



**99.5%
PURITY OXYGEN
GENERATOR**



www.sumerinc.com





About us

SÜMER was established in 1981 in Ankara to provide services in the medical device sector. It has aimed advancement since the day of its establishment both in medical, industrial and defense field by also taking growth and compliance with the contemporary technologies and protecting the environmental conditions. Our manufacturing takes place in an area of 25.000 m2 in Ankara Organized Industrial Zone, Türkiye.

SÜMER is following innovations through its research and development department and with its strong infrastructure.

SÜMER is strictly following the "Quality Management" principles and rules from the design of the products to the after-sale servicing.

SÜMER has been currently certificated for compliance with ISO 9001 quality management system, ISO 13485 medical device quality management system certificate and ISO 14001 environment management system certificate and with product certificates under MDD 93/42/EEC Medical Devices Directive, CE and PED 2014/68/EU Pressurized Equipment certificates.

- SÜMER possesses the following certificates;
CE Certificates under the following directives:
- ISO 9001,
 - ISO 13485,
 - ISO 14001 Quality Management System,
 - MDD 93/42/EEC Medical Devices,
 - PED 2014/68/EU Pressurized Equipment

Our Vision

To make SÜMER a global brand in the field.

Our Mission

Our main task is to create designs with competition power in the global sense by taking the priorities of the sector into consideration and being respectful to the environment and people and giving the priority to the wishes and expectations of customers, and also to produce innovative technological products by meeting all the national and international legal requirements.

Our Basic Values

- We are bound up with the Ethical Rules,
- We are people-oriented,
- We respect environment,
- We are creative,
- We are customer-oriented,
- We are innovative,
- We are pro-active,
- We believe in the team spirit.

99.5% Purity Oxygen Generator

Specifications

- Produce 99.5% oxygen from 95% oxygen
- Microprocessor controlled
- Low operating cost
- Automatic and unattended operation
- Easy to install and maintain
- Eliminate the Expense of Purchasing, Receiving and monitoring your facilities oxygen supply.

Typical Applications

- Hospitals/Medical
- Thermal/Chemical Oxidation
- Cylinder Refilling
- Metal Fabrication/Cutting



The Dual Stage, High Purity Pressure Swing Adsorption (PSA) Oxygen Generating Process

Air contains 21% oxygen, 78% nitrogen, 0.9% argon, and 0.1% other gases. SUMER Dual Stage, High Purity Oxygen Generating Systems separate oxygen from compressed air utilizing a two stage Pressure Swing Adsorption (PSA) process to generate up to 99.5% pure oxygen.



Stage One

The first stage of the PSA process uses molecular sieve (a synthetic zeolite), which attracts (adsorbs) nitrogen from air at high pressure and releases (desorbs) it at low pressure to generate up to 95% pure oxygen.

Stage Two

The second stage of the high purity PSA process further purifies 95% oxygen to a level of up to 99.5% using a second type of molecular sieve (Carbon Molecular Sieve), which attracts (adsorbs) oxygen from the 95% oxygen stream at high pressure and releases it at low pressure.

The argon could be separated afterwards increasing the amount of oxygen up to 99%. Using a carbon molecular sieve (CMS) based adsorbent, which adsorbs the oxygen, allowing the impurities to be scrubbed. The maximum purity achievable in such systems is 99.5%. Typically, the system is operated at a design point of around 99.0% to optimize the output. In such a system there is about a 35% loss in the 95% feed product gas. This loss of product is sensitive to the purity level. That is; lower the purity, higher the flow rate. The whole process is intelligently controlled with the help of automated valves and microprocessor.

In general Sumer Oxygen Generators produce 95% purity at around 75-80% of the generator's capacity. Then 35% of the produced oxygen is sacrificed to get 99%. Therefore, primary oxygen generator has to have at least double the capacity of the desired 99% purity oxygen.

Capacities

Primary Oxygen Generator	Output Flow Rate @95% (L/min)	Secondary Oxygen Generator Ultra High Purity (UHP)	Output Flow Rate @99% (L/min)
Oxyfresh-100	80	Oxyfresh-100	50
Oxyfresh-150	120	Oxyfresh-150	75
Oxyfresh-200	160	Oxyfresh-200	100
Oxyfresh-250	200	Oxyfresh-250	125
Oxyfresh-300	240	Oxyfresh-300	150
Oxyfresh-400	320	Oxyfresh-400	200
Oxyfresh-500	400	Oxyfresh-500	250
Oxyfresh-600	480	Oxyfresh-600	300
Oxyfresh-750	600	Oxyfresh-750	375
Oxyfresh-1000	800	Oxyfresh-1000	500
Oxyfresh-1250	1000	Oxyfresh-1250	625
Oxyfresh-1500	1200	Oxyfresh-1500	750
Oxyfresh-1800	1440	Oxyfresh-1800	900
Oxyfresh-2400	1920	Oxyfresh-2400	1200



Certificates and Brand Registry Documents

We believe that the way to the summit passes through high-quality and reliable manufacturing.





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