

- 7) Adjust feed air pressure to approximately 100 psi (7 bar) to activate Heater Pressure Switch. Increase pressure by slowly turning the regulator Knob CW or decrease pressure by turning the Knob CCW. Heater will not turn on until Membrane System is pressurized.



LP Feed Air
Regulator
Adjustment
Knob

- 8) Verify that Heater Thermostat Control green indicator light is on. The light will remain on until operating temperature is reached and will then cycle on and off. When light turns off, check Heater Temperature Gauge to verify air temperature is between 105-120 °F (40-49 °C). At any time that temperature exceeds 120 °F, green indicator light should be off.



NOTICE

The Heater Thermostat Control green indicator light will stay on until operating temperature is reached.



CAUTION

Do not change the temperature setting on the Thermostat Control without contacting Nuair. Changes in temperature settings may cause Membrane damage. A damaged membrane will not produce the correct Nitrox mixture which can lead to severe personal injury if the gas is used for diving purposes without proper analysis.

- 9) Check Permeate Pressure Gauge to verify that it reads near 0 psi, a negative or positive pressure reading could indicate blockage.

15.2 Setting Proper Pressure

The Membrane System feed air pressure determines the %O₂ of the Nitrox mixture. As pressure is increased, a higher %O₂ Nitrox is pumped. As pressure is decreased, a lower %O₂ is pumped.

- 1) Increase pressure by slowly turning the regulator Knob CW while monitoring the Pressure Gauges and Permeate Oxygen Analyzer. As the pressure rises, watch the corresponding increase in the analyzer %O₂ reading.
- 2) Increase or decrease pressure slowly until the Permeate Oxygen Analyzer displays the %O₂ desired in the final Nitrox mixture.
- 3) Allow system pressure and temperature to stabilize (approximately 5-8 minutes).
 - ◆ Volume Tank pressure range should be 165-175 psi (11-12 bar).
 - ◆ Regulated Membrane System pressure range should be 90– 165 P.S.I (6-11 bar), depending on Nitrox %O₂ being produced.
 - ◆ Heater temperature range should be 105-120 °F (40-49 °C).



Permeate Oxygen Analyzer



Feed air pressure will never be higher than Volume Tank pressure.

15.3 Final Adjustments Before Pumping Nitrox

- 1) As the Nitrox initially makes its way through the running HP Compressor, the %O₂ reading on the Fill Oxygen Analyzer will slowly increase to read approximately the same %O₂ as the Permeate Oxygen Analyzer. This should happen within 3-5 minutes.
- 2) When the two analyzers read within +/- 1%, make any final adjustments to the Membrane System feed air pressure necessary to obtain the exact Nitrox %O₂ desired as indicated on the Fill Oxygen Analyzer.
- 3) The system is now ready to pump Nitrox.



Fill Oxygen Analyzer

15.4 Pumping Nitrox



WARNING

The use of enriched air Nitrox does not eliminate the risk of decompression sickness (DCS) in diving. Decompression sickness can lead to permanent disability or death.\



WARNING

The Permeate O₂ Analyzer supplies oxygen readings that can vary +/- 2% O₂ due to heat, humidity, and pressure changes in the Nitrox flow and should only be used for rough estimates of %O₂. The Fill O₂ Analyzer supplies more accurate readings, within +/- 1% O₂. For Scuba cylinder fills, the user must always verify the fill with a third independent O₂ analyzer.



WARNING

Do not use this system to produce Nitrox mixtures containing more than 40% oxygen. Pumping Nitrox mixtures with higher concentrations of oxygen may lead to fires or explosions, which can cause serious personal injury or death.



WARNING

Do not pump Nitrox mixtures at pressures above the HP Compressor rating, and never above 3600 psi (250 bar). The system is not rated for pressures above 3600 psi (250 bar). Higher pressures may lead to explosions which may cause serious personal injury or death.



NOTICE

No oxygen cleaning of standard cylinders or plumbing is mandatory when using the Nitrox System to produce Nitrox containing a maximum of 40% oxygen. When filling oxygen clean cylinders, hyper-purification of the Nitrox is required using an optional Oxygen Compatible Air purification system available from Nuvair.



DANGER

This Nitrox System does not produce Nitrox mixtures acceptable for 100% oxygen service.



DANGER

Never fill a cylinder that is marked, "For Oxygen Service," with Nitrox that has been produced by anything other than 100% oxygen clean system. Filling an oxygen clean cylinder with breathing gas containing hydrocarbons can lead to explosions if the cylinder is subsequently filled with gas mixtures containing gas mixtures containing greater than 40% oxygen.



WARNING

Only provide Scuba cylinder Nitrox fills to customers who have proof of Nitrox training and certification. Improper use of Nitrox can be fatal.



DANGER

This system is not cleaned for oxygen service and not all components are compatible with gas mixtures containing greater than 40% oxygen. Pumping gas mixtures containing greater than 40% oxygen will lead to explosions which may cause severe personal injury or death.



WARNING

Each Scuba cylinder belonging to a customer must be analyzed by that customer at the Nitrox filling facility, using an oxygen analyzer independent of those used with the Nitrox System. An employee must witness that the customer has properly analyzed the gas in each cylinder, noted the maximum operating depth for that mixture, and signed and dated the fill log. The time of day must also be included with the date, since some customers may fill the same cylinder more than once a day.

Pump Nitrox as follows:

- 1) When filling a Scuba cylinder, follow all industry standards. Do not exceed rated pressure of cylinder, and do not exceed 3600 psi (250 bar) under any condition.
- 2) With fill whip bleed valve open and Nitrox flowing, verify that Fill Oxygen Analyzer %O₂ reading equals the desired Nitrox %O₂.
- 3) Close bleed valve, open cylinder valve, and fill cylinder. Monitor system for proper operation:
 - a) Monitor Oxygen Analyzers and recalibrate as required
 - b) Listen for proper operation of automatic condensate drains every 10-15 minutes.
 - c) Monitor all system gauges as shown in the table below.



NOTICE

The Oxygen Analyzers may require re-calibration after 10-20 minutes of operation due to humidity and temperature change effects on the Sensor. To recalibrate, turn off the LP Feed Air Switch and follow calibration instructions.



NOTICE

When the HP Compressor auto drain engages and dumps condensate, the Fill Oxygen Analyzer reading will decrease momentarily due to the pressure drop in the system. It will return to its previous reading within seconds after the auto drain sequence stops.

GAUGE	RECOMMENDED SETTING
Compressor Gauges	According to manufacturers recommendations
Heater Temperature	105-120° F (40-49° C)
Cabinet Temperature	Less than 100° F (38° C)
Volume Tank Pressure	165-175 PSI (11-12 bar)
Membrane Feed Air Pressure	90 - 165psi (6-11 bar) depending on Nitrox O ₂ %
Fill Oxygen Analyzer	Showing the proper reading for intended fill
Nitrox Storage Pressure	DO NOT exceed rating of tank or 3600 P.S.I (250 bar)

- 4) After filling is complete, close cylinder valve, vent the bleed valve, and remove the cylinder.
- 5) Test the Nitrox %O₂ in the cylinder using an independent Oxygen Analyzer such as the Nuair O₂ Quickstick™. Calibrate analyzer before use in accordance with manufacturer's instructions.
- 6) Repeat steps 1-5 until you have filled all Scuba cylinders.
- 7) Mark each tank with fill date, %O₂, fill pressure, and MOD (Maximum Operating Depth).

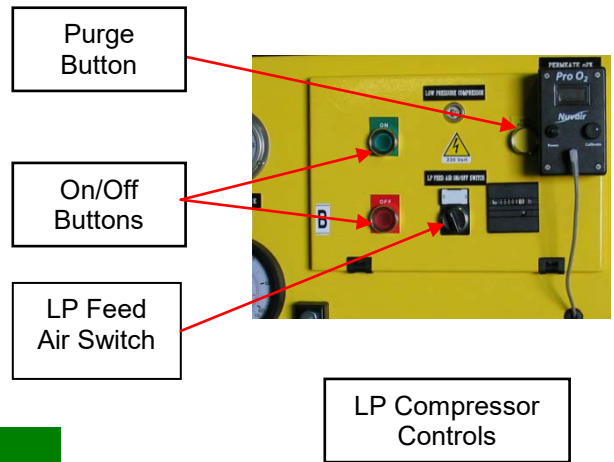


Use Independent Oxygen Analyzer for Verification

- 8) Log every Nitrox fill to document the following information:
 - ◆ Fill date and time of day
 - ◆ Tank Number
 - ◆ Supplier's check of oxygen content (%O₂) plus signature and date
 - ◆ User's check of oxygen content (%O₂) plus signature and date
 - ◆ Fill Pressure
 - ◆ MOD (Maximum Operating Depth) in user's handwriting
 - ◆ Nitrox certifying agency and card number
- 9) When filling a HP Nitrox storage tank, verify that Fill Oxygen Analyzer %O₂ reading equals the desired Nitrox %O₂. Open applicable line valves and tank valve, and fill with Nitrox. Do not exceed rated pressure of cylinder, and do not exceed 3600 psi (250 bar) under any condition. After filling is complete, close all valves and allow Nitrox System to shut down.

15.5 Pumping Air

To use the System to pump air, simply turn off the LP Compressor and LP Feed Air Switch. No Nitrox will be supplied to the HP Compressor, and it will pump air only. When the HP Compressor is pumping air, the Permeate Oxygen Analyzer and the Fill Oxygen Analyzer should both read 20.9% O₂.



NOTICE

Always use Oxygen Analyzers to monitor oxygen content of any gas flowing through the System. Both air and Nitrox are subject to variations in oxygen content.

15.6 Shutting Down

- 1) When tank filling is complete and tank valves are closed, the Nitrox System will automatically shut down at the pressure set on the Dial-a-Pressure Gauge.
- 2) Manually shut off the Membrane System by turning the Feed Air Regulator adjustment knob CCW to reduce pressure to minimum setting and then turning off LP Feed Air Switch.
- 3) The system will automatically drain all Filter, Compressor, and Volume Tank condensate.

16.0 Nitrox Operation Notes

16.1 Correlation of Feed air Pressure to Oxygen Content

After the 10 hour break-in period for your Nitrox System, you will notice that specific Nitrox %O₂'s always match specific feed air pressures once the System has warmed up. These pressures will be repeatable. If you find that the Fill Oxygen Analyzer reads 36% O₂ when the feed air pressure is at 125 psi (9 bar), record this pressure or make a mark on the feed air pressure gauge indicating the %O₂. Do this for each %O₂ that you normally make, making sure System has warmed up first. The next time Nitrox with 36% O₂ is needed, adjust the regulator to 125 psi (9 bar) and wait for the Oxygen Analyzer reading to stabilize. You will find the analyzer reading to be very close to 36% O₂, requiring only minor adjustments of the regulator to achieve the exact desired %O₂.



NOTICE

Use the Fill Oxygen Analyzer to verify the Nitrox oxygen percentage prior to pumping. When using the feed air pressure reading to obtain specific oxygen percentage, minor adjustments of the feed air pressure regulator may be required to obtain the exact percentage desired.

16.2 Hot Fills

While in the process of filling HP Nitrox Storage Tanks, you may have a need to supply a walk-in customer with a Scuba Cylinder fill of a different Nitrox mix. You can change mixes as follows:

- 1) With the Nitrox System operating, isolate the HP Nitrox Storage Tanks from the HP Compressor by closing the appropriate valves.
- 2) Record the Membrane System feed air pressure reading.
- 3) Slightly open fill whip valve on the HP Compressor, and adjust so the running Compressor maintains 1500-2000 psi (100-140 bar) outlet pressure.
- 4) Adjust the feed air regulator to the pressure corresponding to the desired Nitrox %O₂ for the Scuba Cylinder fill.
- 5) Allow the Fill Oxygen Analyzer reading to stabilize, make any minor adjustments necessary to achieve the desired %O₂, and then fill cylinder in normal manner.
- 6) When finished return regulator to previous setting, and allow the Fill Oxygen Analyzer reading to stabilize. Make any minor adjustments necessary to achieve the desired %O₂, and then resume filling Storage Tanks.

17.0 Maintenance

The following list of daily and routine maintenance items is intended as a guide. Refer to LP and HP Compressor manuals for complete maintenance requirements.

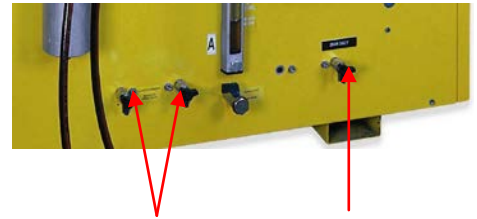
17.1 Daily Maintenance



CAUTION

Be sure to check Compressor Lubricant levels prior to each day of operation. Failure to ensure the proper lubricant level will lead to system damage.

- 1) Check lubricant levels of both LP and HP Compressors and add proper lubricants as required. See Section 17.3 and Compressor manuals for details.
- 2) Operate LP and HP Purge Buttons to verify proper operation of automatic condensate drain valves, then slightly open each HP and LP Manual Condensate Drain Valve to verify that no condensate is present.
- 3) Check LP Air Filtration for condensate and proper operation of condensate drains.



HP Manual
Condensate
Drain Valves

LP Manual
Condensate
Drain Valve

17.2 Routine Maintenance



WARNING

Use only the specified Nuvair Lubricants in this system. The use of incompatible lubricants presents a risk of fire and/or explosion, and may result in system damage. This can lead to severe personal injury and death.



WARNING

Be sure that all pressure has been relieved from the system prior to opening any filtration canister. Failure to vent pressure from the system prior to opening the canister can lead to serious personal injury or death.

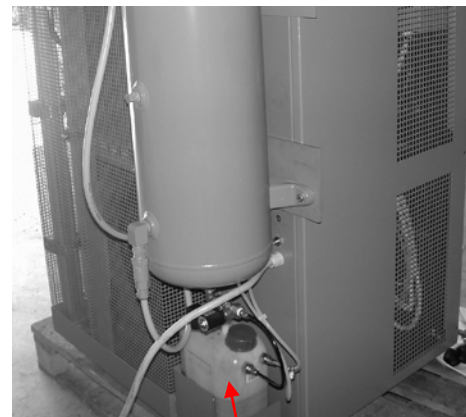


CAUTION

If system is located in an area where there is high humidity and high heat, the life of all Filtration Elements may be as little as 35% of rated operating capacity. Check the Compressor manual and Appendix for details on Filter Element Life Factors.

- 1) LP Compressor Lubricant: Change Compressor Lubricant every 200 hours. Only use lubricants rated for use with Nitrox, such as Nuvair 455™. Never mix Compressor Lubricants. See Section 17.3 and LP Compressor manual for details.
- 2) HP Compressor Lubricant: Change Compressor Lubricant every 100 hours or annually, whichever comes first. Only use lubricants rated for use with Nitrox, such as Nuvair 455. Never mix Compressor Lubricants. See Section 17.4 and HP Compressor manual for details.

- 3) LP Air Filtration Inspection: On a weekly basis, inspect each Filter Bowl for the presence of moisture and each Element for any unusual degradation or wetness. See Section 17.5 for details.
- 4) LP Air Filtration Elements: Change LP Filter Elements every 100 hours to maintain CGA Grade D air standards. Visual liquid level and service life indicators assist with monitoring replacement intervals. See Section 17.5 for details. If the Nitrox System is operated in high humidity and/or high temperature, Filter Elements must be changed more often. See Appendix for details on Filter Element Life Factors.
- 5) HP Compressor Filtration Element: Change HP Filter Element every 13,000 cubic feet of air or Nitrox processing to maintain CGA Grade E air standards. See Section 17.6 for details. If the Nitrox System is operated in high humidity and/or high temperature the Filter Element must be changed more often. See Appendix for details on Filter Element Life Factors.
- 6) Condensate Drain Container: Check level and drain weekly or as needed.
- 7) Semi-Permeable Membrane: No maintenance required. Service life exceeds 20 years if LP Air Filtration is properly serviced to maintain Grade D standards.
- 8) Membrane System Air Intake Filter: Inspect filter element every 3 months for visible particles. Change every 12 months or sooner if particles are visible.
- 9) Oxygen Analyzers: Replace Oxygen Sensor and Battery as required. See manual included with Nitrox System.



Condensate Drain Container.
Check & Drain Weekly.



DANGER

Do not swallow (ingest) either the electrolyte from the Oxygen Sensor or the Sensor itself. The Potassium Hydroxide chemical contained in the Sensor can cause severe injury or death. If electrolyte or the Sensor is swallowed, seek medical attention immediately.



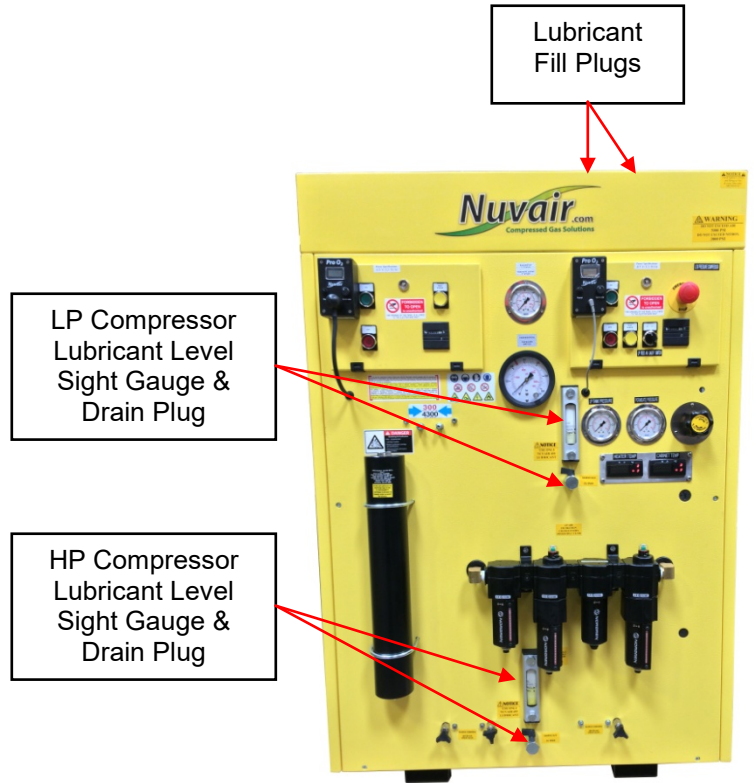
DANGER

If after handling the Oxygen Analyzer or Sensor, you find that your fingers or other parts of your body feel “slippery” or the skin or eyes sting, immediately flush affected area with clean, fresh water for at least 15 minutes. The stinging or slippery sensation is an indication of a leaking Sensor. The Potassium Hydroxide chemical contained in the Sensor can cause severe injury or death. Seek immediate medical attention if eye contact is made or skin stinging persists.

- 10) Air/Nitrox Quality Analysis: Take breathing air/Nitrox samples quarterly for analysis to assure compliance with CGA Grade E breathing air standards.

17.3 Compressor Lubricant

The LP and HP Compressors in your Nitrox System comes standard with Nuvair 455 Synthetic Food Grade Compressor Lubricant. Check lubricant levels at each Sight Gauge and add lubricant as required through the appropriate Fill Plug. Lubricant is removed through the Drain Plugs. See LP and HP Compressor manuals for details on servicing Lubricant.



17.4 LP Feed Air Filtration

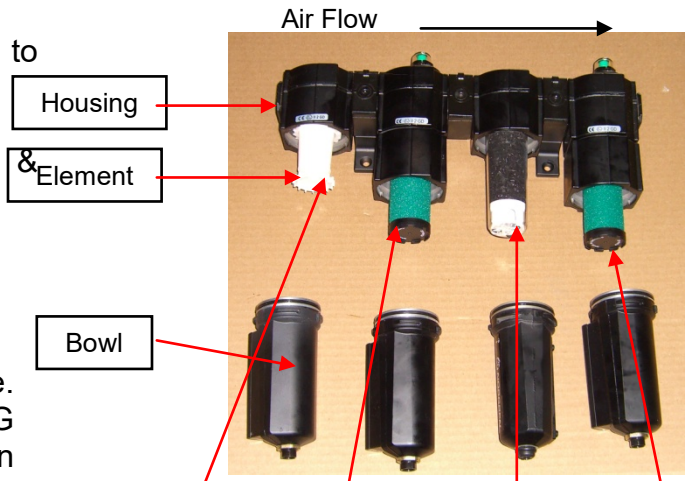


CAUTION

Special attention needs to be given to the arrangement of the four LP Feed Air Filtration Elements and Bowls. Properly reinstall each Element and Bowl to the correct Housing. Improper sequence can cause damage to downstream components

The use of Grade D or better feed air is critical to prevent the passing of any residual oil vapor into the Membrane System. Four stages of Norgren LP filtration are used to produce Grade D air:

- 1) Particle Removal to 1 micron
- 2) Coalescing & Water/Oil Vapor Removal to 0.01 micron
- 3) Oil Vapor Removal to 0.003 PPM
- 4) Final Stage Carbon Particle Removal & Coalescing



LP Filtration Inspection

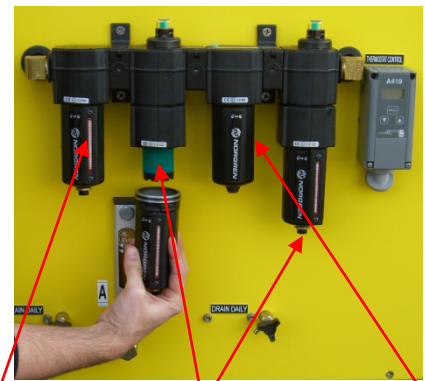
Open each Filter and inspect as follows:

- 1) Inspect Bowl for the presence of moisture. A high level of moisture build-up in the B74G or F74H Filter indicates improper operation of auto-drain floats. Evidence of moisture in the F74V Filter indicates air is not cooling properly and moisture is not properly being removed. Excess moisture will prevent the final filter from operating properly.
- 2) Inspect Elements for any unusual degradation or wetness. Element degradation can indicate more serious problems. Contact Nuair for assistance.

F74G	F74H	F74V	F74H
Particle Removal	Coalescing & Water/Oil Vapor Removal	Oil Vapor Removal	Carbon Particle Removal & Coalescing
Replacement Element Part Number			
4338	4344	4341	4344

Service Indicator Changes from Green to Red as Filter Ages. Do Not Use When Red.

Liquid Level Indicator Shows if Auto Drain is Working Correctly.



F74G Filter with Auto-Drain Float & Liquid Level Indicator	F74H Filters with Auto-Drain Float & Liquid Level/Service Indicators	F74V Filter with Manual Drain – Should not Contain Moisture
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Changing LP Filtration Elements

Change Filter Elements every 100 hours. If the Nitrox System is operated in high humidity and/or high temperature, Filter Elements must be changed more often. See Appendix for details on Filter Element Life Factors. Visual service indicators on the F74H filters assist with monitoring replacement intervals.

- 1) Push up on Filter Bowl, rotate counter-clockwise, and lower to remove.
- 2) Gently unscrew Filter Element and pull down off mounting post.
- 3) Replace Element and reassemble in reverse order.



Changing LP Filtration Element



NOTICE

The interior of the Filter Bowls can be cleaned with a diluted solution of Simple Green™ and flushed thoroughly with clean water. This will assist to prolong the life of the element, bowl, and auto drain.

17.5 HP Compressor Filtration

The HP Compressor comes standard with Triplex filtration, utilizing a single Filter Element. Do **NOT** use any substitute. Change Filter Element every 13,000 cubic feet of air or Nitrox processing. If the Nitrox System is operated in high humidity and/or high temperature, Filter Element must be changed more often. See Appendix for details on Filter Element Life Factors.

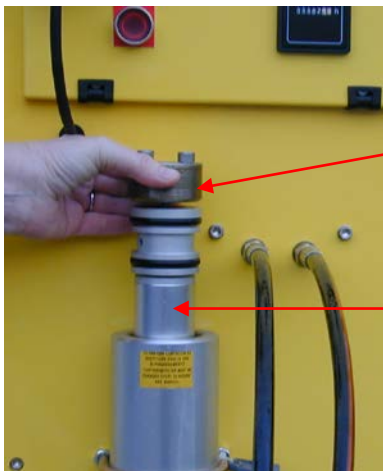
- 1) Shut down the Nitrox System
- 2) Open Manual Condensate Valves to drain pressure. Leave Valves open.
- 3) Unscrew the Filter Canister Cap per the HP Compressor manual.
- 4) Remove expended Element from Filter Canister and unscrew from Canister Cap.
- 5) Install new Element to Canister Cap and reinstall Cap to Canister.
- 6) Close Manual Condensate Valves.



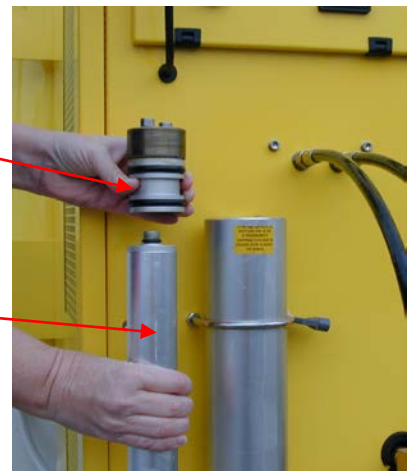
Manual Condensate Drain Valves



Filter Canister Cap
HP Compressor Filter Canister



Filter Canister Cap
Filter Element



17.6 Spare Parts List

See LP and HP Compressor manuals for Compressor parts lists. Other Nitrox System components and related items are listed below.

Nitrox System Components	Type	Part Number
Reciprocating Compressor Lubricant, Food Grade, Nitrox Compatible	Nuvair 455, 1 Gal (Other Sizes Available)	9406
LP Filtration Element	Norgren B74G	4338-04
	Norgren F74H	4344-02
	Norgren F74V	4341-01
HP Compressor Filtration Element	Breathing Air, Grade E	X302414
Heater Assembly	1200 Watt, 28" Length	H1200
Heater Thermostat Control	110V/220V	A419
Heater Pressure Switch		3100-052
Membrane	230 Series	NUV230
Air Intake Filter Element	10-16 CFM	16CP
Mixing Tube Assembly	1.5 inch diameter, specify length	
Oxygen Analyzer	Pro O ₂	9450
	Pro O ₂ Remote	9452
Oxygen Sensor	See Analyzer User Manual	
Compressor Hose Coupler	1-1/4"-1-1/2" to 1-1/4"-1-1/2"	PTC-150
	1-1/4"-1-1/2" to 1-1/2"	RDTC40X32
Related Equipment Components		
Air/Nitrox Quality Analysis Kit	Specify: (1) CGA Grade Required	
	(2) Single Use or Program Use	

Appendix

Supply and Breathing Air Specifications

All supply and breathing air must meet the following requirements of CGA G-7.1-1997. Supply air delivered to the Membrane System must be purified to meet Grade D or E quality, and periodic air quality testing to assure compliance is recommended. All breathing air for diving produced by the downstream Compressor must be purified to meet Grade E quality, and periodic air quality testing to assure compliance is mandatory.

Item	Grade D	Grade E
Oxygen	19.5-23.5%	20-22%
Carbon Dioxide (maximum)	1000 PPM	1000 PPM
Carbon Monoxide (maximum)	10 PPM	10 PPM
Hydrocarbons (maximum)	Not specified	25 PPM
Water Vapor (maximum)	Not specified	Not specified
Dew Point (maximum) (1)	Not specified	Not specified
Oil & Particles (maximum) (2)	5 mg/m3	5 mg/m3
Odor	None	None

Notes: (1) Dew Point of supply air must be >10°F (6°C) colder than coldest ambient air expected
 (2) Supply air delivered to the Membrane System must contain <0.003 PPM Oil Vapor

All breathing Nitrox produced for diving must be purified to meet these same requirements, except for oxygen content. Nitrox oxygen content must measure within +/- 1% O₂ of the specified value of the mixture using a properly calibrated Oxygen Analyzer (i.e. Nitrox produced with a target content of 32% O₂ must measure in the range of 31-33% O₂). Periodic air quality testing to assure compliance is mandatory.

Filter Element Life Factors

Breathing air filter element life is typically rated by manufacturer based on an air temperature of 80°F at the filter inlet. Under normal operation this temperature is 12°F (5°C) warmer than the ambient air, resulting in an equivalent ambient temperature rating at 68°F (20°C).

To determine element life at a different ambient temperature, multiply the rated life by the life factor listed below:

Filter Temperature	Ambient Temperature	Filter Element Life Factor
53°F (12°C)	41°F (5°C)	2.6 x Life
62°F (17°C)	50°F (10°C)	1.8 x Life
71°F (23°C)	59°F (16°C)	1.35 x Life
80°F (27°C)	68°F (20°C)	1 x Life
89°F (32°C)	77°F (25°C)	0.8 x Life
96°F (36°C)	84°F (29°C)	0.55 x Life
105°F (41°C)	93°F (34°C)	0.45 x Life
114°F (46°C)	102°F (39°C)	0.35 x Life

OWNER'S WARRANTY RESPONSIBILITIES

Failure of the owner to prevent equipment damage by complying with the procedures outlined below and in the Operation Manual will void the Nitrox System warranty.

Installation:

- All set up requirements and procedures provided in the Nitrox System Operation Manual must be followed in their entirety including supply air cleanliness, Compressor preparation, and installation of the Nitrox System.
- Supply air to the Membrane must be properly filtered to CGA Grade D air quality or better to prevent damage to the Membrane. Air quality testing of the supply air should be performed periodically and documented to assure compliance.
- If there is any doubt regarding the suitability of a HP or LP Compressor for compressing Nitrox, contact Nuair or the Compressor manufacturer before you connect your Nitrox System.
- If an existing HP or LP Compressor is to be used for compressing Nitrox, all traces of the old lubricant must be removed and replaced with a Nitrox Compressor Lubricant approved by Nuair.
- Electrical wiring and connections should be made by a qualified electrician in accordance with all national and local electrical codes.
- Do not change the temperature setting on the Heater Thermostat Control. Changes in temperature settings may cause Membrane damage.
- To prevent Compressor damage, only use the Compressor Intake Hose provided. If a longer hose is required, contact Nuair for assistance.
- Compressors must be provided adequate ventilation to operate properly and prevent heat damage. This requires an ambient temperature below 100 °F (38 °C), sufficient clearance from adjacent walls, and proper rotation direction.

Operation:

- Do not use the Nitrox System to supply a HP or LP Compressor with Nitrox mixtures containing more than 40% oxygen. Compressing higher concentrations of oxygen may cause severe Compressor damage.
- Do not pump Nitrox mixtures at pressures above the Compressor manufacturer's rating, and never above 3600 psi (250 bar). Compressing Nitrox at higher pressures may cause severe HP Compressor damage.
- To prevent Membrane damage, drain all low pressure filter and volume tank condensate on a daily basis.
- If you become aware of an operational fault, stop using the equipment immediately and contact Nuair for assistance.

Maintenance:

- Change low pressure filter elements on a schedule determined by filter capacity and ambient temperature and humidity. Contact Nuair if you need assistance establishing a schedule for your equipment and location.
- Replace Membrane System Air Intake Filter on a regular basis to prevent flow obstruction.
- Keep all nuts, bolts, fittings, connectors, and clamps tight.
- Keep a service record book showing that regular maintenance work has been carried out. If a warranty claim becomes necessary, it will aid in demonstrating that damage has not been caused by insufficient maintenance. Proof of maintenance may be required prior to determining the validity of a warranty request.

NUVAIR NITROX SYSTEM WARRANTY

Nuvair extends a limited warranty, which warrants the Nitrox System to be free from defects in materials and workmanship under normal use and service for a limited period. The specific Membrane Component of the Nitrox System is warranted according to the pro-rated terms as set forth below. All other Original Equipment Manufacturer (OEM) components used in the system are warranted only to the extent of the OEM's warranty to Nuvair. Nuvair makes no warranty with respect to these OEM components, and only warrants the workmanship that Nuvair has employed in the installation or use of any OEM component. This warranty is not transferable.

Nuvair will, at its discretion and according to the terms as set forth within, replace or repair any materials which fail under normal use and service and do not exhibit any signs of improper maintenance, misuse, accident, alteration, weather damage, tampering, or use for any other than the intended purpose. Determination of failure is the responsibility of Nuvair, which will work together with the customer to adequately address warranty issues. When any materials are repaired or replaced during the warranty period, they are warranted only for the remainder of the original warranty period. This warranty shall be void and Nuvair shall have no responsibility to repair or replace damaged materials resulting directly or indirectly from the use of repair or replacement parts not approved by Nuvair.

Pro-Rated Terms:

Nuvair warrants the Membrane Component of the Nitrox System to be free from defects in material and workmanship for a period of thirty-six (36) months from date of installation or forty-two (42) months from date of shipment by Nuvair, whichever may occur first. The warranty covers parts only and is prorated as follows:

- First Year Repair or replacement free of charge
- Second Year Warranty allowance of 70% of the current Membrane Component list price
- Third Year Warranty allowance of 40% of the current Membrane Component list price

A warranty registration card, supplied with system documentation, must be filled out and submitted to Nuvair for the warranty to be in full effect. If the warranty registration card is not received within thirty (30) days of installation, the thirty-six (36) month warranty will begin with the date of shipment from Nuvair. For warranty service to be considered, customer's account must be current or paid in full.

Maintenance Items:

Any materials which are consumed, or otherwise rendered not warrantable due to processes applied to them, are considered expendable and are not covered under the terms of this policy. This includes maintenance and consumable items listed as part of a suggested maintenance program included with system documentation.

Return Policy:

Application for warranty service can be made by contacting Nuvair during regular business hours and requesting a Return Material Authorization number. Materials that are found to be defective must be shipped, freight pre-paid, to the Nuvair office in Oxnard, California. Upon inspection and determination of failure, Nuvair shall exercise its options under the terms of this policy. Warranty serviced materials will be returned to the customer via Nuvair's preferred shipping method, at Nuvair's expense. Any expedited return shipping arrangements to be made at customer's expense must be specified in advance.

Limitation of Warranty and Liability:

Repair, replacement or refund in the manner and within the time provided shall constitute Nuvair's sole liability and the Purchaser's exclusive remedy resulting from any nonconformity or defect. Nuvair shall not in any event be liable for any damages, whether based on contract, warranty, negligence, strict liability or otherwise, including without limitation any consequential, incidental or special damages, arising with respect to the equipment or its failure to operate, even if Nuvair has been advised of the possibility thereof. Nuvair makes no other warranty or representation of any kind, except that of title, and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, are hereby expressly disclaimed. No salesman or other representative of Nuvair has authority to make any warranties.



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