Biocare International

Bringing pure oxygen
everywhere

Genesis 1 Presentation

Oxygen Concentrator

Always taking care of your health

Biocare International L.L.C

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Project Objective

- Epidemiologic Transition
- Increased life expectancy
- Increased environmental pollution
- Treatment to Chronic Disease
- Saturation and cost of health care

Medical Oxygen Market

- It is the third product chemical most used in the world.
- Annual Market of more than 9 million dollars.

Main Applications

- Hospitals, clinics, and individual use.
- Industrial industry
- Agricultural industry

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General characteristic of Oxygen

The oxygen utilized in hospital installations can be obtained through two ways:

1. Cryogesis
2. PSA-System (pressure swing adsorption)

The oxygen generated through any of those systems with a purity level of >93% is considered by Farmacopea eligible to human consumption

Mexico Legislation requires that medical oxygen 93% Follow the following terms: (FEUM)

1. Purity levels should not go below 90% and no more than 96%, the rest is mainly composed of argon and nitrogen.
2. Oil: no more than 0.1 mg/m3
3. Water: no more than 67ppm
4. Microbial Limits: MGA 0571, filters through membrane. Free from pathogens.
5. In addition, indicates FEUM, contaminants such as carbon dioxide, carbon monoxide, nitrogen monoxide, nitrogen Dioxide and Sulphur dioxide should be avoided.

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Genesis 1 Oxygen concentrator

Characteristics

Pressure: 0-800PSD
Purity level: 93%+-3%
Oxygen production capacity: 30-50l/min per unit
Dimensions 1150x1600x825mm
Weight: 295kg(650lbs)
Electrical: 220 VAC 50/60 HZ 13A, 2.7Kw
Alarms: Low purity, power failure, low flow

PSA system advantages

1. Low risk of contamination in the place of use, which eliminates manipulation and re-packaging, allowing greater sanitary control
2. only the oxygen that will be used is generated, which avoids the long term storage
3. Higher security, because the working pressure is low
4. Significant decrease in logistics and handling expenses.
5. Diminution of approximately 30% of the cost.
6. The system allows the filling of bottles for self-consumption and in case of emergency.
7. Operation costs: minimum, only necessary for filter change and electric energy. Reliability: high since it has an internal reservoir that allows absorbing peak demand.

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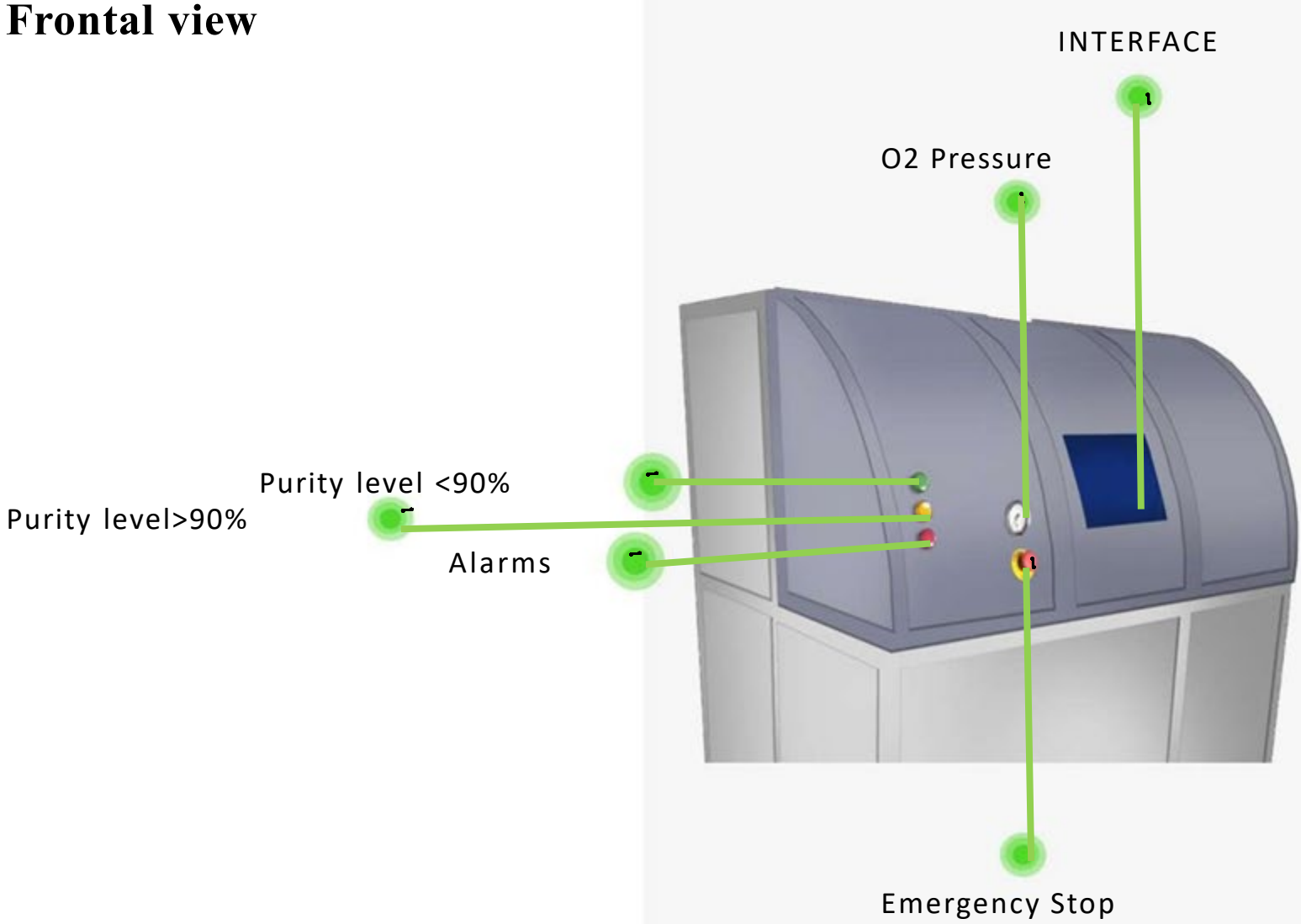
Frontal view



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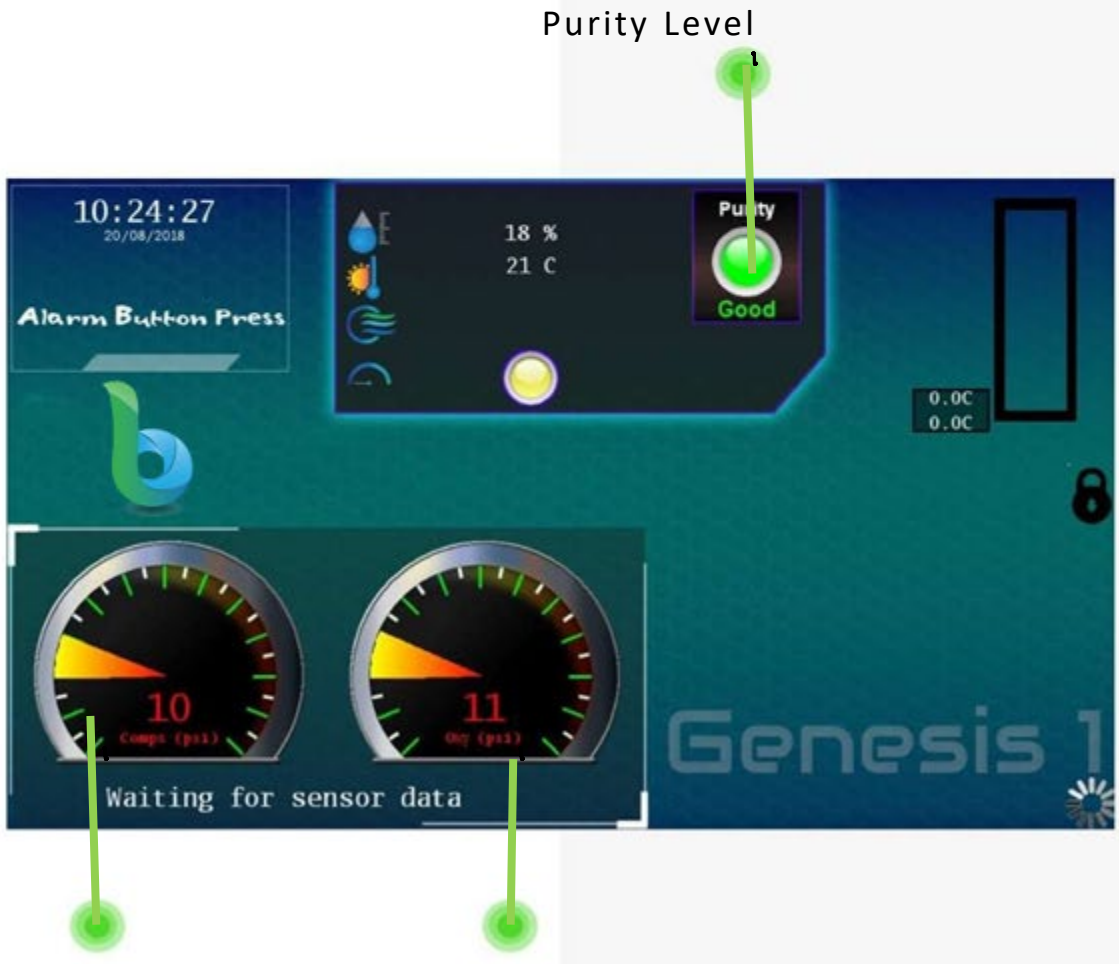
Machine Interface



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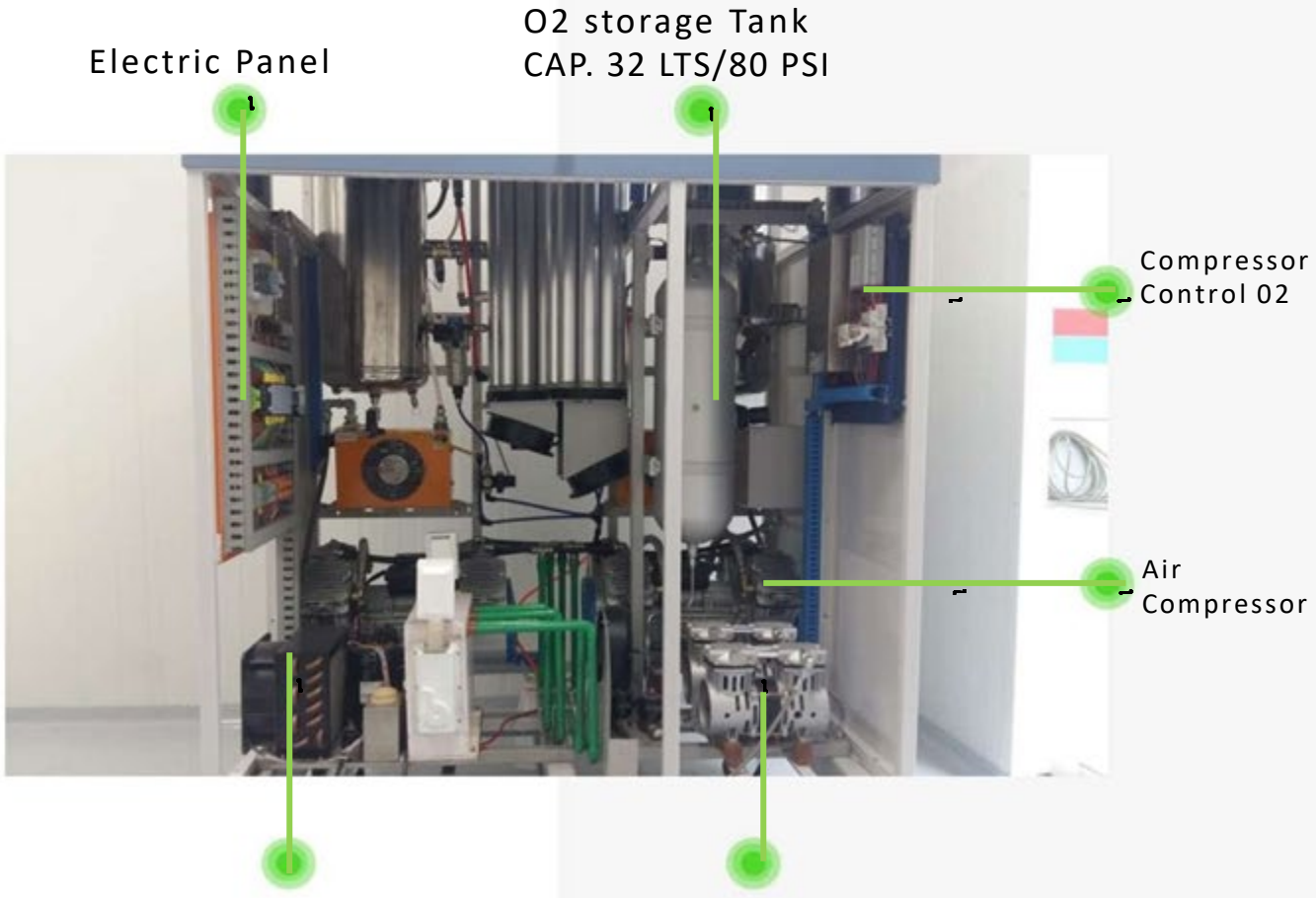
Main Modules



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TECHNICAL SUPPORT

Maintenance and after-sales service will be guaranteed by Biocare International

Maintenance will be carried out by Biocare International staff

Biocare International will monitor the team's performance.

Biocare International will store and guarantee the parts and pieces that are necessary.

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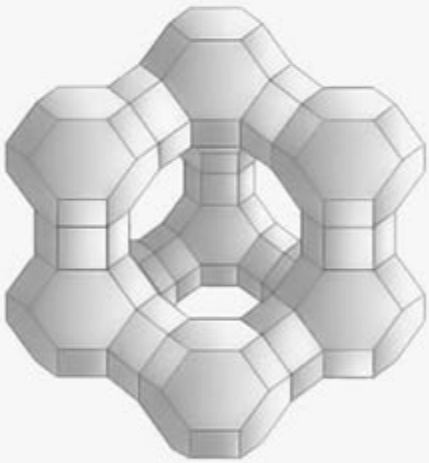
ABSORPTION BY PRESSURE OSCILLATIONS

- It uses two systems of 12 columns to perform the absorption.
- 12 Columns, working alternately, allow the process to be carried out continuously.
- The process is divided into 2 stages:
- Absorption / Production
- Cleaning / Expulsion

ZEOLITES



Use life greater than 10 years.
- Microporous crystalline structure.
- Various ways to control absorption.
- The structure of the zeolite controls molecules that are absorbed.
- Separate molecules based on size, shape and polarity.

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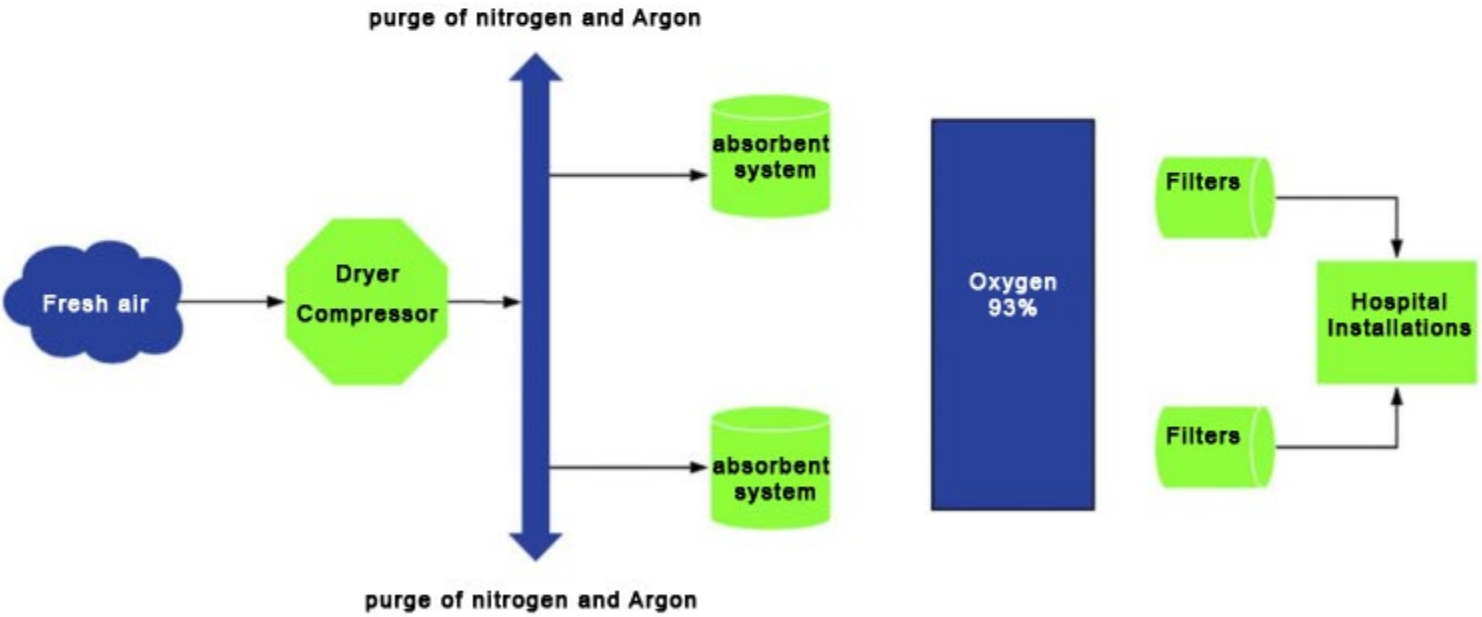
ABSORPTION BY PRESSURE OSCILLATIONS



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Absorbent process

- Fresh air is fed into the first column. PRESSURE
  The nitrogen and argon molecules are trapped while the oxygen flows.
- The bed in the first column is saturated with the nitrogen and argon molecules
  The flow of fresh air is directed to the second column.
- The bed in the first column is saturated with the nitrogen and argon molecules.
  The first column is depressurized and the nitrogen and argon molecules are expelled from the system.
- the process has been completed.
  the air is again fed to the first column and the second is depressurized so that the nitrogen and argon are expelled to the outside of the system.

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THE HOSPITAL FACILITIES INVEST A LOT IN THE PURCHASE OF OXYGEN.

THE IN-SITE CONCENTRATOR ALLOWS:
- UNLIMITED DEMAND
- SUBSTANTIAL SAVINGS

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Concentrator vs Cylinders

SYSTEM	CENTRAL OXYGEN (PIPE LINE)	OXYGEN CYLINDERS	OXYGEN CONCENTRATOR
POWER SUPPLY	NO	NO	yes, constantly
NEED FOR TRANSPORTATION	needed for cylinders	Periodically; Heavy and expensive freight	Only at the moment of installation
EXHAUSTIBLE SUPPLY	yes, when the pipes have to me refilled in another location	yes,dependent on the size, pressure and user needs	no, oxygen supply is constantly as long electrical energy is avaible
INICIAL INVESTMENT	considerable, generator and cylinders (US$20 000) pipe system (US$10 000+), installation plus services	moderate: cylinders, flow and oxygen regulator for each cylinder	moderate: concentrator, repair parts, installation and services
COST OF OPERATION	small to moderate: maintenance, filling of the pipes through a bank of cylinders	high: refilling of cylinders, and transportation to the hospital	reduced: Eletrical bill and maintenance
USER PRECAUTIONS	minimum	Minimum: the periodic check will reduce the risk of fire	Moderate: cleanliness of the filters and the exterior of the appliance; lessens the danger
MAINTENANCE	Considerable: maintenance to prevent oxygen leaks, low pressure testing	Considerable: maintenance to prevent oxygen leaks. Low pressure check	Low: filter change and compressor maintenance
CONTAMINATION	Elevated,in the case of the use of large reservoirs	It is necessary to guarantee the control of the cross contamination that intrudes the repeated use of the cylinders.	null, since the oxygen is generated on site at the time of its use.

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FUTURE

RESEARCH AND DEVELOPMENT OF GENESIS EQUIPMENT

APPLICATION IN THE BRANCHES OF THE MEDICAL INDUSTRY AND THE ECONOMY

DEEP ANALYSIS OF THE NEEDS AND PREFERENCES OF THE CONSUMER

With this technology it is possible to supply
Oxygen at 93% concentration at patients in hospital facilities
and all those people who need it have without the restrictions that involve the
use of heavy and bulky cylinders.

This technology can change the life of millions of patients and people who requires oxygen all over the world in the years to come.

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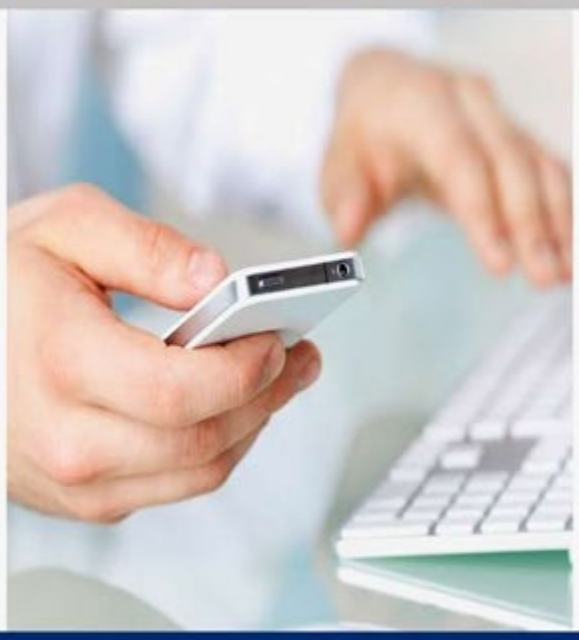

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