

# Catalog For

Nitrogen production, Oxygen production,  
Hydrogen production, Gas purification, Gas engineering

## Jiangsu Geso Equipment Co., Ltd



- Variable Pressure Adsorption Nitrogen Generator P01
- Variable pressure adsorption oxygen generator P07
- Carbonization and Deoxidation Gas Purification and Nitrogen Generation Plant P09
- Hydrodeoxygenation gas purification and nitrogen production plant P11





# COMPANY PROFILE

## Superior Quality and Intelligent Future

Geso is a global aerodynamic systems group of companies, wholly owned by BAE GESO SYSTEMS, headquartered in London, United Kingdom, and a leader in the European gases sector.

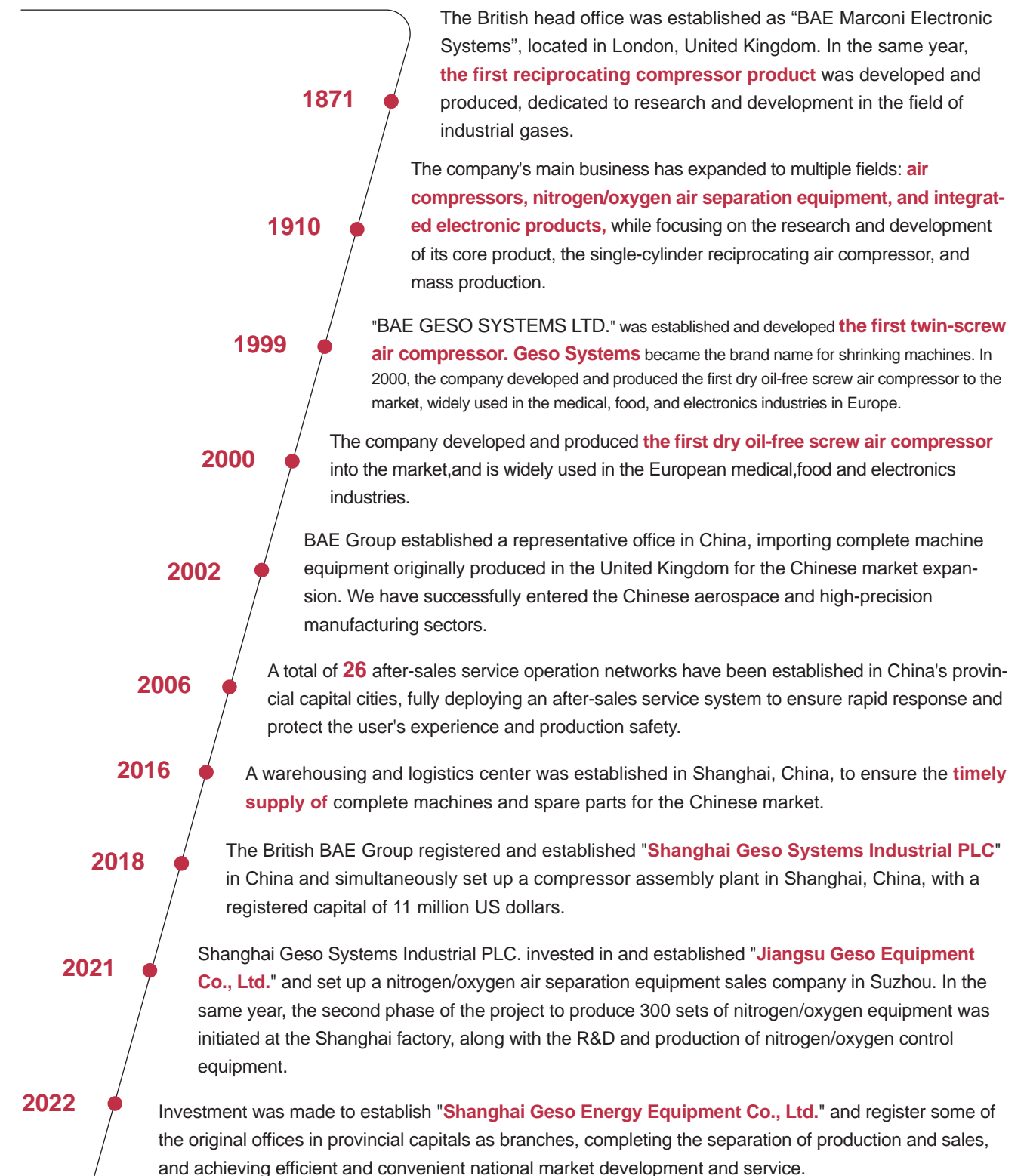
BAE Systems, the parent company of Geso Group, was founded in 1871 and is committed to the research, development and production of industrial gases. In 2002, BAE Systems set up a representative office in China, importing products from the United Kingdom to China and deploying after-sales service offices in China. In 2018 BAE Systems established a wholly-owned company "Shanghai Geso systems Industrial PLC" and invested 11 million U.S. dollars to build an intelligent production and manufacturing center, committed to R&D, production and market expansion. Our products include energy-saving screw air compressors, nitrogen/oxygen generators, dry oil-free air compressors, water-injected oil-free air compressors, mobile air compressors, process gas compressors, medium and high pressure screw air compressors, centrifugal air compressors, etc., which are widely used in various industrial production. The group has three companies, "Shanghai Geso systems Industry PLC", "Jiangsu Geso Equipment Co., Ltd.", "Shanghai Geso Energy Equipment Co., Ltd." with over 30 branches and offices and more than 200 distributors nationwide, providing high-quality intelligent and energy-saving air compressor system solutions for various industries energy-saving programs to reduce users' cost to ensure their satisfaction with our energy-saving effect. We have been selected as one of the top ten brands for three consecutive years by third-party organizations such as China Brand Network. As a global aerodynamic system provider, we continue to lead the industry.

Jiangsu Geso Equipment Co., Ltd. is mainly engaged in the development and production of PSA Nitrogen Generator, Membrane Separation Nitrogen Generator, PSA Oxygen Generator, VPSA Oxygen Generator, Ammonia Decomposition Hydrogen Generator, Variable Pressure Adsorption VPSA Hydrogen Generator, Gas Purification Device, Gas Proportioning Device developed and produced by Geso Group. As a global aerodynamic systems group, we carry the mission of innovation, quality, and service. Whether it involves energy saving, environmental protection, or intelligent solutions, we always place customer experience at the forefront and value the dedication of hard-working people.

Geso aims to build a globally recognized brand of fluid machinery and continue to lead the industry in high-end, energy-saving products.

## DEVELOPMENT HISTORY

## GESO SYSTEMS





# Variable Pressure Adsorption Nitrogen Generator

**GESO SYSTEMS**

## Product

### 01 Product Principle

Variable pressure adsorption nitrogen generator takes clean compressed air as raw material and carbon molecular sieve as adsorbent, and utilizes the principle of variable pressure adsorption to obtain nitrogen at room temperature. According to the difference of the adsorption amount of oxygen and nitrogen in the air on the surface of carbon molecular sieve and the diffusion rate of oxygen and nitrogen in the carbon molecular sieve, the opening and closing of the programmable controller controls the programmed valve, realizing the process of adsorption under pressure and desorption under reduced pressure, completing the separation of oxygen and nitrogen, and obtaining the nitrogen with the required purity.



### 02 Product Features

- Fast startup, 15-30 minutes to deliver qualified nitrogen gas
- Fully automatic operation of the equipment, the whole process can be realized unattended
- Highly efficient molecular sieve loading, tighter, more solid, longer service life
- Pressure, purity and flow rate are stable and adjustable to meet different needs of customers.
- Reasonable structure, advanced process, safe and stable, low energy consumption

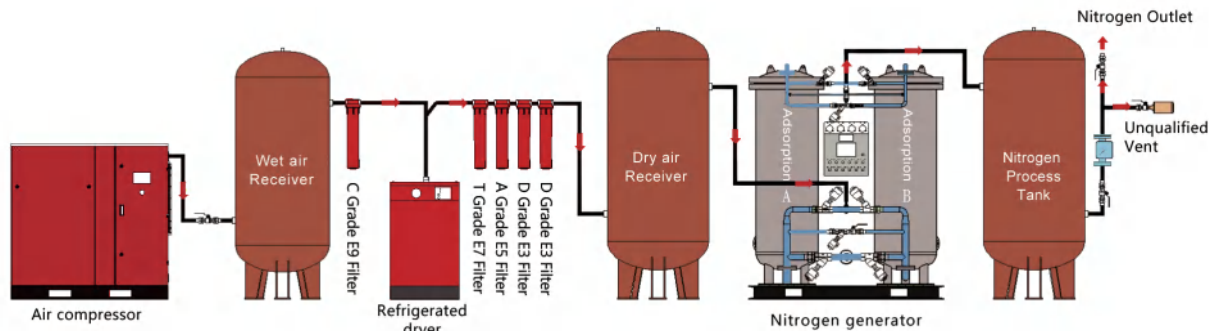
### 03 Technical Indicators

Pressure, purity, and flow rate are stable and adjustable to meet the different needs of customers

- Flow rate : 5~3000Nm<sup>3</sup>/hr
- Purity : 95%~99.999%
- Pressure : ≤0.8Mpa ( adjustable )
- Normal pressure dew point : ≤-40°C (lower can be customized)

Note : For lower oxygen content and dew point requirements, a nitrogen purification unit is available as an option.

### 04 Process Flow



### 05 Technical Parameters

GSN-97 Nitrogen Generator Nitrogen purity: 97%

Model	Nitrogen production (Nm <sup>3</sup> /h)	Effective air consumption (Nm <sup>3</sup> /min)	Inlet pipe size (DNmm)	Outlet pipe diameter (DNmm)	Host L×W(mm)
GSN10-97	10	0.38	15	15	850×450
GSN20-97	20	0.71	15	15	850×450
GSN30-97	30	1.11	25	15	1150×600
GSN40-97	40	1.52	25	25	1150×600
GSN50-97	50	1.81	32	25	1200×700
GSN60-97	60	2.23	32	25	1250×900
GSN70-97	70	2.61	32	25	1250×900
GSN80-97	80	3.0	40	25	1260×900
GSN100-97	100	3.7	40	25	1350×950
GSN150-97	150	5.6	50	32	1750×1000
GSN200-97	200	7.5	50	32	2150×1100
GSN300-97	300	11.0	65	40	2250×1150
GSN400-97	400	15.0	65	40	2500×1150
GSN500-97	500	18.0	80	50	2750×1450
GSN600-97	600	22.0	80	50	2850×1550
GSN700-97	700	23.0	80	50	2850×1550
GSN800-97	800	30.0	100	65	3000×1650
GSN900-97	900	32.0	100	65	3000×1650
GSN1000-97	1000	37.0	100	65	3100×1700
GSN1500-97	1500	56.0	125	80	3250×1800
GSN2000-97	2000	75.0	150	100	3500×2150
GSN3000-97	3000	110	200	100	4400×3150

The data listed in this table are based on 0.8Mpa(G) raw air, ambient temperature of 20°, 0 meter elevation and 80% relative humidity as the design basis.

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products, and The Parameters Will Be Changed Without Prior Notice.

# Variable Pressure Adsorption Nitrogen Generator

**GESO SYSTEMS**

## Product

05 Technical Parameters GSN-99 Nitrogen Generator Nitrogen purity: 99%

Model	Nitrogen production (Nm³/h)	Effective air consumption (Nm³/min)	Inlet pipe size (DNmm)	Outlet pipe diameter (DNmm)	Host L×W(mm)
GSN10-99	10	0.41	15	15	850×450
GSN20-99	20	0.81	15	15	850×450
GSN30-99	30	1.22	25	15	1150×600
GSN40-99	40	1.59	25	25	1150×600
GSN50-99	50	1.98	32	25	1200×700
GSN60-99	60	2.3	32	25	1250×900
GSN70-99	70	2.8	32	25	1250×900
GSN80-99	80	3.1	40	25	1250×900
GSN100-99	100	4	40	25	1350×950
GSN150-99	150	6.1	50	32	1750×1000
GSN200-99	200	8.1	50	32	2150×1100
GSN300-99	300	12	65	40	2250×1150
GSN400-99	400	18	65	40	2500×1150
GSN500-99	500	20	80	50	2750×1450
GSN600-99	600	24	80	50	2850×1550
GSN700-99	700	25	80	50	2850×1550
GSN800-99	800	32	100	65	3000×1650
GSN900-99	900	34	100	65	3000×1650
GSN1000-99	1000	40	100	65	3100×1700
GSN1500-99	1500	60	125	80	3250×1800
GSN2000-99	2000	80	150	100	3500×2150
GSN3000-99	3000	120	200	100	4400×3150

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products,and The Parameters Will Be Changed Without Prior Notice.

05 Technical Parameters GSN-99.5 Nitrogen Generator Nitrogen purity: 99.5%

Model	Nitrogen production (Nm³/h)	Effective air consumption (Nm³/min)	Inlet pipe size (DNmm)	Outlet pipe diameter (DNmm)	Host L×W(mm)
GSN30-99.5	30	1.4	25	15	1200×600
GSN40-99.5	40	1.9	25	25	1250×900
GSN50-99.5	50	2.3	32	25	1260×900
GSN60-99.5	60	2.8	32	25	1350×950
GSN70-99.5	70	3.3	32	25	1350×950
GSN80-99.5	80	3.7	40	25	1750×1000
GSN100-99.5	100	4.7	40	25	2150×1100
GSN150-99.5	150	7.0	50	32	2250×1150
GSN200-99.5	200	9	50	32	2500×1150
GSN300-99.5	300	14	65	40	2750×1450
GSN400-99.5	400	19	65	40	2850×1550
GSN500-99.5	500	24	80	50	3000×1650
GSN600-99.5	600	28	80	50	3100×1700
GSN700-99.5	700	32	80	50	3100×1700
GSN800-99.5	800	37	100	65	3250×1800
GSN900-99.5	900	42	100	65	3250×1800
GSN1000-99.5	1000	47	125	65	3500×2450
GSN1500-99.5	1500	75	150	80	3800×2150
GSN2000-99.5	2000	95	200	100	4400×3150
GSN3000-99.5	3000	140	250	125	5100×3300

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products,and The Parameters Will Be Changed Without Prior Notice.



# Variable Pressure Adsorption Nitrogen Generator

**GESO SYSTEMS**

## Product

### 05 Technical Parameters GSN-99.9 Nitrogen Generator Nitrogen purity: 99.9%

Model	Nitrogen production (Nm³/h)	Effective air consumption (Nm³/min)	Inlet pipe size (DNmm)	Outlet pipe diameter (DNmm)	Host L×W(mm)
GSN10-99.9	10	0.61	15	15	1150×600
GSN20-99.9	20	1.22	25	15	1200×700
GSN30-99.9	30	1.82	25	15	1250×900
GSN40-99.9	40	2.44	25	25	1350×950
GSN50-99.9	50	3.03	32	25	1750×1000
GSN60-99.9	60	3.65	32	25	2150×1100
GSN70-99.9	70	4.26	32	25	2150×1100
GSN80-99.9	80	4.87	40	25	2250×1150
GSN100-99.9	100	6	40	25	2250×1150
GSN150-99.9	150	9	50	32	2500×1150
GSN200-99.9	200	12	50	32	2750×1450
GSN300-99.9	300	18	65	40	3000×1650
GSN400-99.9	400	24	80	50	3100×1700
GSN500-99.9	500	30	80	50	3250×1800
GSN600-99.9	600	37	100	65	3500×2150
GSN700-99.9	700	45	100	65	3500×2150
GSN800-99.9	800	48	125	65	3500×2150
GSN900-99.9	900	56	125	65	3500×2150
GSN1000-99.9	1000	62	150	65	3500×2150
GSN1500-99.9	1500	92	150	80	4400×3150
GSN2000-99.9	2000	124	200	100	5100×3300
GSN3000-99.9	3000	185	300	200	4400×4400

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products,and The Parameters Will Be Changed Without Prior Notice.

### 05 Technical Parameters GSN-99.99 Nitrogen Generator Nitrogen purity: 99.99%

Model	Nitrogen production (Nm³/h)	Effective air consumption (Nm³/min)	Inlet pipe size (DNmm)	Outlet pipe diameter (DNmm)	Host L×W(mm)
GSN5-99.99	5	0.42	15	15	1150×600
GSN10-99.99	10	0.84	15	15	1150×600
GSN20-99.99	20	1.68	25	15	1260×900
GSN30-99.99	30	2.52	32	15	1750×1000
GSN40-99.99	40	3.36	40	20	1750×1000
GSN50-99.99	50	4.2	40	20	2150×1100
GSN60-99.99	60	5.04	50	20	2250×1150
GSN70-99.99	70	5.88	50	20	2250×1150
GSN80-99.99	80	6.72	50	25	2250×1150
GSN100-99.99	100	7.5	50	25	2500×1150
GSN150-99.99	150	12	65	25	2750×1450
GSN200-99.99	200	15	80	30	2850×1550
GSN300-99.99	300	23	80	40	3100×1700
GSN400-99.99	400	30	100	50	3250×1800
GSN500-99.99	500	40	125	50	3500×2150
GSN600-99.99	600	50	125	65	3500×2150
GSN700-99.99	700	60	125	65	3500×2150
GSN800-99.99	800	70	150	65	3500×2150
GSN900-99.99	900	80	150	65	3500×2150
GSN1000-99.99	1000	90	200	80	4400×3150

### GSN-99.999 Nitrogen Generator Nitrogen purity: 99.999%

Model	Nitrogen production (Nm³/h)	Effective air consumption (Nm³/min)	Inlet pipe size (DNmm)	Outlet pipe diameter (DNmm)	Host L×W(mm)
GSN5-99.999	5	0.7	25	15	1150×600
GSN10-99.999	10	1.4	25	15	1250×880
GSN20-99.999	20	2.8	40	15	1750×1000
GSN30-99.999	30	4.2	40	25	2150×1100
GSN40-99.999	40	5.6	50	25	2250×1140
GSN50-99.999	50	7.0	50	25	2500×1150
GSN60-99.999	60	8.4	50	25	2750×1450
GSN80-99.999	80	11.2	65	32	2750×1450
GSN100-99.999	100	14.0	65	32	2850×1550
GSN200-99.999	200	28.0	65	32	3250×1820
GSN300-99.999	300	42.0	80	40	3500×2150

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products,and The Parameters Will Be Changed Without Prior Notice.

# Variable Pressure Adsorption Oxygen Generator

**GESO SYSTEMS**

## Product

### 01 Product Principle

GESO Oxygen Concentrator is a fully automated equipment that uses zeolite molecular sieve as adsorbent, utilizes the difference of adsorption amount oxygen and nitrogen on the surface of the molecular sieve in compressed air, and produces oxygen directly from compressed air by the principle of adsorption under pressure and desorption under reduced pressure.



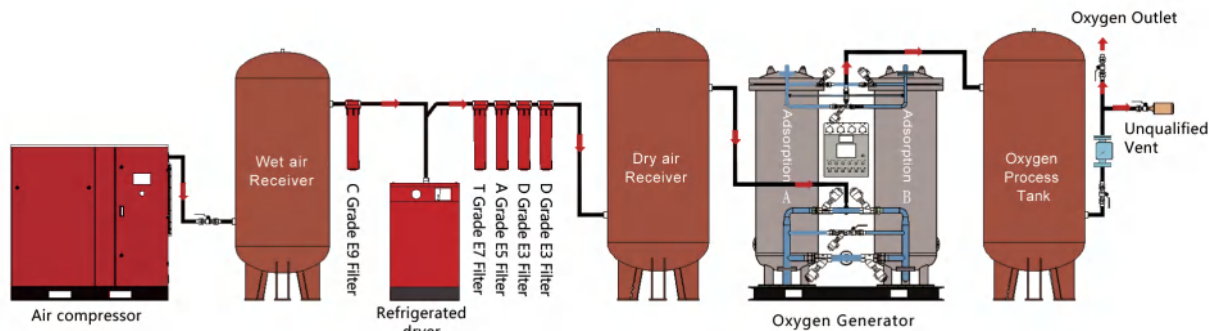
### 02 Product Features

- Fast start-up, qualified oxygen can be provided in 15-30 minutes
- Fully automatic operation of the equipment, the whole process can be realized unattended
- Highly efficient molecular sieve loading, tighter, more solid, longer service life
- Pressure, purity and flow rate are stable and adjustable to meet different needs of customers.
- Reasonable structure, advanced process, safe and stable, small energy consumption

### 03 Technical Indicators

- Oxygen output : 1~200Nm<sup>3</sup>/h (under standard condition)
- Oxygen purity : 93±3% (gauge pressure)
- Oxygen pressure : 0.01~0.4Mpa ( stable and adjustable )
- Oxygen dew point : -40°C~-60°C (atmospheric dew point)

### 04 Process Flow



### 05 Technical Parameters

Model	Oxidation production (Nm <sup>3</sup> /h)	Effective air consumption (Nm <sup>3</sup> /min)	Inlet Pipe Diameter (DN mm)	Outlet Pipe Diameter (DN mm)	Air purification system	Host L×W×H (mm)
GSO3-93	3	0.65	25	25	BM7-1	1300×1200×2000
GSO5-93	5	1.1	25	25	BM7-2	1400×1300×2000
GSO10-93	10	2.16	32	25	BM7-3	1500×1300×2300
GSO15-93	15	3.25	40	25	BM7-6	1600×1400×2500
GSO20-93	20	4.33	40	25	BM7-6	3100×800×2500
GSO25-93	25	5.42	50	25	BM7-6	3400×900×2800
GSO30-93	30	6.5	50	25	BM7-10	3800×1000×3100
GSO40-93	40	8.66	50	25	BM7-10	4300×1200×3000
GSO50-93	50	10.8	65	25	BM7-16	4600×1200×3200
GSO60-93	60	13	65	25	BM7-16	5200×1400×3400
GSO80-93	80	17.3	80	25	BM7-20	5700×1600×3300
GSO100-93	100	21.6	80	25	BM7-25	6100×1600×3800
GSO120-93	120	26	100	32	BM7-30	6500×1600×4800
GSO150-93	150	32.5	100	32	BM7-35	7400×2200×3500
GSO200-93	200	43.3	125	40	BM7-50	9500×2200×4100

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products, and The Parameters Will Be Changed Without Prior Notice.



# Carbonization and deoxygenation gas Purification And Nitrogen Production

**GESO SYSTEMS**

## Product

### 01 Product Principle

At a certain temperature, the residual oxygen in the low purity nitrogen reacts with the carbon provided by the carbon-loaded catalyst in an oxidizing reaction:  $C + O_2 = CO_2$  the generated  $CO_2$  is removed by the variable pressure adsorption process and deeply dehydrated to obtain high purity nitrogen.



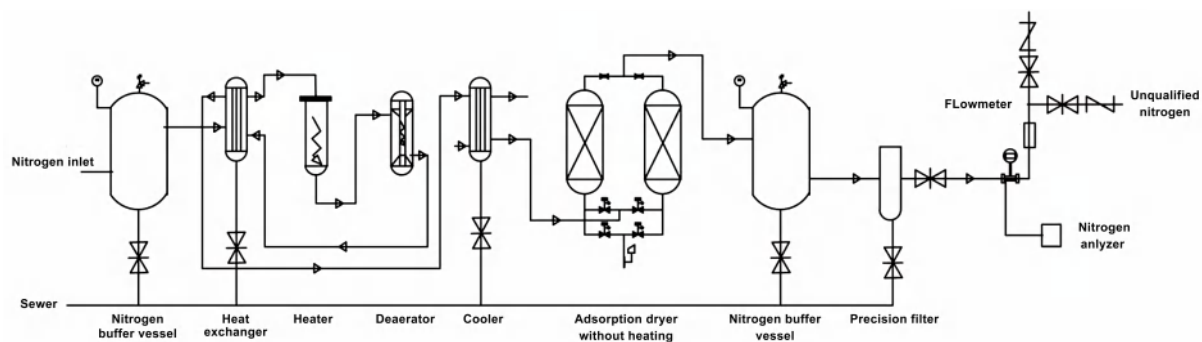
### 02 Product Features

- Stable, with oxygen levels below 5PPM at all times
- High purity, nitrogen purity at 99.9995% can maintain long-term stability
- Good reliability, manufactured in accordance with international standards
- With a variety of fault diagnosis, alarm and automatic processing functions.

### 03 Technical Indicators

- Nitrogen flow rate : 1~3000Nm<sup>3</sup>/H
- Nitrogen purity : ≥99.9998% (non-oxygen content)
- Oxygen pressure : 0.1~0.7Mpa (adjustable)
- Pressure dew point : ≤-60°C

### 04 Process Flow



### 05 Technical Parameters

Model	Inlet flow (Nm <sup>3</sup> /h)	Outlet flow (Nm <sup>3</sup> /h)	Inlet and outlet	Power kW	Circulating Water T/h
GSN-CP (A) 30	≤ 33	≤ 30	G3/4"	6	0.5
GSN-CP (A) 60	≤ 66	≤ 60	G1"	13.5	0.5
GSN-CP (A) 100	≤ 110	≤ 100	G1 1/4"	21	1.0
GSN-CP (A) 150	≤ 165	≤ 150	G2"	27	1.0
GSN-CP (A) 200	≤ 220	≤ 200	GDN65	33	1.5
GSN-CP (A) 300	≤ 330	≤ 300	DN65	42	2.0
GSN-CP (A) 600	≤ 660	≤ 600	DN65	48	3.0
GSN-CP (A) 1000	≤ 1100	≤ 1000	DN80	67	4.0

The Company Has The Right To Change The Design For The Continuous Improvement Of The Products, and The Parameters Will Be Changed Without Prior Notice.

# Hydrodeoxygenation gas purification And Nitrogen Production

**GESO SYSTEMS**

## Product

### 01 Product Principle

Under the action of catalyst, the oxygen in the low purity nitrogen gas reacts with the hydrogen added in the system to form water, further dehydrogenation is carried out after removing the residual oxygen (no dehydrogenation is needed if there is no requirement for hydrogen excess] and then it enters into the drying system for deep dewatering, so that high purity nitrogen gas can be obtained.



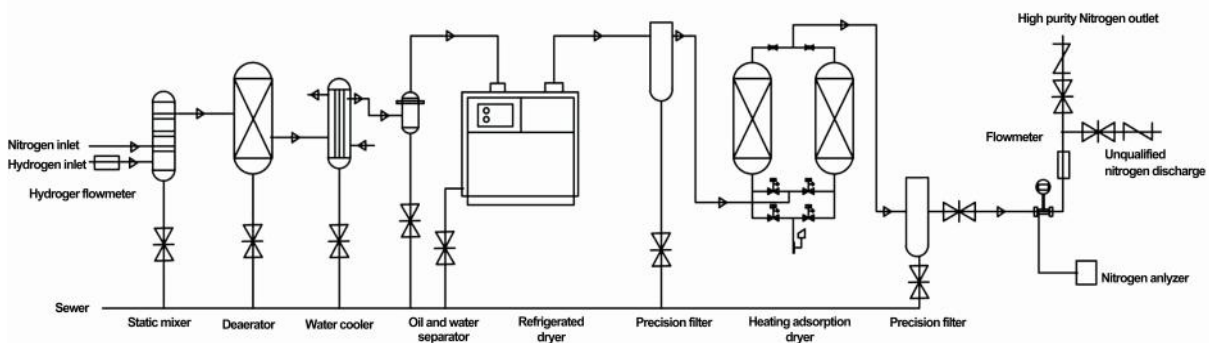
### 02 Product Features

- Optional automatic hydrogenation proportioning device, high precision control, safety and reliability
- New energy-saving process, so that the system operation energy consumption is greatly reduced
- Automatic venting device to ensure the quality of finished gas
- The key components in the system adopt famous brands, which is an effective guarantee for the quality of the equipment.
- A variety of fault diagnosis, alarm and automatic processing functions;
- A centralized monitoring system for the auxiliary equipment such as pressure-variable adsorption nitrogen equipment and hydrogen production equipment is available as an option:
- DCS communication interface is optional

### 03 Technical Indicators

- Nitrogen flow rate : 1~3000Nm<sup>3</sup>/H
- Nitrogen purity : ≥99.9998% (non-oxygen content)
- Oxygen pressure : 0.1~0.7Mpa ( adjustable )
- Pressure dew point : ≤ -60°C

### 04 Process Flow



### 05 Technical Parameters

Model	Inlet flow (Nm <sup>3</sup> /h)	Outlet flow (Nm <sup>3</sup> /h)	Hydrogenation (Nm <sup>3</sup> /h)	Inlet and outlet	Power kW	Circulating Water T/h	Overall dimensions L×W×H (mm)
GSN-HP 20	22	20	0.44	G1"	2.1	0.3	1950x1000x2200
GSN-HP 40	44	40	0.88	G1"	2.1	0.3	1950x1000x2200
GSN-HP 60	66	60	1.32	G1"	5.5	0.3	2000x1250x2500
GSN-HP 80	88	80	1.76	G1 1/2"	5.5	0.3	2000x1250x2500
GSN-HP 100	110	100	2.2	G1 1/2"	7.0	0.4	2300x1350x2500
GSN-HP 150	165	150	3.3	G1 1/2"	7.0	0.4	2300x1350x2500
GSN-HP 200	220	200	4.4	G2"	14.7	0.5	2500x1800x3000
GSN-HP 300	330	300	6.6	G2"	14.7	0.6	2500x1800x3000
GSN-HP 400	440	400	8.8	DN65	16.5	0.8	2800x1900x3000
GSN-HP 500	550	500	11.0	DN80	16.5	1.2	2800x1900x3000
GSN-HP 600	660	600	13.2	DN80	21.0	1.5	3500x2100x3200
GSN-HP 800	880	800	17.6	DN100	22.5	1.8	3500x2100x3200
GSN-HP 1000	1100	1000	22.0	DN100	28.5	2.0	4000x2500x3500


The Company Has The Right To Change The Design For The Continuous Improvement Of The Products, and The Parameters Will Be Changed Without Prior Notice.



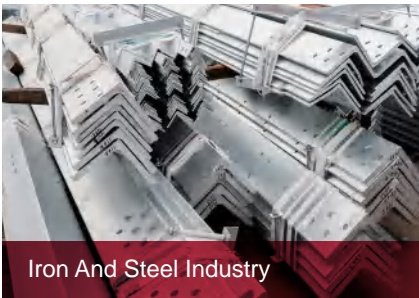
# Industry application

# Certificates

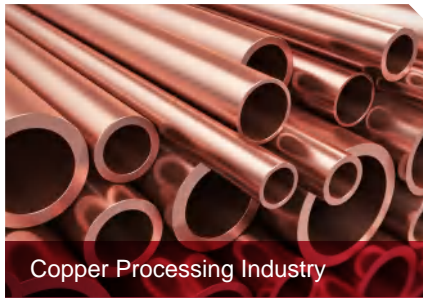
**GESO SYSTEMS**




Heat Treatment Industry




Iron And Steel Industry



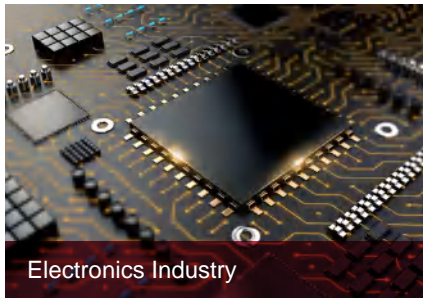
Copper Processing Industry




Lithium Battery Industry



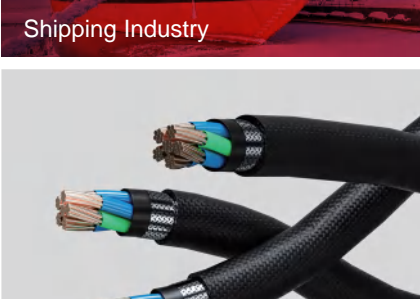
Petrochemical Industry




Electronics Industry




Powder Metallurgy Industry




Shipping Industry




Cable Industry




Environmental Protection Industry



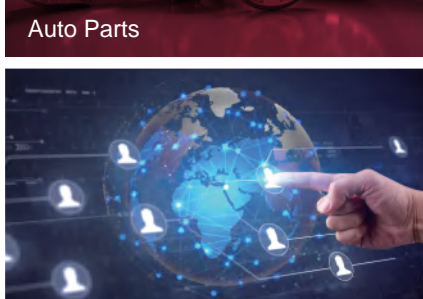
Auto Parts




Home Appliance Industry



Pharmaceutical Industry



Overseas Customer



**GESO SYSTEMS**





