Infinity 9000
User Manual

Contents

Change History

Rev.	Comment	Name	Date
1	Update to Service Kit Information	Liam Couttie	16/04/2014
2	Part Number Amendment	Liam Couttie	28/05/2014
3			
4			
5			

How to use this manual

This manual is intended for end users and has been written so that it can either be read as a step by step guide to installation and usage; or as a reference document where you can skip to the relevant information.

Please review each of the following sections carefully.

Thank you for selecting Peak Scientific to meet your Gas Generation needs, should you require any further assistance or support please do not hesitate to contact Peak Scientific or the Peak Partner from which you purchased your Generator.

Warranties and Liabilities

1. The Company warrants that it has title to the Goods.
2. Subject to the provisions of this clause the Company warrants that the Goods shall comply in all material respects with any specification referred to in the Order Confirmation (as the same may be amended) and shall, subject thereto, be free from defects in material and workmanship for the lesser of a period of twelve months from the date of delivery or thirteen months from the date of dispatch from the factory.
3. Save as provided in this clause and except where the Goods are sold to a person dealing as a consumer (within the meaning of the Unfair Contract Terms Act 1977) all warranties, conditions or other terms implied by statute or common law are hereby expressly excluded save to the extent they may not be lawfully excluded. When the Goods are sold to a consumer within the meaning of the Unfair Contract Terms Act 1977 their statutory rights are not affected by the provisions of this clause.
4. In the event of the Customer making a claim in respect of any defect in terms of clause 2 hereof the Customer must.
   4.1. Reasonably satisfy the Company that the Goods have been properly installed, commissioned, stored, serviced and used and without prejudice to the generality of the foregoing that any defect is not the direct or indirect result of lack of repair and/or servicing, incorrect repair and/or servicing, use of wrong materials and/or incorrect spare parts
   4.2. Allow the company to inspect the Goods and/or any installation and any relevant packaging as and when reasonably required by the Company.
5. Subject to the Company being notified of any defect as is referred to in sub-clause 2 hereof within a reasonable time of it becoming apparent and subject always to the terms of sub-clause 4 hereof, the Company shall, in its option, replace or repair the defective Goods or refund a proportionate part of the Price. The Company shall have no further liability to the Customer (save as mentioned in sub-clause 6 hereof).
6. The Company shall be liable to indemnify the Customer in respect of any claim for death or personal injury to any person in so far as such is attributable to the negligence or breach of duty of the Company or any failure by the Company to comply with the provisions of sub-clause 2 hereof.
7. Save as provided in sub-clause 2 hereof the Company shall not be liable in respect of any claim by the Customer for costs, damages, loss or expenses (whether direct, indirect, consequential or otherwise) or indemnity in any respect howsoever arising including, but not by way of limitation, liability arising in negligence (other than pursuant to clause 6 above) that may be suffered by the Customer or any third party.

Safety Notices

Symbols

This manual uses the following symbols to highlight specific areas important to the safe and proper use of the Generator.

	A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, process or similar, which if not correctly performed or adhered to, could cause personal injury or in the worst case death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood or met.
	A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, process or similar, which if not correctly performed or adhered to, could cause damage to the Generator or the Application. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood or met.

Table 1 - Safety Symbols

Safety Notice to Users

These instructions must be read thoroughly and understood before installation and operation of your Peak Scientific Infinity 9000. Use of the Generator in a manner not specified by Peak Scientific MAY impair the SAFETY provided by the equipment.

When handling, operating or carrying out any maintenance, personnel must employ safe engineering practices and observe all relevant local health and safety requirements and regulations. The attention of UK users is drawn to the Health and Safety at Work Act 1974, and the Institute of Electrical Engineers regulations.

Nitrogen is not a poisonous gas, but if the concentration in the inhaled air becomes too high there will be a risk of asphyxiation.

Technical Specifications

Environment

Min/Max Air Operating Temperature	5°C-30°C / 41°F-86°F
Maximum Relative Humidity	70%

Inlet Conditions

Min/Max Air Inlet Pressure	8.3-10 bar / 120-145 psi
Minimum Air inlet Flow	70 l/min

Outlet Gas

Maximum Gas output Pressure	100 psig
Maximum Pressure Drop (Outlet-Inlet)	8 psig
Maximum Gas output flow (zero grade air)	34 l/min (ATP)
Start-up time for purity	60 minutes
Particles	0.01um

General

Dimensions (cm/ins) WxDxH	47x16x76 / 19x7x30
Shipping Weight (Kg/lbs)	21 / 46

Introduction

The Peak Scientific Infinity 9000 Nitrogen Generator is designed specifically for use with LCMSMS applications, but has also been used successfully for Turbovap or ELSD applications. The generator has been designed to produce Nitrogen from an existing source of dry, oil free, compressed air in the laboratory.

Unpacking and Installation

Although Peak Scientific take every precaution with safe transit and packaging, it is advisable to fully inspect the unit for any sign of transit damage.

Check 'SHOCKWATCH' label for signs of rough handling prior to un-packing –

Any damage should be reported immediately to the carrier and Peak Scientific or the Peak Partner from where the unit was purchased.

Follow the unpacking instructions posted on the side of the crate. It will require two people to remove the unit from the shipping crate and to manoeuvre the Generator onto the floor.

Please save the product packaging for storage or future shipment of the Generator.

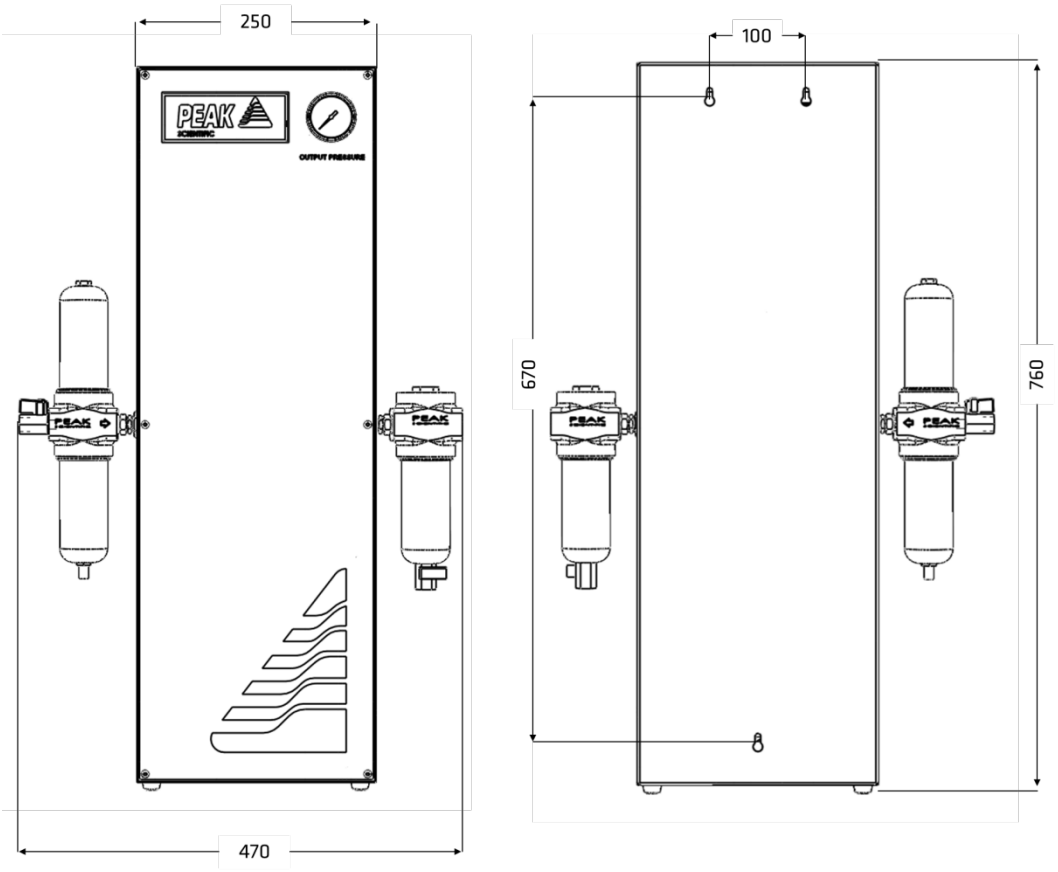
After unpacking and a visual inspection, the unit should be placed in a ventilated area away from direct sunlight. Care should be taken not to obstruct the ventilation holes on the side of the unit. The Generator should be placed on a steady and level base. The Infinity 9000 has been designed to fit under most workbenches. Alternatively, the unit may be wall mounted using the fixing slots provided.

Performance of the Generator (like all sophisticated equipment) is affected by ambient temperatures. Prolonged operation in temperatures exceeding 30°C will shorten the life of the unit.

General Dimensions

In addition to being floor or bench free standing, the generator may be fixed to a wall in the upright position shown below.

The diagram shows the clearances and mounting hole centres required.



*Dimensions in mm.

Air Connection

Infinity 9000 Generator should be connected to a clean, dry, OIL - FREE source of compressed air. A minimum inlet pressure of 100 psig (6.7 barg) is required. Any doubts as to the suitability of your compressed air supply should be referred to Peak Scientific or any of their authorised partners.

The generator has a Breathing Air Filter with ¼" BSPT connection to the left side of the unit. The Compressed Air supply should be connected here. This filter will drain moisture and is equipped with an automatic drain. The drain should be led to a convenient place. Nitrogen outlet is via an Activated Carbon reverse-acting filter mounted on the right side, again with a ¼" BSPT connection for outlet.

Fittings Kit

Supplied in the Fittings Kit are all the fittings required to connect the Infinity 9000 Generator to the application. The contents of the Fittings Kit are as follows:

1. 6mm Push Fit Tube Fitting × 2
2. 6mm Tubing × 3m
3. N8 Supa Counter Sunk Screw x 2
4. Raw plug for No.8 Screw x 2
5. User Manual – Infinity 9000 × 1

All of the Generator output ports are located on the output panel at the rear of the Generator.

Commissioning

With the Generator installed as previously described, open the air supply to the unit. The Generator has been pre-set in the factory to give the specified output flow-rate and pressure. On reaching operational pressure the Generator will produce Nitrogen.

The design of the generator is such that it will deliver up to the rated output flow of Nitrogen at 100 psig (6.7 barg). Flow at any time is determined by demand of the consuming equipment. In circumstances of no demand, the generator remains operational and will provide nitrogen immediately as demand resumes.

Pressure & Flow Settings

Generator	Flow/Pressure
Infinity 9000	34l/min @ 100psig

The above settings should allow the generator to be operated with all standard configurations of instruments. Should the above settings not provide sufficient flow or pressure for your application please contact Peak Scientific for assistance.

Maintenance Schedule

Servicing and/or repair of the Generator should only be undertaken by a TECHNICALLY COMPETENT PERSON with the Generator in a safely isolated condition.

Due to the simplicity of the design and the small number of moving parts, the Infinity 9000 Nitrogen Generators will have a long and trouble free life. However as with all scientific and technical equipment it should be regularly inspected and serviced as below.

Service Schedule

Service interval	Component	Part No.	Qty.
12 months	Element Active Carbon	00-0046	1
	Element 0.01 micron	00-0045	1
	RAC Filter Element	00-0041	1

As an alternative to purchasing the 12 month service items individually an Annual Service Kit is available as one part number. This contains all the filters required for this Generator.

Purchase Interval	Component	Part No.	Qty.
12 months	Annual Service Kit	08-0316	1

Safely Isolated Condition

The unit is in a safely isolated condition when it is disconnected from its application and fully de-pressurised. Directions for isolating the Generator are shown below.

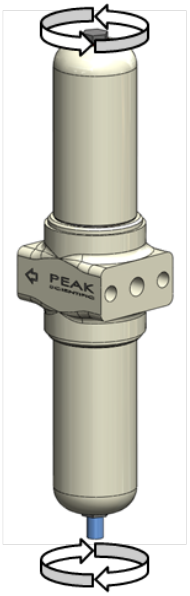
Failure to place the Generator in a safely isolated condition when instructed to do so may lead to personal injury or injury to others and even death.

a) Disconnect from air supply.
b) Ensure the output pressure gauge read zero. (If gauge does not fall to zero, loosen the outlet fitting slightly to allow trapped gas to escape).

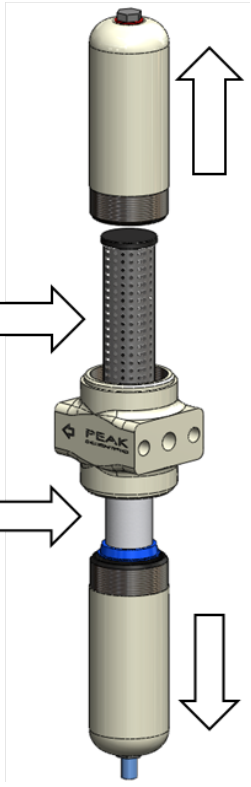
Disconnect from the application.

Breathing Air Filter Element Replacement

Ensure that Generator is in Safely Isolated Condition



1. Remove 6mm drain tubing from push-fit stud situated on under-side of the bowl.
2. Remove the top and bottom filter bowls by turning the bowl clockwise and anti-clockwise respectively.
3. Remove the filter element by pulling it away from the filter assembly.
4. Fit the replacement elements.
5. Re-fit the filter bowls.



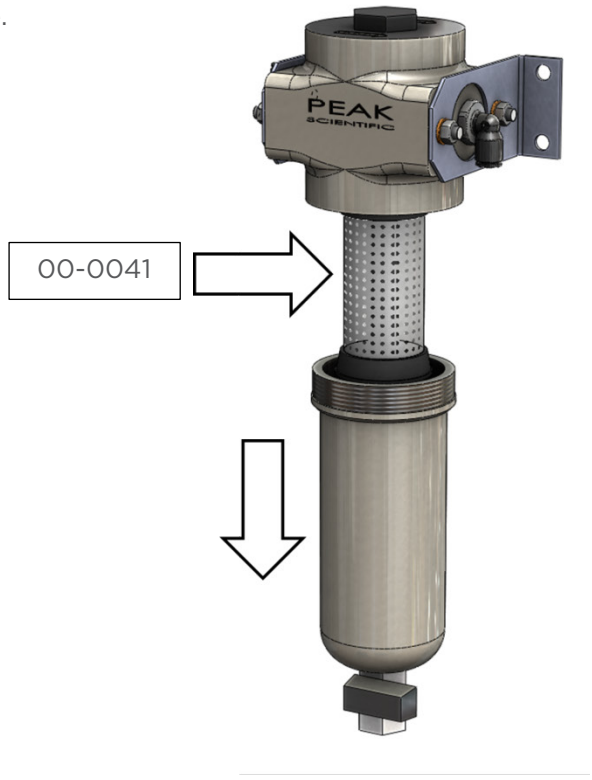
00-0046

00-0045

RAC Filter Element Replacement

Ensure that Generator is in Safely Isolated Condition

1. Open the filter bowl valve to ensure it is depressurised.
2. Remove the filter bowl by turning it as shown to reveal the RAC filter element Part number 00-0041.
    a. For easier access, the filter assembly can be removed from the cabinet by removing the 4 of nyloc nuts and disconnecting the tubing.
3. Remove and replace the filter element and re-assemble.



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