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## The Technology

Our V AQUACARE INDIA'S Oxygen Generators operates on Pressure Swing Adsorption, commonly known as **PSA** Technology.

**PS A** 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

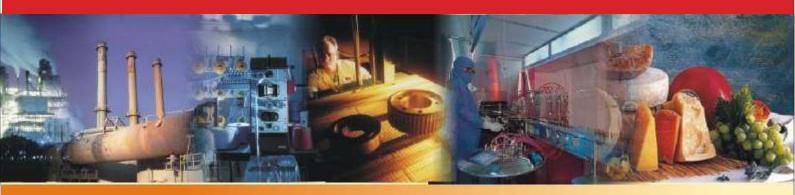
tower and thus the oxygen production is continuous.

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 Precommissioned 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.

#### Air Compressor Trip

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



### Standard Scope of supply

• Air Intake after coole; Moisture separato; 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**

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For Oxygen required in Hospitals,
Bacteria filters are provided

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



- 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



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