



# Portable Breathing Air Purifier BAS-3015 & BAS-3015M

User Guide

(EN) Original Language

(NL) (DE) (FR) (FI) (SV) (NO) (DA) (EL) (ES) (PT) (IT)  
(PL) (SK) (CS) (ET) (HU) (LV) (LT) (RU) (SL) (TR) (MT)

aerospace  
climate control  
electromechanical  
**filtration**  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



EN

## ONE YEAR AIR QUALITY GUARANTEE

Your air quality has been guaranteed for 1 year and will be renewed at every annual filter element change.

Annual filter element changes ensure:

- Optimal performance is maintained
- Air quality continues to meet international standards
- Protection of downstream equipment, personnel and processes
- Low operational costs
- increased productivity and profitability
- peace of mind

NL

## LUCHTKWALITEITSGARANTIE VAN ÉÉN JAAR

De luchtkwaliteit wordt 1 jaar lang gegarandeerd. De garantie wordt elk jaar verlengd wanneer het filterelement wordt vervangen.

Een jaarlijkse vervanging van het filterelement heeft de volgende voordelen:

- Een onverminderde optimale prestatie
- Luchtkwaliteit die blijft voldoen aan de internationale normen
- Bescherming van apparatuur, personeel en processen achter de compressor
- Lage bedrijfskosten
- Hogere productiviteit en rentabiliteit
- Gemoedsrust

DE

## EIN JAHR GARANTIE AUF DIE LUFTQUALITÄT

Wir gewähren Ihnen eine 1-jährige Garantie auf die Luftqualität, die bei jedem jährlichen Austausch des Filterelements erneuert wird.

Ein jährlicher Austausch des Filterelements stellt Folgendes sicher:

- Optimale Leistung wird gewährleistet
- Die Luftqualität erfüllt weiterhin internationale Standards
- Schutz der nachgeschalteten Geräte, der Arbeitskräfte und Produktionsabläufe
- Geringe Betriebskosten
- Höhere Produktivität und Wirtschaftlichkeit
- Sorgenfreiheit

FR

## QUALITÉ DE L'AIR GARANTIE PENDANT 1 AN

La qualité de l'air est garantie pendant 1 an, garantie renouvelable à chaque remplacement annuel de la cartouche filtrante.

Le remplacement annuel des cartouches filtrantes garantit :

- La préservation de performances optimales
- Une qualité de l'air conforme aux normes internationales
- Une protection de l'équipement, des processus et du personnel en aval
- Des coûts d'utilisation réduits
- Un niveau de productivité et de rentabilité accru
- Votre tranquillité d'esprit

ES

## GARANTÍA DE CALIDAD DEL AIRE PARA UN AÑO

La calidad del aire tiene una garantía de 1 año y se renovará con cada cambio anual del filtro

El cambio anual del filtro le asegura:

- Se mantiene un rendimiento óptimo.
- La calidad del aire sigue cumpliendo las normas internacionales
- Protección del equipo, personal y procesos aguas abajo.
- Bajos costes de funcionamiento.
- mayor productividad y rentabilidad.
- tranquilidad.

IT

## GARANZIA DI UN ANNO SULLA QUALITÀ DELL'ARIA

La qualità dell'aria è garantita per un anno e la garanzia sarà rinnovata dopo ogni sostituzione annuale dell'elemento filtrante.

La sostituzione annuale dell'elemento filtrante assicura:

- Prestazioni ottimali nel tempo
- Aria di qualità sempre conforme alle norme internazionali
- Protezione del personale, delle apparecchiature e dei processi a valle
- Bassi costi di esercizio
- Maggiore produttività e redditività
- Tranquillità



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# 1 Safety Information

**Do not operate this equipment until the safety information and instructions in this user guide have been read and understood by all personnel concerned.**

## **USER RESPONSIBILITY**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorised distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyse all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalogue and in any other materials provided from Parker or its subsidiaries or authorised distributors.

To the extent that Parker or its subsidiaries or authorised distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Only competent personnel trained, qualified, and approved by Parker Hannifin should perform installation, commissioning, service and repair procedures.

Use of the equipment in a manner not specified within this user guide may result in an unplanned release of pressure, which may cause serious personal injury or damage.

When handling, installing or operating this equipment, personnel must employ safe engineering practices and observe all related regulations, health & safety procedures, and legal requirements for safety.

Ensure that the equipment is depressurised and electrically isolated, prior to carrying out any of the scheduled maintenance instructions specified within this user guide.

Parker Hannifin can not anticipate every possible circumstance which may represent a potential hazard. The warnings in this manual cover the most known potential hazards, but by definition can not be all-inclusive. If the user employs an operating procedure, item of equipment or a method of working which is not specifically recommended by Parker Hannifin the user must ensure that the equipment will not be damaged or become hazardous to persons or property.

Most accidents that occur during the operation and maintenance of machinery are the result of failure to observe basic safety rules and procedures. Accidents can be avoided by recognising that any machinery is potentially hazardous.

Should you require an extended warranty, tailored service contracts or training on this equipment, or any other equipment within the Parker Hannifin range, please contact your local Parker Hannifin office.

Details of your nearest Parker Hannifin sales office can be found at [www.parker.com/dhfn](http://www.parker.com/dhfn)

Retain this user guide for future reference.

## 2 Description

The Parker domnick hunter BAS-3015 / BAS-3015M is a portable breathing air purification system, designed to provide high quality breathable air to meet breathing air standards for compressed air fed respiratory devices.

The BAS-3015 / BAS-3015M breathing air purifier utilises 3 separate stages of compressed air treatment, combined together in a compact and robust housing.

**1st Stage** - Is a general purpose coalescing filter which reduces particulate down to 1 micron, including water and oil aerosols.

**2nd Stage** - Is a high efficiency coalescing filter which reduces particulate down to 0.01 micron, including water and oil aerosols.

**3rd Stage** - Is an oil vapour removal activated carbon filter which reduces oil vapour and odours down to 0.003 mg/m<sup>3</sup>.

Pressure to the 4 outlet connections can be controlled and set as desired using the lockable pressure regulator and gauge



This product will not remove CO, CO<sub>2</sub> or toxic gases

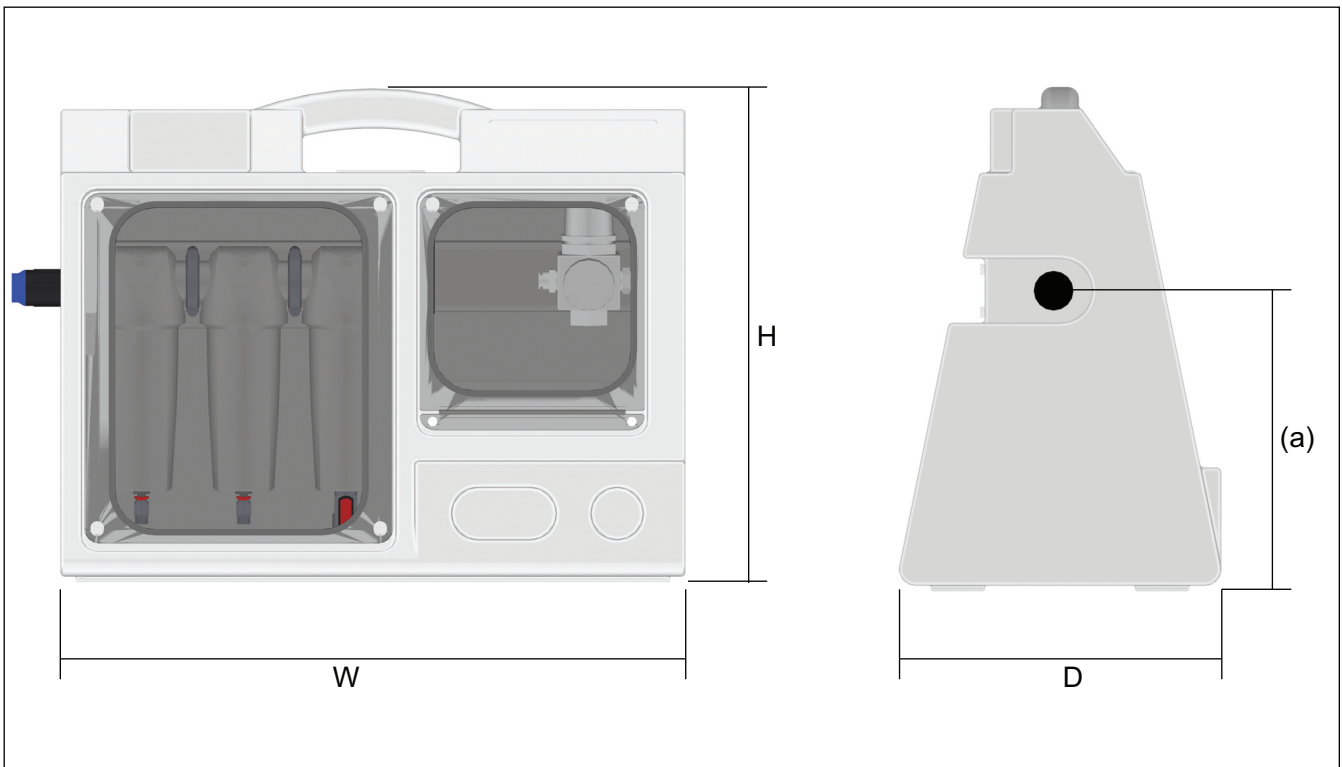
### 2.1 Technical Specification

BAS-3015 / BAS-3015M		
Connections	Inlet	1/2" Hose safety coupler
	Outlet	4 x G1/4
Maximum Flow Rate		1200 L/min @ 7 bar g (42 scfm @100 psi g)
Minimum Flow Rate		350 L/min @ 7 bar g (12 scfm @ 100 psi g)
Maximum Inlet Pressure		10 bar g (145 psi g)
Minimum Inlet Pressure		4 bar g(58 psi g)
Maximum Operating Temperature		30°C (86°F)
Minimum Operating Temperature		1.5°C (35°F)

CO Monitor (when fitted)		
Alarms	Audible	90 dba 5 ppm CO and above
	Visual - Internal	Power on LCD light CO alarm indicator light and indication on display CO analyser low battery warning and display
CO Monitor		Display - LCD Sensor - electronic chemical cell type
Power		Integral lithium ion rechargeable battery (non replaceable) (running time approx. 20hrs) External 110 - 240 Volt AC power supply

## 2.2 Weights and Dimensions

BAS-3015 / BAS-3015M	
(H)	470mm (18.5")
(W)	600mm (11.8")
(D)	300mm (23.6")
(a)	280mm (11")
Weight	10Kgs (22lbs)



## 2.3 Receiving and Inspecting the Equipment

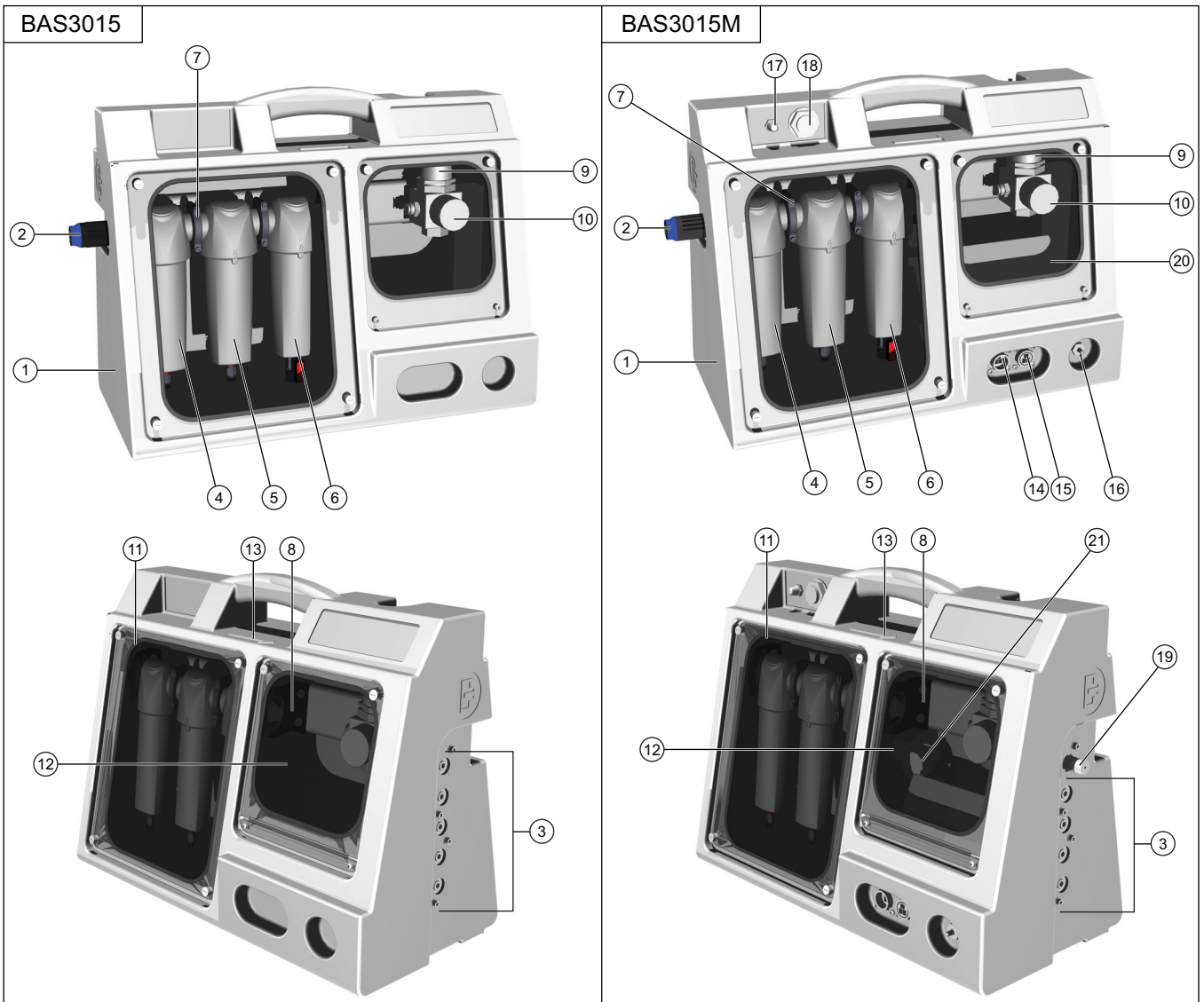
The equipment is supplied in a sturdy wooden crate designed to be moved using a forklift truck or pallet truck. Refer to the technical specification for packed weights and dimensions.

On delivery of the equipment check the crate and its contents for damage and verify that the following items have been included:

Ref	Description	Qty
1	BAS3015	1
2	First 12 month activated carbon service kit	1

If there are any signs of damage to the crate, or there are any parts missing please inform the delivery company immediately and contact your local Parker domnick hunter office.

## 2.4 Overview of the Equipment



Ref	Description	Ref	Description
1	BAS3015 Case	12	BA Access panel (small)
2	Inlet safety coupler	13	Flow direction
3	Outlet manifold	14	Remote power
4	AO Grade filter	15	Remote alarm
5	AA Grade filter	16	ON / OFF
6	ACS Grade filter	17	Test button
7	Fixing clamps (FXKE)	18	Alarm
8	Mounting Brackets (MBKE)	19	Relief valve (set to 8.6 bar g)
9	1/2" BSPP Regulator (set to 4.5 bar g)	20	CO Monitor
10	Outlet regulator with gauge	21	CO Monitor regulator
11	BA Access panel (large)		

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## 3 Connecting and Operating the Equipment



Only competent personnel trained, qualified, and approved by Parker domnick hunter should perform installation, commissioning, service and repair procedures.

Before the BAS-3015 / BAS-3015M is installed, the piping should be purged with clean dry air to remove any loose debris and/or water from the line. Downstream piping must be of a type approved and specified for breathing air applications.

The BAS-3015 / BAS-3015M must be operated in a vertical position and must not be situated where it is able to tilt or be dislodged from its operating position.

The BAS-3015 / BAS-3015M must only be used in the direction of flow indicated on the cabinet. No attempt should be made to remove the filters from the cabinet or loosen any of the retaining bolts which could cause malfunction of the purifier.

Ensure that all connections to the purifier are secure and that compressed air of the correct pressure and flow rate is available to the purifier.

Ensure that the BAS-3015 / BAS-3015M is securely sited and all air supply lines are safely positioned and not susceptible to damage or constriction.

Air can be supplied from most suitably rated compressors, although care should be taken to ensure that the compressor is operating efficiently and not overheating. Care should also be taken in the location of the compressor intake to ensure that no harmful contaminants are drawn in.

For heavily contaminated compressed air systems a water separator is recommended which will reduce liquid water and oil.

Under normal circumstances, it is not usual to encounter CO concentrations in excessive levels. If detected then the purifier must not be used.

Provision for air sampling should be made to prove the quality of delivered air using a certified testing agency.

### 3.1 Operating the Equipment

#### 3.1.1 BAS3015

To adjust the line pressure locate the outlet pressure regulator behind the small BA access panel, lift the locking ring and open the regulator. Turn clockwise to increase the secondary pressure or anti clockwise to decrease the pressure.

It is recommended that adjustments are made under flow conditions.

**Note: There may be a slight increase in set pressure when flow demand stops until the desired conditions are achieved for the operators breathing equipment.**

Push down the locking ring to lock. Do not exceed the rated flow. Set the manifold pressure in accordance with manufacturers specifications for the respirators.

When the operating condition has been achieved, the breathing air purifier will operate automatically without further adjustments providing that the inlet supply remain stable within the specified limits.

Disconnect at the coupler when the air demand is no longer required.

Any disconnection of the purifier must only be made when the system pressure is fully relieved.

#### 3.1.2 CO Analyser

##### Rechargeable Battery

The 'Version 1' Analyser incorporates a rechargeable Battery which can be used as power backup in the case of a mains power failure or as the Analyser's main operational power source, but which will require periodic re-charging by connection of the Analyser to the external power source.

When the Version 1 Analyser is powered from the 9VDC external power source, the battery is continuously float-charged and monitored during normal operation. In the event that the external power supply to the Analyser is interrupted during normal operation, the battery will continue to provide power for the Analyser to maintain its operation for a period of time.

When the battery discharges to a certain level, a Low battery alarm will appear on the Analyser display to indicate approaching cessation of Analyser operation and that recharging of the battery is needed.

The battery charge indication is applicable to both the 'back-up' and main operational mode of battery use.

The length of time for which the battery will support analyser operation is contingent on the operational condition of the Analyser. i.e. if the Analyser enters into alarm mode frequently, activating the associated sounder and Relay, battery power used will increase and remaining operational time reduced accordingly.

Battery charging is indicated by a bar graph image on the left hand side of the Analyser LCD display. Oscillating bar graph elements indicate



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charging in progress whilst steady bar graph elements indicate the battery is fully charged. Low battery is indicated on the display when recharging is required.

When the battery fails to recharge or its operational time decreases once fully charged, replacement might be necessary.

Contact Parker domnick hunter for further information.



**Removal of the battery and replacement with incorrect battery type can be hazardous to personnel and equipment.**

### **Switching ON**

When power is supplied to the Analyser, it carries out a 'power-up' procedure. During this operation the display will show the following text/number values;

'Checking', 'Ntron', 'CO Alarm', 'MDL GA10', 'FW X.XX',

'ALM XX', Wait 10..9..etc.

After the 'Wait' display countdown timer sequence is complete, (10 seconds to allow sensor stabilisation) the unit will display the current measured CO ppm value and is now operational.

**Note: FW X.XX is the current installed firmware version and ALM XX is the current programmed Alarm set-point)**

### **Gas Alarm**

As long as the measured CO concentration exceeds the pre-set alarm level, the Alarm Relay will be energised (normally open contact closed to the common contact in the Relay) and the audible alarm will be active.

If the CO concentration exceeds the pre-set alarm level, the following actions will take place:

The Relay will de-energise resulting in the common contact connecting to the normally closed contact and breaking the connection to the normally open contact.






The Display will read 'ALARM'

The Audible Alarm will be activated.

**These conditions will prevail until the measured CO concentration drops to 2 ppm below the alarm set point.**

## 4 Preventative Maintenance Kits

### 4.1 Service Intervals

Description of Service Required		Service recommended every:			
Component	Operation	Week	3-month	12-month	18-month
Complete Assembly	Check for air leaks.				
Filtration	Check the pressure gauges during purging for excessive back pressure.				
Filtration	Replace the adsorption filter elements <sup>(1)</sup>				
Filtration	Replace the coalescing filter elements and automatic drains				
CO Monitor	Recalibrate the CO Monitor if fitted				
CO Monitor	Replace the electro-chemical sensor				

(1) Unlike oil aerosol removal filters which are changed annually to guarantee compressed air quality, the lifetime of an oil vapour removal filter can be attributed to various factors and require more frequent changes. Factors affecting the lifetime of adsorption filters are:

**Oil vapour concentration** - The higher the inlet concentration of oil vapour, the faster the activated carbon capacity will expire.

**Bulk oil** - Adsorption filters are designed to remove oil vapour and odours, not liquid oil or aerosols. Poorly maintained or non-existent pre-filtration will cause the OVR filter capacity to quickly expire.

**Temperature** - Oil vapour content increases exponentially to inlet temperature, reducing element life. Additionally, as temperature increases, the adsorption capacity decreases, again reducing element life.

**Relative Humidity or Dewpoint** - Wet air reduces the adsorptive capacity of the carbon.

**Compressor oil changes** - When compressor oil is changed, the new lubricant burns off "light ends" which increases the oil vapour content for hours or even weeks afterwards. This increase in oil vapour content is adsorbed by the OVR filter, significantly reducing its adsorptive life.

ACS / AC Element performance is based upon a maximum oil vapour inlet concentration of 0.018mg/m<sup>3</sup>, with compressed air at 21°C and a pressure dewpoint of -40°C PDP.

**These elements should be replaced upon detection of vapour, odour or taste.**

**Key:**

	Check		Replace
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## Preventative Maintenance Kits

Required every 12 months



Description	Contents
BAS-PMK15-12	4 x Activated Carbon Elements
	2 x Auto Drain
	2 x Coalescing Elements

CO Monitor Recalibration (BAS-3015M only) - Required every 12 months



Refer to the BACO 200 User Guide for Calibration Procedure

Electro-chemical Sensor - Required every 18 months



Refer to the BACO 200 User Guide for Sensor replacement procedure

### 4.2 Maintenance Procedures

Unscrew the 4 retaining bolts and remove the clear screen to gain access to the filter train.



## Replacing the Elements



Warning

Ensure that the filter is isolated from the compressed air system and fully depressurised prior to carrying out any maintenance procedures which are to be done by qualified, trained authorised personnel only.

- 1 Unscrew the filter bowl (1), remove the used element (2) and capillary ring (3 - 010 models only).

**Note. We recommend the use of gloves when touching contaminated elements.**

- 2 Unscrew the automatic drain (4) and fit the replacement. Tighten the drain to 2.5Nm.
- 3 Replace the O-ring (5) located in the filter head with the new O-ring provided.



Caution

Ensure to lubricate the O-ring and threads with a suitable acid free petroleum jelly.

- 4 Insert the new capillary ring (010 models only) and element into the filter bowl ensuring that the lugs are seated correctly in the grooves.
- 5 Refit the filter bowl and head ensuring that the threads are fully engaged and the locking details are aligned.
- 6 Note: To ensure that the bowl is fully engaged into the head, the 010 bowl requires 360° of rotation until the thread stop.
- 7 Attach the element change date label to the filter bowl and write on the date the element is to be replaced. i.e 12 months after element change.

**Note. Do not use solvents or alcohol to clean the labels as this could cause damage.**

- 8 Discard used items in accordance with local regulations.
- 9 Repeat these procedures for all filters.
- 10 Refit the clear screen and pressurise the unit



Warning

Do not open the valves rapidly, or subject the filter to excessive pressure differential, as damage may occur.

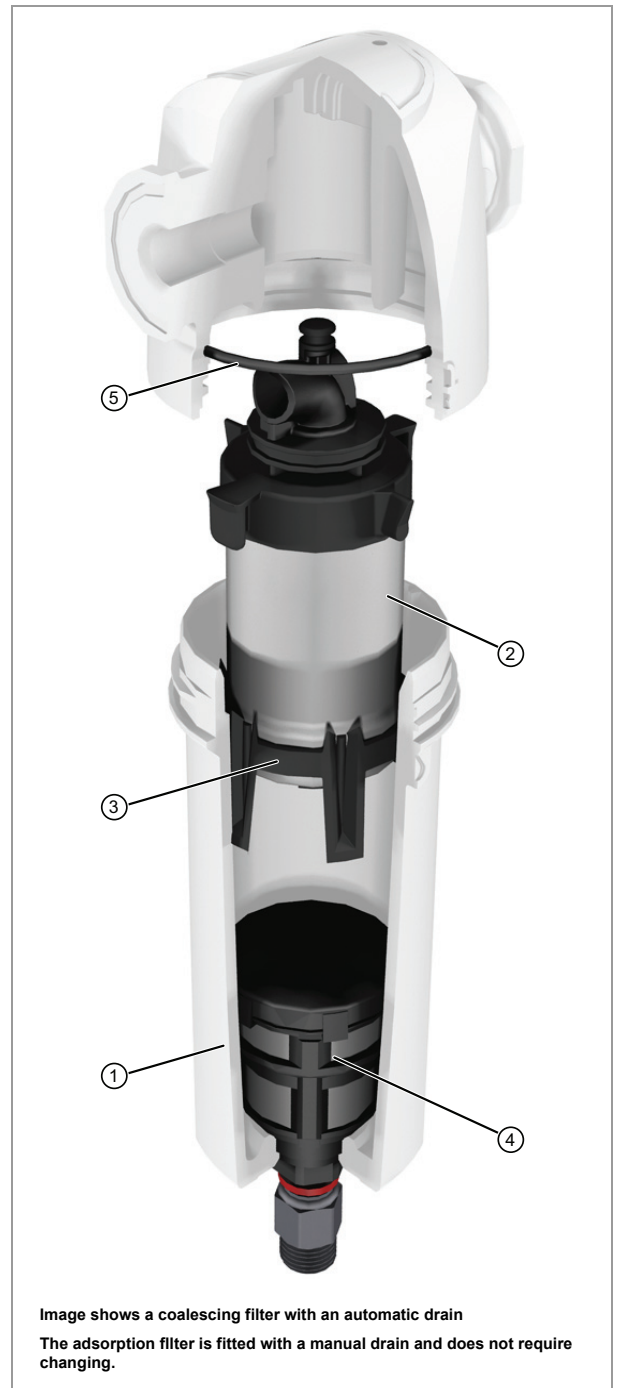


Image shows a coalescing filter with an automatic drain

The adsorption filter is fitted with a manual drain and does not require changing.

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