NITROX // safer diving

NITROX

Always available, easy to use and safe for daily use: NITROX diving gas offers professional divers, yacht owners and offshore facilities the highest level of convenience and independence

NITROX Membrane Systems from the
Premium Line, Basic Line and Blue Line series

NITROX Membrane Systems

KrinnAir NITROX Systems, Custom-Made and Certified

High quality breathing air for professional diving pleasure

With modern and environmentally-friendly membrane technology, Krinner dives deep into the underwater world. Whether it is ambitious hobby divers or professional divers, yacht owners or operators of offshore platforms – the high-tech KrinnAir NITROX systems win over clients with an operation that is completely newly–defined, and also meets the highest usage demands.

Consistent and reliable, our NITROX membrane systems deliver the highest quality of compressed air for producing breathing air to be used for diving. The robust, tropics-suitable stations are custom-made in Germany, easy to use, and adapted and put into operation on-location. The highest standards of well-engineered air treatment systems with patented membrane technology are certified with the international quality standards TÜV CERT ISO 9001, as well as by TÜV Austria with CE 0408. Divers are the true winners when it comes to the KrinnAir lines of products. With a filling capacity of 150 to 900 litres NITROX per minute and stepless regulation with up to 40% oxygen, the NITROX breathing gas mixture allows longer dives with reduced decompression times – plus a safer, healthier dive.

TÜV CERT
DIN EN ISO 9001

TÜV AUSTRIA
ZERTIFIZIERTER DRUCKGERÄTE - HERSTELLER
TÜV AUSTRIA SERVICES GMBH

High-Tech
made in
Germany

NITROX

NITROX Membrane Systems
Premium Line

1 Compressed air inlet
2 NITROX outlet
3 NITROX/air selector lever
4 Nitrogen outlet
5 Cooling air outlet
6 Control panel

High-Tech Filter System

7 Electronic drain
8 Stainless steel piping
9 NITROX control valve
10 Quad filter combination

Module Control

11 Control and monitor unit
12 Oxygen sensor
13 NITROX membrane
14 Compressed air dryer with condenser
15 Refrigeration compressor
16 Condensate outlet

Technical data

NITROX	21% - 40%
Quantity delivered	200 - 600 litres/min
Operating pressure	7 - 10 bar
Compressed air requirements	450 - 3300 litres/min
Ambient temperature	max. 40°C
Electrical connection	230V / 50 Hz.
Power requirements	0.6 - 2.1 KW
Depth, width, height	830 / 650 / 1255 mm
Weight	170 kg Premium

Premium Line

Sophisticated Technology in Stainless Steel

NITROX breathing air purifiers

Even optically, our Premium Line shows how much it has to offer. The modern, functional casing in corrosion-resistant, marine grade stainless steel V4A is of the highest quality and designed for continuous operation. The removable doors give a clear view of the fully automatic NITROX membrane system that has revolutionised breathing air purification with sophisticated technology.

The focus is on the refrigeration dryer with electronic steam traps, a compressed air heater with automatic temperature control and monitor, as well as the innovative regulation of the KrinnAir NITROX system with respect to breathing air quality, temperature and pressure. These components ensure that the operation point for the oxygen membrane for NITROX gas generation can be optimally adjusted. Even with high humidity and changing conditions, the set state of the compressed air entering the membrane can be ensured.

Highest quality of compressed air

The filtration of the compressed air is carried out by four high-performance filters and is validated and certified in accordance with ISO 12.500-1:2007. Furthermore, the innovative new construction provides compressed air quality according to ISO 8573-1 1.4.1. for reliable operation of the membrane system.

The system has an integrated electronic control cabinet, is completely wired, and is suitable for installation without foundation in nearly any environment. The Premium Line is equipped with an easy-to-use control panel for regulating and controlling operation pressure, function and oxygen content. An optional remote on/off and compressor control are available.

NITROX Membrane System

Basic Line

1 Open stainless steel V2A casing

Blue Line

2 Open steel / coated casing

Premium, Basic & Blue Line

In many cases, the Basic Line and Blue models reliably satisfy user requirements and needs just as well as the compressors in our Premium Line. In its design, the components of the Basic & Blue Line are more simply made. The casings, made of stainless steel or stainless steel V2A, are open on the sides and allow direct access to the technology. All models have a control panel, fully automatic control, safety shutoff and flow control.

NITROX Membrane Systems: Features

	Premium	Basic	Blue Line
Casing	Stainless steel V4A	Stainless steel V2A	Steel / coated
Side doors	+	–	–
Pipework	Stainless steel	Steel	Flex - hose
Fully automatic control	+	+	+
Safety shutoff	+	+	+
Flow control	+	+	+
Condensate processing	+	o	o
Steam trap	electronic	electronic	mechanical

Legend: + Included, O Optional, – Not possible

NITROX Membrane Systems: Performance Categories

Range of membrane module	Quantity delivered	Range of screw compressors NITROX Membrane Systems		
	litres/min	N32	N36	N40
Size 01: 200 - 350 litres/min	200	5.5 KW	5.5 KW	7.5 KW
	250	5.5 KW	7.5 KW	11 KW
	320	5.5 KW	7.5 KW	11 KW
Size 02: 300 - 450 litres/min	450	7.5 KW	15 KW	15 KW
Size 03: 450 - 600 litres/min	600	15 KW	18 KW	22 KW

Protected Quality for High Expectations

From the beginning, Krinner has relied on custom solutions, sustainable quality and comprehensive service.

KrinnAir NITROX Membrane Systems are developed and built in Germany for diving bases around the world. Membrane technology has been intensely researched for years, leading to a new generation of NITROX systems. Secured reference facilities and endurance tests in the factory's testing department, as well as TÜV certification, confirm the success of the future-oriented NITROX technology.

NITROX systems by KrinnAir are durable, with maintanence cycles after 500 hours of operation. They work efficiently with energy savings of up to 50% compared to conventional systems and deliver the highest quality of compressed air in accordance with ISO 8573-1 1.4.1. The integrated, eco-friendly condensate preparation is of drinking water quality. Each KrinnAir NITROX system is subject to a test run at the factory. A test certificiate confirms the successful completion of the test.

NITROX Membrane Station

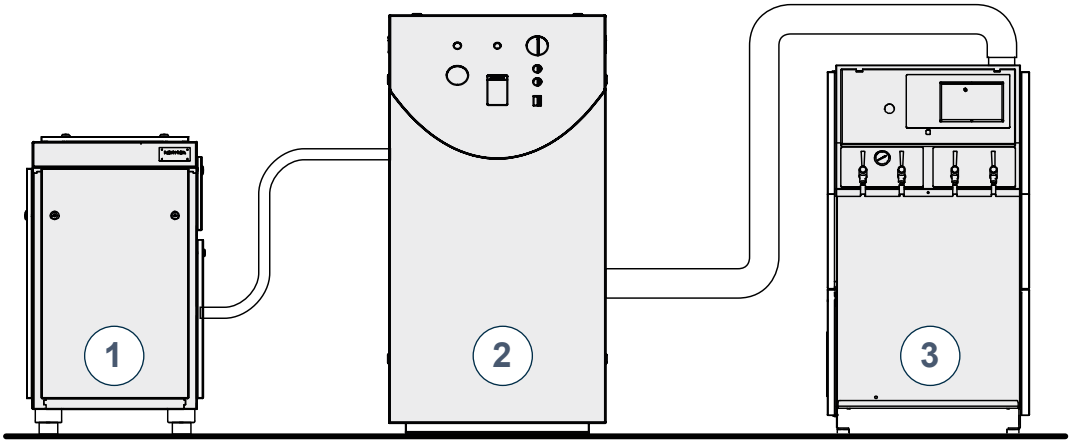
1 Low-pressure screw compressor
2 NITROX Membrane System
3 High-pressure compressor

NITROX Membrane Station

Three Modules, One Solution

Tropics-suitable compressed air technology for top-quality diving gas

The precise matching components of the KrinnAir NITROX membrane systems guarantee tropics-suitable compressed air technology and the highest quality diving gas. The certified NITROX membrane system is easy to use and offers maximum security for diving centres, professional and hobby divers. All the components can be integrated into existing systems and customised. The individual modules are compatible with all low- and high-pressure compressors.

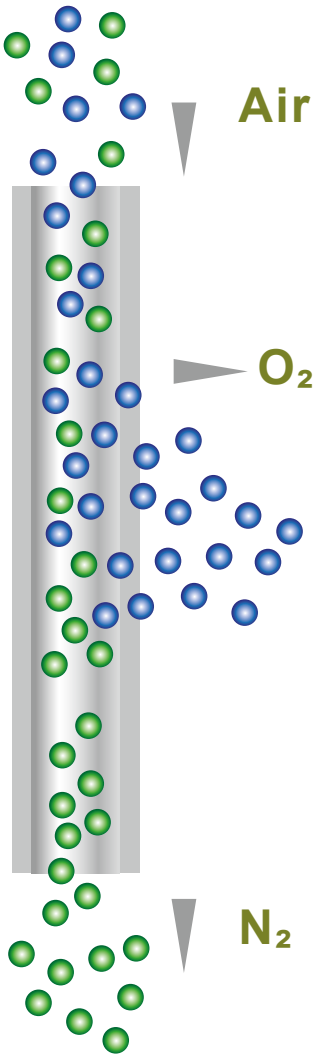


System Structure

1 Low-pressure screw compressor
2 NITROX Membrane System
3 High-pressure compressor

The Perfect Collaboration

The KrinnAir NITROX membrane systems are characterised by the perfect collaboration of all components. First, the low-pressure screw compressors compress the surrounding air to a maximum of 10 bar and provides the NITROX module with compressed air. The compressed air created by the compressor is then converted into the desired breathing gas mixture by the membrane system that separates oxygen and nitrogen. A high-pressure compressor with a filter system compresses the air to 200 bar and fills the diving tanks with the desired NITROX breathing gas mixture.



NITROX Membrane Functions

Through the membrane technology, nitrogen and oxygen are separated from the air stream of the compressed air and are diffused through the hollow fibre membrane. Oxygen with a high degree of diffusion is quickly separated from the air mixture. Because of its molecular structure, nitrogen penetrates the membrane very slowly. The concentration of the gases depends on the flow velocity. The amount of oxygen is adjusted with a control valve on the nitrogen side and ensures a consistently high level concentration of gas.

Expertise and Innovation

The Krinner Compressed Air Technology Team

A good 20 years of experience in the development of compressed air technology make the compressed air technology team at Krinner Drucklufttechnik in Hohenbrunn near Munich a leading international company in the field of breathing air production and NITROX systems. Mid-sized companies and large international corporations trust August Krinner and his team's expertise and innovation.

Clients profit from a comprehensive range of services, from consultation, planning and installation to operation and maintanence of compressors and compressed air systems. Krinner Drucklufttechnik also develops new, energy-efficient components and realises client-specific solutions upon request.

Service technicians install the NITROX systems for clients on-location and brief them on proper use. The compressed air technology team at Krinner is happy to assist you. With a worldwide network of sales and service centres – we are always there for you.

NITROX // service worldwide

AUSTRALIA
AUSTRIA
CANARY ISLANDS
DENMARK
EGYPT
FRANCE
GERMANY
GREECE
INDONESIA
ITALY
MALDIVES
MALTA
NEW ZEALAND
PORTUGAL
SPAIN
SWITZERLAND
THAILAND
TURKEY
UKRAINE
UNITED ARAB EMIRATES
UNITED KINGDOM
USA

NITROX

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