

WHY OXYGEN PRODUCED FROM A CRYOGENIC OXYGEN PLANT CAN BE USED ONLY FOR COVID AND NOT FROM TYPE OXYGEN GENERATOR WHICH CAN BE HIGHLY DANGEROUS FOR MEDICAL/HOSPITAL USE

THIS DOCUMENT INCLUDES REFERENCES AND CONTENT FROM:



SALIENT POINTS OF MEDICAL GRADE OXYGEN :

1. PURE MEDICAL OXYGEN, IS FREE FROM ANY CONTAMINATION
2. MEDICAL OXYGEN SHOULD BE PRODUCED BY AIR LIQUIFICATION PROCESS
3. MEDICAL OXYGEN FILLING IN CYLINDERS CAN ONLY BE DONE BY OIL FREE LIQUID OXYGEN PUMP .
4. MEDICAL GRADE OXYGEN PURITY HAS TO BE MINIMUM 99 TO 99.5% .
5. MEDICAL GRADE OXYGEN HAS TO BE FREE FROM IMPURITIES LIKE CO, H₂O & CO₂ .

The comparison tables in the Appendix below provide a comparison between the European, the United States and the Indian Pharmacopoeia monographs for medical Oxygen. As per world international standards .

MEDICAL OXYGEN PHARMACOPEA TABLE

MEDICAL OXYGEN			
MONOGRAPH	EUROPEAN PHARMA	US PHARMA	INDIAN PHARMA
NAME	Oxygen	Oxygen	Oxygen
REFERENCE	0417	7782-44-7	IP2014
CHEMICAL FORMULA	O ₂	O ₂	O ₂
DEFINITION	Oxygen contains not less than 99.5% V/V of O ₂ . It is produced by a Purification process followed by the distillation of the liquefied ambient air	Oxygen contains not less than 99.0% V/V of O ₂ . (Note: Oxygen produced by the air-liquefaction is exempt from the Requirements of CO & CO ₂ testing)	Oxygen contains not less than 99.0 Percent (%) v/v of O ₂ It is produced by a purification process followed by the distillation of the liquefied ambient air
IDENTIFICATION	Complies with the	Complies with the	Complies with the

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		Assay	Assay Distinction from CO ₂ detector tube	Assay
PRODUCTION				
ASSAY	Specification	≥ 99.5% V/V O ₂	≥ 99.0 % V/V O ₂	≥ 99.0 % V/V O ₂
	Analytical Method	Paramagnetic Analyser	Volumetric Gas Absorption Apparatus	Volumetric Gas Absorption Apparatus
IMPURITIES				
CO	Limit	≤ 5 ppm V/V	≤ 0.001% V/V	≤ 5 ppm V/V
	Analytical Method	Infrared analyzer	Detector tube	Detector tube
CO₂	Limit	≤ 300 ppm V/V	≤ 0.03% V/V	≤ 300 ppm V/V
	Analytical Method	Infrared analyzer	Detector tube	Detector tube
H₂O₂	Limit	≤ 67 ppm V/V	Not Specified	≤ 67 ppm V/V

IMPORTANT NOTE:

Oxygen contains not less than 99.0% V/V It is produced by a Purification process followed by the distillation of the liquefied ambient air

READ THE AMERICAN PHARMACOPEA NOTE CAREFULLY :-

(Note: Oxygen produced by the air-liquefaction is exempt from the Requirements of CO & CO₂ testing)

WHAT IS BEST AND SAFEST METHOD ACCORDING TO WHO (WORLD HEALTH ORGANISATION) FOR HOSPITALS DURING COVID ?

“IT IS BY INSTALLING A CRYOGENIC OXYGEN PLANT/AIR LIQUIFICATION PROCESS ONLY TO PROVIDE RELIABLE MEDICAL OXYGEN GAS CYLINDER FILLING AND SUPPLYING THE HOSPITALS OXYGEN VIA CYLINDERS”

- Oxygen storage and intra-hospital distribution Oxygen cylinders: Oxygen gas can be compressed and stored in cylinders.
- **These cylinders are filled at a gas manufacturing plant, either via a cryogenic distillation and then transported to health facilities.**
- Cylinders can be used in one of two ways. One, by installing them directly within patient areas or, similar to direct piping and two, by connecting them to sub-central manifold systems (groups of cylinders linked in parallel) at the facility. Thus, oxygen can be piped to specific areas of the health facility, even at the ward level.
- Once filled, cylinders themselves do not require electricity,