

INSTRUCTION
MANUAL



rpb® **RADEX FILTER**™
ADVANCED AIRLINE FILTER

CONTENTS

Read all instructions and warnings before using this product.
Keep this manual for future reference.

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INTRODUCTION

The Radex filtration System (Comprising of the Radex Airline Filter and Radex CO Monitor) meets the following specifications when used in accordance with the User Instruction Manual.

**ANSI / Compressed Gas Association
Commodity Specification for Air,
G-7.1-1989.**

**Federal OSHA 29 CFR 1910.134
“Compressor Operations for Breathing
Air” Army Corps of Engineers EM385-1-1,
Section 30.F.04.**

OSHA Regulations place the responsibility for the quality of compressed breathing air with the user. Compliance with federal, state, or local regulations is the responsibility of the user and this statement does not supersede any existing rules, regulations, or laws which may apply. The Radex Filtration system meets or exceeds CGA Grade-D specifications for air quality as adopted by OSHA, when the components are used in accordance with the manufacturer’s instructions and recommendations, the “system” meets or exceeds federal regulations presently in force. The user is under obligation to comply with any changes in the law or regulations which may occur.

The Breathing air supply compressor must be located in a safe, clean ambient air environment, constructed and situated so as to prevent entry of contaminated air

into the air supply system and as detailed in OSHA Regulation (29 CFR 1910.134(i)) Total system Grade-D air quality must be tested at the time of initial setup. This “safe” location must be tested periodically using the correct instruments to ensure clean ambient air quality on a consistent basis. If the compressor is moved, retesting air quality is recommended. Should the compressor location or environment significantly change, the air quality should be retested. The compressor filters and oil level should be checked daily and changed during regular scheduled maintenance or when contaminated.

The Radex Airline Filter Part No. 04-900 is not capable of removing Carbon Monoxide and other toxic Gases from the Compressed Air and requires the Radex CO Monitor Part No. 08-200 to be connected to complete a system that is compliant with OSHA regulation 1910.134(i)(7) “For oil-lubricated compressors, the employer shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.”

INTRODUCTION (CONTINUED)

The Radex Filtration system should be used according to the instructions and recommendations specified in the Users Instruction Manual. The standard filtration package is not explosion-proof and should be located in a non-explosive environment.

The User must perform a Calibration Check monthly or if the accuracy of the monitor is in question, Should the Calibration Check indicate a fault, the unit will provide a service center contact number and email address. Breathing air quality should be tested for, but not limited to, the following Grade-D air components:

O₂ - Oxygen

CO₂ - Carbon Dioxide

CO - Carbon Monoxide

H₂O - Water (Moisture Content)

Hydrocarbons (Oil Mist)

Total Particulates

The maximum allowable level of these air quality components varies depending on the Grade of Air that is required by the user, these Grades are detailed by the Compressed Gas Association Commodity Specification for Air, G-7.1-1989.

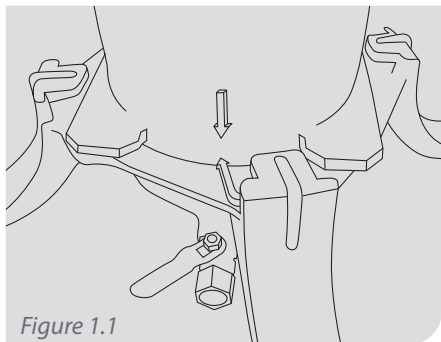
! DANGER !

Do not connect the Radex Airline Filter to bottled air that does not have a pressure reducing valve that will reduce the air pressure to a maximum of 125 psig (860 kpa). Failure to comply with this warning could cause the Radex Airline Filter to explode, causing serious injury or death.

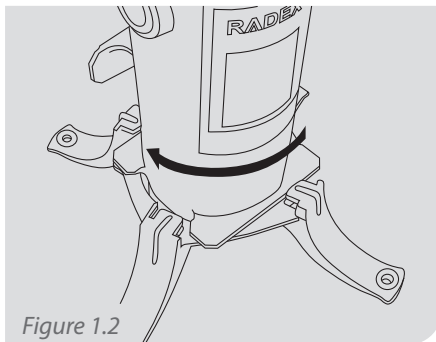
!WARNINGS!

- 1** The Radex Airline Filter should be assembled, operated and maintained by trained and experienced users.
- 2** Read all instructions and warnings before assembling and using the Radex Airline Filter. Failure to adhere to all instructions and warnings could result in serious injury or death.
- 3** Do not connect the Radex Airline Filter to any air source unless you have confirmed that it supplies breathable grade air. Failure to connect the airline filter to the proper air source could result in injury or death.
- 4** Do not modify or alter this Radex Airline Filter. Use only genuine RPB Respiratory replacement parts. Use of non genuine parts could reduce filtration capabilities.
- 5** Do not remove the safety pressure relief valve. Air will be released when pressure in the filter exceeds 125 psig (860kpa).
- 6** The Radex Airline Filter DOES NOT REMOVE CARBON MONOXIDE (CO) OR TOXIC FUMES. Carbon monoxide alarms, monitoring devices or removal devices must be used in conjunction with this Radex Airline Filter.
- 7** Improper use of this respirator or Do not use the Radex Airline Filter if it has been damaged as the Filter is a pressure vessel and damage to the vessel could cause fatigue that could result in serious injury or death. Do not attempt to weld the filter unit.
- 8** If the Radex Airline Filter is being used in conjunction with abrasive blasting, do not use abrasives containing free silica. The use of silica sand can cause respiratory diseases that cause death.
- 9** Always use NIOSH, CE or AS approved supplied air respirators. The type of supplied air respirator suitable for each application must be determined by your employer.
- 10** Always mount the Radex Airline Filter on a secure level surface.
- 11** Moisture must be drained on a regular basis to keep air supply free of moisture.
- 12** Do no loosen the bolts on the Radex Airline Filter lid while the unit is pressurized. All air must be drained from the filter and air supply to the inlet must be shut off completely before performing any work on the Radex Airline Filter.

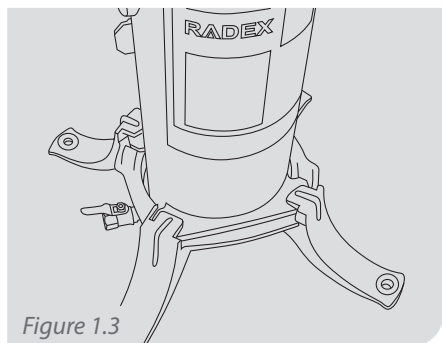
BASEMOUNT



To connect the base mount align the arrows on the base mount with the arrows on the filter.



Turn the filter in a clockwise direction and lock into position.



You will hear a click when the base is in the final position.

NOTE

The base mount will only fit in two positions, the arrows must align before locking.

04-900 ASSEMBLY

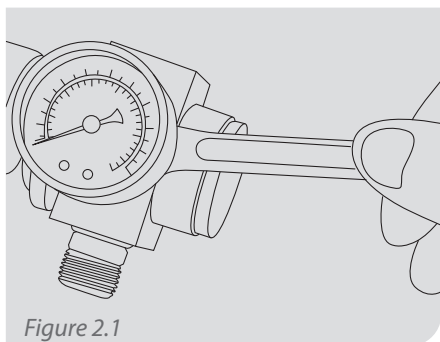


Figure 2.1

To assembly the pressure regulator, thread the pressure gauge into the body and tighten.

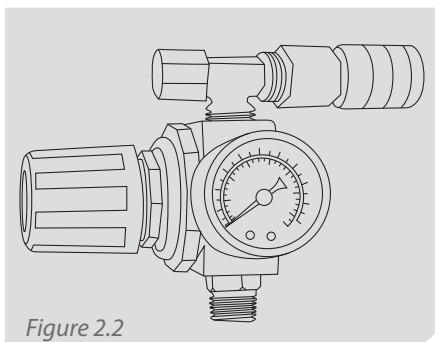


Figure 2.2

Connect the quick disconnect coupler and brass cap to the 3/8" tee into the top of the pressure regulator and tighten. It is recommended that the regulator assembly is tightened before mounting onto the Radex Airline Filter. Use thread sealant on all fittings.

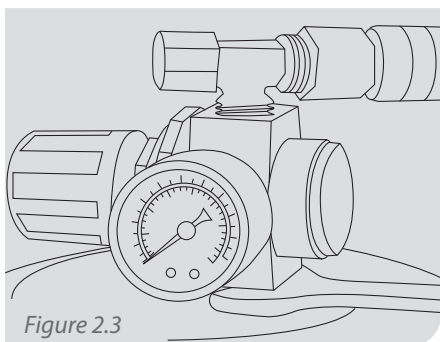


Figure 2.3

Fit the complete regulator assembly onto the top of the Radex Airline Filter lid.

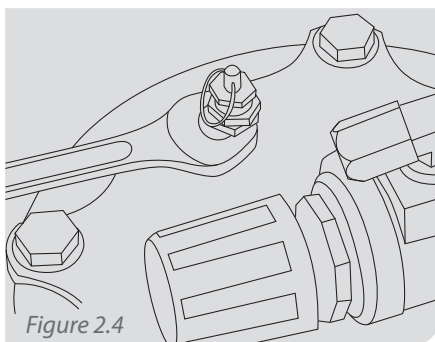


Figure 2.4

Once the regulator assembly has been tightened onto position you can fit the pressure relief valve and tighten.

!WARNING! The pressure relief valve must be connected to protect the Radex Airline Filter from over pressurizing.

04-900 ASSEMBLY (CONTINUED)

INLET CONNECTION

The Radex Airline Filter has a 1" NPT inlet. It is advised to connect a ball valve close to the inlet so the unit can be shut off for servicing. Connect inlet fittings and tighten. Once the Radex Airline Filter is completely assembled and connected to compressed air, open the supply line and check fitting for any air leaks, tighten accordingly.

!WARNING!

DO NOT over tighten fittings, as over tightening could crack the Filter Casting.

FITTING OPTIONAL MICRO MIST FILTER

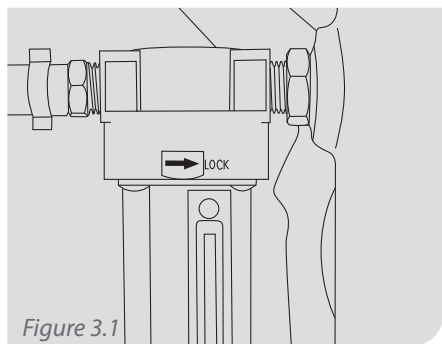
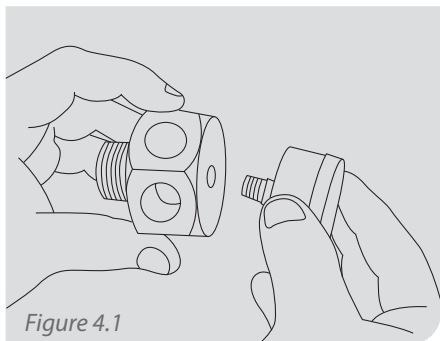


Figure 3.1

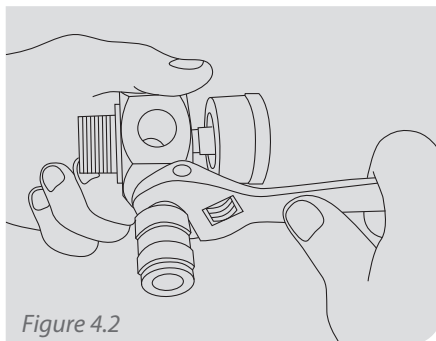
To fit optional micro mist filter 04-925, first thread the reducing nipple 04-926 into the micro mist filter then thread into the filter inlet and tighten, ensure the micro mist filter is positioned straight so it drains moisture from the collection bowl.

04-906 ASSEMBLY

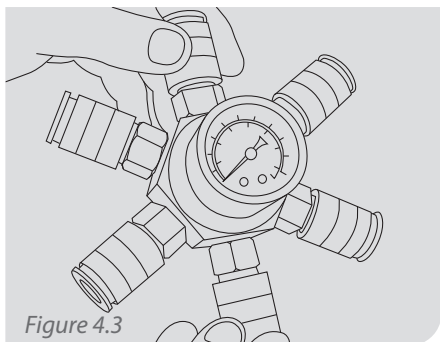
INLET CONNECTION



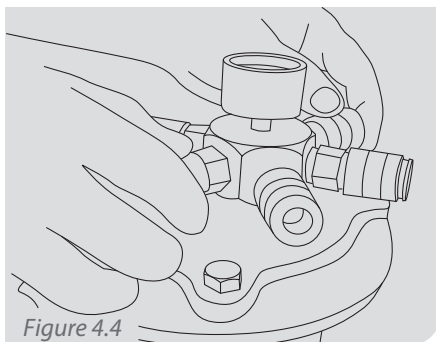
To assemble the Six Outlet Manifold, firstly thread the 04-915 Pressure Gauge into the 04-965 6 Outlet Manifold and tighten.



Thread all six 04-964 Couplers into the 04-065 Manifold and tighten.



The pressure relief valve must be connected to protect the Radex Airline Filter from over pressurizing.



Thread the completed 04-964 Six Outlet Manifold into filter lid and tighten.

04-906 ASSEMBLY (CONTINUED)

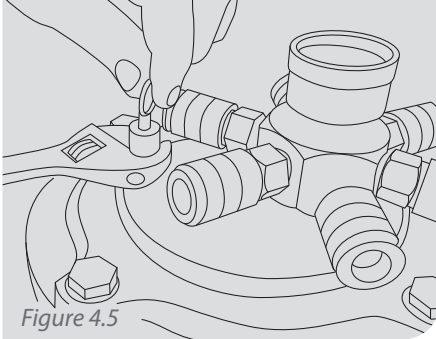


Figure 4.5

Thread the 04-916 Pressure Relief Valve into the lid and tighten.

NOTE

If the Pressure Gauge on the Super High Flow Regulator and the Pressure Gauge on the Manifold are reading more than 10psi apart, your cartridge is blocked and needs replacing.

Refer to your respirator instruction manual for pressure ranges for your respirators, increase the pressure according to the number of operators.

SUPER HIGH FLOW REGULATOR ASSEMBLY

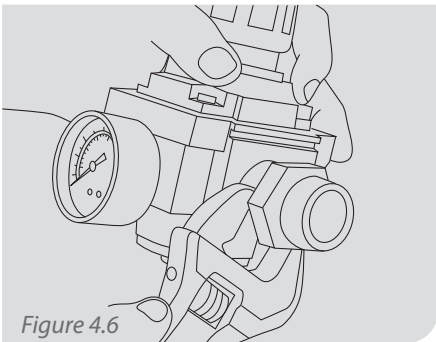


Figure 4.6

Thread the 04-963 Pressure Gauge and 04-966 1" NPT Connector into the 04-962 Super High Flow Regulator and tighten.

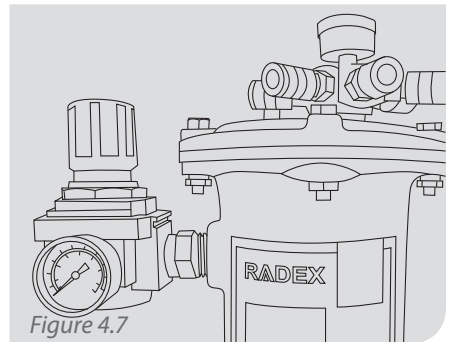


Figure 4.7

Now thread the complete Regulator into the INPUT port on the body of the Radex Filter Unit and tighten.

Check ALL fittings and connections are tight. **YOUR FILTER IS NOW READY FOR USE.**

OPERATION

AIR PRESSURE

The air pressure supplied to the Radex Airline Filter should not exceed 125psi (860 kpa). When setting the outlet pressure using the pressure regulator refer to your respirator instruction manual to set the correct air pressure.

AIR TEMPERATURE

The Air supplied to the Radex Airline Filter should not exceed 140 degrees Fahrenheit (60 degrees Celsius). Do not connect the Radex Airline Filter directly to the compressor outlet manifold.

AIR QUALITY

The Radex Airline Filter does not remove carbon monoxide and other toxic gases from the breathing air supply. A Radex carbon monoxide monitor 08-200 must be used at all times. Supplied air passing through this Radex Airline Filter must meet the requirements of Grade D. EN 12021 or AS/NZS 1715 refer to your relevant authorities for copies of these standards. Regular tests of the compressed air must be carried out to ensure it meets the requirements for breathable air.

AIR CONNECTIONS

Connect air fittings that meet the requirements of OSHA for respirable air. The inlet thread size is 1: NPT. All connections should be sealed using liquid thread sealant. If the Radex Airline Filter is hard piped an isolation valve must be used to enable depressurisation for servicing.

MAINTENANCE

FILTER CARTRIDGE REPLACEMENT

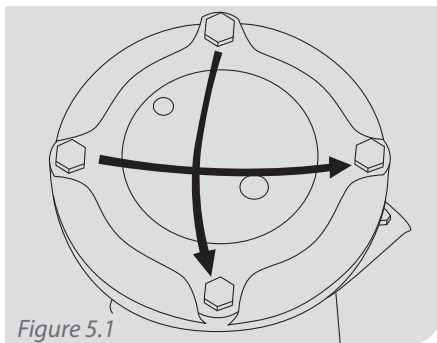
The filter cartridge should be inspected weekly or more often depending on usage and the conditions of the air system in which the Radex Airline Filter is installed. The filter cartridge should be replaced after a period of 3 months based on a 40 hour week.

The filter cartridge must be replaced immediately if the following exist:

1. The presence of odour and or tastes in the air being supplied to the respirator.
2. Presence of moisture at the outlet fittings.
3. Large pressure drop across the filter.

REPLACING CARTRIDGE

1. Shut off the air supply to the Radex Airline Filter and drain all air from the body by opening the drain tap.
2. Remove the bolts from the lid and separate the lid from the body.
3. Remove the cartridge and dispose in an appropriate disposal area.
4. Clean the inside of the filter body to remove any contaminants, do not clean with volatile chemicals.
5. Insert a new filter cartridge and reassemble the lid, tighten the bolts in the pattern drawn in (Fig 5.1) tighten to 10ft / lb torque.
6. Record the data on the sticker supplied with the filter cartridge and place onto the Radex Airline Filter.



DRAINING MOISTURE

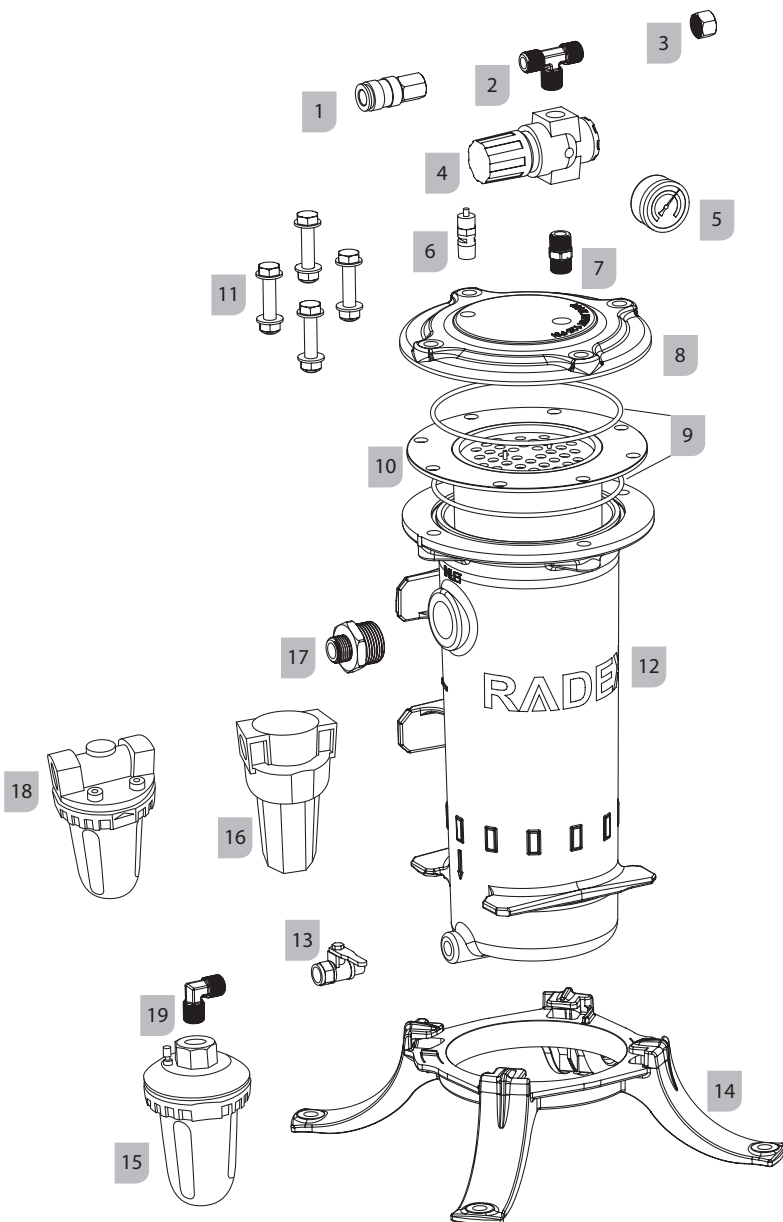
Water will accumulate in the filter tank, this should be drained by opening the ball valve. This should be done each day. In very humid climates or if there is large amounts of water in the air supply it is recommended to leave the ball valve partially open to bleed the moisture. When fitted with auto drain assembly 04-924, moisture will automatically drain from the unit as particles which could cause blockages.

LID BOLTS, ORINGS

The Radex Airline Filter lid bolts should be checked to ensure that they are tight. The lid bolts 04-920 should be replaced when replacing the filter cartridge. The recommended tightness for the lid bolts is 10 ft/lbs. Check the orings 04-919 and replace if damaged.

PARTS LIST

| Item Number | Description | Part Number |
|-------------|-------------------------------|-------------|
| 1 | Quick Disconnect Coupler | 04-911 |
| 2 | 3/8" Tee | 04-912 |
| 3 | 3/8" Cap | 04-913 |
| 4 | Pressure Regulator | 04-914 |
| 5 | Pressure Gauge | 04-915 |
| 6 | Pressure Relief Valve 125 psi | 04-916 |
| 7 | 3/8" Hex Nipple | 04-917 |
| 8 | Lid | 04-918 |
| 9 | O-ring (set of 2) | 04-919 |
| 10 | Filter Cartridge | APF 3100 |
| 11 | Bolt, Nut Washer (set of 4) | 04-920 |
| 12 | Body | 04-921 |
| 13 | Drain Tap | 04-922 |
| 14 | Base Mount | 04-923 |
| 15 | Auto Drain Unit | 04-924 |
| 16 | Micro Mist Filter 1/2 | 04-925 |
| 17 | 1" x 1/2 Reducing Nipple | 04-926 |
| 18 | Main Line Pre Filter | 04-927 |
| 19 | Brass Elbow | 04-928 |



OTHER PRODUCTS

ISO9001
CERTIFIED COMPANY

RPB® NOVA 3® RESPIRATOR

The RPB® NOVA 3® combines breakthrough protection technology with advanced comfort and functionality, surpassing even the most rigorous industry standards and the demands of the most quality-conscious companies. Designed to optimize safety and productivity, and to minimize worker downtime, the helmet has a host of features that maximize its lifetime value.



AIR TEMPERATURE CONTROL

The RPB® 4000-01 Cool Air Tube cools compressed breathing air coming into the respirator by up to 30°F while the RPB® 4000-20 Hot Air Tube will heat the compressed air by up to 30°F. These maximize worker comfort and increase productivity in hot or cold climates.



AIR QUALITY MONITORING

The RPB® RADEX CO MONITOR™ helps ensure worker safety with a unique traceability feature that monitors and records carbon monoxide levels, and temperature. This data that provides certainty of monitor functioning and can be stored for up to two years allowing analysis of plant and field air quality.



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