



LASER CUTTING

AIR & GAS SOLUTIONS

CATALOGUE



NITROXTEC
INDUSTRIAL AIR & GAS SOLUTIONS

www.nitroxtec.com





ABOUT US

NitroxTec Industrial Machinery Compressed Air and Gas Solutions Industry Trade Ltd.

NitroxTec; It set out with the aim of producing the highest quality and most efficient machine and system solutions to the world with the contribution of more than 10 years of experience, knowledge and education in the sector.

Our company; In its production facilities, it serves its customers by producing products with the lowest costs, the highest performance and the most efficiency, without compromising on quality. It ensures customer satisfaction at the highest level thanks to the solutions it offers in its production facilities.

The source of our successes and the solutions we offer to the industry; It is hidden in the value we give to our colleagues and business partners.

Nitroxtec; aims to produce sustainable solutions with the vision of quality efficiency in industrial air and gas systems.



Our Products

- 01.** Nitrogen Generators
- 02.** Deoxy Nitrogen Purification Units
- 03.** Nitroplace Laser Cutting Systems
- 04.** Airplace Laser Cutting Systems
- 05.** Nitroxtec Mix Gas Systems

01

Nitrogen Generators



NITROXTEC AIR AND GAS SOLUTIONS

Nitroxtec Nitrogen generators allow you to achieve bright, clean, burr-free and excellent cutting quality in laser cutting. Nitroxtec Nitrogen generators are manufactured thanks to the thickness of the cut metal, type, cutting time and laser technology. It produces sustainable and efficient nitrogen gas in its production facilities. **You can get an excellent cutting surface with the production of nitrogen with a purity of 99.9999% with Nitroxtec.**

Produce your own nitrogen gas with the desired purity and the desired amount.

YOU CAN PRODUCE NITROGEN GAS UP TO 99.999% PURITY WITH MODERN PSA TECHNOLOGY!

Forget about your cylinder or liquid nitrogen purchase costs!

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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, automatic time, tank A, filled with oxygen molecules, is discharged into the atmosphere. In the second stage, air is passed through tank B this time. Again 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 working 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 suitable for millions of cycles. It is the most economical nitrogen gas production system.



Making a Difference

Our Features

- 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 PRODUCTION ACCORDING TO THE ONLY CYCLE LOAD ACCOUNT IN THE SECTOR.



Advantages of Nitroxtec Nitrogen Generators

- Produce 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 automatic stop system.
- Automatic activation when nitrogen gas is needed in the facilities, automatic standby when nitrogen gas is not needed It has the feature of entering the mode.
- 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 delivered to the facilities before reaching the desired target purity value in the nitrogen generator.
- Nitrogen Generator is delivered ready for use.
- Capturing purity in the fastest way thanks to its special design (capturing nitrogen gas purity within 10 minutes after operation)
- Industry 4.0 compatible

Nitrogen During Service and Maintenance

You do not want your generator to stop

Redundant Valve System in Processes

- 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
- Fittings and pipes are stainless steel
- There are no problems such as clogging and explosion in the nitrogen generator.
- Stainless steel has a superior filter system



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



**DO NOT PAY FOR
NITROGEN GAS!**

Nitrogen Generators Installation Diagram



40 Bar Nitrogen Generator Installation Diagram



230 Bar Nitrogen Generator Installation Diagram



Nitroxtec Deoxy Nitrogen Purification Units

02

The Nitroxtec Deoxy (Nitrogen Purification) unit provides a definitive solution to the need for high nitrogen purity. Thanks to this system, nitrogen gas of 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 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 (1ppm 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 catalys



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 Generators

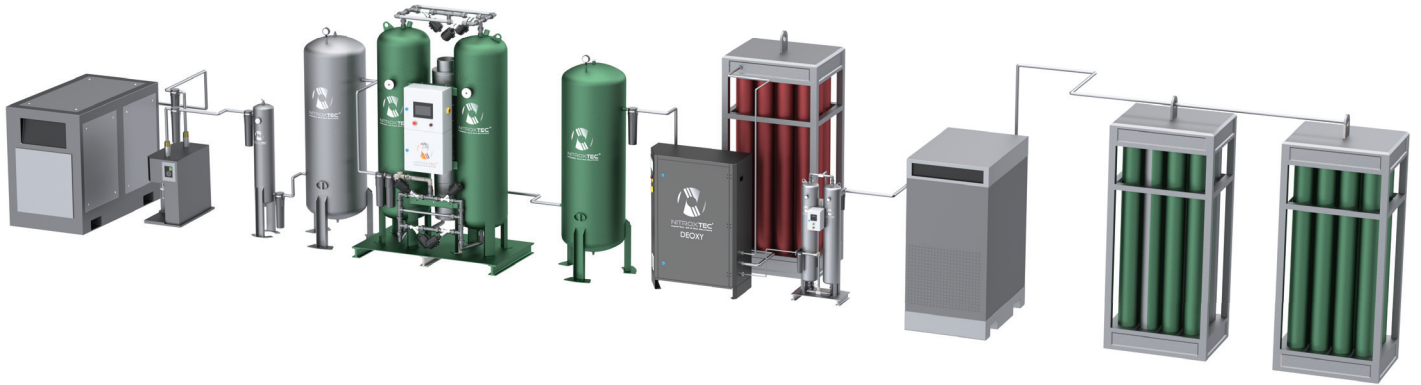
Standart PSA Nitrogen Generators



Deoxy PSA Nitrogen Generators



Deoxy Nitrogen Generators Installation Diagram



Transportation, rent and liquid nitrogen
no more wasted evacuation costs to the atmosphere in your tanks!



On-site Nitrogen Generators with Nitroplace Laser Cutting System



Plug & Start
All in One

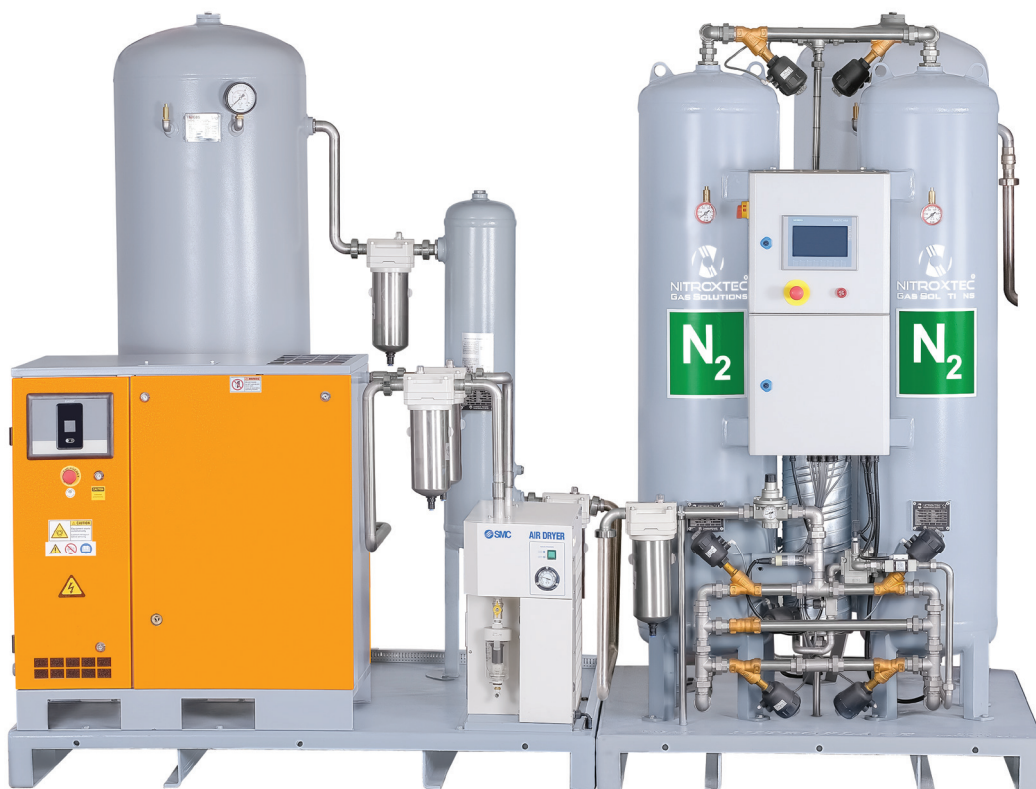


230 BAR NITROPLACE NITROGEN PRODUCTION SYSTEMS

ALL IN ONE



8 BAR NITROPLACE NITROGEN PRODUCTION SYSTEMS



PLUG & START

Why Nitroplace Laser Cutting System?

- It produces more economical nitrogen gas with less energy consumption.
- You can reach maximum nitrogen gas purity without wasting more energy.
- 1 Nm³ nitrogen (nitrogen) gas with 99.999% purity at 230 Bar is just equal to the cost of 1 kW electrical energy.
- Lowest Air / Gas Ratio
- You can cut all metals.
- No more liquid or nitrogen (nitrogen) tubes
- Ease of use without an operator
- Industrial solutions tailored to your needs
- Special design
- Remote access



NITROPLACE LASER CUTTING SYSTEMS

03

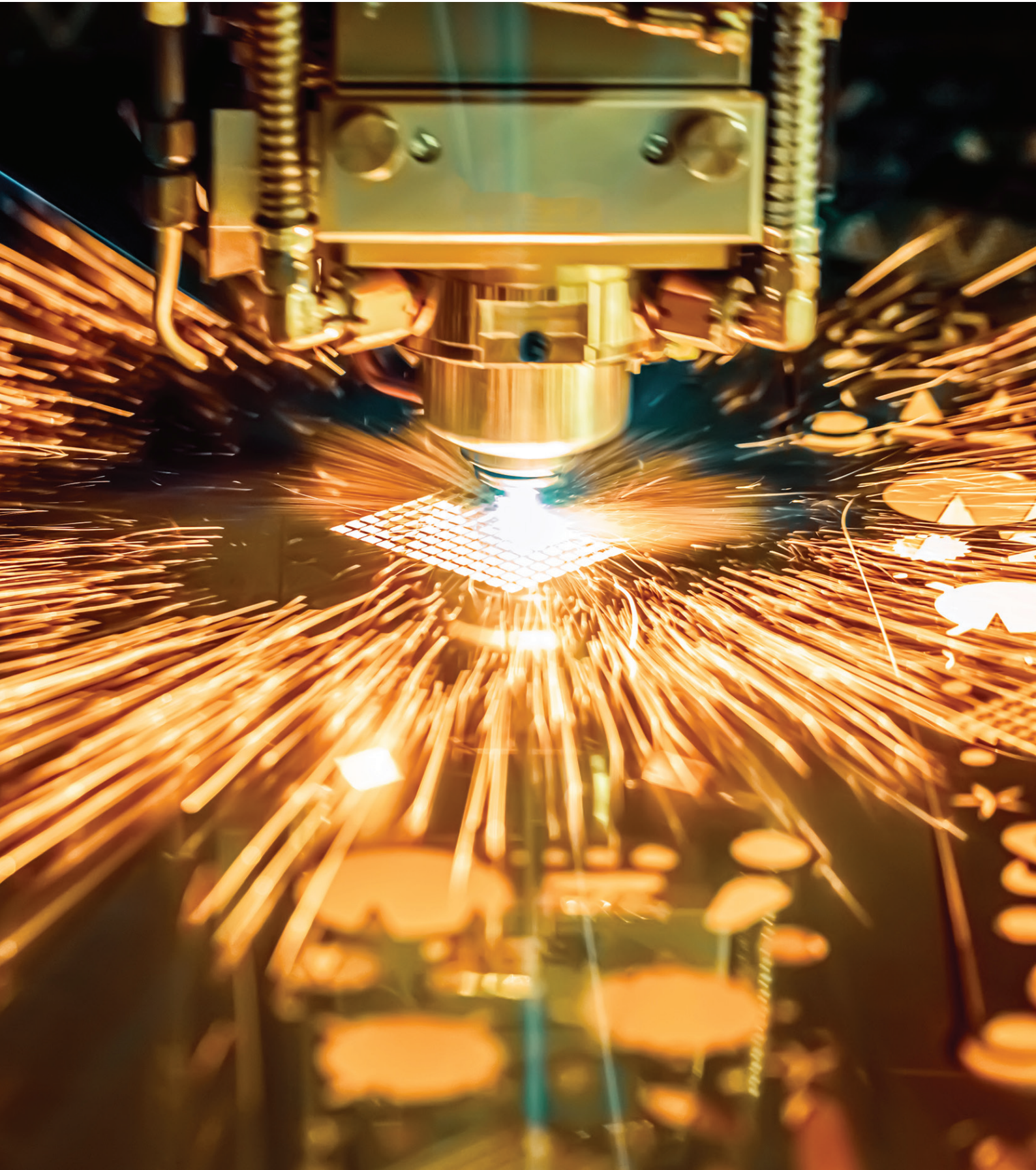


THANKS TO ITS MODERN TECHNOLOGY, IT IS ON-SITE AND PLUG AND PLAY WITH UP TO 99.9999% PURITY YOU CAN PRODUCE NITROGEN GAS WITH THE SYSTEM!

Nitroplace; You can cut all metals with the nitrogen (nitrogen) generator system. You can perform rapid and perfect laser cutting in your production facility by producing nitrogen gas between 40 Bar and 300 Bar. Please contact us for a modern, innovative, economical and industrial solution.

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1kW Energy = 1m³ Nitrogen Gas



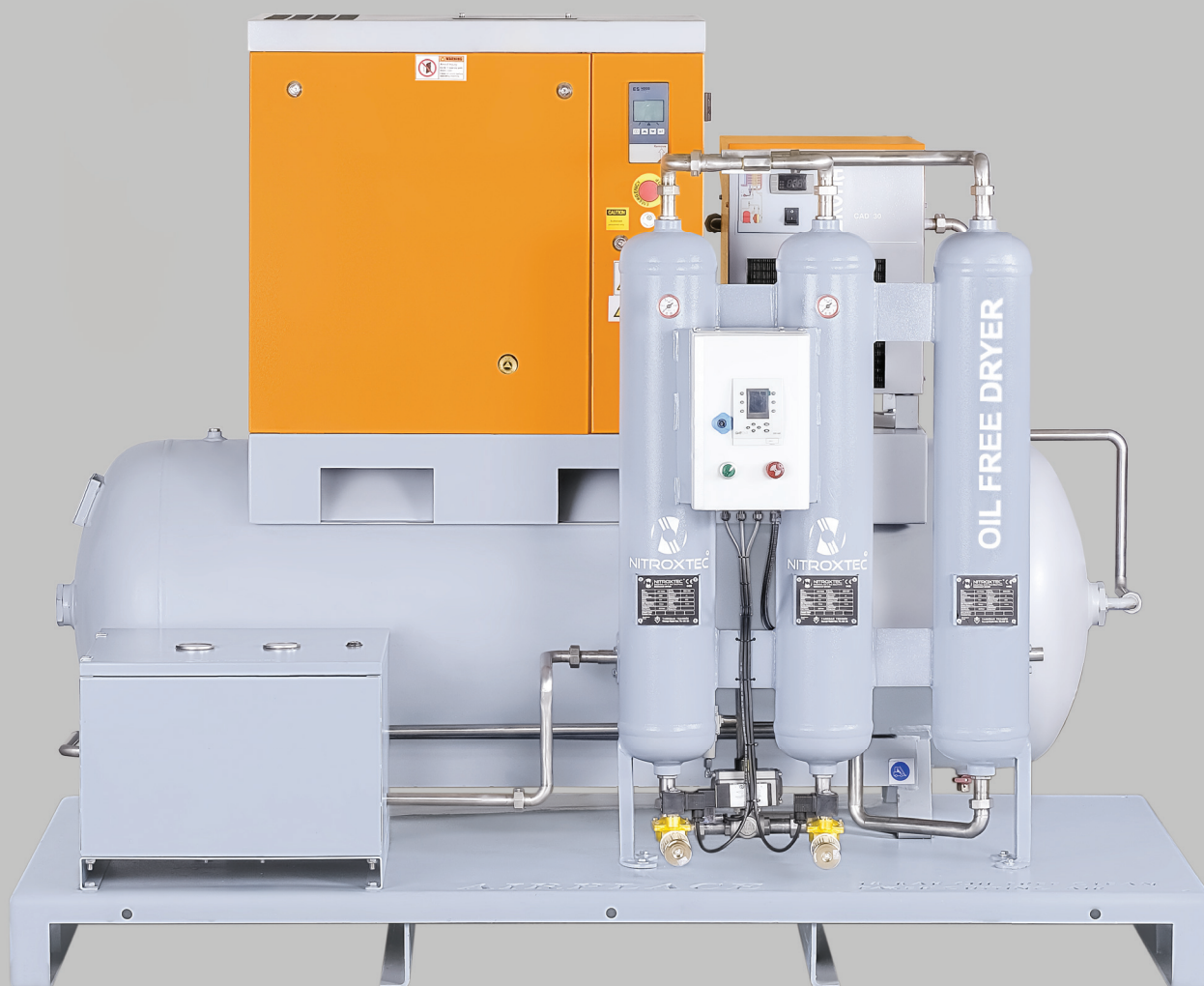
AIRPLACE LASER CUTTING SYSTEMS

Airplace Dry Air Generators are generators that produce high pressure dry air by drying and degreasing the ambient air. Airplace Dry Air Generator Systems are compact and efficient devices designed to produce high-quality dry air for laser cutting and other precision applications. These systems use oil-free booster compressors, as opposed to traditional 20-40 Barg oil-injected boosters. In this way, oil-free and dryness is guaranteed in the cutting air coming to the laser head.

Airplace Dry Air Generator Systems produce dry and oil-less air through the following stages:

1. Atmospheric air is sucked in and pressurized by a compressor.
2. Compressed air is purified from moisture by passing it through a dryer.
3. The dried air is purified from dust and other particles by passing it through a filtration system.
4. Finally, the filtered air is reduced to the desired pressure through a pressure regulator. Airplace Dry Air Generator Systems produce dry air complying with the ISO 8573-1 Class 1.2.1 standard. Oil-free air and moisture-free compressed air are indispensable for laser cutting and other precision applications.

OIL-LESS DRY AIR GENERATORS



NO MORE GAS COSTS FOR LASER CUTTING!



PERFECT CUT WITH POWERFUL PERFORMANCE

Advantages of Airplace Dry Air Generators

- It saves cutting gases.
- Eliminates cylinder purchasing, transportation and labor costs.
- Eliminates the danger brought by high pressure cylinders.
- Provides 24/7 uninterrupted operation.
- It ensures safety with its fully equipped security system.
- Provides a high amount of dry air reserve.
- Max. 0.003 mg/m³ oil content
- -40°C Dew-point
- Faster cutting 2 – 4 times faster cutting compared to oxygen cutting
- Oil-less and Clean
- Excellent cutting quality up to 8 mm
- ISO 8573-1 Class Conforms to 1.2 .1 standard
- CE certified and conforms to European standard



**Adjustable System Suitable for
Desired Cutting Pressure**

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AIRPLACE LASER CUTTING SYSTEMS

18 Bar Oil-Less Dry Air System is innovative, high quality and powerful. It is the most economical and high-quality metal cutting system with oil-free, clean dry air. It is environmentally friendly thanks to its energy saving. It allows you to make more precise, cleaner and perfect cuts in stainless steel, galvanized sheet, ERP, DKP, Aluminum and Copper metals.

Nitroxtec Mix Gas Systems

Discover modern, economical, perfect and environmentally compatible systems for laser cutting systems compatible with Industry 4.0 technology!

Please Contact Us.

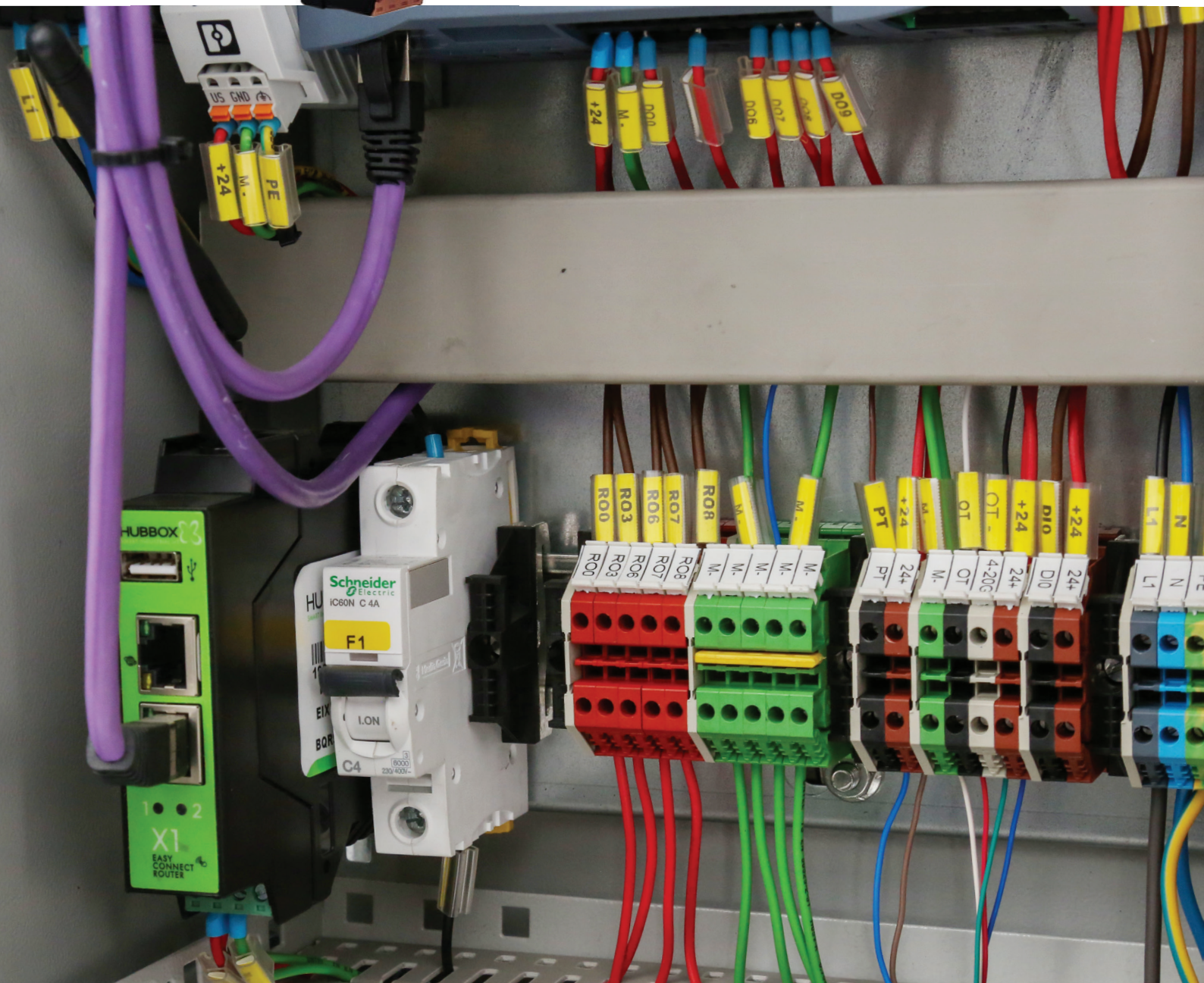
It provides maximum speed and high performance up to 30mm in Mild Steel, Carbon Steel and HRP cutting of manufacturing steel in 10kW and above Fiber laser cutting machines. It provides maximum speed and high performance in cuts up to 30mm.





Industrial Remote Access and Data Collection Device

You can directly access, monitor and intervene in our nitrogen and oxygen gas generators from your PC and smartphone anytime, anywhere with HUBBOX.





INSTANT SOLUTION

WE PROVIDE SOLUTIONS BY INTERVENING PROBLEMS IMMEDIATELY WITH OUR EXPERT AND PROFESSIONAL TEAM AND EQUIPMENT.

24/7 Service Support

- Expert technical service
- Online technical service
- Assembly and supervision service
- Fast and effective intervention
- 10 years spare parts availability warranty





NITROXTEC®
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