QUALITY+SERVICE

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SUCCESS ENGINE GROUP LIMITED

Company Profile

SUCCESS ENGINE air separation equipment department is located in Suzhou City, which is the Chinese hometown of Gas Equipment. Our company is professionally engaged in developing and manufacturing gas equipment.

As a professional manufacturer engaged in research, production and development of Air separation equipment, we can provide customers with PSA Nitrogen Generators, PSA Oxygen Generators, PSA Hydrogen Generators, Ammonia Decomposition to Hydrogen Generators for ESAQseries, Ammonia Decomposition and purification for ESFCseries, gas purification equipment, gas recovery equipment, air purification engineering and other gas equipment, etc.

We also can provide a variety of gas supply solutions according to customer requirements, and also provide users with repair and maintenance, technical training and technical advice in respect of nitrogen, oxygen, hydrogen generating equipment and related equipment.

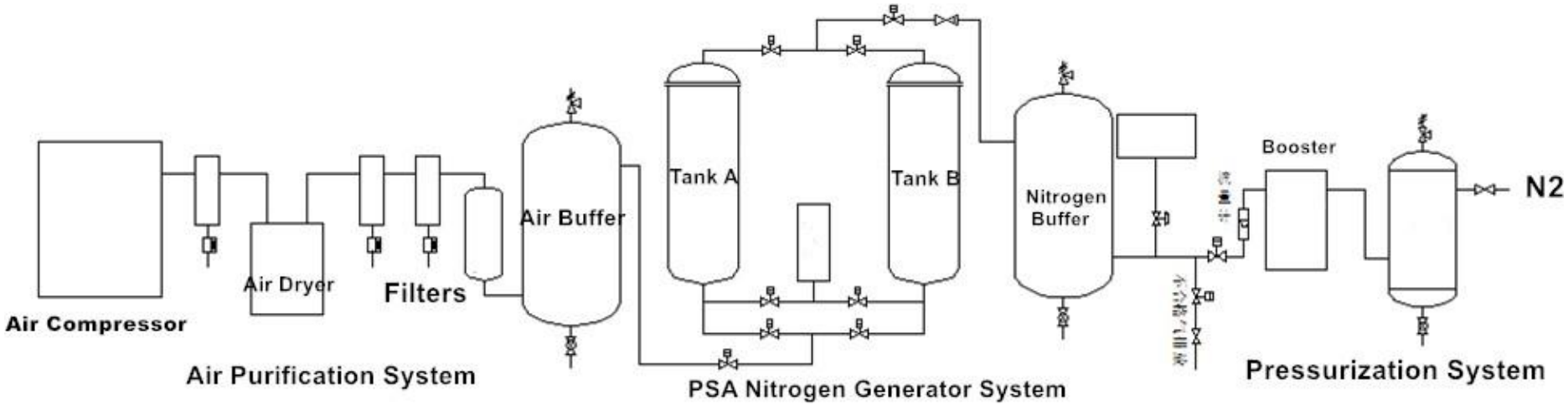
Quality is the life of an enterprise and service is the foundation of cooperation, so we always adhere to the principles of “creating the future with quality and creating the brand with services”, committed to providing users with the best products and the most satisfactory services.

PSA Nitrogen Generator

The Principles of PSA Nitrogen Generator

PSA(Pressure Swing Adsorption) is an advanced gas separation technology, based on the physical adsorption of the internal surface in the adsorbent to gas molecules, separating the gas by the characteristics of absorbing to the quantity of different gas in general pressure. The CMS (Carbon Molecular Sieve) is a sorbent picked up from the air, used in separating Oxygen and Nitrogen molecular. The absorption quantity of CMS is greatly higher for Oxygen than Nitrogen under the same pressure.

Flow Chat for PSA Nitrogen Generator



Equipment Selections

Based on the actual requirement of user, we will provide the energy-saving PSA Nitrogen Gas Generator solution.

Technical Parameter Summary

Purity	95%-99.9995%
N2 Capacity	1-2000Nm3/h
Discharge N2 Pressure	0-5.5 Bar (Normal)
N2 Dew Point	－40℃ (Normal)
Operation	Full automatic

Generally ,PSA oxygen gas generator is composed of five parts: A. Compressed Air Purification System, B. Air Tank System, C.O2/N2 Separation System, D. Nitrogen Buffer System, E. Electrical Control System.

A. Compressed Air Purification System
(1)Air Compressor
(2)First-grade Filters
(3)Refrigeration Drier
(4)Second-grade Filters
(5)Third-grade Filters
(6)Oil Removal
B. Air Tank System
(7)Air Tank

C. O_2/N_2 Separation System
(8)Absorption Tower A
(9)Absorption Tower B
(10)Closing Valve
(11)Pneumatic Valves
(12)Guided Tracheal
(13)Muffler
(14)Carbon Molecular Sieve
(15)Air-Cushion
(16)Air Distribution
(17)Wide Gas Collection
(18)Adjust Pressure Filters
(19)Cylinder
(20)Base

D. O2 Buffer System
(21)N2 Tank
(22)Flow Meter
(23)Reduce Pressure Valve
(24)Emptying Valve
(25)Export Control Valve
E. Electrical Control System
(26)N2 Analyzer
(27)Automatic Alarm
(28)PLC Controller
(29)Electromagnetic Valve

Other optional supply like nitrogen booster, high pressure nitrogen storage tank and the filling stations can be bought separately.

Model	Purity	Capacity	Model	Purity	Capacity	Model	Purity	Capacity
ESHG95-1	95%	1	ESHG99-1	99%	1	ESHG99.5-1	99.5%	1
ESHG95-5		5	ESHG99-5		5	ESHG99.5-5		5
ESHG95-10		10	ESHG99-10		10	ESHG99.5-10		10
ESHG95-20		20	ESHG99-20		20	ESHG99.5-20		20
ESHG95-30		30	ESHG99-30		30	ESHG99.5-30		30
ESHG95-40		40	ESHG99-40		40	ESHG99.5-40		40
ESHG95-50		50	ESHG99-50		50	ESHG99.5-50		50
ESHG95-100		100	ESHG99-100		100	ESHG99.5-100		100
ESHG95-120		120	ESHG99-120		120	ESHG99.5-120		120
ESHG95-150		150	ESHG99-150		150	ESHG99.5-150		150
ESHG95-200		200	ESHG99-200		200	ESHG99.5-200		200
ESHG95-500		500	ESHG99-500		500	ESHG99.5-500		500
ESHG95-800		800	ESHG99-800		800	ESHG99.5-800		800
ESHG95-1000		1000	ESHG99-1000		1000	ESHG99.5-1000		1000
ESHG95-2000		2000	ESHG99-2000		2000	ESHG99.5-2000		2000
ESHG99.9-1	99.9%	1	ESHG99.99-1	99.99%	1	ESHG99.999-1	99.999%	1
ESHG99.9-5		5	ESHG99.99-5		5	ESHG99.999-5		5
ESHG99.9-10		10	ESHG99.99-10		10	ESHG99.999-10		10
ESHG99.9-20		20	ESHG99.99-20		20	ESHG99.999-20		20
ESHG99.9-30		30	ESHG99.99-30		30	ESHG99.999-30		30
ESHG99.9-40		40	ESHG99.99-40		40	ESHG99.999-40		40
ESHG99.9-50		50	ESHG99.99-50		50	ESHG99.999-50		50
ESHG99.9-100		100	ESHG99.99-100		100	ESHG99.999-100		100
ESHG99.9-120		120	ESHG99.99-120		120	ESHG99.999-120		120
ESHG99.9-150		150	ESHG99.99-150		150	ESHG99.999-150		150
ESHG99.9-200		200	ESHG99.99-200		200	ESHG99.999-200		200
ESHG99.9-500		500	ESHG99.99-500		500	ESHG99.999-500		500
ESHG99.9-800		800	ESHG99.99-800		800	ESHG99.999-800		800
ESHG99.9-1000		1000	ESHG99.99-1000		1000	ESHG99.999-1000		1000
ESHG99.9-2000		2000	ESHG99.99-2000		2000	ESHG99.999-2000		2000

Pictures of PSA Nitrogen Generator









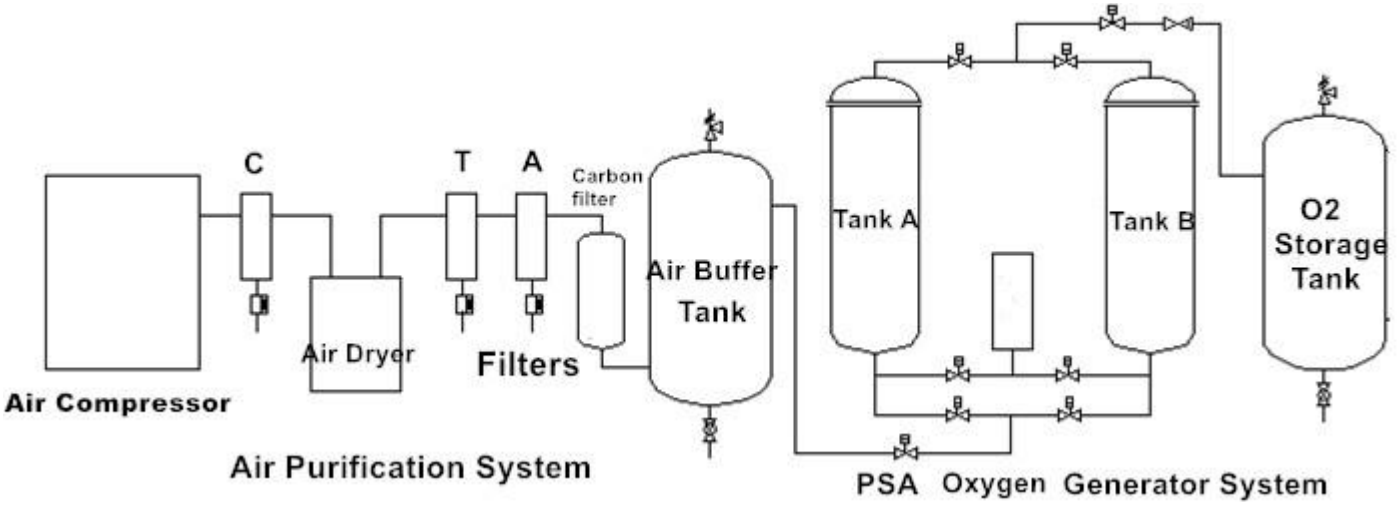


PSA Oxygen Generator

The Structure is simple for PSA Oxygen Generator with advanced technology.
It is more reliable, safer and automatic compared with Cryogenic technology to liquid oxygen and high-pressure bottled oxygen.

Features:
Low maintenance cost;
High oxygen production and low energy consumption;
Full automation and Fast start-up;
Easy to install and maintain.

Flow Chat of PSA Oxygen Generator



Equipment Selections

Based on the actual requirement of user, we will provide the energy-saving PSA Oxygen Gas Generator solution.

Technical Parameter Summary

Purity	93±2% (Normal)
O2 Capacity	1-2000Nm3/h
Discharge O2 Pressure	0-5.5 Bar (Normal)
O2 Dew Point	－40℃ (Normal)
Operation	Full automatic

Oxygen Equipment designed by SUCCESS ENGINE, mainly composed of the following components:

Air compressor
Compressed air purification components (Filters and Air Dryer)
Air buffer tank
PSA O2&N2 separation system
O2 Storage Tank

ESOG10-1000 Type Industrial Oxygen Generator

Model No.	Capacity (Nm^3/h)	Air Material (Nm^3/h)	Power consumption (W)	Length x Width（mm/mm）
ESOG-5	5	50	800	1600X1200
ESOG-10	10	100	800	1800X1500
ESOG-20	20	200	800	2000X1600
ESOG-30	30	300	800	2200X1800
ESOG-40	40	400	800	2400X1800
ESOG-50	50	500	800	2600X1800
ESOG-60	60	600	800	2600X1800
ESOG-80	80	800	800	2800X1800
ESOG-100	100	1000	800	3500X2200
ESOG-120	120	1200	800	3600X2200
ESOG-150	150	1500	800	3800X2300
ESOG-180	180	1800	800	4000X2300
ESOG-200	200	2000	800	5200X2300
ESOG-300	300	3000	800	5800X2300
ESOG-400	400	4000	800	6000X2300
ESOG-500	500	5000	800	7000X2300
ESOG-1000	1000	10000	1000	9000X2300
ESOG-2000	2000	20000	1200	12000X2300

ESOG5-200 Type Plateau Oxygen Generator

ESOG-5	5	60	800	1600X1200
ESOG-10	10	120	800	1800X1500
ESOG-20	20	240	800	2000X1600
ESOG-30	30	360	800	2200X1800
ESOG-40	40	480	800	2200X1800
ESOG-50	50	600	800	2600X1800
ESOG-60	60	720	800	2800X1800
ESOG-70	70	840	800	3000X2000
ESOG-80	80	960	800	3200X2000
ESOG-90	90	1080	800	3300X2000
ESOG-100	100	1200	800	3500X2300
ESOG-200	200	2400	800	5200X3000

Pictures of PSA Oxygen Plant









Ammonia Cracking Hydrogen Generator

Our hydrogen plant used ammonia decomposition technology, consist of decomposition machine, purifier and electric control system. Through these two system, it come out clean 25% nitrogen and 75% hydrogen. The mixed gas is mainly used as protection atmosphere in metal heat treatment, electronics, powder metallurgy reduction, sintering, chemistry industry and ceramics etc.
If needing pure hydrogen, we can add a PSA system to get the high purity ≥99%.

Advantage:

1. Low cost: This system is a simple way to get the mixture gas of N2+H2. Compared with water electrolysis technology, it is less investment, small size, low energy consumption and high efficiency.
2. Reliable performance: You can get the continuous and stable gas through the automatic temperature control instrument to control the temperature and the valve to adjust the flow.
3. Easy to operate, compact-sized, small occupied area, simple installation process without infrastructure. It can be put into normal production after connected of the water, electricity and air passages.
4. High safety, no need of the hydrogen storage tank to store hydrogen (AQ+FC)
5. PSA System is a technology to get the high purity H2 (remove 25% N2, H2 storage tank is optional).

Technical Parameter Summary

Item	AQ Decomposition Machine	FC Purifier Equipment	FQ PSA System
Gas Composition	75% H2, 25% N2	75% H2, 25% N2	≥99% H2
Residual Ammonia	≤1000ppm	≤3ppm	≤3ppm
Dew Point	≤-10℃	≤-60℃	≤-60℃
O2	≤3ppm	≤3ppm	≤2ppm
Working Pressure	0.05Mpa		0.6Mpa
Raw Material	Liquid Ammonia		75% H2+25%N2

Model No.	Capacity (Nm3/h)	Liquid Ammonia Consumption (Kg/h)	Working Temperature(℃)	Catalyst	Voltage(V)	Power(KW)	Cooling Water Consumption(t/h)
AQ-5/FC-5	5	2	800～850	Nickel Catalyst	220	5.5	--------
AQ-10/FC-10	10	4			380	12	0.2
AQ-20/FC-20	20	8			380	124	0.5
AQ-30/FC-30	30	12			380	36	1
AQ-40/FC-40	40	16			380	50	1.5
AQ-50/FC-50	50	20			380	70	2
AQ-60/FC-60	60	24			380	75	2.5
AQ-70/FC-70	70	28			380	80	3
AQ-80/FC-80	80	32			380	85	3.5
AQ-100/FC-100	100	39			380	95	4
AQ-150/FC-150	150	59			380	140	5
AQ-200/FC-200	200	77			380	180	6

Application

Widely used in manufacturing the hydrogen and nitrogen at protective atmosphere, especially for metal heating treatment, powder metallurgy electronics and others heating.as a ammonia decomposition furnace, it can make hydrogen and nitrogen as protective atmosphere in non-ferrous metal, silicon steel, chrome steel and stainless steel and other metal materials and parts it can be used in bright annealing, in silicon steel it plays a role in decarburization ,in iron processing base powder metallurgy etc.

Because of low cost of gas generating, this series of ammonia decomposition generator is specially suitable to be used as accessory equipment of industries mentioned above.

Pictures of Ammonia Cracking Hydrogen Generator









