

Hangzhou Chenrui Air Separator Installation Manufacture Co.,Ltd

Add: No.18 Chunjian Industry Park, Fuyang City, Hangzhou 311403 China

Tel: 0086-0571-63492003

Fax:0086-0571-63492916

WhatsApp: 0086-15168241330

Email: crsales-2@hzcrkf.com

Web:http://hzcrkf.en.alibaba.com

-----Daisy Fang

1. Company Information



Hangzhou Chenrui Air Separator Installation Manufacture CO., Ltd located in the city of Fuyang, Hangzhou. It's one of the most intelligent air separator equipment manufactures with low energy consumption and high efficiency in China. We focus on providing the most advanced, reasonable and energy-saving air separation equipment in this industry.

To comply with the market's demands, Chenrui always determines to pioneer, innovate and progress. It's leading in many fields like Fully implements QES management system., Achieved National Industrial Product Production License, State-level High-tech Enterprises Certification, 3 invention patents, 33 utility model patents and so on.

Continuous technological innovation and upgrading, brings the value for the whole industry and society, which makes the air separator equipments more individual, intelligent and high-speed.

Advanced production technology will surely achieve extraordinary products. Chenrui pioneered vacuum dust removal molecular sieve filling system, large shot blasting machine, automated welding process, efficient production process and excellent production environment let CHENRUI brand become the benchmark of air separation equipment manufacturing industry.

In the era of information and globalization, Chenrui always insists on building long-term cooperation with design institutes and research institutes. Based on the actual needs, it can introduce all kinds of high-tech equipments and production technology.

As a supplier of air separator equipment system, we have 5 main products:

1. PSA oxygen generator
2. PSA nitrogen generator
3. VPSA oxygen generator
4. Cryogenic air separator plant
5. Small liquid nitrogen generator

Our generators are widely used in petrochemical industry, the electronics industry, textile industry, pharmaceutical industry, food and beverage industry, medical cosmetology industry, animal husbandry and so on.

We sincerely hope to promote, by joint our efforts, both trade and friendship to our mutual advantage.

2. PSA Oxygen Generator



2.1 Technical Parameters

Oxygen capacity	3-200Nm ³ /h
Oxygen purity	90%-93%
Output pressure	0.1-0.3MPa(1-3Bar) adjustable / 15MPa filling pressure offered

2.2 Working Principle

PSA oxygen generator is an automatic equipment which separate oxygen from air. According to the performance of molecular sieve, its adsorption when pressure risen and desorption when pressure loose. Molecular sieve's surface and inner surface and interior are filled with micro pores. Nitrogen molecule has a faster diffusion rate of molecular sieve and oxygen molecules has a slower diffusion rate. Oxygen molecules are enriched in the end from the absorption tower.

Oxygen generator is constructed according to the principle of operation PSA (pressure swing adsorption) and it compressed by two absorption towers filled up with molecular sieve. The two absorption towers are crossed by compressed air (previously purified oil, water,dust, etc) . While one of the absorption tower produce oxygen, the other one release nitrogen gas to atmosphere. The process comes in cycle way. The generator is controlled by a PLC.

2.3 Oxygen Generator Applications

2.3.1. Ferrous metallurgy: For electric furnace steel making, blast furnace iron making, cupola oxygen blasting and heating and cutting, etc

2.3.2. Non-ferrous metal refinery: It can improve productivity and reduce energy cost, also protect our environment.

2.3.3. Water process: For oxygen aeration active mud process, reeration of surface water, fish farming, industrial oxidation process, humid oxygenation.

2.3.4. Customized equipment with pressure high up to 100bar, 120bar, 150bar, 200bar and 250 bar are available for cylinder filling.

2.3.5. Medical-grade O₂ gas can be obtained by equipping extra purifying device for removing bacteria, dust and odor.

2.3.6. Others: Chemical industry production, solid garbage burning, concrete production, glass manufacturing...etc.



3. PSA Nitrogen Generator



3.1 Technical Parameters

Nitrogen capacity	3-3000Nm ³ /h
Nitrogen purity	95-99.9995%
Output pressure	0.1-0.8MPa(1-8Bar) adjustable / or as customer's requirement

3.2 Working Principle

PSA nitrogen generator and PSA oxygen generator have similar principle. Molecular sieve as an adsorbent under the principle of pressure swing adsorption (PSA), will get nitrogen/oxygen from compressed air.

Perfect process design get high performance. Unique vacuum molecular sieve filling system and impacted technology increase the life of molecular sieve. Skid-mounted structure makes installation and transportation more convenient. With DCS controller system and remote output and control system. High automatic, unmanned operation.

3.3 Application

PSA Nitrogen generator system is widely used in Food packing; Food storing; Electric & Electronic industry ; Petro-gas & Oil field; Chemicals & Petro-chemicals; Coal-mine;Pharmacy; SMT; Lab; Fired-resistance; Air diving and etc.

3.4 PSA Technical Features

3.4.1. Full Automation

All systems are designed for un-attended operation and automatic nitrogen (oxygen) demand adjustment.

3.4.2. Lower Space Requirement

The design and instrument makes the plant size very compact, assembly on skids, prefabricated from factory.

3.4.3. Fast Start-up

Start-up time is only 30 minutes to get desired nitrogen (oxygen) purity. So these units can be switched ON&OFF as per nitrogen(oxygen) demand changes.

3.4.4. High Reliability

Very reliable for continuous and steady operation with constant Nitrogen purity. Plant availability time is better than 99% always.

3.4.5. Molecular Sieves life

Expected Molecular sieves life is around 15-years , so whole life time of PSA nitrogen (oxygen) generator no replacement costs.

3.4.6. Adjustable

By altering flow, you can deliver nitrogen with precisely the right purity.



4.Small Liquid Nitrogen Generator



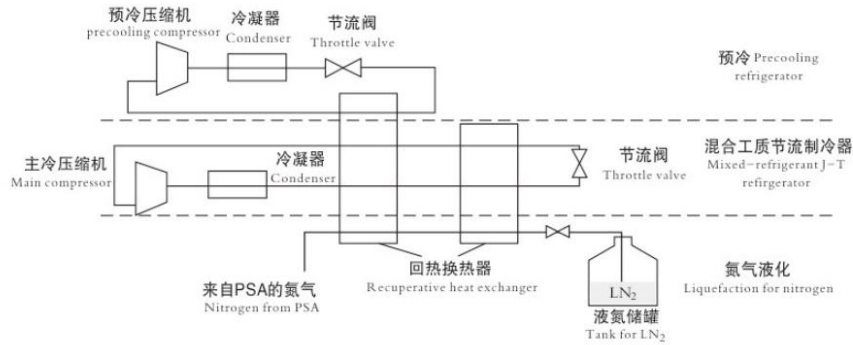
4.1 Technical Parameters

Capacity (L/h)	Power (kw)	Nitrogen gas capacity required (Nm ³ /h)	Purity	Nitrogen gas pressure required (Mpa)	Power (AC/V)
3	13.5	4	99.9% or as user's requirement	0.8	220
5	14.5	6		0.8	380
10	27.5	12		1.0	
20	54.5	30		1.0	
30	65	40		1.6	
40	81	50		1.0	
50	99.5	60		1.6	

4.2 Working Principle

Mixed-refrigerant Joule-Thomson (MRJT) refrigerator at low temperature ranges driven by single compressor with pre-cooling is applied to liquefy nitrogen (-180°C) for Nitrogen Liquefier from TIPC, CAS. MRJT, a Joule-Thomson cycle based on reoccupation and multicomponent mixed-refrigerants through optimizing various refrigerants with different boiling points with a good match along with their respective efficient refrigeration temperature ranges, is an efficient refrigerator for the temperature range from -40 to -196°C.

The feature of this product is as following: the available mature commercial compressors and heat exchanges, high liquefaction efficiency, high reliability, no maintenance and long life.



4.3 Application

- 1) Fish boat, hotel and food processing plant: food quick-freezing, Beverage processing
- 2) Hospital and beauty salon: Liquid nitrogen refrigerating apparatus, Vaccine preservation
- 3) Laboratory: transducer calibration, Specimen preservation
- 4) Farm: Embryo freezing instrument, freezing spermatozoon



4.4 Advantage

- 4.4.1. Low power consumption.
- 4.4.2. Automatic operate.
- 4.4.3. Small floor space.
- 4.4.4. Durable. Can work 24 hours per day.
- 4.4.5. One station of liquid nitrogen generator manufacture. (we supply liquid nitrogen generator, vacuum tube and liquid nitrogen dewar) .



5.VPSA Oxygen Generator



5.1 Technical Parameters

Oxygen capacity	100-10000Nm ³ /h
Oxygen purity	90-93%
Output pressure	10-15KPa or as customer's requirement

According to the roots blower will absorb at lower pressure, roots vacuum pump will analytic when in vacuum circumstance, we get oxygen from lower pressure air. With the feature of simple process flow, oxygen capacity could be under 10000Nm³/h, less power consumption, more cheap, more stable, more safe, easy to operate and long life time. VPSA oxygen generator will always use for oxygen-enriched combustion.



6. Cryogenic Air Separator Plant



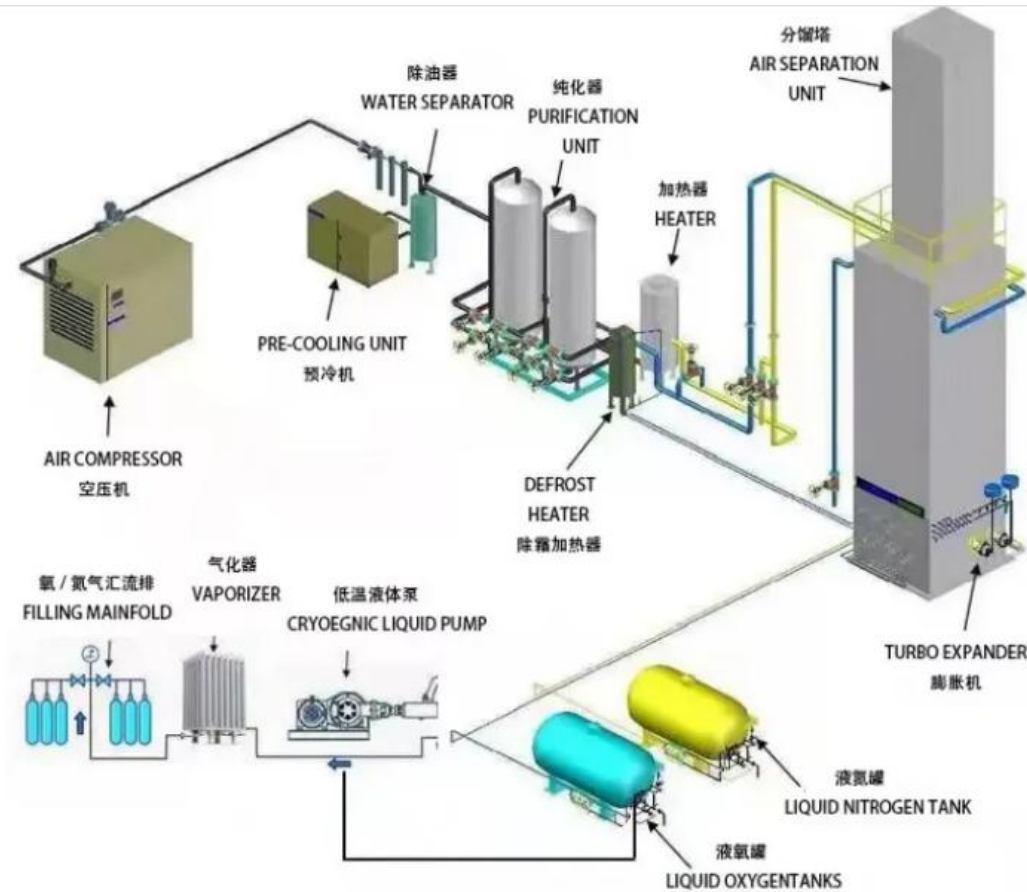
6.1 Small Cryogenic Air Separator Plant

6.1.1 Technical Parameters

Model	Oxygen capacity (Nm ³ /h)	Oxygen purity (%)	Oxygen outlet pressure	Nitrogen capacity (Nm ³ /h)	Nitrogen purity (%)	Nitrogen outlet pressure	Start-up time
KDON-50/100	50	99.6	20KPa Or as user's requirement	100	< 10	15KPa or as user's requirement	12
KDON-100/200	100			200			12
KDON-150/600	150			600			
KDON-170/400	170			400			12
KDON-350/800	350			800			16
KDON-550/1200	550			1200			16
KDON-1000/1000	1200			1000			24

6.1.2 Working Principle

Air liquefaction by turbo expander refrigeration cycle principle. According to the different liquefaction point of oxygen and nitrogen, we get high pure nitrogen gas (nitrogen purity 99.99%) and oxygen gas (oxygen purity 99.6) after second rectification. It also could get some liquid gas.



6.2 High Purity Nitrogen Air Separator Plant

6.2.1 Technical Parameters

Model	Nitrogen capacity (Nm ³ /h)	Purity (ppmo ₂)	Pressure (Kpa)	Liquid nitrogen capacity (L/h)	Liquid nitrogen purity (ppmo ₂)	Air capacity request (Nm ³ /h)	Working pressure (Kpa)	Working cycle time (M)
KDN-50	50	≤5	0.7	/	/	195	0.95	6
KDN-100	100		0.7			360	0.95	6
KDN-300/20Y	300	≤3	0.63	20	≤3	1100	0.8	12
KDN-600/30Y	600		0.63	30		1800	0.7	12
KDN-800/40Y	800		0.23	40		1800	0.7	13
KDN-1000/50Y	1000		0.23	50		3200	0.7	14
KDN-2000/100Y	2000		0.6	100		5500	0.7	15
KDN-3000/25Y	3000		0.6	200		7000	0.7	16

6.2.2 Working Principle

According to the principle of molecular sieve absorb, cooling by gas expander, single tower rectification, get both nitrogen gas and liquid nitrogen. Capacity and pressure could as user's requirement.

