



On-Site Industrial Gases

PSA Nitrogen Generator

- Low Energy Consumption
- Long Life
- Smart Algorithm



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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 fields by also taking growth and compliance with contemporary technologies and protecting 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

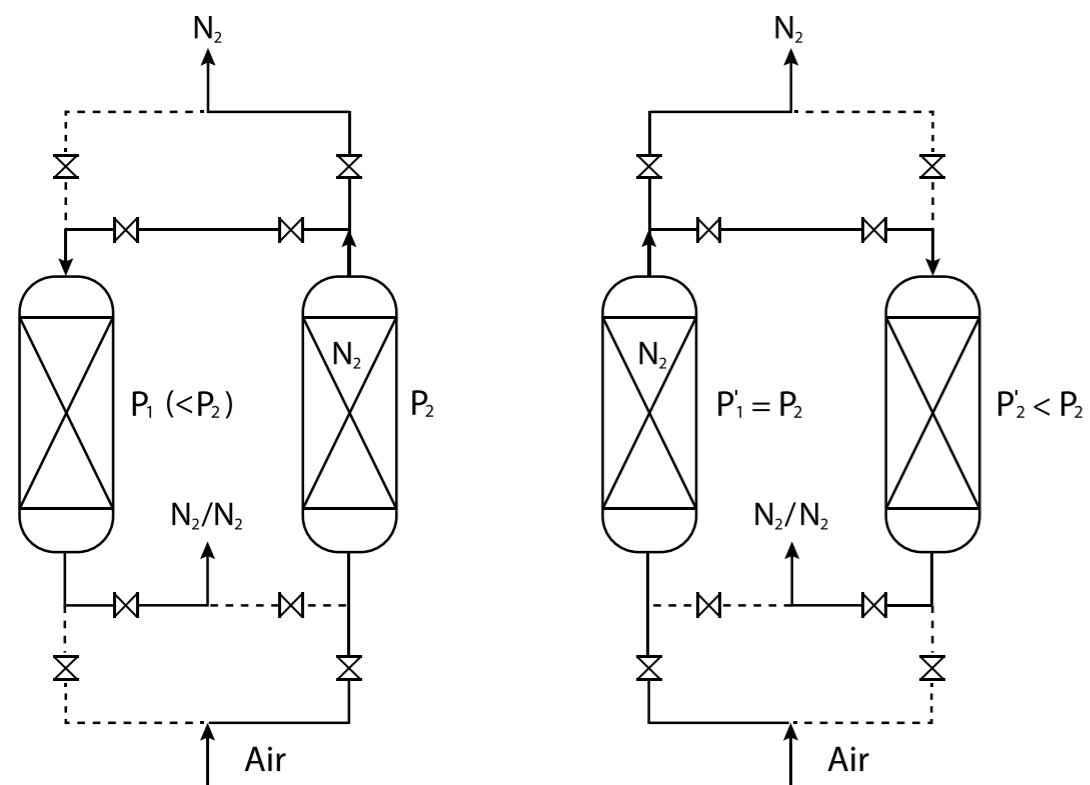
- We are bound up with the Ethical Rules,
- We are people-oriented,
- We respect environment,
- We are creative,
- We are customer-oriented,
- We are innovative,
- We are pro-active,
- We believe in the team spirit.

Pressure Swing Adsorption Technology

Pressure Swing Adsorption (PSA) technology is used with specially developed adsorbents called Carbon Molecular Sieve (CMS) to separate nitrogen from air to be able to use pure nitrogen in many applications.

First, air is compressed up to 8-10 bars with the help of compressors, then air is dried out to remove the moisture in the air stream either using refrigerant dryers or desiccant dryers. Filtration takes place thereafter to filter out the remaining particles, aerosol and oil which is in the pressurized air stream. Carbon Tower ensures long term oil free nitrogen delivery.

PSA unit consists two tanks filled with CMS. Each column undergoes cyclic sequence of pressurization, generation, equalization, and exhaust cycles for continuous flow of high purity nitrogen.



Key Features of NITROFRESH

Whether your company is specialized in laser cutting, chemical manufacturing, electronics or food and beverage, a trustable supply of industrial nitrogen is crucial. Compared to the on-demand delivery of gas bottles or tanks, on-site production of nitrogen offers many advantages such as cost savings and continuous availability.

SUMER's advanced nitrogen generators offer you on-site production of nitrogen at the lowest cost.

On-Site vs. Liquid / Bottled Gas

- Independent for 24/7
- Reduction of nitrogen cost (low operational cost)
- Elimination of logistical, administrative, and rental cost
- Elimination of orders and deliveries
- Ready to use high technology solutions



Key Features of Nitrofresh

- Nitrogen purity from 95% to 99.999%
- Fully Automatic System (24/7)
- Algorithm against electricity cuts-off (Purity does not drop after electricity cuts-off)
- Smart Algorithm (Generator automatically keeps the desired purity of nitrogen)
- Highest packing density of CMS (specifically designed filling station)
- Uniform flow distribution design to maximize CMS life
- Auto Stop Flow Delivery function for unsuitable gas
- Auto Purge function for rejected purity
- Auto Purge function for air streams having high dew point
- Humid protection system (Humid air cannot enter the CMS tanks)
- Industrial Grade Air and Nitrogen Filtration
- High Efficiency CMS
- Real time trends of process parameters
- Visual recommended service maintenance reminders
- Real Time Monitoring
- Remotely Manageable via Ethernet
- SMS and E-Mail options
- Recording Capabilities and Data Logging
- Multi-level secured access
- Top quality pneumatic valves
- Zirconium Oxygen Sensor
- Flow meter
- Dew point sensor
- Pressure Sensors
- Temperature Sensor
- Carbon Tower
- CE
- 7-inch Siemens wide touch panel
- User Friendly Interface
- Multi language



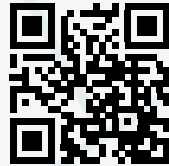
Purity and Capacity values may slightly change during the life time of the generator. Purity and Capacity values may slightly change depending on the atmospheric conditions.

Capacities

NitroFresh Model #	95%	98%	99%	99,50%	99,90%	99,95%	99,99%	99,995	99,999
Air Factor	1,98	2,39	2,69	3,01	3,42	3,85	4,85	5,6	7,25
50	400	280	234	203	157	120	80	67	50
60	480	336	281	243	189	144	96	81	60
80	640	448	375	325	251	192	128	107	80
100	800	560	469	406	314	240	160	134	100
120	960	672	562	487	377	288	192	161	120
150	1.200	840	703	609	471	360	240	201	150
175	1.400	980	820	710	550	420	280	235	175
200	1.600	1.120	937	811	629	480	320	269	200
250	2.000	1.400	1.171	1.014	786	600	400	336	250
300	2.400	1.680	1.406	1.217	943	720	480	403	300
350	2.800	1.960	1.640	1.420	1.100	840	560	470	350
400	3.200	2.240	1.874	1.623	1.257	960	640	537	400
500	4.000	2.800	2.343	2.029	1.571	1.200	800	671	500
600	4.800	3.360	2.811	2.434	1.886	1.440	960	806	600
750	6.000	4.200	3.514	3.043	2.357	1.800	1.200	1.007	750
1000	8.000	5.600	4.686	4.057	3.143	2.400	1.600	1.343	1.000
1250	10.000	7.000	5.857	5.071	3.929	3.000	2.000	1.679	1.250
1500	12.000	8.400	7.029	6.086	4.714	3.600	2.400	2.014	1.500
1750	14.000	9.800	8.200	7.100	5.500	4.200	2.800	2.350	1.750
2000	16.000	11.200	9.371	8.114	6.286	4.800	3.200	2.686	2.000

TESTS ARE HELD ON THE CONDITIONS GIVEN BELOW
(Air Temp: 15 degree, Adsorption Pressure: 7.5 barg, ISO 8573-1:2010 1.4.1 condition)

Inlet Air Pressure (Barg)	Correction Factor (K1)	Inlet Air Temperature (Celsius)	Correction Factor (K2)
6,00	0,83	15	1,00
6,50	0,88	20	1,00
7,00	0,94	25	0,98
7,50	1,00	30	0,91
8,00	1,06	35	0,83
8,50	1,10	40	0,75
9,00	1,15	45	0,61



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 **sumer**

INTERNATIONAL INDUSTRY AND TRADE INC.

Address : Başkent OSB Başkent Bulvarı No:81
Malıköy-Sincan/Ankara/Türkiye
Phone : +90 312 394 61 73 +90 312 503 08 21 (pbx)
Fax : +90 312 394 61 95
E-mail : sumer@sumeras.com

