



# PSA Oxygen Plant & Concentrator



**For Medical Applications**

# INTRODUCTION

**L**inkage Technologies Inc. is an ISO 9001-2000 certified company, engaged in manufacturing, designing and development of electronic products since 1989. Linkage has expertise in development of customized electronic products for the several industry sectors.

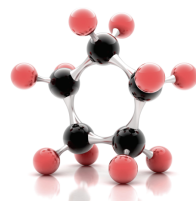
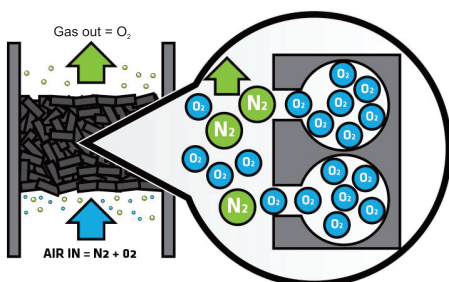
Linkage as collaboration with Indian Institute of Science Education and Research, and selected by the Principal Scientific Advisor to Government of India for the manufacturing of Oxygen Concentrators & Generator plants and equipment, IIT Kanpur has recognised the capability of the company.

Linkage is also certified with the ISO 13485:2016 (MDQMS) for Medical Equipment Manufacturing.

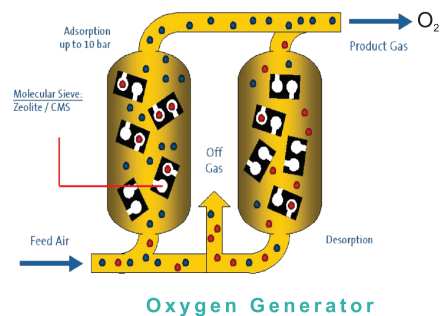
# PSA TECHNOLOGY

Oxygen is one of the keys to the abundance of life on Earth and is plentiful in the gaseous form in our atmosphere at a concentration of approximately 21%. However, the need for oxygen in a purer form has increased tremendously with the rise of new manufacturing processes and medical applications. Medical applications mainly involve surgical procedures, ambulatory use, and COPD (Chronic Obstructive Pulmonary Disease) patients who require a purer form of oxygen to breathe than what is present in atmosphere. Production of oxygen through air separation is made possible by passing air over an adsorbent that is selective for nitrogen molecules over oxygen molecules to produce pure oxygen at the exit. Once the adsorbent in a column is saturated with nitrogen molecules, it needs to be cleaned so that it can be reused. This makes the process of adsorption dynamic. This process is known as Pressure Swing Adsorption (PSA) that perform air separation to achieve oxygen Concentration 90% and above. The purity of Oxygen depends on the type of adsorbent (Zeolite) used, process efficiency, and the external environmental factor like atmospheric pressure, temperature relative humidity & altitude. all the parameter have a great impact on the oxygen purification process of the PSA System.

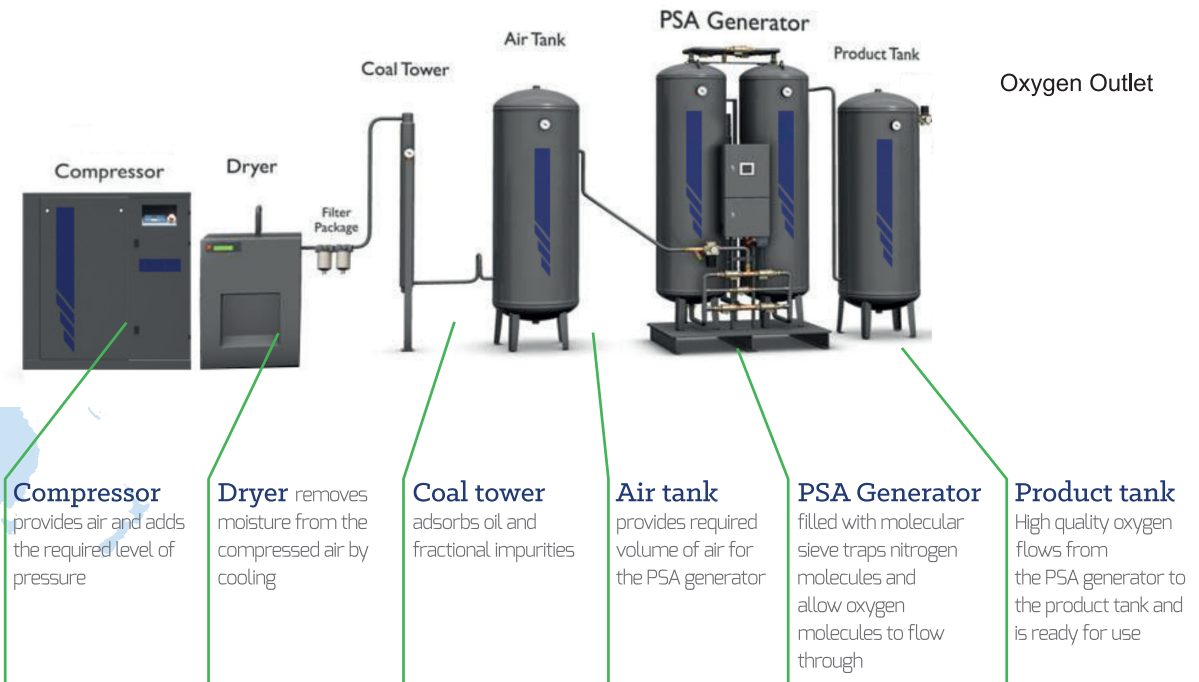
Oxygen which is found 21% in the atmospheric air, is first filtered by a sterile filter and pressurised with screw compressors. After that, the pressurised air, conditioned by filters and dryer, is then passed with through of PSA to achiever 93±3% oxygen concentration.



**Adsorption  
heart of  
the process.**



# PSA OXYGEN GENERATOR FLOW



## CAPACITY & TECHNICAL SPECIFICATION

OxyAid generators are designed in such a manner, it will work 24 x 7 without any trouble. All the components used in generators are highly reliable and tested as per International standards.

Model	Plant Capacity		Equivalent to Oxygen		Compressor		Tank Capacity		Floor Area Requirement L x B x H (Feet) (approx.)
	LPM	Cu.m/hr	Kilo Litre Per day	No. of Cylinders	Air Pressure Kg/CM <sup>2</sup>	Power Rating KW	Air Tank in Litre	Oxygen Tank in Litre	
LT OA3	50	3	72 KL	11	7	6 KW	300	300	5' x 5' x 6'
LT OA6	100	6	144 KL	22	7	12 KW	500	500	5' x 6' x 6'
LT OA10	168	10	240 KL	35	7	18 KW	700	700	7' x 6' x 6'
LT OA18	300	18	432 KL	60	7	35 KW	900	1000	7' x 8' x 8'

\*Higher capacity plants can be designed & customised as per the requirement.

### Specification :

Oxygen Purity	93±3%
Oxygen Pressure	4 - 5 bar
Air pressure	7 bar
Air Inlet Temperature	Max 45°C
Ambient Temperature	Max 45°C

### Suggested Guidelines for Selection of O<sub>2</sub> Plant Capacity

Capacity in LPM = 1 x No. of beds + No. of beds in ICU x 10 + No. of beds in operation theater x 10

Linkage Technologies Inc. excels as the leading manufacturer of PSA Medical Oxygen Plant - offering the most cost-effective, most reliable and safest oxygen sources for today's diverse oxygen applications.



## SKID MOUNTED PLANT



# OXYGEN CONCENTRATOR

OxyAid Oxygen Concentrator is an absolutely efficient and reliable way to get the high-purity quality oxygen. It is portable single / double dual flow medical device designed to produce the high oxygen concentration required for oxygen therapy on a supplement basis, as per the International Standards.



## TECHNICAL SPECIFICATIONS

DEVICE NAME	OXYGEN CONCENTRATORS	
Model	LTOC05	LTOC10
Capacity	OxyAid 5L	OxyAid 10L
Oxygen Flow Rate	5LPM	10LPM
Oxygen Concentration	93 ± 3%	93 ± 3%
Outlet Channels	One	Two
Maximum Output Flow	5 LPM	10 LPM
Oxygen Outlet	<15 psi	<15 psi
Sound Level	≤50 dB(A)	≤50 dB(A)
Alarms - Audio & Visual Indicators	Compressor Failure Alarm, Power Failure Alarm	Compressor Failure Alarm, Power Failure Alarm
Input Voltage	230 V AC ± 10	230 V AC ± 10
Frequency	50 Hz	50 Hz
Power Consumption	500 VA	850 VA
Temperature	10°C to 30° C	10°C to 30° C
Relative Humidity	30 % - 75 % (Non Condensing)	30 % - 75 % (Non Condensing)
Enclosure	MS Powder Coated	MS Powder Coated
Warranty	One year	One year

Note: The device is under constant R&D and the technical specifications are improvised time to time.



# OxyAid

Oxygen Plant & Concentrator



**Linkage**  
Technologies Inc.

ISO 9001 : 2015  
ISO 13485 : 2016

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