



Airox Nigen The Leaders in Adsorption Technology

PRESENTS

ONSITE LOW COST

P. S. A.

V. S. A.

V. P. S. A.

**OXYGEN GAS
GENERATOR**

- Well Proven Pressure Swing Adsorption Technology
- More Than 10,000 Units Working Satisfactorily Worldwide
- Skid Mounted Pre-commissioned Ready To Use Units
- Fully Automatic Plant - Requires No Operator's Attention
- Low Generation Cost - Pay Back Period Less Than A Year
- Negligible Maintenance No Hassles of Changing Cylinders

www.airoxnigen.com
www.psanitrogen.com



The Technology

Our Oxygen Generators operates on Pressure Swing Adsorption, commonly known as **PSA** Technology.



PSA Technology is based on the selective adsorption phenomena of gas molecules under pressure on the surface of highly porous and efficient adsorbent, In this case of Oxygen Generation the Adsorbent is zeolite based Molecular Sieve (Z.M.S.)

In **PSA** System when compressed air is passed through a adsorption tower field with Z.M.S. the molecules of oxygen, moisture & other unwanted gases are adsorbed on surface of Z.M.S. and Oxygen which is not adsorbed by Z.M.S. comes out of adsorption tower and is collected in a surge vessel.

For continuous generation of oxygen two Adsorption towers are provided which are interconnected with Autochange over valves controlled by PLC in the control panel. After saturation of one tower with nitrogen the process automatically changes over to another tower and thus the oxygen production is continuous.

Our systems are the best ones in industry to ensure the highest efficiency, user friendly design, Reliable Economical and Durable.

Our onsite oxygen generators are custom made and can be adjusted to give the desired oxygen quality for your process and application.





Safety Features and Audio Visual Alarms

The Oxygen Gas Generator are Skid Mounted and Pre-commissioned at our works. Are fully Automatic and requires virtually no attention of the Operator. Once started it can be left-unattended. All operations take place automatically and Oxygen Purity remains very consistent. In case of any abnormality the gas Generator would trip automatically with Audio Visual Alarms for Necessary action.

In case of Storage Tank Getting Filled The Gas Generator Goes to Sleep and restarts Once the pressure in storage Tank is Reduces to set Limit.

Audio Visual alarms in our Standard System

- Air Compressor Trip
- Low Feed Air Pressure
- High Air Inlet Pressure
- Low Surge Tank Pressure
- Low & Very Low Oxygen Content - 2 Set Limits
- High Moisture Content (Optional)
- High Storage Tank Pressure

The System Starts with only three Switches

Control on - To Energize the Control Panel

System on - To Start the System or Gas Generator

Oxygen on - To Start Feeding Oxygen to your System



FLOW SCHEME FOR PSA OXYGEN GENERATOR



Standard Scope of supply

- Air Intake after cooler, Moisture separator, Prefilter, Auto Drain valve & Wet Air Receiver
- Twin Tower Desiccant based Air Dryer Fully Automatic with Pneumatically Operated Changeover-Valves (REF. Dryer - Optional)
- Dry Air Receiver with Pressure Gauge, Pressure Switch and Candle type After Filter
- Twin Tower P.S.A. Module with Automatic Pneumatically Operated Changeover valves, Pressure Gauges & Interconnecting Piping
- Surge Vessel with Instruments & Drain valve
- Z.M.S. (ZEOLITE MOLECULAR SIEVES) One Charge filled in P.S.A. Adsorption Towers
- Flow meters for Oxygen with Flow control valve, NRV and Back Pressure Controller
- Centralized control panel with sequence programmer and Fault Indications Lamps
- Online Oxygen Analyser with settable low oxygen and very low oxygen alarms

Upstream Equipment for Feed Air

In case the Feed Compressed Air required for Oxygen Generator is not available from your centralized air supply you will be required to attach the feed air compressor



Downstream Equipment for Oxygen Generator

- For Oxygen required in Hospitals, Bacteria filters are provided



For cylinder filling oxygen booster with manifold is provided with Pressure upto 150-500 barG

OUR RANGE OF OTHER ALLIED PRODUCTS

- OXYGEN AND OTHER GASES PURIFICATION SYSTEMS
- P.S.A. NITROGEN GAS GENERATORS
- COMPRESSED AIR DRYING SYSTEMS
- AIR & GAS DRYERS - HOC, HEATLESS, HEATED & REFRIGERATED
- NITROGEN & HYDROGEN GAS ANALYZERS (PPM & PERCENTAGE)
- GAS SENSORS AND DETECTIONS SYSTEMS FOR ALL GASES
- DEW POINT METERS FOR MOISTURE ANALYSIS IN GASES
- PROCESS FILTERS & SEPARATORS - AIR, GAS & LIQUID
- AUTOMATIC DRAIN VALVES FOR MOISTURE REMOVAL
- PIPING CONTRACTS & ELECTRIC CONTROL PANELS
- AFTER COOLERS, HEAT EXCHANGERS & AIR RECEIVERS



Factory at Changodar, Ahmedabad



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