

MEDICAL GRADE OXYGEN GAS GENERATOR



(ISO 9001 : 2008 CERTIFIED COMPANY)



SAM GAS PROJECTS is ISO 9001:2008 certified, Professionally Managed Engineering Organization, Specialized in Design , Manufacture , Supply & commissioning of ‘**State of the Art**’ Nitrogen, Medical Grade / Industrial Oxygen Gas Plants , Hydrogen Gas Plants, Ammonia Crackers, Gas Purification Systems, Compressed Air Dryers and Gas storage systems.

SAM GAS PROJECTS has supplied more than **550** Systems, which are working satisfactorily all over India & across the Globe in more than 40 countries.



MEDICAL GRADE OXYGEN GAS PLANT

❖ PRINCIPLE

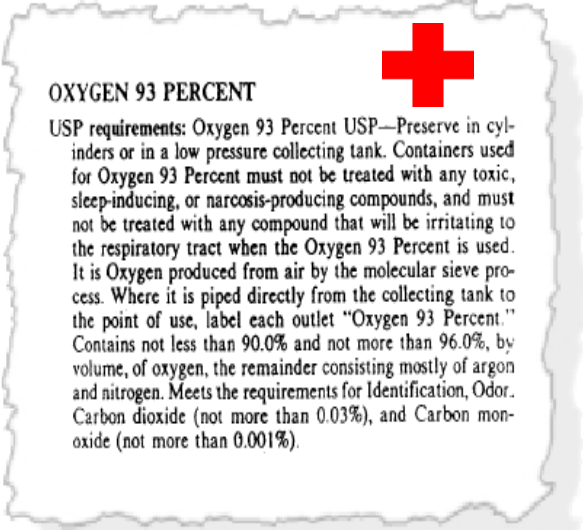
PSA (Pressure Swing Adsorption) Oxygen gas Generators are based on well proven technology using, Zeolite Molecular Sieves (ZMS). ZMS is an adsorbent having infinite number of small pores. When ZMS is used in the PSA process, nitrogen Molecules, are adsorbed and Oxygen is recovered. Adsorption of Nitrogen Molecules happens at moderate pressure. During regeneration process PSA tower pressure brought down to atmospheric, Nitrogen molecules comes out of pores of Zeolite molecular sieve.

❖ QUALITY

Purity of Oxygen is vital parameter for Oxygen gas Plant. To ensure the same on line monitoring system i.e. Oxygen Gas Analyzer is installed. In Case of any abnormality system is provided with audio

❖ OXYGEN PURITY REQUIREMENT

“SAM GAS PROJECTS”, hospital oxygen Gas generators are manufactured in accordance with all relevant international codes & standards (ASME, ANSI, TEMA C). Oxygen produced meets the **United States Pharmacopeia (USP) XXI Oxygen 93% Monograph**.



OXYGEN 93 PERCENT

USP requirements: Oxygen 93 Percent USP—Preserve in cylinders or in a low pressure collecting tank. Containers used for Oxygen 93 Percent must not be treated with any toxic, sleep-inducing, or narcosis-producing compounds, and must not be treated with any compound that will be irritating to the respiratory tract when the Oxygen 93 Percent is used. It is Oxygen produced from air by the molecular sieve process. Where it is piped directly from the collecting tank to the point of use, label each outlet “Oxygen 93 Percent.” Contains not less than 90.0% and not more than 96.0%, by volume, of oxygen, the remainder consisting mostly of argon and nitrogen. Meets the requirements for Identification, Odor, Carbon dioxide (not more than 0.03%), and Carbon monoxide (not more than 0.001%).

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❖ ON SITE GENERATION

On Site Oxygen Gas Generation and full control on quality of oxygen being generated. No hassles of ordering, receiving, handling & replacement of Oxygen gas cylinders. No Dependency on external agencies for supply of Oxygen cylinders. .

❖ EASY TO OPERATE

SAM Gas Projects , Oxygen gas generators are Fully automatic and hardly needs any attendant. Due to simplified Design our Systems are operator friendly .

❖ PAYBACK

In comparison to Oxygen from Cylinders or liquid oxygen , generation cost with oxygen gas plant is very very economical. Even payback of complete system is less than year all the times. Average cost saving is upto 70 – 80 %, which makes the system viable.

❖ INDIRECT COST REDUCTION

Sourcing Oxygen Cylinders / Liquid Oxygen is always expansive route. With Installation of On site Oxygen gas Plant there will be consideration cost reduction overheads likes, Logistics , Administrative manpower involvement , handling & replacement of cylinders.

❖ ANALYZING SYSTEM

Oxygen Gas is Equipped with necessary safety & measuring instruments to ensure right quality of Oxygen. For this purpose On Line Oxygen Gas analyzer is integral part of system.

❖ BACTERIAL FILTER

As is the case with all Hospital breathing equipment and gas pipe lines, protection from the possibility of bacterial contamination is important. For this 0.3 Micron , 99% efficient filters (such as HEPA filters) are used for particulate removal downstream of Oxygen gas plant.

❖ AUTOMATIC CHANGEOVER

Since, for Medical application it is important to have back up supply of Oxygen all the times. SAM Gas Medical Oxygen gas plants have built in feature of couple of back up systems , which comes in play automatically in case of any abnormality in the system. 1st Back up is oxygen storage tank and 2nd , battery of oxygen cylinders.

❖ AFTER SALE SERVICE

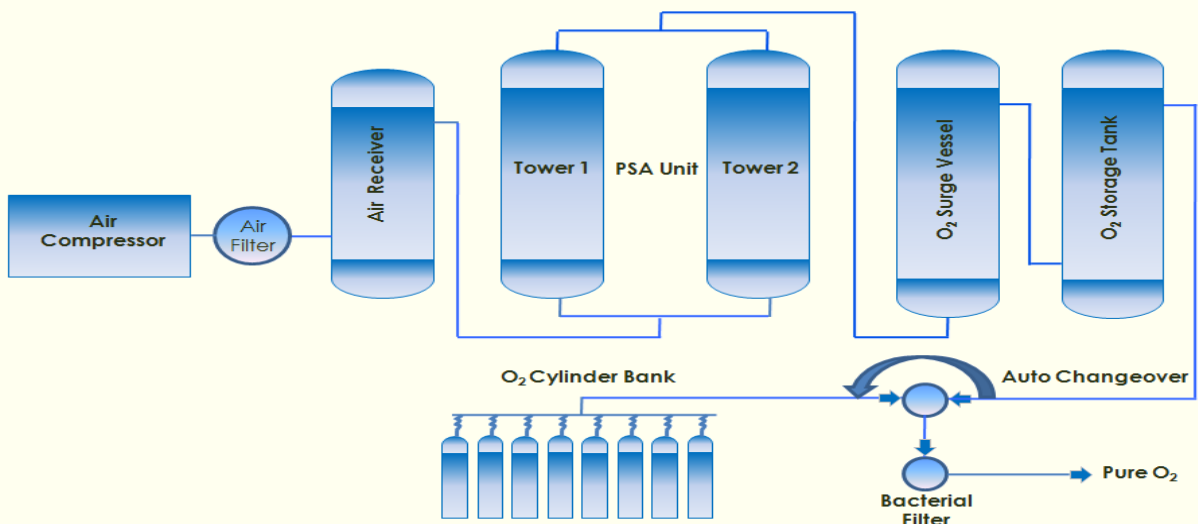
Keeping in view the criticality of the system for Hospital application , SAM Gas Projects always give after sales service on top priority .

❖ TECHNICAL SPECIFICATIONS

- ✓ Capacity : 1 to 200 Nm³/Hr
- ✓ Oxygen : 93 ± 2%
- ✓ Dew Point : Better than (-) 40°C ADP
- ✓ Nitrogen + Others : Balance
- ✓ Pressure : 2.5 Barg or higher.

❖ KEY COMPONENTS

- ✓ Air Compressor to meet compressed air requirement.
- ✓ Refrigerated type air drying unit to dry down the compressed air.
- ✓ Filtration System before PSA to achieve desired filtration level.
- ✓ PSA System , which is heart of the system.
- ✓ Oxygen Purity & flow stabilizer vessel .
- ✓ Flow & Purity Analyzing systems.
- ✓ Oxygen Storage tanks and Back up Oxygen Cylinder bank.
- ✓ Bacterial filter at final outlet of oxygen system.



❖ WHY “SAM GAS PROJECTS”

- ✓ A trusted name in the field of Oxygen gas generator manufacturer,.
- ✓ Very much familiar with Medical Oxygen Quality and system requirements.
- ✓ Follow Globally accepted & proven technology “**Pressure Swing Adsorption (PSA)**”.
- ✓ In-house expertise for Design & Manufacture fully automated Oxygen plants
- ✓ After Sale service support always on priority.
- ✓ Gas Plants suitable for Continuous duty, low maintenance cost with required quality of Gas
- ✓ Systems are energy Efficient , by virtue of which payback period is few months.

❖ ASSOCIATED WITH ...



YANGON HOSPITAL



AVENUE HOSPITAL



PATAN HOSPITAL



MEHKAR HOSPITAL



ANANDRISHIJI HOSPITAL



ASHWINI HOSPITAL



LODHA HOSPITAL



DEEPAK HOSPITAL