	≥99.99%	1450*900*2250	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 in Semiconductor Silicon Manufacturing

The SMT industry plays a crucial role in various applications within the semiconductor silicon manufacturing process. It encompasses activities such as atmosphere protection, cleaning, and chemical recovery, among others. These processes are vital for ensuring the efficient and high-quality production of semiconductor materials.

• Application of SMT Industry in the Electronic Components Manufacturing

In the electronic components industry, the SMT industry finds significant application in selective welding, purging, and encapsulation processes using nitrogen. The use of scientific nitrogen inert protection has been proven essential in achieving successful production of high-quality electronic components. It helps prevent oxidation and contamination, ensuring the integrity and reliability of the components.

• Application of SMT Industry in Semiconductor Packaging

The SMT industry also plays a crucial role in semiconductor packaging, including reduction and storage processes that involve the use of nitrogen. Nitrogen is utilized for packaging purposes to create a controlled and inert environment, preventing oxidation and moisture damage. This helps to preserve the quality and longevity of the semiconductor devices during storage and transportation.

• 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**
Mainly 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 embraced in a wide array of industries, catering to their unique needs and requirements. These industries encompass industrial sectors like chemicals, electronics, and metal processing, where nitrogen plays a crucial role in various manufacturing processes. In the medical field, nitrogen generators find application in anesthesia delivery systems and as a carrier gas for medical instruments. The food and beverage industry relies on nitrogen generators for packaging applications, such as modified atmosphere packaging (MAP) and nitrogen flushing to prevent spoilage and maintain product quality. Laboratories utilize nitrogen generators for controlled environments, ensuring precise atmospheric conditions for experiments and protecting sensitive equipment from oxidative damage. With their versatility and reliability, nitrogen generators have become indispensable tools across industries, contributing to enhanced productivity and optimized operations.

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:



OUR PARTNERS:



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.

After Sales Support



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