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**EPSEA**

Super Great Factory | Air Dryer, N<sub>2</sub> & Spare Parts



Factory : FUJIAN EPSEA INDUSTRIAL CO., LTD.  
Marketing & RD Center : GUANGDONG EPSEA INDUSTRIAL CO., LTD.

2024.06 VERSION

**PSA NITROGEN  
GENERATOR**



## COMPRESSED AIR SYSTEM EXPERT

EPSEA integrate manufacture, sales, R&D and service together, covering **air dryer, nitrogen and oxygen generator, pressure vessel, filter, separator** and so on, we are applicable to any industry that needs safe and reliable compressed air.

**1,000<sup>+</sup>** m<sup>2</sup>

R&D Lab

**80,000<sup>+</sup>** m<sup>2</sup>

Full-chain Specialized  
Manufacture Center

**500<sup>+</sup>**

Worldwide Employees & Worldwide  
Factory Warehouse & Service Center



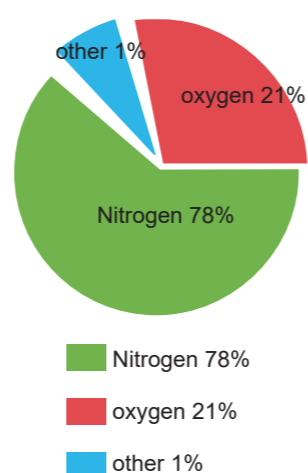
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## ABOUT N<sub>2</sub>

Nitrogen, with the chemical formula N<sub>2</sub>, is generally a colorless and odorless gas, and generally nitrogen is less dense than air. Nitrogen accounts for 78.08% (volume fraction) of the total atmosphere and is one of the main components of air. At standard atmospheric pressure, when nitrogen is cooled to -195.8 °C, it becomes a colorless liquid, and when cooled to -209.8 °C, liquid nitrogen becomes a snowy solid. Nitrogen is chemically inert and difficult to react with other substances at room temperature, so it is often used as preservatives. However, under high temperature and high energy conditions, it can undergo chemical changes with certain substances to prepare new substances useful to humans.



## Working range of nitrogen with corresponding purity



- ▶ 95-99.9% nitrogen purity (used in chemical industry, new material industry)  
It is often used for chemical raw gas, pipeline purging, gas replacement, protective gas, product transportation, etc. Mainly used in chemical industry, spandex, rubber, plastics, tires, polyurethane, biotechnology, intermediates and other fields.

- ▶ 99-99.9% nitrogen purity (used in pharmaceutical, food industry)  
Mainly used in food packaging, food preservation, medical packaging, medical replacement gas, medical gas delivery. Nitrogen with purity greater than 99% or 99.9% can be obtained by PSA nitrogen generator, which needs to be processed by removing bacteria, dust and water, etc. In order to get high quality nitrogen gas to meet the special requirements of the industry.



- ▶ 99.9-99.99% nitrogen purity (used in electronics industry)  
Generally used for packaging, soldering, sintering, annealing, reduction and storage of electronic products. Mainly used in wave soldering, reflow Solder, crystal, piezoelectric, electronic ceramic, electronic copper tape, lithium battery, electronic alloy, laser cutting material and other industries. Therefore, the requirements for the purity changes due to different uses, usually it requires not less than 99.9%, or higher, such as 99.99% purity, and some even use nitrogen purification equipment to get much higher quality nitrogen with purity more than 99.9995% and dew point below -65°C.

- ▶ ≥99.999% purity of nitrogen (used in metallurgy, metal processing industry)  
Used for annealing protective gas, sintering protective gas, nitriding treatment, furnace washing and purging gas, etc. It is widely used in metal heat treatment, powder metallurgy, magnetic materials, copper processing, wire mesh, galvanized wire, semiconductor, powder reduction, etc. Nitrogen gas with purity more than 99.9% is produced by the PSA nitrogen generator and then combined with nitrogen purification equipment to obtain high-quality nitrogen gas with purity more than 99.9995% and dew point below -65°C.



## Working principle of PSA nitrogen generator

Pressure Swing Adsorption (PSA) is a new type of gas adsorption separation technology, which uses carbon molecular sieve as an adsorbent (carbon molecular sieve is a kind of ink-colored particles made of coal powder as a raw material, which is specially processed, and its surface is distributed filled with countless micropores), using a two-bed PSA device to separate nitrogen-rich from the air, thereby obtaining nitrogen.

The separation principle: In consideration of different diameters of oxygen and nitrogen molecules (nitrogen small and oxygen larger), when compressed air passes through the adsorption bed, oxygen molecules directly enter the pores on the surface of the carbon molecular sieve and are adsorbed, and nitrogen molecules cannot enter the pores and are in the adsorption bed Enriched to form a certain purity of nitrogen. The capacity of carbon molecular sieve to absorb oxygen increases as its pressure rises and decreases with pressure decrease. The principle of adsorption when carbon molecular sieve is pressurized and desorption when depressurized is used in conjunction with the circulating work of AB tower to achieve the purpose of separation. Referred to as PSA nitrogen generator.

PSA nitrogen production advantages:

- (1) Fast gas production and stable purity.
- (2) It can work at room temperature and common pressure (0.8MPa), without heating during bed regeneration, saving energy and economy.
- (3) Simple operation and convenient maintenance.
- (4) Continuous cycle work can be fully automated.

## Main Specifications

Nitrogen flow	0.5~1000Nm <sup>3</sup> /h
Nitrogen purity	95~99.999%
Nitrogen pressure	0.1~0.8MPa(Adjustable)
Atmospheric dew point	-40°C ~ -70°C

Note: Due to the limited volume of the modular nitrogen generator, when the nitrogen flow is less than or equal to 50Nm<sup>3</sup> / H-99.99%, the modular nitrogen generator is recommended; When the nitrogen flow rate is greater than 50Nm<sup>3</sup> / H-99.99%, twin-tower nitrogen generator is recommended.

## Equipment installation diagram



## Modular nitrogen generator

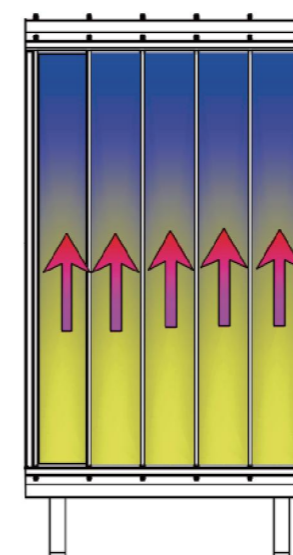
Nitrogen flow	0.5~160Nm <sup>3</sup> /h
Inlet temp	1-35°C
Inlet pressure	0.6-0.8MPa
Nitrogen purity	95~99.999%
Noise	≤80dB
PDP	-40°C ~ -70°C
Power supply	AC220V/ AC110V DC24V 50/60Hz
Nitrogen outlet pressure	0.1~0.8MPa (Adjustable with built-in nitrogen tank)
Maximum ambient temp	≤45°C
Control method	PLC programmable control
	HMI microcomputer controller



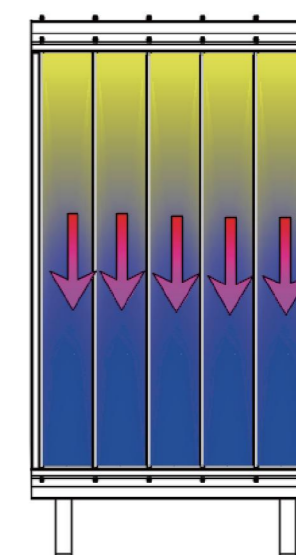
## Operation process

The EPSEA Modular Nitrogen Generator is composed of multiple high-strength aluminum alloy cavities. Each group of chambers is divided into two chambers, and each chamber is filled with adsorbent to separate nitrogen and oxygen in the compressed air. When a chamber is working (adsorption), the opposite side is regenerated using a pressure swing adsorption method. During operation, compressed air diffuses upwards evenly from the bottom of the adsorption chamber, oxygen in the air is adsorbed by the adsorbent, thus nitrogen and oxygen are separated to obtain nitrogen. During regeneration, part of the high-purity nitrogen expands from working pressure to atmospheric pressure, passes through the adsorbent that is saturated with oxygen, and takes away the oxygen it adsorbed, the adsorbent can be regenerated.

Adsorption process diagram



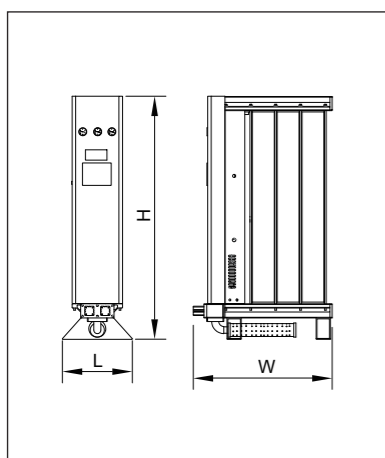
Regeneration process diagram



## Features of Modular Nitrogen Generator

- ◆ High efficiency, low air nitrogen ratio, and then achieve energy saving and emission reduction, improve economic efficiency. The modular nitrogen generator uses a high-performance molecular sieve with a air-to-nitrogen ratio of 4.2: 1 when purity of 99.99%, and the traditional twin-tower nitrogen generator has a air-to-nitrogen ratio of 5: 1 when purity of 99.99%. For example, a 40Nm<sup>3</sup> / h modular nitrogen generator requires compressed air of 2.8Nm<sup>3</sup> / min, while a 40Nm<sup>3</sup> / h twin tower nitrogen generator requires compressed air of 3.3Nm<sup>3</sup> / min, saving 15% of energy consumption.
- ◆ Adopt PLC programmable control program, equipped with high-resolution human-computer interaction, detect various data (air pressure, nitrogen pressure, nitrogen purity, nitrogen flow), record the operation status, etc. It realizes the functions of automatic evacuation of unqualified nitrogen and energy-saving automatic pause machine to save energy consumption.
- ◆ A unique control method combining solenoid valve and pneumatic valve is adopted to avoid the traditional cumbersome multi-valve control structure, and the operation is stable and reliable.
- ◆ Adopt high-strength aluminum alloy structure, non-corrosive and rust-proof, avoid equipment failure caused by corrosion and shedding of the inner pipeline, ensure normal operation of production, and greatly extend the service life of the whole machine. Some models can be built-in with a nitrogen tank, which saves customers the most effective installation space.
- ◆ The equipment supports 24 hours of continuous supply of nitrogen of the required quality to avoid the production stoppage due to the transition time caused by the out of gas from cylinders. There is no need to consider the cost of removing old equipment and replacing larger equipment when expanding production capacity. It only needs to add corresponding modules to meet the expansion requirements, which is convenient and fast, saves costs.

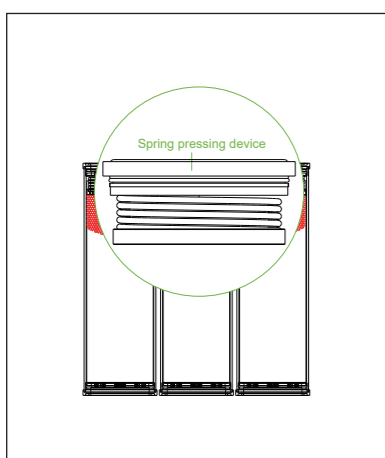




### Shape structure advantage

(Patent No.: ZL201630516842.2)

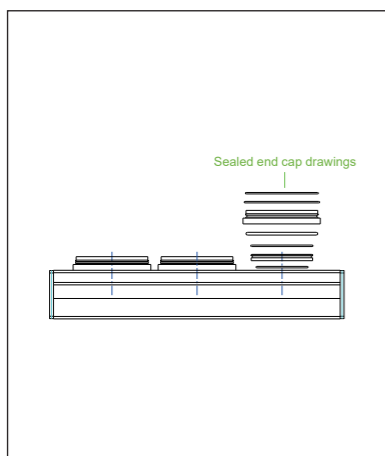
EPSEA modular nitrogen generator adopts an aluminum alloy cavity type modular structure, which breaks through the traditional twin-tower appearance design. The appearance of the equipment is beautiful and generous, and the volume is only about half of the traditional twin-tower nitrogen generator. The modular structure allows greater flexibility, it saves space in the machine room, and allows a separate nitrogen generator to be placed on-site in the workshop for high-purity nitrogen supply while keeping the plant clean.



### Core Efficiency Advantage

(Patent No.: ZL201621149318.7)

The adsorption chamber is composed of adsorption tubes, adsorbents, diffusion screens, sealing materials, spring compression devices and connecting components. The snowstorm filling technology and the unique spring compression device make the adsorbent filling more tightly, eliminating the gap between the adsorbent and the end cover, which not only prolongs the service life of the adsorbent, but also maximizes the adsorption efficiency and ensures the purity of nitrogen more stable.



### Advantages of stable performance

(Patent No.: ZL201621155071X)

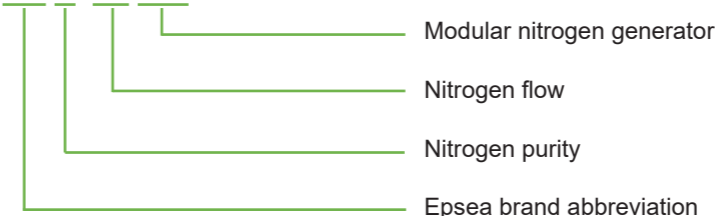
Each group of modules has a separate diffuser to ensure the uniform distribution of airflow, so that each adsorbent can exert the maximum adsorption energy; The new sealing end cover is composed of an outer cover and an inner cover. The double end cover and five seals are used for all-round sealing protection, which can effectively prevent air leakage, improve the quality of nitrogen gas, and enhance the service life.

## Advantages of modular nitrogen generator

- ◆ The average split flow technology makes full use of each adsorbent;
- ◆ Small size, suitable for various occasions;
- ◆ No need for pressure vessel inspection, saving cost and time for users;
- ◆ The adsorption tower cavity is made of aluminum alloy, which is especially suitable for the food and pharmaceutical industry;
- ◆ The adsorption tower adopts straight pipe design, snowstorm filling technology, and spring compression device to avoid the tunneling effect of the adsorbent.

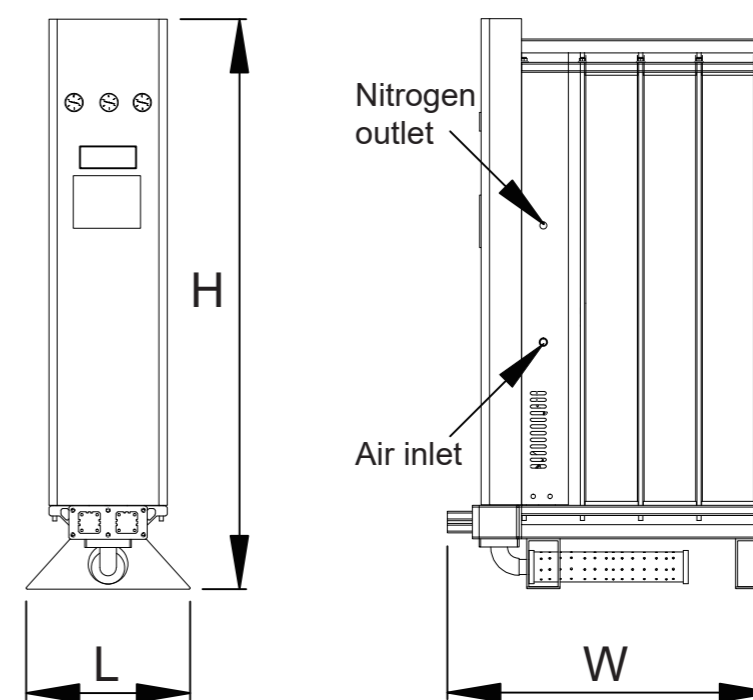
## Nitrogen generator equipment model description

Example: EP B- 40 MZ



Code	Nitrogen purity
B	98%
D	99%
W	99.5%
P	99.9%
G	99.99%
V	99.999%

## PSA modular nitrogen generator size chart



## Modular nitrogen generator parameters of different types 98% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Weight (kg)	Dimensions (mm)
							L*W*H
EPB-10MZN	10	0.3	0.7	G1/2	G1/2	180	400*860*1750
EPB-20MZN	20	0.5	0.7	G1/2	G1/2	240	400*1040*1750
EPB-30MZN	30	0.85	0.7	G1/2	G1/2	300	400*1230*1750
EPB-40MZN	40	1.2	0.7	G1/2	G1/2	360	400*1420*1750
EPB-50MZ	50	1.5	0.7	G3/4	G3/4	400	400*1320*1750
EPB-60MZ	60	1.85	0.7	G3/4	G3/4	460	400*1480*1750
EPB-70MZ	70	2	0.7	G3/4	G3/4	520	400*1660*1750
EPB-80MZ	80	2.5	0.7	G3/4	G3/4	580	400*1840*1750
EPB-100MZ	100	3	0.7	G1	G1	800	830*1320*1750
EPB-120MZ	120	3.8	0.7	G1	G1	960	830*1480*1750
EPB-140MZ	140	4.5	0.7	G1	G1	1100	830*1660*1750
EPB-160MZ	160	5	0.7	G1	G1	1200	830*1840*1750

Note:1.When the front section is equipped with a refrigerated dryer the flow rate of the air compressor is increased by 10%,and the nitrogen dew point is below -30°C;

2.When the front sectionisequiped with a refrigerated dryer+a desiccant dryer,and the flow rate of the air compressor is increased by 20%,and the nitrogen dew point is below -40°C;

3.Remarks suffix N that built-in nitrogen process tank models, no N that there is no standard built-in tank.

## 99% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Weight (kg)	Dimensions (mm)
							L*W*H
EPD-5MZN	5	0.3	0.7	G1/2	G1/2	180	400*860*1750
EPD-15MZN	15	0.5	0.7	G1/2	G1/2	240	400*1040*1750
EPD-25MZN	25	0.85	0.7	G1/2	G1/2	300	400*1230*1750
EPD-35MZN	35	1.2	0.7	G1/2	G1/2	360	400*1420*1750
EPD-45MZ	45	1.5	0.7	G3/4	G3/4	400	400*1320*1750
EPD-55MZ	55	1.85	0.7	G3/4	G3/4	460	400*1480*1750
EPD-60MZ	60	2	0.7	G3/4	G3/4	520	400*1660*1750
EPD-70MZ	70	2.5	0.7	G3/4	G3/4	580	400*1840*1750
EPD-90MZ	90	3	0.7	G1	G1	800	830*1320*1750
EPD-110MZ	110	3.8	0.7	G1	G1	960	830*1480*1750
EPD-130MZ	130	4.5	0.7	G1	G1	1100	830*1660*1750
EPD-150MZ	150	5.5	0.7	G1	G1	1200	830*1840*1750

Note:1.When the front section is equipped with a refrigerated dryer the flow rate of the air compressor is increased by 10%,and the nitrogen dew point is below -30°C;

2.When the front sectionisequiped with a refrigerated dryer+a desiccant dryer,and the flow rate of the air compressor is increased by 20%,and the nitrogen dew point is below -40°C;

3.Remarks suffix N that built-in nitrogen process tank models, no N that there is no standard built-in tank.

## 99.5% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Weight (kg)	Dimensions (mm)
							L*W*H
EPW-5MZN	5	0.3	0.7	G1/2	G1/2	180	400*860*1750
EPW-15MZN	15	0.5	0.7	G1/2	G1/2	240	400*1040*1750
EPW-20MZN	20	0.85	0.7	G1/2	G1/2	300	400*1230*1750
EPW-25MZN	25	1.2	0.7	G1/2	G1/2	360	400*1420*1750
EPW-35MZ	35	1.5	0.7	G3/4	G3/4	400	400*1320*1750
EPW-45MZ	45	1.85	0.7	G3/4	G3/4	460	400*1480*1750
EPW-50MZ	50	2	0.7	G3/4	G3/4	520	400*1660*1750
EPW-60MZ	60	2.5	0.7	G3/4	G3/4	580	400*1840*1750
EPW-70MZ	70	3	0.7	G1	G1	800	830*1320*1750
EPW-90MZ	90	3.8	0.7	G1	G1	960	830*1480*1750
EPW-100MZ	100	4.5	0.7	G1	G1	1100	830*1660*1750
EPW-120MZ	120	5.2	0.7	G1	G1	1200	830*1840*1750

Note:1.When the front section is equipped with a refrigerated dryer the flow rate of the air compressor is increased by 10%,and the nitrogen dew point is below -30°C;

2.When the front sectionisequiped with a refrigerated dryer+a desiccant dryer,and the flow rate of the air compressor is increased by 20%,and the nitrogen dew point is below -40°C;

3.Remarks suffix N that built-in nitrogen process tank models, no N that there is no standard built-in tank.

## 99.9% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Weight (kg)	Dimensions (mm)
							L*W*H
EPP-5MZN	5	0.3	0.7	G1/2	G1/2	180	400*860*1750
EPP-10MZN	10	0.5	0.7	G1/2	G1/2	240	400*1040*1750
EPP-15MZN	15	0.85	0.7	G1/2	G1/2	300	400*1230*1750
EPP-20MZN	20	1.2	0.7	G1/2	G1/2	360	400*1420*1750
EPP-25MZ	25	1.5	0.7	G3/4	G3/4	400	400*1320*1750
EPP-30MZ	30	1.85	0.7	G3/4	G3/4	460	400*1480*1750
EPP-35MZ	35	2	0.7	G3/4	G3/4	520	400*1660*1750
EPP-40MZ	40	2.5	0.7	G3/4	G3/4	580	400*1840*1750
EPP-50MZ	50	3	0.7	G1	G1	800	830*1320*1750
EPP-60MZ	60	3.8	0.7	G1	G1	960	830*1480*1750
EPP-70MZ	70	4.5	0.7	G1	G1	1100	830*1660*1750
EPP-80MZ	80	5.2	0.7	G1	G1	1200	830*1840*1750

Note:1.When the front section is equipped with a refrigerated dryer the flow rate of the air compressor is increased by 10%,and the nitrogen dew point is below -30°C;

2.When the front sectionisequiped with a refrigerated dryer+a desiccant dryer,and the flow rate of the air compressor is increased by 20%,and the nitrogen dew point is below -40°C;

3.Remarks suffix N that built-in nitrogen process tank models, no N that there is no standard built-in tank.

## 99.99% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Weight (kg)	Dimensions (mm)
							L*W*H
EPG-2MZN	2	0.3	0.7	G1/2	G1/2	180	400*860*1750
EPG-5MZN	5	0.5	0.7	G1/2	G1/2	280	400*1020*1750
EPG-10MZN	10	1.2	0.7	G1/2	G1/2	360	400*1230*1750
EPG-15MZ	15	1.5	0.7	G3/4	G1/2	400	400*1380*1750
EPG-20MZ	20	2	0.7	G3/4	G1/2	460	400*1710*1750
EPG-25MZ	25	2.5	0.7	G3/4	G1/2	520	400*1880*1750
EPG-30MZ	30	3	0.7	G1	G1	800	830*1320*1750
EPG-35MZ	35	3.5	0.7	G1	G1	960	830*1480*1750
EPG-40MZ	40	4	0.7	G1	G1	1100	830*1660*1750
EPG-50MZ	50	4.5	0.7	G1	G1	1200	830*1840*1750

Note:1.When the front section is equipped with a refrigerated dryer the flow rate of the air compressor is increased by 10%,and the nitrogen dew point is below -30°C;

2.When the front section is equipped with a refrigerated dryer+a desiccant dryer,and the flow rate of the air compressor is increased by 20%,and the nitrogen dew point is below -40°C;

3.Remarks suffix N that built-in nitrogen process tank models, no N that there is no standard built-in tank.

## 99.999% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Weight (kg)	Dimensions (mm)
							L*W*H
EPV-2MZN	2	0.3	0.7	G1/2	G1/2	180	400*860*1750
EPV-5MZN	5	1	0.7	G1/2	G1/2	220	400*1230*1750
EPV-10MZN	10	1.2	0.7	G1/2	G1/2	440	500*1420*1750
EPV-15MZ	15	1.85	0.7	G3/4	G1/2	460	500*1710*1750
EPV-20MZ	20	2.5	0.7	G3/4	G3/4	520	500*1880*1750
EPV-25MZ	25	3	0.7	G1	G1	800	830*1320*1750
EPV-30MZ	30	3.5	0.7	G1	G1	960	830*1480*1750
EPV-35MZ	35	4	0.7	G1	G1	1100	830*1660*1750
EPV-40MZ	40	5	0.7	G1	G1	1200	830*1840*1750

Note:1.When the front section is equipped with a refrigerated dryer the flow rate of the air compressor is increased by 10%,and the nitrogen dew point is below -30°C;

2.When the front section is equipped with a refrigerated dryer+a desiccant dryer,and the flow rate of the air compressor is increased by 20%,and the nitrogen dew point is below -40°C;

3.Remarks suffix N that built-in nitrogen process tank models, no N that there is no standard built-in tank.

## Twin tower nitrogen generator



## Parameters of different nitrogen generators

Nitrogen purity	98~99.999%	Power requirements	220V 50/60Hz / 110V DC24V
Maximum intake air temp	38°C	Noise	≤85dB
Minimum intake air temp	1°C	Nitrogen dew point	≤-40°C
Inlet pressure	0.6-0.85MPa	Control type	Standard
Maximum ambient temp	≤45°C		High match

## Core components



Equipped with the highest quality pneumatic angle seat valve in China as standard, the effective action of the valve is more than 3.5 million times and the service life can reach more than 8 years, which guarantees the stable operation of the nitrogen generator.



Cooperate with high-quality manufacturers at home and abroad, and deploy the most economical and energy-saving molecular sieve according to the customer's usage.



Imported coconut palm mats are selected, with high density and strong toughness, ensuring effective filtration of particles and preventing pulverization and sieve leakage.



Siemens PLC control is adopted to prevent garbled codes and abnormal programs and ensure the normal operation of equipment.

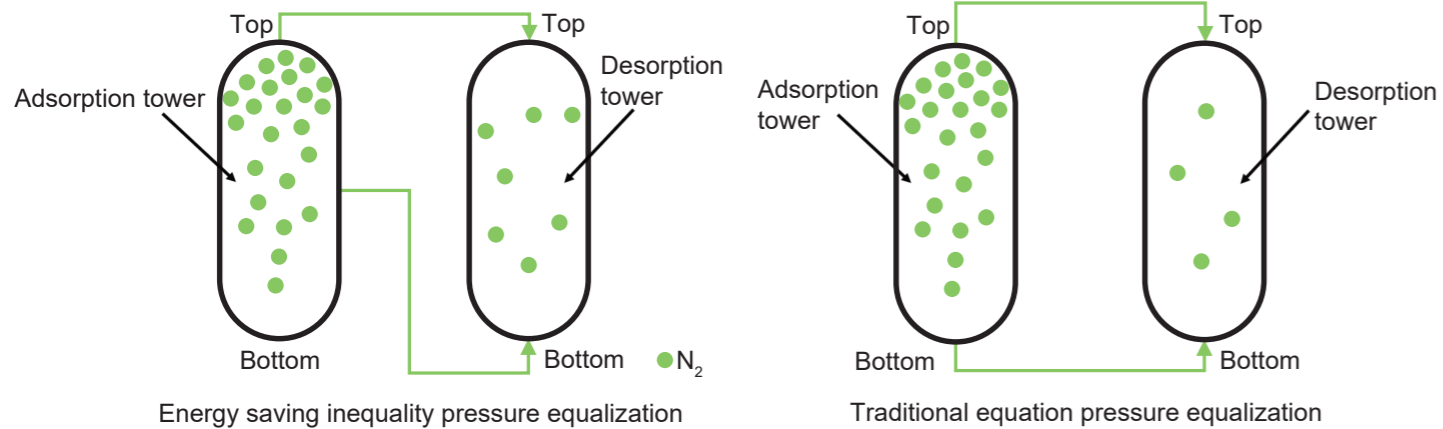


The original Taiwan AirTAC control components are used to ensure the normal operation of the valve and prolong the service life.



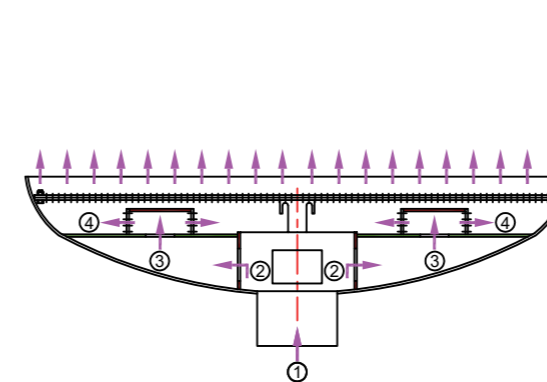
Select domestic top gas analysis instruments, accurate, measured deviation <0.001, long life up to 5 years.

## Features

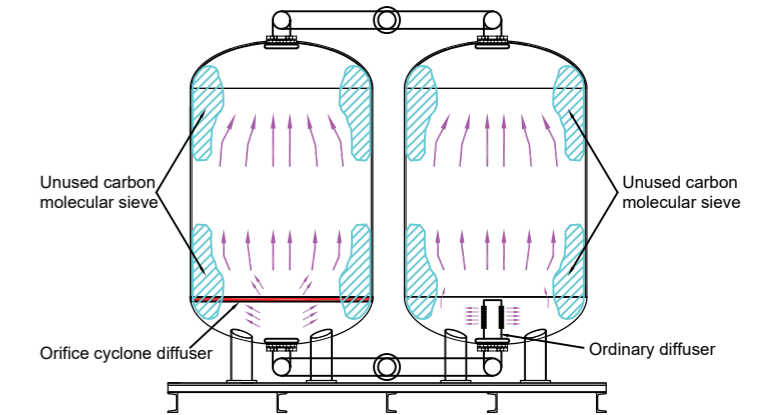


- ◆ The advanced energy-saving inequality equalization structure improves the adsorbent utilization rate and directly reduces the compressed air consumption.
- ◆ The advanced internal structure ensures that the air flow is evenly distributed, reduces the impact on the adsorbent, and increases the service life of the adsorbent.
- ◆ In cooperation with well-known carbon molecular sieve manufacturers at domestic and abroad, the most energy-efficient and efficient ratio can be selected according to the actual working conditions.
- ◆ Reliable air source treatment accessories ensure the stable operation and service life of the equipment.
- ◆ It adopts Siemens PLC programmable controller for automatic control, one-button start does not require special personnel to operate, and can reserve connections with remote devices such as computers and mobile phones, and observe the running status in real time.
- ◆ The domestic well-known stainless steel pneumatic angle seat valve is adopted, which has the characteristics of fast opening and closing speed, low energy consumption, good sealing performance, easy installation and maintenance, and long service life.
- ◆ A special spring compression device is adopted, and when the carbon molecular sieve in the adsorption tower is reduced, it is automatically compensated to eliminate the problem of powdering the carbon molecular sieve and prolong the service life.
- ◆ Use device of impure nitrogen automatic evacuation / manual evacuation device (optional).
- ◆ Use components from famous brands at domestic and abroad to ensure stable operation and nitrogen quality.

## Gas diffusion device

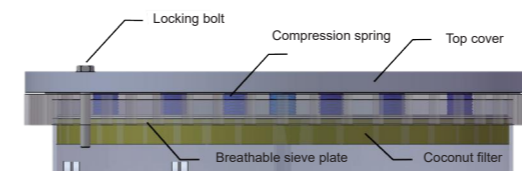


◆ EPSEA original air flow diffuser will force the compressed air to be diverted in a face-to-face way to avoid airflow dead ends and tunneling effects to improve the adsorbent utilization rate and nitrogen production rate.

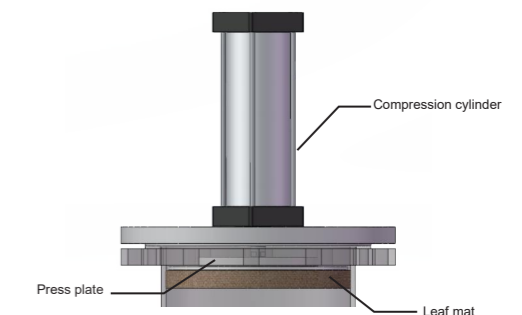


◆ Conventional two kinds of airflow diffusers are easy to form dead angle, which makes the adsorbent unable to be fully utilized, and it is easy to cause the powdering and tunneling reaction of the adsorbent, which directly affects the quality of nitrogen and adsorbent life.

## Self-acting spring pressing device

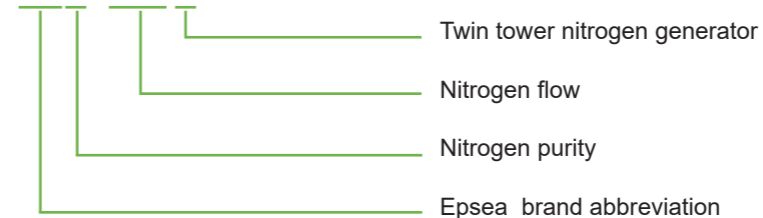


## Monitoring of cylinder compaction



## Twin tower nitrogen generator equipment model description

Example: EPG - 240N

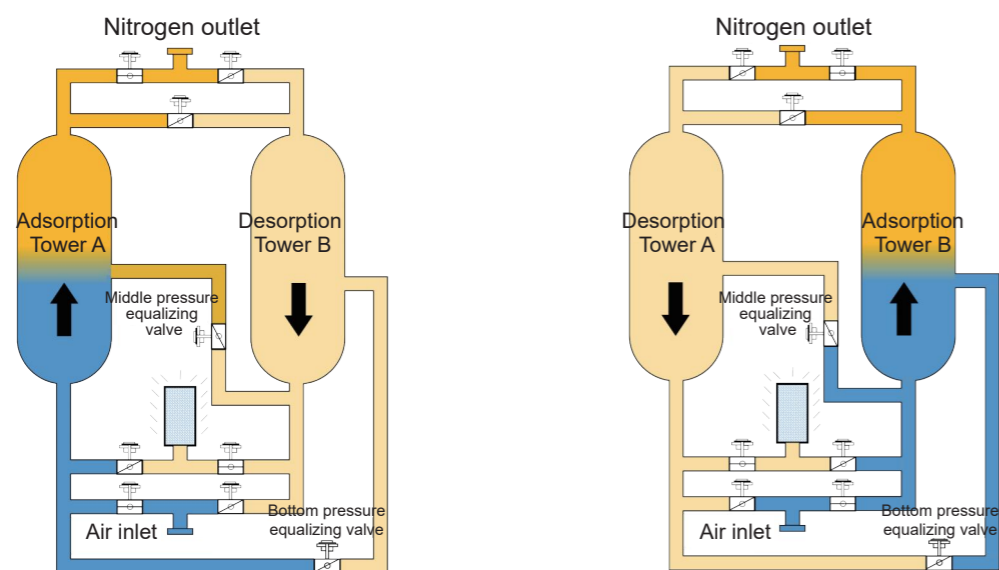


Code	Nitrogen purity
B	98%
D	99%
W	99.5%
P	99.9%
G	99.99%
V	99.999%



## Operation process

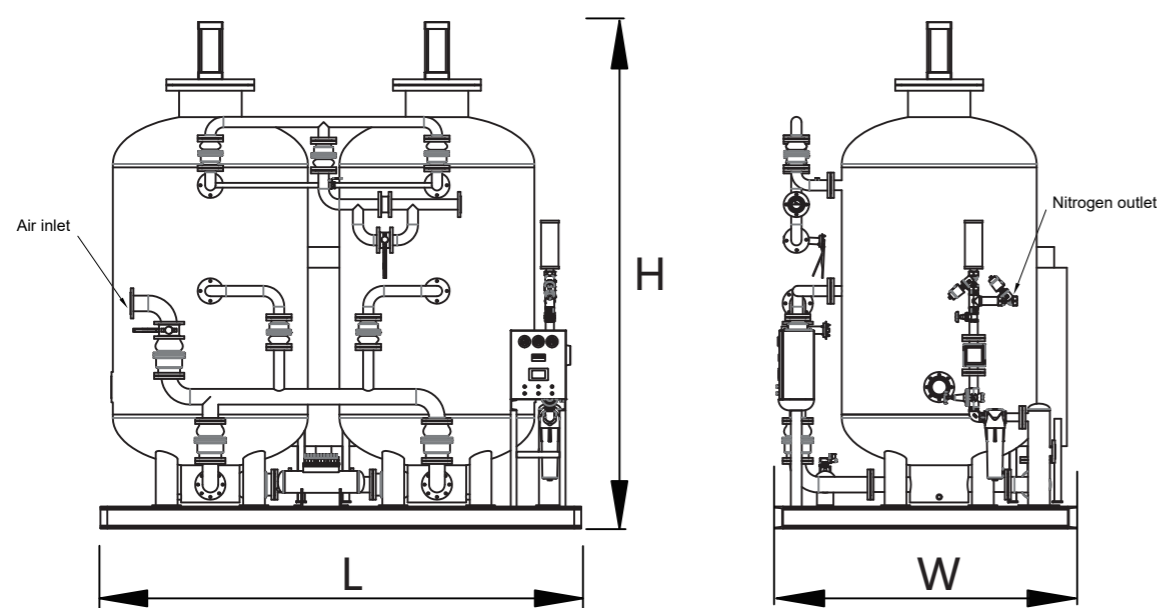
◆ The clean compressed air enters from the bottom of the adsorption tower filled with carbon molecular sieve. After the airflow diffuses through the special structure of the uniform diffuser, it evenly enters the adsorption tower for oxygen and nitrogen adsorption separation, and then produces high purity nitrogen from the top of the adsorption tower. It is sent to a nitrogen process tank for storage; a small amount of product nitrogen enters the regeneration tower to purify the carbon molecular sieve to remove the adsorbed oxygen to achieve regeneration. The two adsorption towers are operated alternately and cyclically, feeding the raw air continuously to produce nitrogen.



Tower A adsorption  
Tower B desorption

Tower A desorption  
Tower B adsorption

## PSA twin tower nitrogen generator dimension chart



## Twin-tower type nitrogen generator parameters of different types 98% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPB-60N	60	2.2	0.7	G1	G1	1800*1500*2200
EPB-120N	120	4.4	0.7	G1*1/4	G1	1850*1650*2450
EPB-150N	150	5.5	0.7	G1*1/4	G1*1/2	2000*1650*2450
EPB-180N	180	6.6	0.7	G1*1/2	G1*1/2	2200*1850*2500
EPB-230N	230	8.5	0.7	G1*1/2	G1*1/2	2200*1900*2890
EPB-300N	300	11.0	0.7	G1*1/2	G1*1/2	2350*2050*3100
EPB-350N	350	13	0.7	G2	G1*1/2	2350*2050*3250
EPB-400N	400	14.5	0.7	G2	G1*1/2	2400*1300*3250
EPB-450N	450	16.5	0.7	G2	G2	2500*1400*3200
EPB-550N	550	20	0.7	G2	G2	2700*1500*3200
EPB-600N	600	22	0.7	G2*1/2	G2	2700*1500*3250
EPB-650N	650	24	0.7	G2*1/2	G2	2800*1500*3250
EPB-750N	750	27.5	0.7	G2*1/2	G2*1/2	3000*1600*3300
EPB-850N	850	31.5	0.7	G2*1/2	G2*1/2	3100*2000*3350
EPB-900N	900	33	0.7	G3	G2*1/2	3300*2100*3400
EPB-1000N	1000	37	0.7	G3	G2*1/2	3500*2200*3500
EPB-1200N	1200	44	0.7	G3	G3	3500*2200*3600
EPB-1400N	1400	52	0.7	G4	G3	3600*2300*3600
EPB-1500N	1500	55	0.7	G4	G3	3700*2400*3600
EPB-1800N	1800	66	0.7	G4	G3	3800*2500*3600

## 99% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPD-50N	50	2	0.7	G1	G1	1800*1500*2200
EPD-90N	90	3.5	0.7	G1*1/4	G1	1850*1650*2450
EPD-110N	110	4.2	0.7	G1*1/4	G1*1/2	2000*1650*2450
EPD-140N	140	5.5	0.7	G1*1/2	G1*1/2	2200*1850*2500
EPD-170N	170	6.5	0.7	G1*1/2	G1*1/2	2200*1900*2890
EPD-220N	220	8.5	0.7	G1*1/2	G1*1/2	2350*2050*3100
EPD-280N	280	10.8	0.7	G2	G1*1/2	2350*2050*3250
EPD-330N	330	12.7	0.7	G2	G1*1/2	2400*1300*3250
EPD-420N	420	16	0.7	G2	G2	2500*1400*3200
EPD-500N	500	19	0.7	G2	G2	2700*1500*3200
EPD-550N	550	21	0.7	G2*1/2	G2	2700*1500*3250
EPD-600N	600	23	0.7	G2*1/2	G2	2800*1500*3250
EPD-700N	700	27	0.7	G2*1/2	G2*1/2	3000*1600*3300
EPD-750N	750	29	0.7	G2*1/2	G2*1/2	3100*2000*3350
EPD-800N	800	31	0.7	G3	G2*1/2	3300*2100*3400
EPD-950N	950	36.5	0.7	G3	G2*1/2	3500*2200*3500
EPD-1100N	1100	43	0.7	G3	G3	3500*2200*3600
EPD-1200N	1200	46	0.7	G4	G3	3600*2300*3600
EPD-1400N	1400	54	0.7	G4	G3	3700*2400*3600
EPD-1600N	1600	61.5	0.7	G4	G3	3800*2500*3600

Note: (The following configurations are for general reference selection, if it involves specific performance indicators, please contact engineering personnel)

1. When the front section is equipped with a refrigerated dryer, the flow rate of the air compressor is increased by 10%, and the nitrogen dew point is below -30°C;
2. When the front section is equipped with a refrigerated dryer + a desiccant dryer, and the flow rate of the air compressor is increased by 20%, and the nitrogen dew point is below -40°C;
3. Configuration of the suction dryer is very good to protect the molecular sieve of the nitrogen generator, the valve is not contaminated, prolonging the life of the equipment.

## 99.5% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPW-40N	40	1.8	0.7	G1	G1	1800*1500*2350
EPW-70N	70	3.1	0.7	G1*1/4	G1	1850*1650*2450
EPW-100N	100	4.4	0.7	G1*1/4	G1*1/2	2000*1650*2450
EPW-120N	120	5.2	0.7	G1*1/2	G1*1/2	2200*1850*2500
EPW-140N	140	6.0	0.7	G1*1/2	G1*1/2	2200*1900*2890
EPW-200N	200	8.6	0.7	G1*1/2	G1*1/2	2350*2050*3100
EPW-250N	250	11	0.7	G2	G1*1/2	2350*2050*3250
EPW-300N	300	13	0.7	G2	G1*1/2	2400*1300*3250
EPW-350N	350	15.2	0.7	G2	G2	2500*1400*3200
EPW-450N	450	19.5	0.7	G2	G2	2700*1500*3200
EPW-500N	500	22	0.7	G2*1/2	G2	2700*1500*3250
EPW-550N	550	24	0.7	G2*1/2	G2	2800*1500*3250
EPW-600N	600	26	0.7	G2*1/2	G2*1/2	3000*1600*3300
EPW-650N	650	28.3	0.7	G2*1/2	G2*1/2	3100*2000*3350
EPW-700N	700	31	0.7	G3	G2*1/2	3300*2100*3400
EPW-800N	800	35	0.7	G3	G2*1/2	3500*2200*3500
EPW-1000N	1000	43.5	0.7	G3	G3	3500*2200*3600
EPW-1100N	1100	48	0.7	G4	G3	3600*2300*3600
EPW-1200N	1200	52	0.7	G4	G3	3700*2400*3600
EPW-1400N	1400	61	0.7	G4	G3	3800*2500*3600

## 99.9% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPP-30N	30	1.9	0.7	G1	G1	1800*1500*2200
EPP-50N	50	3.1	0.7	G1*1/4	G1	1850*1650*2450
EPP-70N	70	4.2	0.7	G1*1/4	G1	2000*1650*2450
EPP-90N	90	5.5	0.7	G1*1/2	G1	2200*1850*2500
EPP-110N	110	6.6	0.7	G1*1/2	G1*1/2	2200*1900*2890
EPP-130N	130	7.8	0.7	G1*1/2	G1*1/2	2350*2050*3100
EPP-150N	150	9	0.7	G2	G1*1/2	2350*2050*3250
EPP-200N	200	12	0.7	G2	G1*1/2	2400*1300*3250
EPP-250N	250	15	0.7	G2	G1*1/2	2500*1400*3200
EPP-300N	300	18	0.7	G2	G1*1/2	2700*1500*3200
EPP-350N	350	21	0.7	G2*1/2	G2	2700*1500*3250
EPP-370N	370	22.2	0.7	G2*1/2	G2	2800*1500*3250
EPP-400N	400	24	0.7	G2*1/2	G2	3000*1600*3300
EPP-450N	450	27	0.7	G2*1/2	G2	3100*2000*3350
EPP-500N	500	30	0.7	G3	G2	3300*2100*3400
EPP-600N	600	36	0.7	G3	G2*1/2	3500*2200*3500
EPP-700N	700	42	0.7	G3	G2*1/2	3500*2200*3600
EPP-750N	750	45	0.7	G4	G2*1/2	3600*2300*3600
EPP-800N	800	48	0.7	G4	G2*1/2	3700*2400*3600
EPP-1000N	1000	60	0.7	G4	G2*1/2	3800*2500*3600

Note: (The following configurations are for general reference selection, please contact the engineering staff for specific performance indicators, the above is a one-step method showing 99.999% purity and oxygen content 10ppm±5)

1. When the front section is equipped with a refrigerated dryer, the flow rate of the aircompressor is increased by 10%, and the nitrogen dew point is below -30°C;
2. When the front section is equipped with a refrigerated dryer + a desiccant dryer, and the flow rate of the air compressor is increased by 20%, and the nitrogen dew point is below -40°C;
3. Configuration of the suction dryer is very good to protect the molecular sieve of the nitrogen generator, the valve is not contaminated, prolonging the life of the equipment.

## 99.99% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPG-20N	20	1.8	0.7	G1*1/2	G1/2	1800*1500*2200
EPG-30N	30	2.7	0.7	G1*1/2	G1/2	1850*1650*2450
EPG-40N	40	3.6	0.7	G1*1/2	G3/4	2000*1650*2450
EPG-50N	50	4.5	0.7	G1*1/2	G1	2200*1850*2500
EPG-60N	60	5.3	0.7	G1*1/2	G1	2200*1900*2890
EPG-80N	80	7.0	0.7	G1*1/2	G1	2350*2050*3100
EPG-100N	100	8.8	0.7	G2	G1	2350*2050*3250
EPG-120N	120	10.6	0.7	G2	G1	2400*1300*3250
EPG-150N	150	13.5	0.7	G2	G1*1/2	2500*1400*3200
EPG-180N	180	16	0.7	G2	G1*1/2	2700*1500*3200
EPG-200N	200	17.8	0.7	G2*1/2	G1*1/2	2700*1500*3250
EPG-220N	220	19.5	0.7	G2*1/2	G1*1/2	2800*1500*3250
EPG-250N	250	22	0.7	G2*1/2	G1*1/2	3000*1600*3300
EPG-300N	300	27	0.7	G2*1/2	G2	3100*2000*3350
EPG-350N	350	31	0.7	G3	G2	3300*2100*3400
EPG-400N	400	35.5	0.7	G3	G2	3500*2200*3500
EPG-450N	450	40	0.7	G3	G2	3500*2200*3600
EPG-500N	500	44.5	0.7	G4	G2	3600*2300*3600
EPG-550N	550	48.5	0.7	G4	G2*1/2	3700*2400*3600
EPG-600N	600	53	0.7	G4	G2*1/2	3800*2500*3600

## 99.999% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPV-15N	15	2.7	0.7	G1	G3/4	1500*1500*2350
EPV-20N	20	3.6	0.7	G1*1/4	G3/4	1850*1650*2450
EPV-30N	30	4.5	0.7	G1*1/4	G3/4	2000*1650*2450
EPV-40N	40	5.3	0.7	G1*1/2	G3/4	2200*1850*2500
EPV-50N	50	7.0	0.7	G1*1/2	G1	2200*1900*2890
EPV-70N	70	8.8	0.7	G1*1/2	G1	2350*2050*3100
EPV-80N	80	10.6	0.7	G2	G1	2350*2050*3250
EPV-100N	100	13.5	0.7	G2	G1	2400*1300*3250
EPV-130N	130	16	0.7	G2*1/2	G1*1/2	2500*1400*3250
EPV-150N	150	17.8	0.7	G2*1/2	G1*1/2	2700*1500*3250
EPV-170N	170	19.5	0.7	G2*1/2	G1*1/2	2700*1500*3250
EPV-200N	200	22	0.7	G2*1/2	G1*1/2	2800*1500*3250

Note: (The following configurations are for general reference selection, please contact the engineering staff for specific performance indicators, the above is a one-step method showing 99.999% purity )

1. When the front section is equipped with a refrigerated dryer, the flow rate of the aircompressor is increased by 10%, and the nitrogen dew point is below -30°C;
2. When the front section is equipped with a refrigerated dryer + a desiccant dryer, and the flow rate of the air compressor is increased by 20%, and the nitrogen dew point is below -40°C.

## Combined modular nitrogen generator

### Parameters of different types of nitrogen generators:

Nitrogen purity	99.5-99.999%	Power requirements	220V/50HZ
Maximum intake air temperature	60°C	Noise	≤80dB
Minimum intake temperature	10°C	Nitrogen dew point	≤-40°C
Inlet pressure	0.6-0.85Mpa	Control method	Standard Separate control
Maximum ambient temperature	45°C		High match Integrated controller

### Advantages of combined modular nitrogen generator

- ◆ Adopting EPSEA high temperature refrigerated air dryer combined modular nitrogen generator to ensure that the nitrogen generator molecules can operate at a constant temperature (the optimal operating temperature is between 20-30 °C), and give full play to the performance of carbon molecular sieve.
- ◆ The integrated design of the equipment is small in size, only half of the installation size of the split type equipment, which is convenient for transportation and installation.
- ◆ The whole machine includes EPSEA refrigerated air dryer, Youqiao high-efficiency oil removal filter, modular nitrogen generator, rear nitrogen process tank, dust filter and flow meter. Install all that, the user can directly use it after powering on and ventilating.
- ◆ Optional integrated controller, real-time monitoring of equipment operating status and recording operating data.
- ◆ The front-mounted refrigerated dryer guarantees that the pressure dew point of the compressed air entering the nitrogen generator is ≤10°C, reducing the risk of molecular sieve being contaminated by oil and water, and extending the service life of carbon molecular sieve.
- ◆ The module does not belong to the pressure vessel, the annual inspection of the pressure vessel is not required, and the service life of the whole machine can reach more than 20 years.

### Parameter table of different models of combined modular nitrogen generator

#### 99.5% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZW-25MZ	25	1.2	0.7	Rc1	Rc1/2	1200*1200*1780
EPZW-30MZ	30	1.5	0.7	Rc1	Rc1/2	1200*1450*1780
EPZW-40MZ	40	2.0	0.7	Rc1	Rc3/4	1200*1650*1780
EPZW-50MZ	50	2.3	0.7	Rc1	Rc3/4	1200*1850*1780
EPZW-60MZ	60	2.8	0.7	Rc1	Rc3/4	1350*2000*1780
EPZW-70MZ	70	3.5	0.7	Rc1-1/2	Rc1	1350*1650*1780
EPZW-90MZ	90	4.5	0.7	Rc1-1/2	Rc1	1750*1500*1780
EPZW-100MZ	100	5.0	0.7	Rc1-1/2	Rc1	1750*1700*1780
EPZW-120MZ	120	5.8	0.7	Rc1-1/2	Rc1	1750*2000*1780

Note: The above is based on the standard working conditions of 20 °C, 101325pa nitrogen output, this product is under continuous improvement, if there is any change, please refer to the actual size.

#### 99.9% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZP-20MZ	20	1.5	0.7	Rc1	Rc1/2	1200*1200*1780
EPZP-25MZ	25	1.8	0.7	Rc1	Rc1/2	1200*1450*1780
EPZP-30MZ	30	2.0	0.7	Rc1	Rc3/4	1200*1650*1780
EPZP-35MZ	35	2.5	0.7	Rc1	Rc3/4	1200*1850*1780
EPZP-40MZ	40	3.0	0.7	Rc1	Rc3/4	1350*2000*1780
EPZP-50MZ	50	3.8	0.7	Rc1-1/2	Rc1	1350*1650*1780
EPZP-60MZ	60	4.5	0.7	Rc1-1/2	Rc1	1750*1500*1780
EPZP-70MZ	70	5.0	0.7	Rc1-1/2	Rc1	1750*1700*1780
EPZP-80MZ	80	5.8	0.7	Rc1-1/2	Rc1	1750*2000*1780

#### 99.99% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZG-5MZ	5	1.0	0.7	Rc1	Rc1/2	1200*800*1780
EPZG-10MZ	10	1.5	0.7	Rc1	Rc1/2	1200*1200*1780
EPZG-15MZ	15	2.0	0.7	Rc1	Rc3/4	1200*1650*1780
EPZG-20MZ	20	2.5	0.7	Rc1	Rc3/4	1200*1850*1780
EPZG-25MZ	25	3.0	0.7	Rc1	Rc3/4	1350*2000*1780
EPZG-30MZ	30	3.8	0.7	Rc1-1/2	Rc1	1350*1650*1780
EPZG-35MZ	35	4.5	0.7	Rc1-1/2	Rc1	1750*1500*1780
EPZG-40MZ	40	5.0	0.7	Rc1-1/2	Rc1	1750*1700*1780
EPZG-50MZ	50	5.8	0.7	Rc1-1/2	Rc1	1750*2000*1780

#### 99.999% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZV-5MZ	5	1.0	0.7	Rc1	Rc1/2	1200*800*1780
EPZV-10MZ	10	1.5	0.7	Rc1	Rc1/2	1200*1200*1780
EPZV-15MZ	15	2.0	0.7	Rc1	Rc3/4	1200*1650*1780
EPZV-20MZ	20	2.5	0.7	Rc1	Rc3/4	1200*1850*1780
EPZV-25MZ	25	3.0	0.7	Rc1	Rc3/4	1350*2000*1780
EPZV-30MZ	30	3.8	0.7	Rc1-1/2	Rc1	1350*1650*1780
EPZV-35MZ	35	4.5	0.7	Rc1-1/2	Rc1	1750*1500*1780
EPZV-40MZ	40	5.0	0.7	Rc1-1/2	Rc1	1750*1700*1780
EPZV-50MZ	50	5.8	0.7	Rc1-1/2	Rc1	1750*2000*1780

## Combined twin tower nitrogen generator

### Parameters of different types of nitrogen generators:

Nitrogen purity	99.5-99.999%	Power requirements	220V/380V/50HZ	
Maximum intake air temperature	60°C	Noise	≤80dB	
Minimum intake temperature	10°C	Nitrogen dew point	≤-40°C	
Inlet pressure	0.6-0.85Mpa	Control method	Standard	Separate control
Maximum ambient temperature	45°C		High match	Integrated controller



### Advantages of combined twin-tower nitrogen generator

- ◆ Use of Youqiao high-temperature refrigerated dryer combined with a twin-tower nitrogen generator ensures that the nitrogen generator molecules can operate at a constant temperature (the optimal operating temperature is between 20-30°C) and give full play to the performance of carbon molecular sieve.
- ◆ The integrated design of the equipment is small in size, only half of the installation size of the split type equipment, which is convenient for transportation and installation.
- ◆ The whole machine includes Youqiao refrigerated dryer, Youqiao high-efficiency oil removal filter, front air buffer tank, twin tower nitrogen generator, rear nitrogen process tank, dust filter and flow meter. All the installation has been completed, the user can use it after powering on and ventilating.
- ◆ Optional integrated controller, real-time monitoring of equipment operating status and recording operating data.

## Parameter table of different models of combined twin-tower nitrogen generator

### 99.5% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZW-40N	40	2.0	0.7	Rc1	Rc1	2000*1600*2200
EPZW-70N	70	3.5	0.7	Rc1-1/2	Rc1	2300*1700*2300
EPZW-100N	100	4.8	0.7	Rc1-1/2	Rc1	2350*1700*2400
EPZW-120N	120	5.8	0.7	Rc1-1/2	Rc1	2400*1850*2500
EPZW-140N	140	6.8	0.7	Rc2	Rc1	2550*2000*2600
EPZW-200N	200	9.0	0.7	Rc2	Rc1-1/2	2600*2100*2650

Note: The above data is based on 0.8Mpa(G), compressed air as raw material, ambient temperature of 20°C, 0 meter elevation and 80% relative humidity as design basis. This product is under continuous improvement, please refer to the actual dimensions for any changes.

### 99.9% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZP-30N	30	2.0	0.7	Rc1	Rc1	2000*1600*2200
EPZP-50N	50	3.2	0.7	Rc1-1/2	Rc1	2300*1700*2300
EPZP-70N	70	4.6	0.7	Rc1-1/2	Rc1	2350*1700*2400
EPZP-100N	100	6.0	0.7	Rc1-1/2	Rc1	2400*1850*2500
EPZP-130N	130	8.0	0.7	Rc2	Rc1	2550*2000*2600
EPZP-150N	150	9.5	0.7	Rc2	Rc1	2600*2100*2650

Note: The above data is based on 0.8Mpa(G), compressed air as raw material, ambient temperature of 20°C, 0 meter elevation and 80% relative humidity as design basis. This product is under continuous improvement, please refer to the actual dimensions for any changes.

### 99.99% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZG-20N	20	2.0	0.7	Rc1	Rc1	2000*1600*2200
EPZG-30N	30	2.7	0.7	Rc1-1/2	Rc1	2300*1700*2300
EPZG-40N	40	3.5	0.7	Rc1-1/2	Rc1	2350*1700*2400
EPZG-50N	50	4.5	0.7	Rc1-1/2	Rc1	2400*1850*2500
EPZG-60N	60	5.3	0.7	Rc2	Rc1	2550*2000*2600
EPZG-80N	80	7.0	0.7	Rc2	Rc1	2600*2100*2650

Note: The above data is based on 0.8Mpa(G), compressed air as raw material, ambient temperature of 20°C, 0 meter elevation and 80% relative humidity as design basis. This product is under continuous improvement, please refer to the actual dimensions for any changes.

### 99.999% purity series

Model	Flow rate (Nm <sup>3</sup> /h)	Demand capacity of air (Nm <sup>3</sup> /min)	Adsorption pressure (Mpa)	Air inlet	Nitrogen outlet	Dimensions (mm)
						L*W*H
EPZV-15N	15	2.0	0.7	Rc1	Rc1	2000*1600*2200
EPZV-20N	20	2.7	0.7	Rc1-1/2	Rc1	2300*1700*2300
EPZV-30N	30	4.0	0.7	Rc1-1/2	Rc1	2350*1700*2400
EPZV-40N	40	5.0	0.7	Rc1-1/2	Rc1	2400*1850*2500
EPZV-50N	50	6.0	0.7	Rc2	Rc1	2550*2000*2600
EPZV-60N	60	8.0	0.7	Rc2	Rc1	2600*2100*2650

Note: The above data is based on 0.8Mpa(G), compressed air as raw material, ambient temperature of 20°C, 0 meter elevation and 80% relative humidity as design basis. This product is under continuous improvement, please refer to the actual dimensions for any changes.

## EPHC type hydrogenation purification device

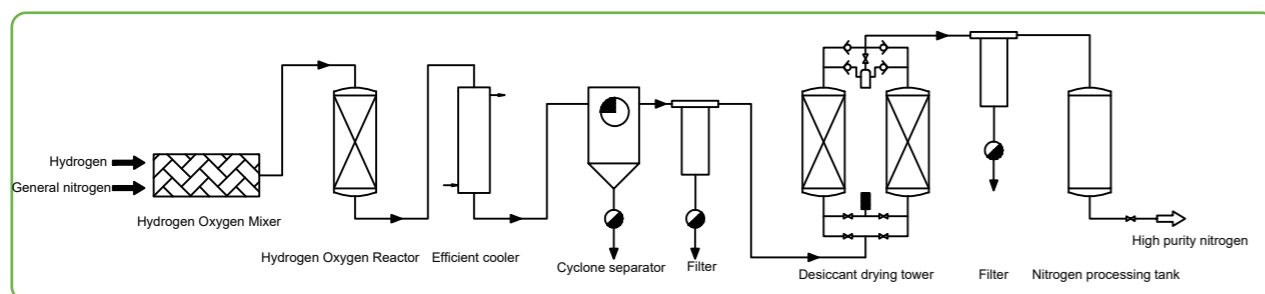
### Main parameters:

Nitrogen flow	10-2000Nm <sup>3</sup> /h
Nitrogen purity	99.999%~99.9997%
Nitrogen pressure	0.1-0.8MPa(Adjustable)
Nitrogen dew point	≤-60°C
Oxygen content	1~10ppm
Hydrogen content	≤1%



#### ◆ Principle and product features of hydrogen purifier:

The general nitrogen produced by the PSA nitrogen generator is mixed with hydrogen in a certain proportion, and the temperature is heated in the reactor equipped with metal palladium catalyst to make the residual oxygen in the general nitrogen react with hydrogen to generate water vapor, and most of the water vapor condensed when passes through the cooler. After passing through a cyclone dewatering filter and a micro-heat desiccant dryer, the dew point can reach -70°C, and the purity of the finished product nitrogen is monitored online in real time by a micro oxygen meter.



### Main technical parameter table

(general nitrogen purity 99.5% , hydrogen source pure hydrogen 99.9%)

Model	General nitrogen consumption Nm <sup>3</sup> /h	Pure nitrogen flow Nm <sup>3</sup> /h	Hydrogen consumption (Nm <sup>3</sup> /h)	Power consumption (KW)	Cooling water (T/h)	Dimensions (mm)
						L*W*H
EPHC-60	66	60	0.6	1	0.5	1500*1200*1800
EPHC-80	88	80	0.8	1.1	0.6	1500*1500*1800
EPHC-100	110	100	1.2	1.1	0.8	1600*1600*2000
EPHC-150	165	150	1.6	2.4	1.1	1800*1800*2200
EPHC-200	220	200	2.2	3.4	1.5	2000*1800*2200
EPHC-250	275	250	2.7	7.0	1.9	2000*2000*2200
EPHC-300	330	300	3.3	7.0	2.3	2500*2200*2300
EPHC-400	440	400	4.4	7.0	3.0	2500*2200*2400
EPHC-500	550	500	5.5	10.5	4.5	2600*2200*2500
EPHC-600	660	600	6.6	13.8	6.0	2700*2200*2500
EPHC-800	880	800	8.8	21	7.5	2800*2500*2700
EPHC-1000	1100	1000	11	27.5	9.0	3000*2500*2800

## EPTC type carbon-loaded purification device

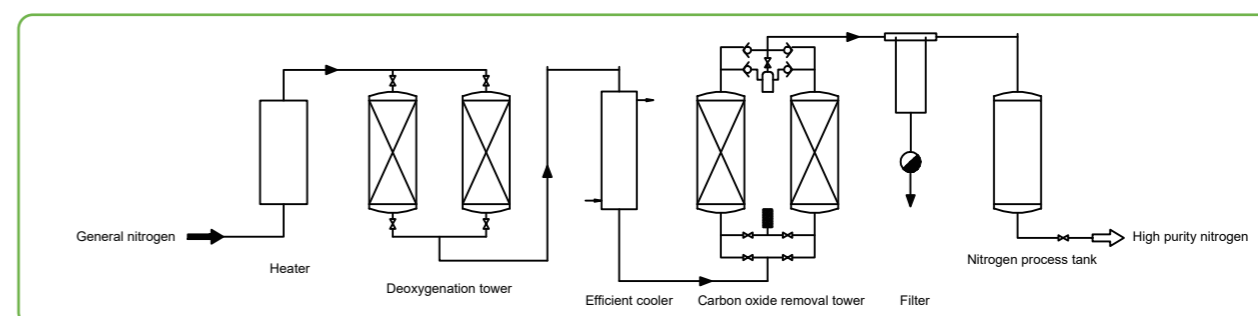
### Main parameters:

Nitrogen flow	10-2000Nm <sup>3</sup> /h
Nitrogen purity	≥99.9995%
Nitrogen pressure	0.1-0.8MPa(Adjustable)
Nitrogen dew point	≤-60°C
Oxygen content	0.1-10ppm
Hydrogen content	\



#### ◆ Features and principles of carbon-carrying purification device:

Technical features of carbon-supported nitrogen purification series devices: this series of products use carbon-supported catalysts for deoxidation without consuming a hydrogen source. Carbon and residual oxygen in nitrogen react to form carbon dioxide, and then pressure swing adsorption process is used to remove carbon dioxide and water. After filtration, high-purity nitrogen is obtained. The technical indicators of high-purity nitrogen can reach: O<sub>2</sub> ≤3ppm dew point ≤-60°C



### Main technical parameter table (general nitrogen purity 99.9%):

Model	General nitrogen consumption Nm <sup>3</sup> /h	Pure nitrogen flow Nm <sup>3</sup> /h	Hydrogen consumption (kg/month)	Power consumption (KW)	Cooling water (T/h)	Dimensions (mm)
						L*W*H
EPTC-40	44	40	20	14/8	1	1400*1200*2000
EPTC-50	55	50	25	18/10	1	1500*1200*2000
EPTC-60	66	60	30	20/11	2	1600*1400*2100
EPTC-80	88	80	40	22/12	3	1800*1500*2300
EPTC-100	110	100	50	25/13	4	2000*1500*2400
EPTC-150	165	150	75	30/16	5	2200*1500*2400
EPTC-200	220	200	100	35/20	6	2500*1600*2400
EPTC-250	275	250	125	42/22	8	2700*1800*2500
EPTC-300	330	300	150	50/27	10	2800*2000*2700
EPTC-350	385	350	165	55/28	12	2850*2000*2700
EPTC-400	440	400	180	65/33	14	3000*2000*2800
EPTC-500	550	500	200	75/40	16	3300*2200*3000

# PROFESSIONAL WIN TRUST SERVICE CREATES VALUE

We are committed to building long-term interdependent and close relationships with our partners and customers. With professional ability and enthusiastic service to support the long-term development of customers.

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