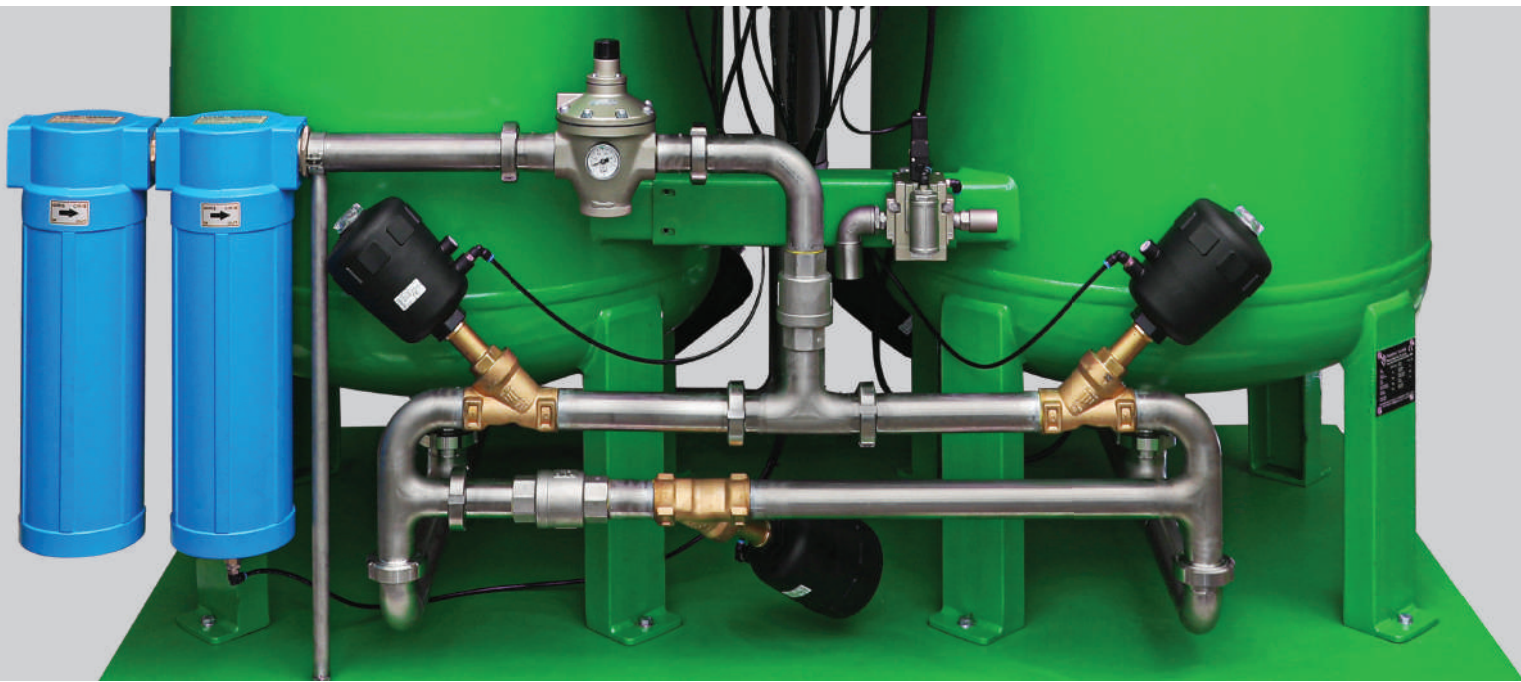




Nitrogen Generators



Nitrogen Generators

It is designed to provide maximum performance and uninterrupted nitrogen gas production with its superior technology. It works with the PSA (Pressure Swing Adsorption) process where with this so-called type production, the nitrogen generator produces nitrogen from compressed air. Nitrogen molecules, which make up 78% of the air, are separated from oxygen and argon by a substance called carbon molecular sieve (CMS) to obtain pure nitrogen.

It is produced with 100% Purity control technology.

Our Nitrogen Generators; With its unique design and superior technology, it produces more nitrogen efficiently and with maximum purity, using less compressed air compared to other nitrogen generators on the market. Operation and maintenance costs are very low. The PSA type nitrogen gas production method is the most efficient and sustainable method. The superior quality CMS (Carbon molecular sieve) we use in our nitrogen generators is guaranteed to operate for 10 years when regular maintenance service is provided.



Low Operation and Maintenance Costs

Long maintenance period

High quality equipment

Economical spare parts and service costs

Exhaust and valve systems that do not require maintenance or replacement

Our Advantages:

- Manufacturing sustainable nitrogen gas yourself on site.
- We produce nitrogen generators with a capacity range of 0,5 – 2.100 Nm³/hour, up to 95% – 99,9999% (1 ppm) purity.
- Our nitrogen generators allow you to produce high efficiency nitrogen gas with the purity level you need.
- PSA technology guarantees you the best return on your investment.
- High purity rate is achieved with carbon molecular technology.
- Nitrogen Generator is produced according to 24/7 operating system.
- Get rid of external dependency with minimum maintenance costs.
- Save money by getting rid of extra expenses.
- You can produce your own nitrogen gas to eliminate filling and transfer costs.
- Our nitrogen generator is designed according to the automatic start and stop system.
- In the facilities when nitrogen gas is needed with the feature of automatic activation mode the system goes to standby or runs automatically.
- Allows it to start and stop automatically according to nitrogen gas consumption.
- Our nitrogen generators are equipped with a long-lasting, high-quality zirconium dioxide sensor that constantly measures nitrogen gas purity.

It works according to the principle of automatic purity control.

- Nitrogen gas is not released to the facilities before reaching the desired target purity value in the nitrogen generator.
- Nitrogen Generator is designed to be ready for use.
- Capturing purity in the fastest way thanks to its special design (within 10 minutes after operation)
- Industry 4.0 compatible

How Do Nitrogen Generators Work?

Nitroxtec Industrial nitrogen PSA (Pressure Swing Adsorption) generator is a system that produces nitrogen on site. Integrated with the air compressor, it processes atmospheric air under pressure and separates nitrogen from other gases. Separation is carried out with a molecular sieve (CMS-Carbon Molecular Sieve) that does not require frequent changes. The nitrogen generator uses two CMS beds (tanks) for this. It is used before particle and active carbon filters to remove impurities in the supply air.

The main operation in the PSA system is based entirely on physical separation, and the carbon material retains oxygen molecules that are larger than nitrogen molecules and permeates nitrogen molecules. In this way, nitrogen gas is obtained. The reason for having two tanks in the system is based on the method of releasing oxygen molecules accumulated in the carbon material over time back into the air by the reverse blowing method, that is, cleaning. In short, the tanks alternately produce nitrogen gas or clean oxygen at certain time intervals.

Each nitrogen generator is manufactured pre-tested and adjusted to meet the customer's desired pressure value and purity. The process is completely regenerative as described above, making it reliable and virtually maintenance-free. Distribution pressure can be adjusted from 4 to 8.0 bar(g) to meet the needs of your operation.

At the end of the set, after an adjusted automatic timer, tank A, filled with oxygen molecules, is discharged into the atmosphere. In the second stage, air is passed through tank B. Then the same process is repeated. During the adsorption period, tank B is in cleaning mode while tank A is running, and tank A is in cleaning mode while tank B is running. A small amount of nitrogen gas is given to the cleaned and emptied tank through the other operating tank with an adjustable nozzle. This transmitted gas (regeneration cleaning) serves to sweep the oxygen trapped in the screens after evacuation into the atmosphere. In this way, the system is designed to be operate for millions of cycles. It is the most economical nitrogen gas production system.



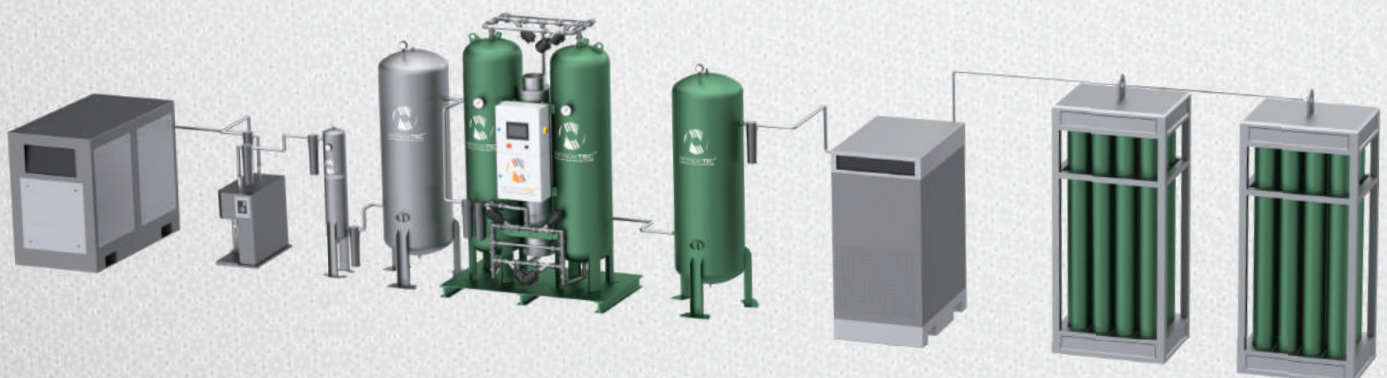
8 Bar Nitrogen Generator Installation Diagram



40 Bar Nitrogen Generator Installation Diagram



230 Bar Nitrogen Generator Installation Diagram



MODEL	DIMENSIONS "mm"			WEIGHT kg	AIR INTAKE CONNECTIONS SIZE BSP FEMALE	ELECTRIC POWER	
	LENGTH	WIDTH	HEIGHT				
Nitrotech 01	520	400	1145	45	1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 02	550	400	1400	85	1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 03	600	450	1620	120	1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 04	800	500	1500	165	1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 05	800	500	1700	200	3/4"	230 V AC 50-60 Hz	150 W
Nitrotech 06	1180	650	1800	290	1"	230 V AC 50-60 Hz	150 W
Nitrotech 07	1180	650	1980	390	1"	230 V AC 50-60 Hz	150 W
Nitrotech 08	1200	650	1935	485	1"	230 V AC 50-60 Hz	150 W
Nitrotech 09	1200	650	2125	575	1 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 10	1250	750	2100	660	1 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 11	1400	700	1960	760	1 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 12	1500	700	2100	960	1 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 13	1600	750	2210	1200	1 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 14	1750	1000	2150	1600	1 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 15	1750	1000	2300	2000	2"	230 V AC 50-60 Hz	150 W
Nitrotech 16	1820	1020	2380	2300	2"	230 V AC 50-60 Hz	150 W
Nitrotech 17	1750	1020	2450	2700	2"	230 V AC 50-60 Hz	150 W
Nitrotech 18	1950	1140	2300	3150	2 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 19	1500	1740	2465	3685	2 1/2"	230 V AC 50-60 Hz	150 W
Nitrotech 20	1680	1970	2300	4275	3"	230 V AC 50-60 Hz	150 W
Nitrotech 21	1780	2170	2300	5000	3"	230 V AC 50-60 Hz	150 W
Nitrotech 22	2000	2220	2350	5700	3"	230 V AC 50-60 Hz	150 W
Nitrotech 23	2200	2320	2340	7000	3"	230 V AC 50-60 Hz	150 W



NITROGEN PRODUCTION (Nm³/hour)

MODEL	95%	96%	97%	98%	99%	99,50%	99,90%	99,95%	99,99%	99,995%	99,999%	99,9995%	99,9999%
Nitrotech 01	8,00	7,1	6,30	5,50	4,20	3,40	2,35	2,00	1,6	1,15	0,85	0,75	0,50
Nitrotech 02	15,80	14,2	12,60	11,00	8,40	6,80	4,70	4,00	3,20	2,3	1,70	1,5	1
Nitrotech 03	31,60	28,4	25,60	22,00	16,80	13,60	9,40	8,00	6,40	4,6	3,50	3	2,1
Nitrotech 04	47,40	42,6	37,80	33,00	25,20	20,40	14,10	12,00	9,60	6,9	5,10	4,5	3,2
Nitrotech 05	63,20	56,8	50,40	44,00	33,60	27,20	18,80	16,00	12,80	9,2	6,80	6	4,5
Nitrotech 06	79,00	71	63,00	55,00	42,00	34,00	23,50	20,00	16,00	11,5	8,50	7,5	6
Nitrotech 07	110,60	99,4	88,60	77,00	58,80	47,60	32,90	28,00	22,40	16,22	12,00	10,5	8,1
Nitrotech 08	142,10	127,8	114,20	99,00	75,60	61,20	42,30	36,00	28,80	20,7	16,00	13,5	11
Nitrotech 09	173,70	156,2	139,80	121,00	92,40	74,80	51,70	44,00	35,20	25,3	20,00	16,5	13
Nitrotech 10	205,20	184,6	165,40	143,00	109,40	88,40	61,10	52,00	41,60	29,9	24,00	19,5	15
Nitrotech 11	236,70	213	191,00	165,00	126,20	102,00	70,40	60,00	48,00	34,5	28,00	22,5	18
Nitrotech 12	268,20	241,4	216,60	187,00	143,00	115,60	79,40	68,00	54,40	39,1	32,00	25,5	21
Nitrotech 13	347,20	312,4	279,60	242,00	185,00	149,60	102,90	88,00	70,40	50,6	40,50	33	27
Nitrotech 14	457,80	411,8	368,20	319,00	243,80	197,20	135,80	116,00	92,80	62,1	52,50	43,5	35
Nitrotech 15	599,90	539,6	482,40	418,00	319,40	258,40	178,10	152,00	121,60	82,8	68,50	57	45
Nitrotech 16	742,10	667,4	596,60	517,00	395,00	319,60	220,40	188,00	150,40	103,5	84,50	70,5	55
Nitrotech 17	884,10	795,2	710,80	616,00	470,60	380,80	262,70	224,00	179,20	124,2	100,50	84	64
Nitrotech 18	1026,20	923	825,00	715,00	546,20	442,00	305,00	260,00	208,00	144,9	116,50	97,5	74
Nitrotech 19	1168,30	1050,8	939,20	814,00	621,80	503,00	347,30	296,00	236,80	165,6	132,50	111	84
Nitrotech 20	1342,00	1207	1079,00	935,00	714,20	578,00	399,00	340,00	272,00	190,7	152,50	127,5	96
Nitrotech 21	1547,20	1391,6	1244,40	1100,00	823,60	664,40	469,40	392,00	313,60	225,4	180,50	150	113
Nitrotech 22	1800,00	1600	1409,80	1265,00	933,00	754,80	539,80	444,00	355,20	259,9	208,50	172,5	129
Nitrotech 23	2100,00	1800	1575,20	1430,00	1042,40	843,20	610,20	496,00	396,80	294,4	236,50	194,5	145

COMPRESSED AIR INLET 8 BAR G													
PURITY	95%	96%	97%	98%	99%	99,50%	99,90%	99,95%	99,99%	99,995%	99,999%	99,9995%	99,9999%
O₂	5%	4%	3%	2%	1%	0,50%	1000 ppm	500 ppm	100 ppm	50 ppm	10 ppm	5 ppm	1 ppm
AIR/GAS RATIO	1,8	2	2,1	2,3	2,5	2,8	3,3	3,6	4	5,8	6,4	7,7	8,9
AMBIENT TEMPERATURE +25°C							INLET AIR DEW-POINT +3°C						

AIR INTAKE HEAT CORRECTION FACTORS										
5 °C	10 °C	15 °C	20 °C	25 °C	30 °C	35 °C	40 °C	45 °C	50 °C	
0,85	1,03	1,02	1	1	0,93	0,87	0,72	0,6	0,52	

INLET PRESSURE AIR CORRECTION FACTORS						
5 BAR	6 BAR	7 BAR	8 BAR	9 BAR	10 BAR	11 BAR
0,75	0,83	0,91	1	1,13	1,19	1,22



Onsite Nitrogen Production With NitroxTec

Making a Difference

Our Features

Our Features That Make a Difference

- Superior Siemens PLC touch control panel
- Simens PLC and 4-7 inch touch color screen
- Exhaust and silencer system that does not clog and does not require replacement
- +14 sensor inputs
- Long-lasting Zirconium dioxide structured oxygen sensor
- Modbus/Profibus/RMB
- Hubbox remote access, monitoring and data collection
- IP55 protection standard
- Long life pneumatic control valves
- Dew-point measurement at air inlet automatic protection mode

TANK CAPACITY DESIGN MADE ACCORDING TO THE "CYCLE LOAD CALCULATION" METHOD IN THE SECTOR

Low Air Coefficient

- Premium quality CMS
- Lowest air/gas factor
- Air consumption as required
- High flow rate nitrogen production with smaller capacity compressors
- Low energy consumption, economical nitrogen gas production
- Nitrogen gas can be used with the help of energy-saving hydrogen gas as needed for highest purification solutions.

To keep Nitrogen generator to run during the service and maintenance with the help of "Redundant Valve System".

- Spare valve set
- Uninterrupted production guarantee
- Ease of maintenance
- Easy control
- Valve connection with leak-proof guarantee
- Trouble-free and uninterrupted production with long-lasting and robust piston valves
- Stainless steel fittings and pipes
- Thanks to stainless steel superior filter system no problems occur such as clogging and explosions.

Features of Nitrogen

Sustainable nitrogen gas
Produce It Yourself!

0,5 – 2.100 Nm³/hour capacity
range 95% – 99.9999% (1 ppm)
nitrogen generators up to purity
We produce.

Our nitrogen generators allow to
produce high efficiency nitrogen gas
with the purity level needed.

PSA technology ensures to get the
best return on investment.

High gas purity rate with carbon
molecular technology.

Nitrogen generator is designed
according to 24/7 operating system.

To avoid external dependency with
minimal maintenance costs.

Saving extra money by getting rid of
expenses.

To have no on-site filling and transfer
costs by producing on-site nitrogen.

Our nitrogen generator has an
automatic start - stop system where it
is designed to produce gas according
to demand / consumption.

The nitrogen generator is delivered as
ready for use.





Online Access

Siemens PLC HMI 7"



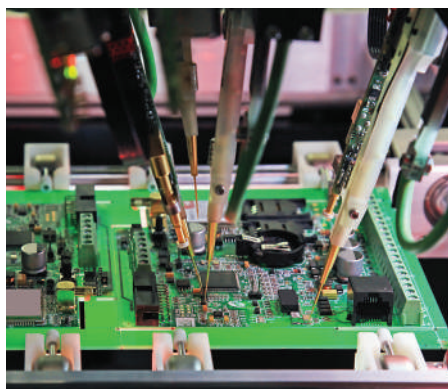
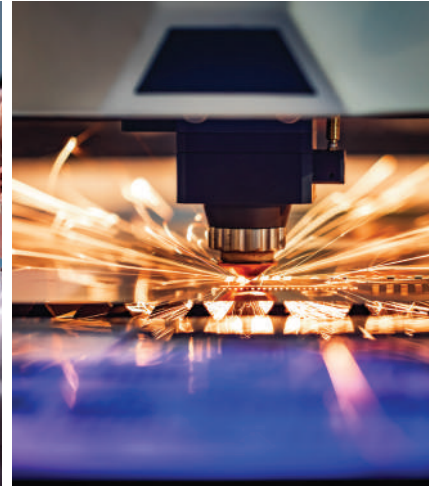
Online Mobile Access Possibility

WE PROVIDE PROMPT SOLUTIONS TO PROBLEMS BY ESTABLISHING RAPID CONNECTIONS TO ANYWHERE IN THE WORLD WITH REMOTE CONNECTION. SIMPLE AND EASY ADMINISTRATION PANEL SAVES TIME BY OVERCOMING PROBLEMS.



Sectors

- CHEMICAL INDUSTRY
- FOOD INDUSTRY
- LASER CUTTING INDUSTRY
- ADDITIONAL MANUFACTURING 3D LASER METAL PRINTER
- DMLS APPLICATIONS
- HEAT TREATMENT INDUSTRY
- WIRE AND CABLE INDUSTRY
- ELECTRONICS INDUSTRY
- VEGETABLE OIL INDUSTRY
- AVIATION INDUSTRY
- MARITIME INDUSTRY
- MINING INDUSTRY
- ENERGY INDUSTRY
- PLASTIC INJECTION INDUSTRY
- PHARMACEUTICAL INDUSTRY
- ELECTROSTATIC POWDER COATING FACILITIES
- MAP FOOD PACKAGING APPLICATIONS
- LASER WELDING MACHINES
- ALUMINUM CASTING AND EXTRUSION INDUSTRY
- JEWELERY CASTING INDUSTRY
- AROMATIC OILS AND ESSENCE INDUSTRY
- WINE INDUSTRY
- COMPOSITE IN AVIATION INDUSTRY
- VARIOUS MANUFACTURING INDUSTRIES
- AUTOCLAVE SYSTEMS

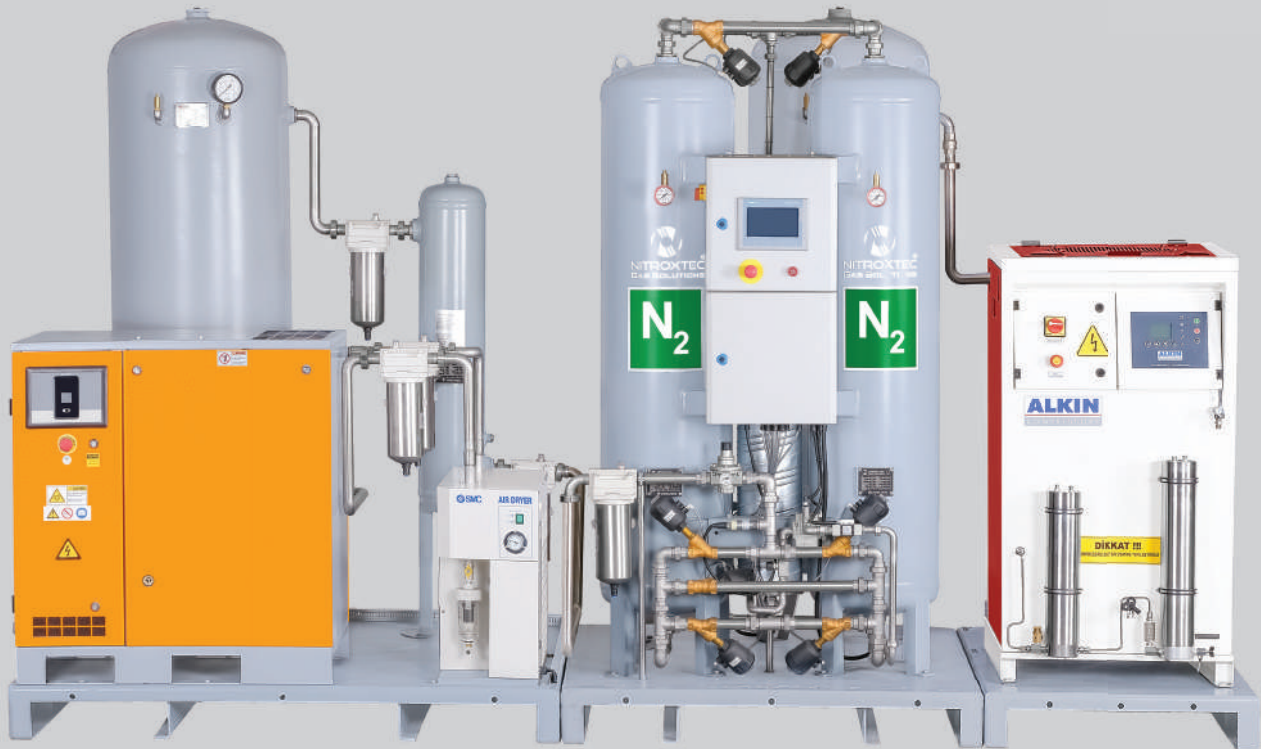




STOP PAYING FOR READY NITROGEN GAS!

230 BAR NITROPLACE NITROGEN PRODUCTION SYSTEMS

ALL IN ONE



8 BAR NITROPLACE NITROGEN PRODUCTION SYSTEMS

PLUG & START

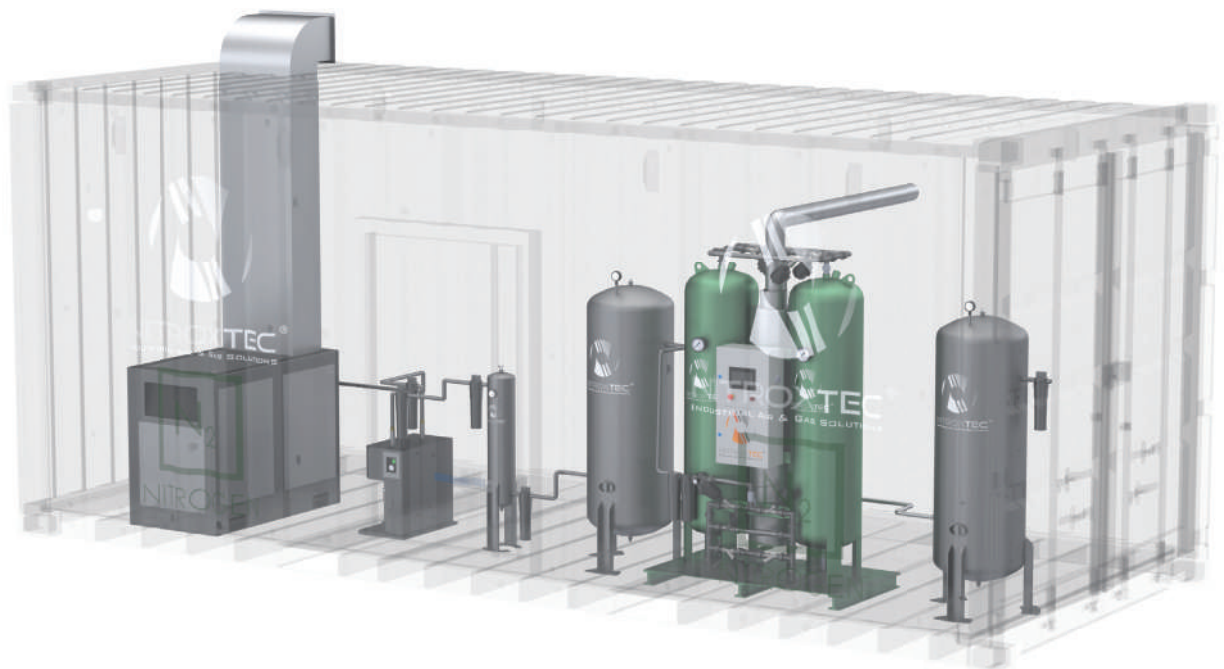


CONTAINER TYPE NITROGEN PRODUCTION SOLUTIONS

Container type nitrogen production systems are one of the most preferred nitrogen production systems with their flexibility and simple installation that meets the needs. Container type nitrogen production systems are a perfect solution for businesses, thanks to their portable and ready-to-use features.

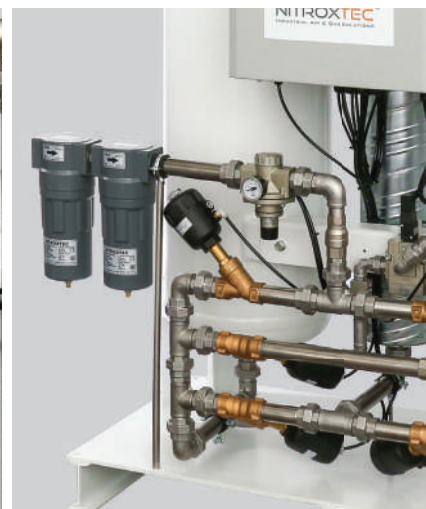
8 BAR CONTAINER NITROGEN SYSTEM







Mini Nitrogen Generators





Deoxy Nitrogen Purification Units

Nitroxtec Deoxy Nitrogen Purification Units

The Nitroxtec Deoxy (Nitrogen Purification) unit provides exact solution to the need for high nitrogen purity. Thanks to this system, nitrogen gas with a much higher purity such as 99,9999% (6.0) N₂ (1 ppm O₂) can be obtained and more economical nitrogen gas can be produced compared to standard PSA nitrogen production. Deoxy device is produced from a nitrogen generator with a certain ratio of hydrogen gas. It increases the purity of the existing nitrogen gas by mixing incoming nitrogen gas of 99,9% purity

Deoxy Nitrogen purification units are devices used to separate nitrogen in the air from oxygen, carbon dioxide and other gases. The purification process is done by taking advantage of the differences between the molecular sizes and physical properties of the gases in the air.



**With Deoxy Nitrogen Purification Unit
Less Energy, More Efficiency**

HOW DOES DEOXY NITROGEN PURIFICATION UNIT WORK?

In the catalyst unit, palladium-coated alumina binds to the externally introduced hydrogen gas atoms. The remaining (1.000 ppm) oxygen gas molecules in the 99,9 purity nitrogen gas produced in the PSA generator combine with hydrogen gas on palladium alumina and turn into water, thus raising the nitrogen gas to an ultra-pure level.

The water in ultra-pure nitrogen gas is dried with the help of a special desiccant dryer, and ultra-high purity 99,9999 (1 ppm O₂) nitrogen gas, purified from oxygen and moisture, is transferred to the systems.

A special automation system is used to ensure the most efficient and minimal consumption of hydrogen gas used in the catalyst.

Deoxy Nitrogen Purification Unit Models

Nm ³ /hour	Introduction Purity %99,5	Introduction Purity %99,9
	%99,999(5,0) (10ppm O ₂)	%99,9995-%99,9999 (5,5-6,0) 5,1ppm O ₂
Deoxy 01	3,4	2,35
Deoxy 02	6,8	4,7
Deoxy 03	13,6	9,4
Deoxy 04	20,4	14,1
Deoxy 05	27,2	18,8
Deoxy 06	34	23,5
Deoxy 07	47,6	32,9
Deoxy 08	61,2	42,3
Deoxy 09	74,8	51,7
Deoxy 10	88,4	61,1
Deoxy 11	102	70,4
Deoxy 12	115,6	79,4
Deoxy 13	149,6	102,9
Deoxy 14	197,2	135,8
Deoxy 15	258,4	178,1
Deoxy 16	319,6	220,4
Deoxy 17	380,8	262,7
Deoxy 18	442	305
Deoxy 19	503	347,3
Deoxy 20	578	399
Deoxy 21	664,4	469,4
Deoxy 22	754,8	539,8
Deoxy 23	843,2	610,2

Standart PSA Nitrogen Generator



Deoxy PSA Nitrogen Generator



Deoxy Nitrogen Generators Installation Diagram



NITROXTEC FOR EFFICIENT AND SUSTAINABLE PRODUCTION



THE MAIN ADVANTAGES OF DEOXY NITROGEN PURIFICATION UNITS ARE:

- High purity nitrogen production
- Low operating cost
- Flexibility in nitrogen supply

Deoxy nitrogen purification units are the perfect solution for businesses that need high purity nitrogen. These units increase operational efficiency by providing significant cost savings to businesses.

**DISCOVER
SUSTAINABLE
AIR & GAS
SOLUTIONS**

