PSA

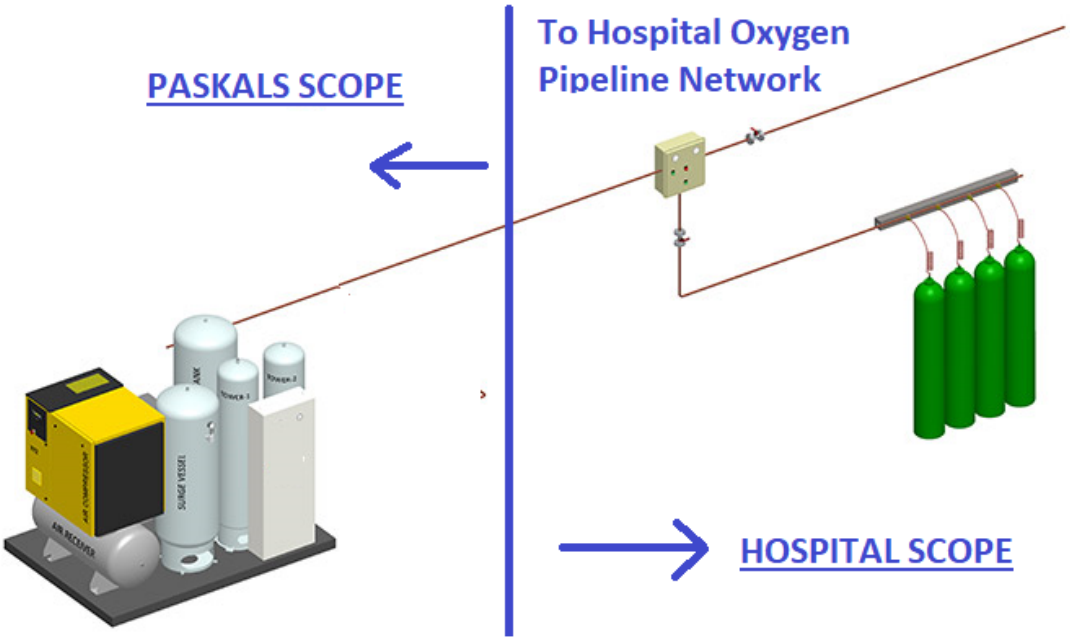
MEDICAL OXYGEN GENERATORS

For

HOSPITALS

Neometrix Engineering Private Limited; **GSTN: 09AACCN2254N1Z6**
Office/ Factory: E-148 Sector-63, NOIDA, UP-201301, INDIA
Phone: 0120-4500800 (100 Lines), Fax: 0120-4500888,
www.neometrixgroup.com, contact@neometrixgroup.com
Registered Address: 104, First Floor, National Arcade, Main Ghazipur Road, Delhi - 110096

Model Selection (S Series)



MOX SERIES (S Option), S= SINGLE

TECHNICAL SPECIFICATION OF PSA OXYGEN GENERATOR

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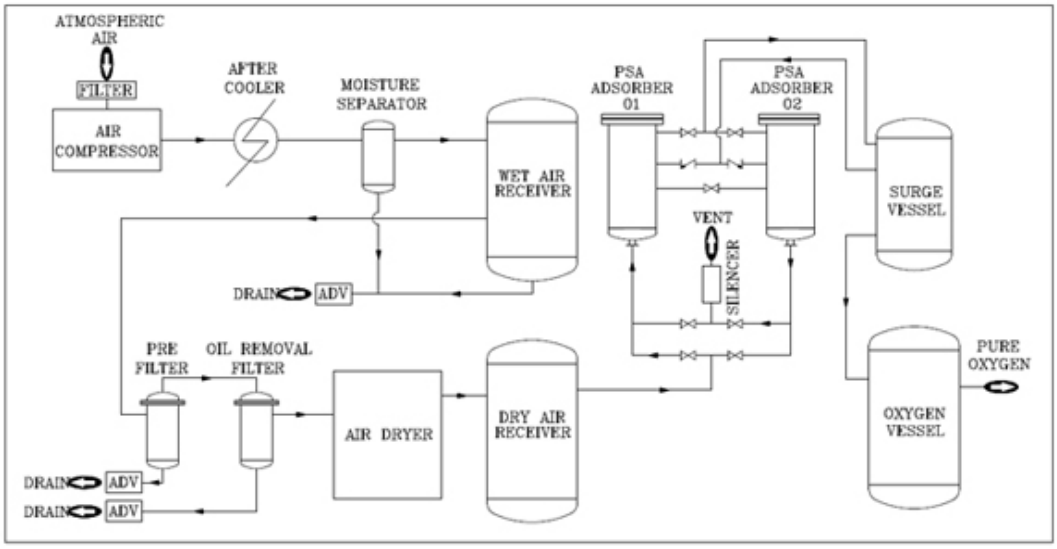
PSA Oxygen Generator

Air contains 21% Oxygen, 78% Nitrogen, 0.9% Argon and 0.1% other trace gases. **PASKLS Oxygen generator** separates this oxygen from Compressed Air through a unique process called Pressure Swing Adsorption. (PSA).

The Pressure Swing Adsorption (PSA) process for the generation of enriched oxygen gas from ambient air utilizes the ability of a synthetic Zeolite Molecular Sieve to absorb mainly nitrogen. While nitrogen concentrates in the pore system of the Zeolite, Oxygen Gas is produced as a product.

PASKLS Oxygen Generation plant's use two vessels filled with Zeolite Molecular sieve as adsorbers. As Compressed Air passes up through one of the adsorbers, the molecular sieve selectively adsorbs the Nitrogen. This then allows the remaining Oxygen to pass on up through the adsorber and exit as a product gas. When the adsorber becomes saturated with Nitrogen the inlet airflow is switched to the second adsorber. The first adsorber is regenerated by desorbing nitrogen through depressurization and purging it with some of the product oxygen. The cycle is then repeated and the pressure is continually swinging between a higher level at adsorption (Production) and a lower level at desorption (Regeneration).



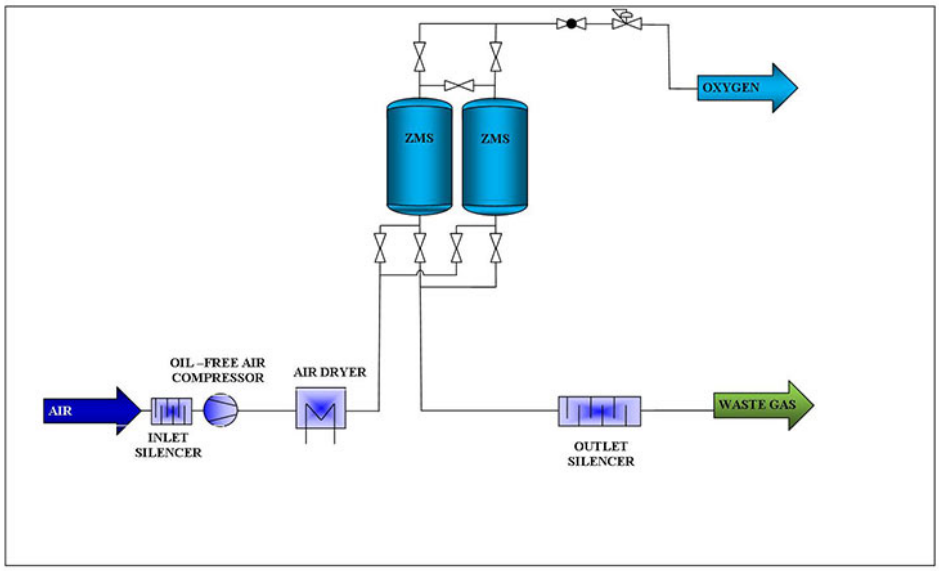
CIRCUIT DRAWING

PSA Process 5 Main Stages

1. Compressed air (78% nitrogen, 21% oxygen, < 1% argon) is filtered, degreased and dried and the production pressure is automatically regulated.
2. Air passes through the molecular sieves where nitrogen is adsorbed by the zeolite, increasing oxygen concentration up to 95%.
3. Out of the molecular sieve, the oxygen produced is sent through the buffer tank via a multifunction block. Nitrogen is released via a silent escape and forced back outside.
4. Part of the oxygen produced is used to help the nitrogen desorption of one vessel while the other ensures oxygen production (and vice versa).

An automatic and pneumatic vessels balance system ensures a continuous oxygen flow.

PSA — O_2 — PLANT



NOTE: The nominal rating of the generators are at 68°F; 0% RH and at 14.5 Psia. Flow and pressure values are averages throughout a cycle with tolerances of ± 4%. Purity values are ± 2%. Performance based on Inlet pressure of 109 PSIG (7.5barg).