Nitrogen Generator Brochure

Pressure Swing Adsorption (PSA) Nitrogen Generator



Demargo (Shanghai) Energy Saving Technology Co., Ltd.

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In line with our commitment to continuous improvement, we reserve the right to optimize and modify product specifications without prior notice.
Components may be replaced with alternatives of equal or higher quality. The actual product shall prevail.

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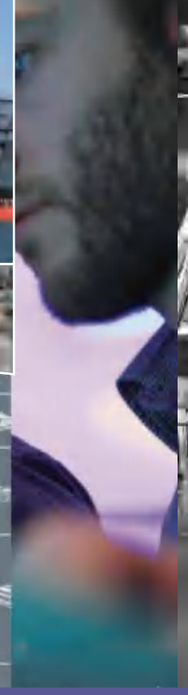
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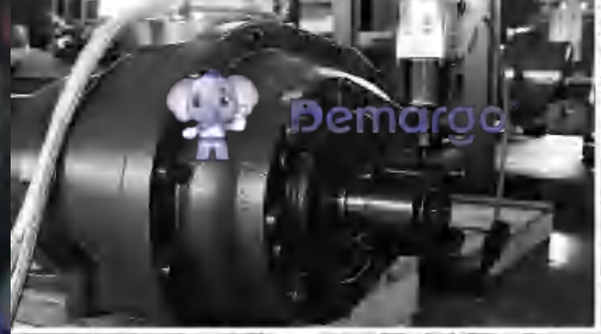


















Company Profile

Demargo (Shanghai) Energy Saving Technology Co., Ltd. specializes in the research, development, and manufacturing of gas purification equipment, actively promoting the high-quality development of the gas purification industry. The company owns multiple product patents and has obtained QS Certification, ISO 9001 Quality Management System Certification, ISO 14001 Environmental Management System Certification, and ISO 45001 Occupational Health and Safety Management System Certification. It has been awarded honors including National High-Tech Enterprise and Specialized and Innovative Enterprise. We are committed to providing customers with high-quality products and comprehensive pre-sales and after-sales services.



Our main products include Refrigerated Air Dryers, Desiccant Air Dryers, Combination Air Dryers, Zero Air Loss Blower Purge Desiccant Dryers, Heat of Compression (HOC) Desiccant Dryers, CO_2 Purification Systems, and Special Gas Drying Equipment for natural gas, hydrogen, and other specialty gases. We also manufacture a wide range of air treatment products, including precision filters, self-cleaning air filters, compressed air pre-cooling units, low-temperature high-pressure nitrogen pre-cooling units, industrial chillers, oil-water separators, high-efficiency oil separators, and aftercoolers.

According to different customer requirements, we provide various types of compressed air purification equipment with configurations including air-cooled, water-cooled, standard, CFC-free, high-temperature, instrument control, PLC control, industrial computer control, variable frequency control, high-pressure, and explosion-proof designs.

Our products feature excellent technical performance, including: Pressure Dew Point Range: -23°C to -70°C, Processing Capacity: 1–1200 Nm^3/min, Outlet Oil Content: 10 ppm–0.003 ppm, Outlet Particle Size: 3 μm–0.01 μm

With strong capabilities in product research and development, engineering design, and manufacturing, Demargo continuously absorbs advanced technologies from both domestic and international markets while optimizing solutions according to actual operating conditions. We have developed the “Demargo” brand of air purification equipment, providing ideal air intake filtration and gas purification solutions for various oil-lubricated and oil-free air compressors.

Our products are widely used in numerous industries, including power generation, shipbuilding, aerospace, electronics, metallurgy, machinery manufacturing, automotive, petroleum, chemical, textile, chemical fiber, light industry, paper manufacturing, rubber, instrumentation, food processing, air separation, tobacco, pharmaceuticals, biotechnology, and daily chemical industries.

Our products are sold throughout more than 30 provinces and cities in China and have been successfully exported as complete systems to countries and regions including Brazil, Australia, Iran, India, Sudan, Indonesia, Vietnam, Saudi Arabia, Southeast Asia, the Middle East, Central Asia, Africa, Europe, and America. They have played an important role in many major national engineering projects.

Adhering to the corporate philosophy of “Sincere Dedication, Pursuit of Excellence”, Demargo is committed to building its business through advanced product design, strict quality control, and efficient service networks. With the principles of technology-driven development, quality-oriented manufacturing, and service-focused growth, we strive to become a globally trusted supplier of high-quality clean and dry gas solutions.



Development History

2009年

The trading company was officially established, launching the three-year market exploration phase. The team deeply explored the air purification industry, connected upstream and downstream resources, accumulated project experience, and focused on improving market service capabilities, laying a solid foundation for the subsequent transformation into an entity-based manufacturing enterprise.

2012年

Shanghai Xinliang Industrial Co., Ltd. was registered and established. The company completed its transformation from a trading and distribution model to a manufacturing-oriented enterprise. It established a basic production system, rapidly expanded its business scale, adhered to honest management, and embarked on a path of steady development.

2013年

The company completed the construction of its own factory and production line, focusing on compressed air drying and purification equipment. It continuously optimized its product structure, improved core component selection and overall assembly capabilities, achieved standardized mass production of multiple product models.

2015年

The company independently developed its first air dryer production line. Focusing on energy-saving technology, it addressed traditional equipment energy consumption issues. Driven by innovation, it fully entered a new stage of independent R&D and manufacturing.

2017年

Complete the Demargo brand system, improve trademark registration and various corporate qualifications. Establish a clear product portfolio and market positioning, move away from the traditional OEM manufacturing model toward brand-oriented operations, and further enhance the company' s visibility .

2020年

The company successfully obtained the Intellectual Property Management System certification and ISO-related system certifications. It established standardized management processes, emphasized technology patent development, and implemented quality control throughout the entire product lifecycle with responsibility as the guiding principle.

2022年

The company was awarded AAA Credit Enterprise Certification. After years of stable operation, it has accumulated market customers and recognition from official institutions. Its corporate credibility and brand reputation continued to improve, enhancing its comprehensive competitiveness.

2023年

The company successfully obtained recognition as a National High-Tech Enterprise and a Shanghai Specialized, Innovative Enterprise. Its technological R&D, production, and service capabilities were widely recognized. Its customized capabilities in energy-saving dryers and special working-condition equipment have accumulated deep technical advantages in the industry.

2024年

Comprehensively upgrade and modernize production and testing equipment, while expanding into emerging fields such as hydrogen energy, explosion-proof applications, and biogas. Continuously optimize and upgrade products to develop higher-quality air purification equipment.

2026年

The company welcomes a new capacity expansion and production layout improvement. It will continue expanding both domestic and overseas markets. Guided by integrity, win-win cooperation, responsibility, and perseverance as core values, the company will continue moving toward higher corporate goals.

Certifications



CE



ReportNO.:MIC-ASI2541007



CE



ISO9001:2015



ISO45001:2018



ISO14001:2015

PSA Nitrogen Generator

Product Principle

The Pressure Swing Adsorption (PSA) Nitrogen Generator uses clean compressed air as the raw material and carbon molecular sieve as the adsorbent. Based on the principle of pressure adsorption and decompression desorption, it utilizes the difference in adsorption capacity between oxygen and nitrogen on the surface of carbon molecular sieve, as well as the different diffusion rates of oxygen and nitrogen in the molecular sieve pores, to separate oxygen and nitrogen.
Through programmable controller control, the adsorption and regeneration processes are completed alternately, achieving pressure adsorption and atmospheric pressure desorption to produce nitrogen with the required purity.



01 Control System Functions

Pneumatic / Electric Valves Controlled by PLC Programmable Controller for Automatic Operation
The entire equipment is equipped with pneumatic valves and electric valves. Manual operation is not required. The PLC control system automatically completes valve opening, closing, and adjustment operations, ensuring fully automatic operation.

HMI Color Touch Screen Human-Machine Interface
Equipped with a color touch-screen HMI operation interface, it can display equipment operating status in real time, making operation simple and intuitive. It supports parameter setting, process switching, fault information display, and other functions, providing a user-friendly operating experience.

Pressure Equalization Device Dynamically Compresses Adsorbent to Protect Adsorbent and Extend Service Life
The pressure equalization mechanism dynamically compresses the adsorbent, preventing airflow impact and reducing molecular sieve pulverization. The pressure equalization process improves adsorbent protection and extends service life.

Compressed Air Inlet Equipped with Carbon Dust Alarm and Over-Limit Automatic Protection
Real-time monitoring of compressed air inlet pressure and carbon dust concentration. When abnormal conditions occur, the system automatically alarms and stops operation, preventing damage caused by abnormal compressed air conditions.

Nitrogen Purity Online Monitoring, Abnormal Alarm, Automatic Nitrogen Supply Switching, Automatic Shutdown
Real-time monitoring of nitrogen purity. When nitrogen purity is abnormal, the system automatically switches nitrogen supply and provides an alarm. It supports remote monitoring and helps prevent abnormal operating conditions.

Real-Time Monitoring of Nitrogen Purity, Flow Rate, Pressure, and Dew Point
Real-time detection of nitrogen purity, outlet flow rate, outlet pressure, and dew point (optional) parameters. Operating data is displayed visually, allowing easy monitoring of equipment operating status.

Easy-to-Maintain Intelligent Protection System
Automatically detects equipment operating time and predicts maintenance status. It provides timely maintenance reminders, reducing equipment failures and improving reliability.

Remote Startup, Status Feedback, and RS485 Modbus-RTU Communication Interface
The equipment supports remote startup and operation status feedback. It provides RS485 Modbus-RTU communication interface, enabling data transmission to upper-level systems for centralized monitoring and management.

Operator, User, and Manufacturer Three-Level Permission Management
Operator, user, and manufacturer access levels are separated, ensuring hierarchical management and reducing operational risks.

02 Product Core: Adsorbent

The adsorbent is the core component of the equipment. The commonly used adsorbent is carbon molecular sieve, mainly composed of carbon elements. It appears as black cylindrical particles with a diameter of 1–2 mm and a height of 2–5 mm.
Due to its large number of micropores with strong adsorption capacity for oxygen molecules (pore diameter approximately 4 Å), it is commonly used to separate oxygen and nitrogen from air. Nitrogen is then obtained through the PSA process.



03 Carbon Molecular Sieve Adsorption Process

Carbon molecular sieve separates oxygen and nitrogen based on the slight difference in molecular kinetic diameter between O_2 and N_2.
The kinetic diameter of oxygen molecules is smaller, allowing them to diffuse faster through the micropores of carbon molecular sieve. Nitrogen molecules have a larger kinetic diameter and slower diffusion rate, resulting in oxygen being preferentially adsorbed while nitrogen is discharged as the product gas.



04 Process Flow



05 Technical Parameters

- Nitrogen Purity: 97%–99.9995%
- Nitrogen Flow Rate: 1–5000 Nm^3/h
- Inlet Pressure: 0.7–0.8 MPa
- Inlet Temperature: ⩽30°C
- Nitrogen Dew Point: -40°C to -60°C
- Rated Power: 0.2 kW
- Power Supply: 220V / 1Ph / 50Hz
- Performance indicators can be customized according to customer requirements.

06 Model Description

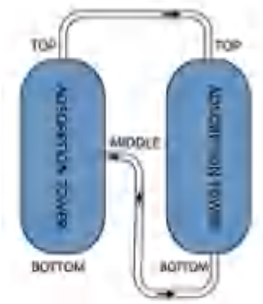
Example:
DM N 100 - 99.99

- DM — Demargo Abbr.
- N — Nitrogen Abbreviation
- 100 — Nitrogen Flow Rate
- 99.99 — Nitrogen Purity

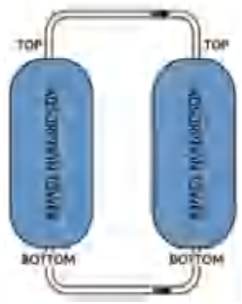
Technical Features

01 Unequal Pressure Equalization Process

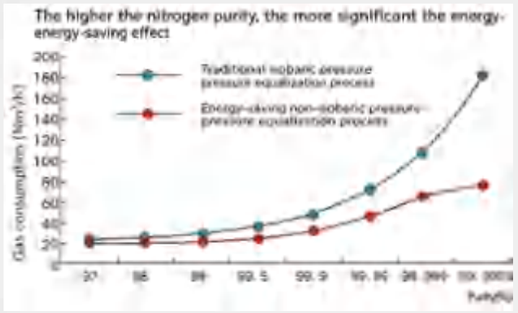
Unequal Pressure Equalization Process



Traditional Equal Pressure Equalization Process



The Asymmetric Pressure Equalization Process abandons the traditional top-to-top and bottom-to-bottom symmetrical pressure equalization method used in conventional PSA nitrogen generation systems. Instead, it adopts an asymmetric cross-connection between high and low purity zones, introducing high-purity nitrogen from the middle and upper sections of one adsorption tower into the low-pressure zone at the bottom of the other tower to complete pressure equalization.
This process enables the nitrogen purity inside the adsorption tower to naturally form an inverted pyramid gradient distribution, with lower nitrogen purity at the bottom air inlet end and higher nitrogen purity at the top gas outlet end of the tower.
After the pressure equalization process is completed, the adsorption tower internally reconstructs the inverted pyramid purity gradient, restoring the stable continuous distribution of low nitrogen purity at the bottom and high nitrogen purity at the top.
This process eliminates the problems of component discontinuity and concentration disorder in the middle section of the adsorption bed that commonly occur during the switching process of traditional equal-pressure equalization technology. It effectively reduces the oxygen adsorption load of the molecular sieve in the middle and upper sections of the adsorption tower, shortens the adsorption establishment time, and thereby achieves the rapid and stable production of nitrogen with the rated purity.



Compared with the traditional equal pressure equalization process, it can significantly improve nitrogen production efficiency, reduce energy consumption, and facilitate the production of high-purity nitrogen. The higher the nitrogen purity, the more significant the energy-saving effect.
It improves the continuity of the nitrogen purity distribution in the adsorption tower bed, maintaining a continuous distribution of low purity at the bottom and high purity at the top, making it easier to rapidly produce nitrogen with qualified purity.
It reduces feed air consumption, ensures the continuity of nitrogen purity distribution in the adsorption tower bed, improves the nitrogen production efficiency of the adsorbent, and changes the historical limitation that high-purity nitrogen (99.9995% N2) could not be produced by pressure swing adsorption technology.
Combined with the secondary pressure equalization process, it reduces the load on the compressed air purification unit, improves the purification efficiency of the feed compressed air, and ensures the technical performance and service life of the adsorbent.

02 Piping Pneumatic Valves

Stainless Steel Sleeve-Type Pneumatic Valve

1) Pneumatic control. The minimum operating pressure is only 0.3 MPa, enabling reliable valve opening and closing operation with strong adaptability to different air source conditions.
2) The valve body and valve core are made of CF8 stainless steel. The sealing ring uses imported high-performance sealing materials. The internal structure adopts a self-lubricating design with excellent sealing performance and long service life.
3) Fast switching response. The single opening/closing time is 0.3–0.5 seconds. The sealing design ensures a service life of up to 3 million cycles, suitable for high-frequency switching applications in PSA processes.
4) Large valve flow capacity (Cv value). The valve has consistent forward and reverse flow characteristics with no directional restrictions, making it suitable for complex gas flow switching requirements in PSA nitrogen generation processes.
5) Compact overall structure with small installation space requirements, convenient for integrated equipment layout.





Stainless Steel Pneumatic Angle Seat Valve

1) Pneumatic control. The minimum operating pressure is only 0.4 MPa, enabling reliable valve operation with strong adaptability to air source conditions.
2) Fast switching response. The single opening/closing time is <0.5 seconds. The sealing design ensures a service life of up to 3 million cycles, suitable for frequent switching operations in PSA processes.
3) The valve core and valve body adopt threaded/quick connection methods, eliminating the need for special tools during replacement and making maintenance convenient.
4) The valve stem and valve body are electrically isolated, allowing direct monitoring of valve opening/closing status for easier inspection and troubleshooting.

03 Pressure Equalization Cylinder

1) Compatible with various adsorption tower specifications, enabling real-time dynamic pressure equalization in the molecular sieve bed. The pressure equalization process is stable and reliable, effectively reducing molecular sieve pulverization and significantly extending molecular sieve service life.
2) Different from traditional single-ended pressure equalization cylinders, this product adopts a double-ended structure with more uniform pressure distribution. The external stroke indicator clearly displays cylinder operating status, making maintenance and inspection more convenient.
3) Equipped with magnetic position switches and adjustable limit switches. When the molecular sieve bed pressure drops to the lower limit, an audible and visual alarm is triggered. When pressure reaches the upper limit, the system automatically stops through an interlock function, providing multi-level safety protection and preventing abnormal equipment operation.



04 Adsorption Tower Structure

1) Unique adsorption tower structure design effectively improves gas flow distribution inside the adsorption tower, reduces dead zones inside the tower (areas where adsorption cannot effectively occur), and further improves adsorbent utilization efficiency.
2) Prevents airflow disturbance and reduces pulverization of molecular sieve particles, helping extend adsorbent service life, improving product performance, and reducing energy consumption.



PSA Nitrogen Generator

05 Automatic Discharge of Unqualified Nitrogen

1) Audible and visual alarm will be activated for unqualified nitrogen. The nitrogen supply will be automatically switched off, and nitrogen with purity below the set value will be automatically discharged.
2) The system will automatically stop when the nitrogen purity remains unqualified for a certain period of time.
3) When nitrogen purity returns to the qualified level, the system will automatically switch back to supplying nitrogen to the nitrogen pipeline or storage tank.



06 System Design

1) Integrated skid-mounted structure. Small and medium-sized models are equipped with a complete process system (including nitrogen buffer tank), reducing on-site installation requirements and lowering construction costs.
2) Compact structural design. Compared with traditional split installation solutions, the footprint is greatly reduced, making it suitable for applications with limited installation space.
3) Molecular sieve filling ports are provided on the adsorption towers, enabling fast and complete replacement of molecular sieve during maintenance and improving maintenance efficiency.
4) Inspection and discharge ports are provided at the bottom of the adsorption towers, allowing complete release of residual pressure inside the tower during maintenance, facilitating inspection and cleaning of impurities, and ensuring operator safety and convenient maintenance.
5) Silencers are installed at the unqualified nitrogen discharge outlet to effectively reduce exhaust noise.
6) Some small-sized models use simple pressure vessels, eliminating the need for special equipment registration procedures, simplifying management processes, and reducing operation and maintenance costs.

05 Technical Specifications

DMN-97 PSA Nitrogen Generator Nitrogen Purity：97%

Model	Nitrogen Production Capacit Nm^3/h	Compressed Air Consumption Nm^3/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m^3	Weight kg	Dimensions mm
DMN53-97	53	2.04	20	/	/	15	0.3	1000	2300x850x1900
DMN62-97	62	2.38	25	/	/	20	0.3	1350	2300x850x1850
DMN111-97	111	4.26	25	/	/	20	0.6	1550	2500x1000x2300
DMN150-97	150	5.75	32	/	/	25	1.0	2000	2800x1100x2550
DMN186-97	186	7.13	40	/	/	25	1.0	2200	2800x1100x2550
DMN225-97	225	8.63	40	/	/	32	1.0	2350	2800x1100x2550
DMN270-97	270	10.4	50	50	40	32	/	2650	2100x1350x2620
DMN323-97	323	12.4	50	50	40	32	/	2600	2100x1350x2620
DMN380-97	380	14.6	50	50	50	40	/	3000	2100x1350x2620
DMN563-97	563	21.6	65	65	50	50	/	3900	2400x1500x3200
DMN758-97	758	29.1	80	80	50	50	/	4700	2500x1700x3400
DMN950-97	950	36.5	80	80	80	65	/	5450	2500x1700x3400
DMN1165-97	1165	44.7	80	80	80	80	/	6800	3000x2000x3600
DMN1471-97	1471	56.4	80	80	80	80	/	8800	3200x2200x3800
DMN1904-97	1904	73.0	100	100	80	80	/	11100	3400x2200x4000
DMN2322-97	2322	89.1	125	125	100	100	/	12500	3600x2400x4300
DMN2789-97	2789	107.0	150	150	100	100	/	14700	3600x2400x4500
DMN3799-97	3799	145.7	150	150	125	125	/	21500	4000x2700x5200

The company reserves the right to modify the design and specifications of its products for continuous improvement without prior notice.

Notes:
Nitrogen production design condition: Ambient temperature 20°C, rated working pressure 0.7–0.8 MPa.
Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

PSA Nitrogen Generator

05 Technical Specifications

DMN-98 PSA Nitrogen Generator Nitrogen Purity：98%

Model	Nitrogen Production Capacit Nm^3/h	Compressed Air Consumption Nm^3/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m^3	Weight kg	Dimensions mm
DMN45-98	45	1.88	20	/	/	15	0.3	1000	2300x850x1900
DMN53-98	53	2.21	25	/	/	20	0.3	1350	2300x850x1850
DMN95-98	95	3.96	25	/	/	20	0.6	1550	2500x1000x2300
DMN129-98	129	5.38	32	/	/	25	1.0	2000	2800x1100x2550
DMN159-98	159	6.63	40	/	/	25	1.0	2200	2800x1100x2550
DMN193-98	193	8.05	40	/	/	32	1.0	2350	2800x1100x2550
DMN231-98	231	9.70	50	50	40	32	/	2650	2100x1350x2620
DMN276-98	276	11.5	50	50	40	32	/	2600	2100x1350x2620
DMN325-98	325	13.6	50	50	50	40	/	3000	2100x1350x2620
DMN481-98	481	20.1	65	65	50	50	/	3900	2400x1500x3200
DMN648-98	648	27.0	80	80	50	50	/	4700	2500x1700x3400
DMN812-98	812	33.9	80	80	80	65	/	5450	2500x1700x3400
DMN995-98	995	41.5	80	80	80	80	/	6800	3000x2000x3600
DMN1256-98	1256	52.4	80	80	80	80	/	8800	3200x2200x3800
DMN1626-98	1626	67.8	100	100	80	80	/	11100	3400x2200x4000
DMN1983-98	1983	82.7	125	125	100	100	/	12500	3600x2400x4300
DMN2382-98	2382	99.3	150	150	100	100	/	14700	3600x2400x4500
DMN3245-98	3245	135.3	150	150	125	125	/	21500	4000x2700x5200

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Notes:
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Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

05 Technical Specifications

DMN-99 PSA Nitrogen Generator Nitrogen Purity：99%

Model	Nitrogen Production Capacit Nm^3/h	Compressed Air Consumption Nm^3/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m^3	Weight kg	Dimensions mm
DMN36-99	36	1.62	20	/	/	15	0.3	1000	2300x850x1900
DMN43-99	43	1.94	25	/	/	20	0.3	1350	2300x850x1850
DMN77-99	77	3.47	25	/	/	20	0.6	1550	2500x1000x2300
DMN104-99	104	4.68	32	/	/	25	1.0	2000	2800x1100x2550
DMN128-99	128	5.76	40	/	/	25	1.0	2200	2800x1100x2550
DMN155-99	155	6.98	40	/	/	32	1.0	2350	2800x1100x2550
DMN186-99	186	8.40	50	50	40	32	/	2650	2100x1350x2620
DMN222-99	222	10.0	50	50	40	32	/	2600	2100x1350x2620
DMN261-99	261	11.8	50	50	50	40	/	3000	2100x1350x2620
DMN387-99	387	17.5	65	65	50	50	/	3900	2400x1500x3200
DMN522-99	522	23.5	80	80	50	50	/	4700	2500x1700x3400
DMN654-99	654	29.5	80	80	80	65	/	5450	2500x1700x3400
DMN801-99	801	36.1	80	80	80	80	/	6800	3000x2000x3600
DMN1011-99	1011	45.5	80	80	80	80	/	8800	3200x2200x3800
DMN1309-99	1309	59.0	100	100	80	80	/	11100	3400x2200x4000
DMN1596-99	1596	71.9	125	125	100	100	/	12500	3600x2400x4300
DMN1918-99	1918	86.4	150	150	100	100	/	14700	3600x2400x4500
DMN2612-99	2612	117.6	150	150	125	125	/	21500	4000x2700x5200

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Notes:
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Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

PSA Nitrogen Generator

05 Technical Specifications

DMN-99.5 PSA Nitrogen Generator Nitrogen Purity：99.5%

Model	Nitrogen Production Capacit Nm³/h	Compressed Air Consumption Nm³/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m³	Weight kg	Dimensions mm
DMN32-99.5	32	1.60	20	/	/	15	0.3	1000	2300x850x1900
DMN38-99.5	38	1.90	25	/	/	20	0.3	1350	2300x850x1850
DMN67-99.5	67	3.35	25	/	/	20	0.6	1550	2500x1000x2300
DMN91-99.5	91	4.55	25	/	/	20	1.0	2000	2800x1100x2550
DMN113-99.5	113	5.65	40	/	/	25	1.0	2200	2800x1100x2550
DMN136-99.5	136	6.80	32	/	/	25	1.0	2350	2800x1100x2550
DMN163-99.5	163	8.2	40	40	40	25	/	2650	2100x1350x2620
DMN195-99.5	195	9.8	40	40	40	25	/	2600	2100x1350x2620
DMN230-99.5	230	11.5	40	40	40	32	/	3000	2100x1350x2620
DMN340-99.5	340	17.0	65	65	50	50	/	3900	2400x1500x3200
DMN458-99.5	458	22.9	65	65	50	40	/	4700	2500x1700x3400
DMN574-99.5	574	28.7	65	65	50	50	/	5450	2500x1700x3400
DMN704-99.5	704	35.2	80	80	50	50	/	6800	3000x2000x3600
DMN889-99.5	889	44.5	80	80	80	65	/	8800	3200x2200x3800
DMN1151-99.5	1151	57.6	100	100	80	80	/	11100	3400x2200x4000
DMN1403-99.5	1403	70.2	100	100	80	80	/	12500	3600x2400x4300
DMN1685-99.5	1685	84.3	125	125	80	80	/	14700	3600x2400x4500
DMN2296-99.5	2296	114.8	150	150	100	100	/	21500	4000x2700x5200

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Nitrogen production design condition: Ambient temperature 20°C, rated working pressure 0.7–0.8 MPa.
Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

05 Technical Specifications

DMN-99.9 PSA Nitrogen Generator Nitrogen Purity：99.9%

Model	Nitrogen Production Capacit Nm³/h	Compressed Air Consumption Nm³/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m³	Weight kg	Dimensions mm
DMN22-99.9	22	1.29	20	/	/	15	0.3	1000	2300x850x1900
DMN26-99.9	26	1.52	25	/	/	20	0.3	1350	2300x850x1850
DMN47-99.9	47	2.75	25	/	/	20	0.6	1550	2500x1000x2300
DMN63-99.9	63	3.68	25	/	/	20	1.0	2000	2800x1100x2550
DMN78-99.9	78	4.55	32	/	/	20	1.0	2200	2800x1100x2550
DMN94-99.9	94	5.49	32	/	/	25	1.0	2350	2800x1100x2550
DMN113-99.9	113	6.6	40	40	40	25	/	2650	2100x1350x2620
DMN135-99.9	135	7.9	40	40	40	25	/	2600	2100x1350x2620
DMN159-99.9	159	9.3	40	40	40	32	/	3000	2100x1350x2620
DMN235-99.9	235	13.8	50	50	40	32	/	3900	2400x1500x3200
DMN316-99.9	316	18.5	65	65	50	40	/	4700	2500x1700x3400
DMN396-99.9	396	23.1	65	65	50	50	/	5450	2500x1700x3400
DMN486-99.9	486	28.4	80	80	50	50	/	6800	3000x2000x3600
DMN613-99.9	613	35.8	80	80	80	65	/	8800	3200x2200x3800
DMN794-99.9	794	46.4	100	100	80	80	/	11100	3400x2200x4000
DMN968-99.9	968	56.5	100	100	80	80	/	12500	3600x2400x4300
DMN1162-99.9	1162	67.8	125	125	80	80	/	14700	3600x2400x4500
DMN1583-99.9	1583	92.4	150	150	100	100	/	21500	4000x2700x5200

The company reserves the right to modify the design and specifications of its products for continuous improvement without prior notice.

Notes:
Nitrogen production design condition: Ambient temperature 20°C, rated working pressure 0.7–0.8 MPa.
Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

PSA Nitrogen Generator

05 Technical Specifications

DMN-99.99 PSA Nitrogen Generator Nitrogen Purity：99.99%

Model	Nitrogen Production Capacit Nm^3/h	Compressed Air Consumption Nm^3/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m^3	Weight kg	Dimensions mm
DMN14-99.99	14	1.05	20	/	/	15	0.3	1000	2300x850x1900
DMN16-99.99	16	1.20	25	/	/	20	0.3	1350	2300x850x1850
DMN28-99.99	28	2.10	25	/	/	20	0.6	1550	2500x1000x2300
DMN38-99.99	38	2.85	25	/	/	20	1.0	2000	2800x1100x2550
DMN47-99.99	47	3.53	32	/	/	20	1.0	2200	2800x1100x2550
DMN57-99.99	57	4.28	32	/	/	25	1.0	2350	2800x1100x2550
DMN68-99.99	68	5.1	40	40	40	25	/	2650	2100x1350x2620
DMN81-99.99	81	6.1	40	40	40	25	/	2600	2100x1350x2620
DMN95-99.99	95	7.2	40	40	40	32	/	3000	2100x1350x2620
DMN141-99.99	141	10.6	50	50	40	32	/	3900	2400x1500x3200
DMN190-99.99	190	14.3	65	65	50	40	/	4700	2500x1700x3400
DMN238-99.99	238	17.9	65	65	50	50	/	5450	2500x1700x3400
DMN292-99.99	292	21.9	65	65	50	40	/	6800	3000x2000x3600
DMN368-99.99	368	27.6	65	65	50	50	/	8800	3200x2200x3800
DMN397-99.99	397	29.8	80	80	50	50	/	11100	3400x2200x4000
DMN581-99.99	581	43.6	100	100	50	50	/	12500	3600x2400x4300
DMN698-99.99	698	52.4	100	100	80	65	/	14700	3600x2400x4500
DMN950-99.99	950	71.3	125	125	80	80	/	21500	4000x2700x5200

The company reserves the right to modify the design and specifications of its products for continuous improvement without prior notice.

Notes:
Nitrogen production design condition: Ambient temperature 20°C, rated working pressure 0.7–0.8 MPa.
Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

05 Technical Specifications

DMN-99.999 PSA Nitrogen Generator Nitrogen Purity：99.999%

Model	Nitrogen Production Capacit Nm^3/h	Compressed Air Consumption Nm^3/min	Air Inlet DN/mm	Crude Nitrogen Outlet DN/mm	Return Gas Outlet DN/mm	Nitrogen Outlet DN/mm	Adsorption Tower m^3	Weight kg	Dimensions mm
DMN10-99.999	10	0.92	20	/	/	15	0.3	1000	2300x850x1900
DMN11-99.999	11	1.01	25	/	/	20	0.3	1350	2300x850x1850
DMN20-99.999	20	1.84	25	/	/	20	0.6	1550	2500x1000x2300
DMN27-99.999	27	2.48	25	/	/	20	1.0	2000	2800x1100x2550
DMN33-99.999	33	3.03	32	/	/	20	1.0	2200	2800x1100x2550
DMN40-99.999	40	3.67	32	/	/	25	1.0	2350	2800x1100x2550
DMN48-99.999	48	4.4	40	40	40	25	/	2650	2100x1350x2620
DMN58-99.999	58	5.4	40	40	40	25	/	2600	2100x1350x2620
DMN68-99.999	68	6.3	40	40	40	32	/	3000	2100x1350x2620
DMN100-99.999	100	9.2	50	50	40	32	/	3900	2400x1500x3200
DMN135-99.999	135	12.4	65	65	50	40	/	4700	2500x1700x3400
DMN169-99.999	169	15.5	65	65	50	50	/	5450	2500x1700x3400
DMN207-99.999	207	19.0	65	65	50	40	/	6800	3000x2000x3600
DMN261-99.999	261	24.0	65	65	50	50	/	8800	3200x2200x3800
DMN338-99.999	338	31.0	80	80	50	50	/	11100	3400x2200x4000
DMN412-99.999	412	37.8	100	100	50	50	/	12500	3600x2400x4300
DMN494-99.999	494	45.3	100	100	80	65	/	14700	3600x2400x4500
DMN673-99.999	673	61.7	125	125	80	80	/	21500	4000x2700x5200

The company reserves the right to modify the design and specifications of its products for continuous improvement without prior notice.

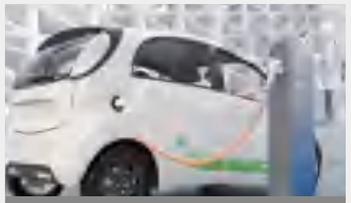
Notes:
Nitrogen production design condition: Ambient temperature 20°C, rated working pressure 0.7–0.8 MPa.
Nm^3/h and Nm^3/min are based on standard conditions: Temperature 20°C, pressure 0.101325 MPa.
Compressed air consumption refers to clean and dry compressed air after treatment by the air dryer and filters.
Models without specified adsorption tower capacity require customized process tower configuration.

Industry Applications


Heat Treatment Industry


Steel Industry


Copper Processing Industry


Lithium Battery Industry

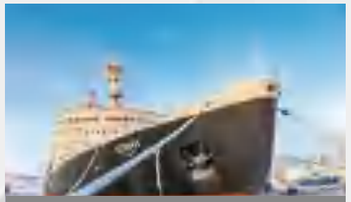

Petrochemical Industry


Electronics Industry


Powder Metallurgy Industry




Medical Industry

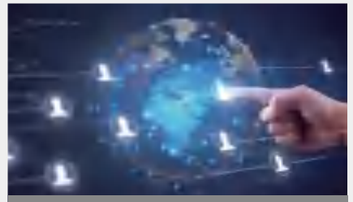

Shipbuilding Industry


Environmental Protection Industry


Automotive Parts Industry


Cable Industry


Home Appliance Industry


Overseas Customers

Demargo®

Nitrogen Purity Application Industries

Chemical & New Material Industry

Nitrogen Purity: 95–99.9%

Commonly used for chemical raw materials, pipeline purging, gas replacement, protective gas, product transportation, etc.
Main applications include chemical industry, coal chemical industry, rubber, plastics, tires, pharmaceuticals, biotechnology, semiconductor and other fields.

Pharmaceutical & Food Industry

Nitrogen Purity: 99–99.9%

Mainly used for food packaging, food preservation, pharmaceutical packaging, pharmaceutical storage, and pharmaceutical gas transportation.
Through processes such as oil removal, dust removal, and dehumidification, high-quality nitrogen with purity above 99% or 99.9% can be obtained to meet the special requirements of these industries.

Electronics Industry

Nitrogen Purity: 99.9–99.999%

Generally used for electronic product packaging, welding, sintering, annealing, reduction, storage, and other processes.
Main applications include semiconductor manufacturing, integrated circuits, liquid crystal displays, electronic components, battery manufacturing, electronic devices, and other industries.
Due to the high requirements for nitrogen quality, nitrogen purification equipment is required to provide nitrogen with purity above 99.999%, dew point below -65°C, and high-quality nitrogen gas.

Metallurgy & Metal Processing Industry

Nitrogen Purity: ⩾99.999%

Used for metal protection gas, welding protection gas, heat treatment, surface treatment, cleaning and purging gas, etc.
Widely applied in vacuum heat treatment, powder metallurgy, magnetic materials, machining, metal mesh, wire processing, semiconductor manufacturing, and other fields. Nitrogen with purity above 99.999% is obtained through nitrogen purification equipment, with a dew point below -65°C, providing high-quality nitrogen gas.

