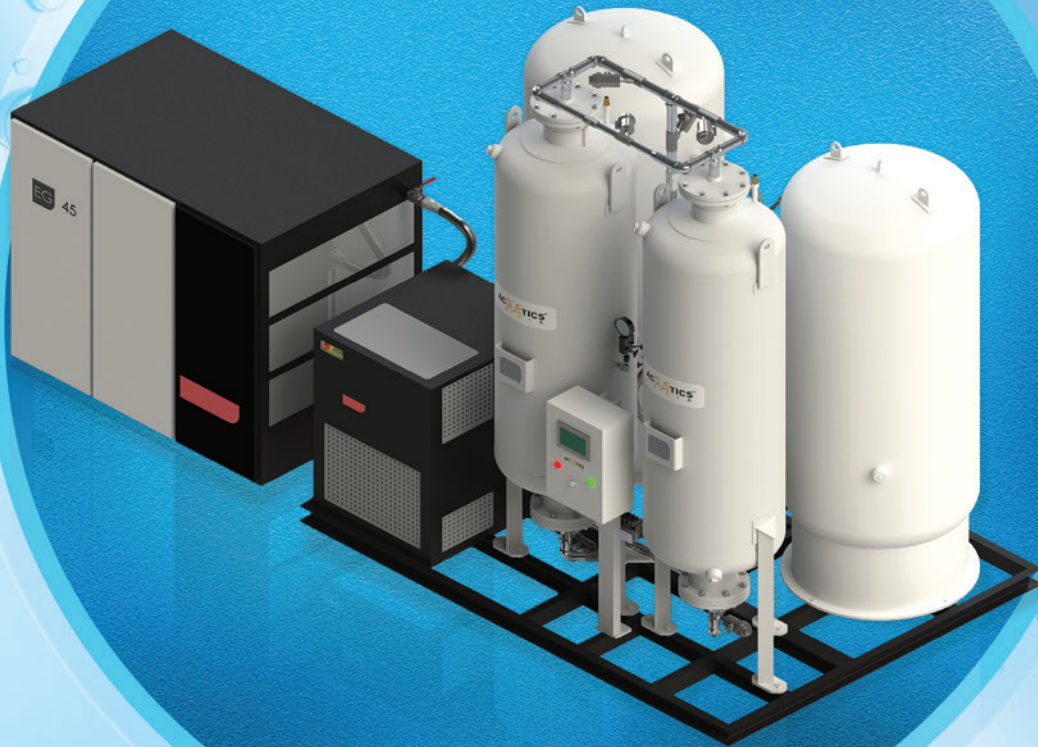


**ACOUSTICS™**  
I N D I A

**MEDICAL  
O<sub>2</sub>XYGEN  
PLANT**



**Acoustics India Private Limited**  
- India's First iMS 5 Certified Company -

# Medical Oxygen Plant

- Medical Oxygen Generation by Pressure Swing Adsorption (PSA) Technology.
- Oxygen Purity level up to 93±3%.
- Fully Digitalized & Automated Operations.
- Safe and Secure Operation.
- All Storage Tanks and Vessels are Designed & Manufactured as per ASME codes.
- Manufactured to Precision.
- Stainless Steel Construction for Oxygen Storage to meet Hygiene Norms.
- Easily Portable & Quickly Installable.
- Rapid Deployment – Plug & Perform Type.
- Silent Operation.

\* - Pictorial representation subjected to change



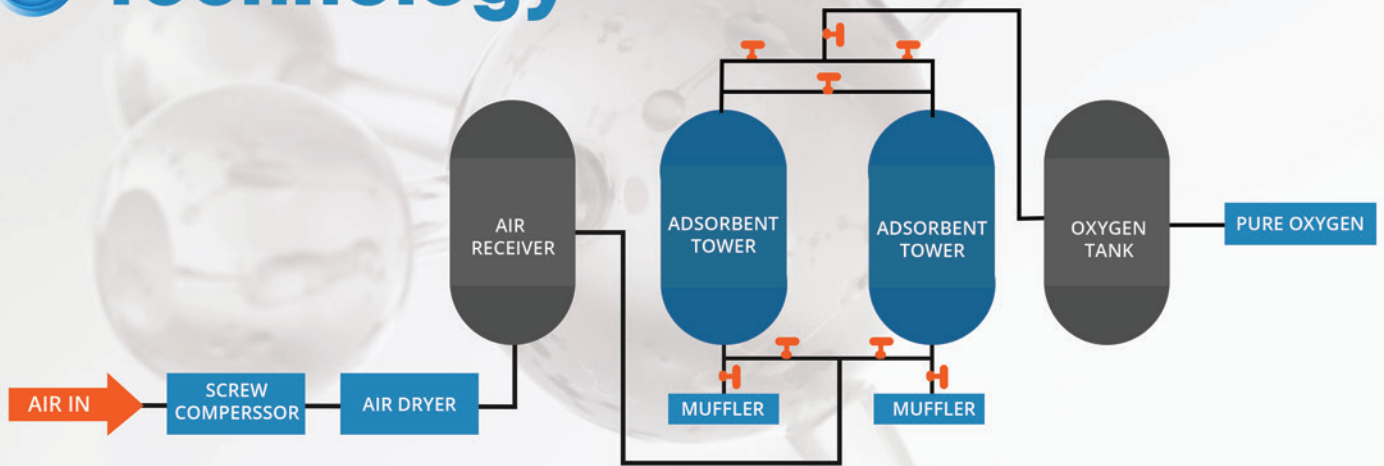
## Technical Specifications\*

Medical Oxygen Plant Capacity			250LPM	500LPM	1000LPM
Model No	Units		O2GEN 25	O2GEN 50	O2GEN 100
Approx. Dimensions – L x W x H**	(m)		2.5 x 1.6 x 2.6	2.9 x 2.1 x 3.6	3.3 x 2.6 x 3.6
Approx. Weight ***	(kgs)		2150	3200	4975
Air Compressor Capacity	(cfm)		142	309	522
Inlet Air Pressure	(barg)		7	7	7
Inlet Air Temperature	°C		40 to 45	40 to 45	40 to 45
Approx. Power Consumption	(kWh)		23	48	80
Type of Adsorbent	-		NaX	NaX	NaX
Oxygen Tank Capacity	(Litres)		550	1440	2400
Oxygen Purity Level	(%)		93 ± 3	93 ± 3	93 ± 3
Oxygen Outlet Pressure	(barg)		4 to 5	4 to 5	4 to 5
Electrical Power Supply	Compressor	-	415 V / 50 Hz	415 V / 50 Hz	415 V / 50 Hz
	Dryer	-	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz

\* - Specifications are indicative and subject to change based on further Design and Development.

\*\* - Air Compressor will be supplied as loose item and its dimension is not included.

\*\*\* - Weight of the Air Compressor not included. | LPM - Litres per minute



The **PRESSURE SWING ADSORPTION (PSA)** Technology used to separate oxygen from the atmospheric air. The continuous production of oxygen will be carried out using twin interconnected Adsorbent tower filled with Sodium based Zeolite(NaX). This involves five cyclic steps such as Feed Pressurization, Adsorption, Desorption Purging and Pressure Equalization.

- During **Feed Pressurization**, the compressed air is fed into the first adsorbent tower to the desired pressure.
- Next step is the **Adsorption** during which Zeolite traps the Nitrogen and the high purity oxygen is made available at the outlet.
- When one tower reaches the saturation level, the adsorption process stops and the accumulated Nitrogen is flushed to the atmosphere through muffler by lowering the pressure and this step is called **Desorption**, the other tower will start the process of adsorption.
- The next step is **Purging** during which some residual Nitrogen left in the first tower is removed by sending pure oxygen being generated in the other tower undergoing adsorption step.
- The final step is **Pressure Equalization** during which the pressure in both the Adsorbent towers are equalized to increase the recovery of high pure oxygen.

The PLC system controls the solenoid valve operation as per the required cycle time programmed in it for continuous production of Oxygen. This technology is capable of producing oxygen with the purity level of 93±3% and it will be monitored by online Oxygen Sensor.



## Benefits

- Ease of Maintenance
- Highly Hygienic & Safe
- 24x7 Availability
- Optimised Power Consumption
- Faster Deployment / Quick Installation
- Fully Automatized System
- Low Noise Level
- Portable
- Low Operating and Maintenance Cost
- High Durability

# Main Components

ACOUSTICS™  
I N D I A



## Screw Compressor

Provides required compressed air to the system.

## Pneumatically operated Angle seat valves

Switches the inlet and outlet flow in the PSA Twin towers for continuous production of oxygen.



## Air Dryer

Removes the moisture content from the compressed air.

## Micron filters & Bacterial filter

Removes impurities and bacteria from compressed air.



## Air Receiver

Stores the compressed air.

## PLC Panel with HMI

Automates the system for continuous and pure oxygen supply in the system.



## PSA Twin Towers

Two towers interconnected with Pneumatically Operated Angle Seat Valves generate pure Oxygen continuously.

## Oxygen Storage Tank

Stores the pure medical oxygen (93±3%) for continuous supply.



## Other Products

Acoustics India Private Limited (AIPL) is a multi disciplinary engineering company specialized in the field of

- Skid Packages
- Process Equipment
- Waste Water Treatment Plants
- Desalination Projects
- Liquid Oxygen, Liquid Nitrogen Tanks to store up to 75000 Litres volume and up to (-) 173 °C
- Industrial Noise Control Products
- Turnkey Engineering Projects
- Test Facility for Air Craft engines, Compressors & Diesel Loco engines
- E-Houses
- Projects for Aerospace / Defence / Nuclear Sectors

Diversified Products for Power, Oil & Gas, Petrochemical & Refineries, Defence, Nuclear and Aerospace Sectors.



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### About AIPL:

- Founded in the year 1988
- First Company in India to have certified for 5 ISO Standards
  - ISO 9001:2015 (QMS - Quality Management System)
  - ISO 14001:2015 (EMS - Environmental Management System)
  - ISO 45001:2018 (OHSMS - Occupational Health & Safety Management System)
  - ISO 27001:2013 (ISMS - Information Security Management System)
  - ISO 50001:2018 (EnMS - Energy Management System)
- "GOLD" rated company in ZED (Zero Effect Zero Defect) by Quality Council of India
- "WASH" Workplace Assessment for Safety & Hygiene certified by Quality Council of India
- Winner of CII - SR EHS Excellence Award 2020 with 4 STAR RATING