

HANGZHOU, CHINA / PHONE +86 15336587300 / www.newtekgas.com / sales@newtekgas.com

NEWTEK PSA Oxygen Systems



For Commercial and Medical Applications

Who We Are

- NEWTEK Gas System was founded in 1987, Registration Funds 8 million USD
- We are specialists in designing gas generators, and we supply high quality custom-made solutions as well as standard commercial solutions.
- We are Focus on Providing Best Performance and High Quality Oxygen/Nitrogen Generators Worldwide.
- Advantages: One-Stop Solution Services

Quality and long-term value are built into every NEWTEK product for total customer satisfaction. NEWTEK gas system commitment to making effort in expertise, capabilities, and products inspires technologically advanced, innovative solutions for every aspect of oxygen supply needs.

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NEWTEK Oxygen System Global Presence



NTK-20P PSA Oxygen Plant - Zambia, Africa



NTK-100P PSA Oxygen Plant - Kazakhstan Hospital



NTK-15P PSA Oxygen Plant - Indonesia



NTK-50P PSA Oxygen Plant - Pakistan Hospital



NTK-100P PSA Oxygen Plant - Saudi Arabia



NTK-80P PSA Oxygen Plant - Brazil

Pressure Swing Adsorption (PSA)

Air contains approximately 21% oxygen, 78% nitrogen, .9% argon, and .1% other gases. NEWTEK Oxygen Systems separate this small percentage of oxygen from compressed air through a unique non-cryogenic process. Our PSA processes use molecular sieve (a synthetic zeolite), which attracts (adsorbs) nitrogen from air at high pressure and releases (desorbs) it at low pressure.

NEWTEK Oxygen Generators use at least two vessels filled with molecular sieve as adsorbers. As compressed or pressurized air passes through one of the adsorbers, the molecular sieve adsorbs the nitrogen. This allows the remaining oxygen to pass through and exit the adsorber as a product gas. Before the adsorber becomes saturated with nitrogen, the inlet air flow switches to the next adsorber. The first adsorber is now regenerated by desorbing the nitrogen through depressurization back to the atmosphere, followed by an oxygen purge step. The complete cycle then repeats. Under normal operating conditions and with proper system maintenance, the molecular sieve is completely regenerative and will last indefinitely.

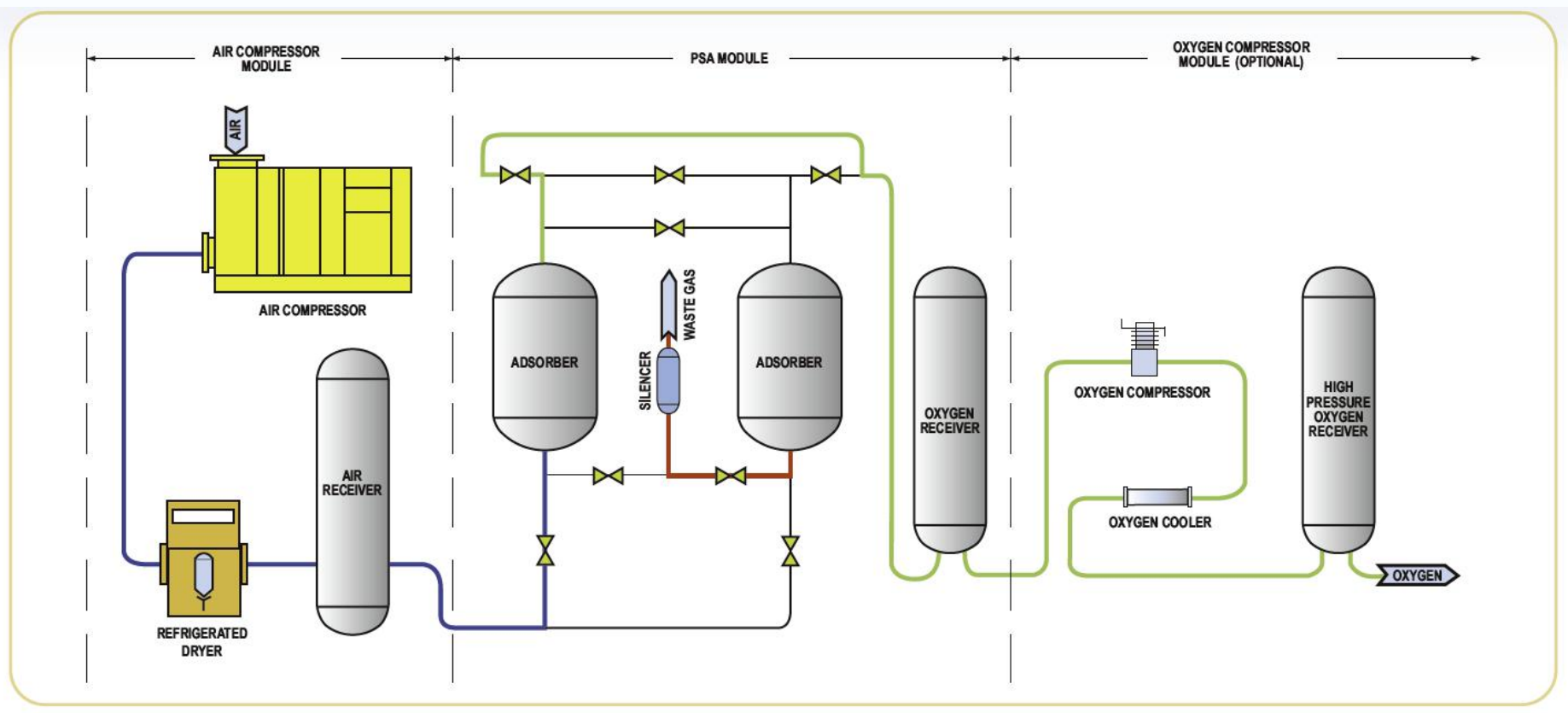
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Typical Medical Oxygen System Specifications

Model	Capacity(Nm ³ /hr)	Air Consumption(Nm ³ /min)	Inlet(DN)	Outlet(DN)	Air Purification System
NTK-1P	1	0.30	15	10	NTK-1P
NTK-3P	3	0.80	15	10	NTK-3P
NTK-5P	5	1.33	25	15	NTK-5P
NTK-10P	10	2.67	32	15	NTK-10P
NTK-15P	15	4.00	40	20	NTK-15P
NTK-20P	20	5.33	40	20	NTK-20P
NTK-25P	25	6.67	50	20	NTK-25P
NTK-50P	50	13.33	65	25	NTK-50P
NTK-100P	100	26.67	80	32	NTK-100P
NTK-150P	150	40.00	100	40	NTK-150P
NTK-200P	200	53.33	125	40	NTK-200P

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PSA Oxygen Systems Schematic - Typical



PSA Oxygen Systems Package

1. Air Compressor



Feed the air to oxygen generator



2. Air Buffer Tank



Buffering the air from compressor



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3. Air Purification System

Purify the compressed air coming from air compressor, dust/oil etc. removal function.



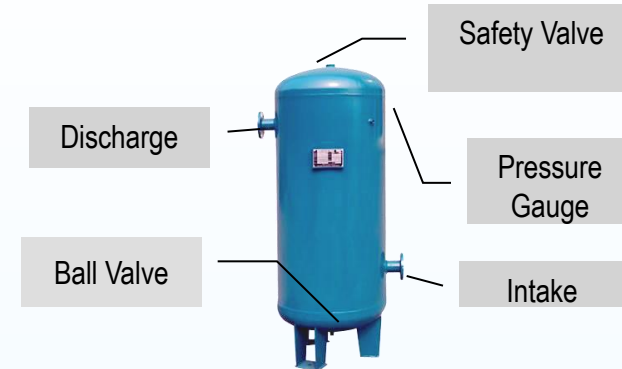
Air Purification System including

- 1- Oil-Gas Separator
- 2- Air Dryer
- 3- Precision filter T/A/H
- 4- Auto-Water Drainer etc.

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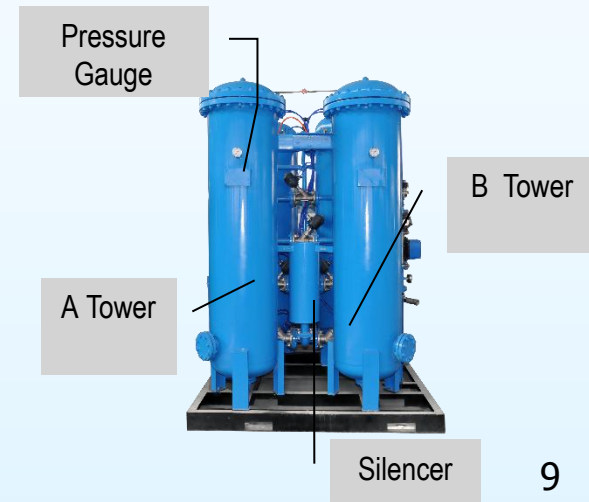
4. Air Buffer Tank

The function of this tank is to ensure that the oxygen-nitrogen separation system can use gas smoothly. When the oxygen-nitrogen separation system is switched production, the flow velocity of the air is prevented from being too fast, which affects the air purification effect, improves the quality of the compressed air entering the adsorption tower, and is beneficial to prolonging the life of the molecular sieve.



5. Oxygen-Nitrogen Separation Skid

Oxygen-Nitrogen separation skid is the core part of air separation. Its main body is two adsorption towers filled with zeolite molecular sieve. It has 2-vessels filled with Zeolite Molecular Sieves. Clean compressed air at 30° C temp. is passed through 1-vessel and Oxygen comes out as product gas. The other vessel is depressurized to atmospheric pressure and purged with little quantity of Oxygen coming out from other vessel. This regenerates Zeolite Molecular Sieves for use in next cycle. Thus 2-vessels keep cycling alternately in Oxygen production and Regeneration making Oxygen gas available continuously. These units are designed and supplied for 93% to 95% (Max) Oxygen purity.



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6. Oxygen Buffer Tank

Oxygen buffer tanks are used to equalize the pressure and purity of the oxygen that is separated from the oxygen generator to ensure continuous and stable oxygen supply. When used, when the adsorption tower is undergoing regeneration to adsorption switching, it will store part of the qualified oxygen back into the protective bed of the adsorption tower, and it will also help the tower to increase its pressure.

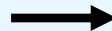
7. Bacterial Removal Filter(SS)

Use the high temperature steam to remove the bacterial from pure oxygen



8. Oxygen Storage Tank

Storage the Pure Oxygen.



You can purchase locally



NEWTEK Oxygen System Special Features

- ✦ Safety Filtration System
- ✦ Reliable ZMS filling Technique
- ✦ Reliable Valve Control
- ✦ France CECA ZMS Original
- ✦ Stable SIEMENS Control System
- ✦ Pressure and Flow Control
- ✦ Reliable Pressure Vessel
- ✦ Energy Saving Star
- ✦ Accurate Oxygen Purity Inspection



Spare Parts



- Angle Valve
- Solenoid Valve

- CECA ZMS
- Siemens PLC

- Airtac Valve
- IP55 Control Box

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NEWTEK Oxygen System Installation

Easy Installation

NEWTEK designs our PSA oxygen systems for ease of installation. The plant is a highly skidded design and basic installation requires only four field welds. All pipe spools, supports and assembly hardware is provided to minimize assembly time. The valve skids are pre-wired to junction boxes to simplify the electrical installation. Compression modules are available utilizing the same modular construction design. Vessels ship separately for final connection on-site. This design philosophy saves valuable assembly time and resources on site.



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NEWTEK Oxygen System Maintenance

Oversea On-Site Services **Free Online Technical Support**

To assist customers in maintaining their oxygen plants in excellent operating condition, NEWTEK will send maintenance instruction booklets, and will offer comprehensive start-up service contracts. Under these contracts, NEWTEK technical specialists perform final turnkey maintenance, as well as corrective service if needed.

NEWTEK has services for training your operators both in NEWTEK factory or your site.

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NEWTEK Client Visitng



Indonesia Client Visit



Syria Client Visit



Iran Client Visit



Turkmenistan Client Visit

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NEWTEK gas system are committed to be professional supplier of PSA Commercial&Medical Oxygen Systems — worldwide — offering the most cost-effective, most reliable, and safest oxygen sources for today's diverse oxygen applications.



Contract Us

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