

User manual *Air heater*





Classification of Pressure Equipment

The product(s) stated above, defined as pressure equipment with respect to the Pressure Equipment Directive 2014/68/EU, has been classified in accordance with Article 13, Classification of Pressure Equipment. Products and assemblies that are below or equal to the limits in Article 4 Paragraphs 1 (a), 1 (b), 1 (c) and 2, must be designed and manufactured in accordance with sound engineering practice (SEP) as defined in Article 4 Paragraph 3. The Commission's Working Group "pressure" guideline I-19 states that while an EU Declaration of Conformity cannot be drawn up, a statement may be provided that indicates sound engineering practice (SEP) requirements have been met. The products listed are classified, designed and manufactured in accordance with sound engineering practice(SEP).

Conformity Assessment

Pressure Equipment Directive, Article 14, conformity assessment does not include a category and associated procedures for sound engineering practice (SEP). The manufacturer operates a single universal quality system that has been determined to comply with relevant conformity assessment modules for equipment requiring CE marking by an approved Notified Body (LRQA Ltd). All Walker Filtration Ltd. CE marked products and those products which are not CE marked (SEP) are designed and manufactured to the same assessment procedures. This information is presented to indicate that the Walker Filtration Ltd. products stated above satisfy the requirements of, and are in compliance with Sound Engineering Practice (SEP).



Application :

The manufacturer designs and manufactures a comprehensive range of compressed air and gas filtration products for use in almost every environment. Compressed air line heaters and filter heaters offer variable temperature control from 20°C to 120°C (68°F - 248°F) are suitable for industrial or breathing air applications.

Installation :

Filter heaters and air line heaters should be installed as close to the point of use as possible. Air line heaters must only be used when an 0.01 micron filter housing (XA/AC) is installed directly upstream to remove particulate contamination. Existing or new pipelines, should be purged to remove any collected debris.

1. Select position for air line heater or filter heater. It is vital to depressurise new or existing pipe work before installation.
2. Install air line heater or filter heater onto pipeline observing vertical orientation and direction of flow arrow marked on the heater housing. Heaters are provided with Rp or NPT screwed ports for use with parallel or taper fittings. PTFE tape or thread sealing compound should be used on pipe threads to ensure a good connection.
3. The electrical supply to the heaters should be connected in accordance with Figure 1 (page 6). Ensuring cable is suitably rated. This product must be earthed. See technical specification.
4. During initial pressurisation of the system, inlet valve should be opened slowly to reduce inlet velocities until system pressures are stabilised. Check for leaks before putting heater into operation.

Operation :

1. Ensure that the rated line voltage and supply voltage are the same:
115V USA and Canada
48V UK and Europe
230V UK and Europe
2. The heater should be protected by appropriate external fusing (230V - 8 amp).
It is essential that a switched fuse spur including a RCD (Residual Current Device) is used for connecting the heater to the electrical supply.
3. Ensure that the mains connector plug is secured with a fixing screw prior to operation.
4. Rotate the temperature control knob on the side of the unit fully anti-clockwise to the 'minimum' setting.
5. Once the compressed air line has been switched on and is flowing switch on the mains supply to the heater. The maximum operating pressure is 16 barg (232psig).
6. Turning the control knob clockwise to increase the air temperature and anti-clockwise to decrease the temperature. The temperature control knob should be altered gradually to allow temperature stabilisation to take place. Always decrease the temperature to the minimum before switching off.
7. If supplied with a thermometer, the air line or filter heater outlet temperature can be directly monitored.

**Caution :**

The unit you have purchased is capable of heating the flow of compressed air to 120°C (248°F) maximum. It is essential that all pipework associated with the supply of this heated air is capable of this duty. Maximum temperature tolerance of flexible air hoses vary significantly, therefore, if in doubt, contact the supplier.

The unit must not be exposed to a conducted electrical disturbance greater than a frequency of 15MHz. The unit may show evidence of a temperature decrease.

Maintenance:

There are no serviceable components in the heater assembly or its associated control electronics. If a fault or damage occurs to the unit the following replaceable spare parts are available.

Replacement part	230V
Heating element	WKN40037
PCB	WKN40170
Sensor	WKN40171
Thermometer	WKN40173



CAUTION HOT SURFACE



CAUTION GENERAL WARNING



TEMPERATURE CONTROL

WARNING!

THE COMPRESSED AIR HEATER REQUIRES A MINIMUM AIR FLOW RATE OF 3Nm³/h (1.7 SCFM), TO ENSURE CORRECT FUNCTIONALITY IS MAINTAINED.

THE HEATER OUTLET PORT AREA AND OUTLET PIPEWORK WILL BECOME HOT WHEN IN USE – AVOID PERSONAL CONTACT.

ONLY A COMPETENT PERSON SHOULD ATTEMPT TO INSTALL HEATERS AND CONNECT MAINS SUPPLY WIRING.

SERIOUS PERSONAL INJURY CAN RESULT IF THESE INSTRUCTIONS ARE NOT FOLLOWED.

DO NOT ATTEMPT TO REMOVE ANY ITEM ON THE HEATER WHILST IT IS UNDER PRESSURE.

DO NOT OPERATE IF THERE IS A LEAK IN THE HEATER, IMMEDIATELY TAKE HEATER OUT OF SERVICE AND REMEDY LEAK.

DO NOT OPERATE ABOVE THE MAXIMUM WORKING PRESSURE 16 BARG (232PSIG) AT MAXIMUM OPERATING TEMPERATURE 120°C (248°F). VARIABLE OUTLET TEMPERATURE UPTO 120°C (248°F) IS DEPENDANT UPON THE INLET TEMPERATURE.

AS THERE IS A RISK OF ELECTRIC SHOCK, ONLY QUALIFIED SERVICE PERSONNEL CAN REMOVE THE BOWL TO GAIN ACCESS INSIDE THE BOWL TO REPLACE/REPAIR INTERNAL COMPONENTS. ONLY DURING REPAIR OR COMPONENT CHANGE CAN THE BOWL BE REMOVED. PRIOR TO DOING SO, THE COMPRESSED AIR AS WELL AS THE ELECTRICAL SUPPLY MUST BE ISOLATED.



Heater & Filter - Heater Packages

Walker Filtration has a range of eight cool-to-touch in-line heater packages with unique features that deliver various compressed air temperatures to suit your application requirements.

Suitable for use in both industrial and breathing air applications, Walker Filtration's range of Heaters and Filter Heater Packages allow air to be filtered and temperature controlled between 20°C and 120°C (68°F and 248°F).

Our range of compressed air in-line heater systems use an open coiled heating element and high accuracy output temperature sensing device. This combination of a fast responding heater and sensor allows the unit to adjust quickly to any variations in flow rate or line pressure, without deviation in the output temperature.

A compact solid-state temperature controller is mounted on top of the heater unit, allowing the exact temperature output to be indicated by a bi-metallic thermometer which is clearly visible at the front of the heater.



Comprehensive Range
RP (BSP parallel) threaded connections from 3/8" to 1/2". NPT available upon request



Drain Valve Included
Semi-automatic drain valve fitted to all heaters as standard



Bi-metallic Thermometer
Heaters available with and without bi-metallic thermometer

Combined Heating and Filtration Solutions Heaters can be supplied directly mounted to Walker Filtration pre-filters to ensure that processed air is clean

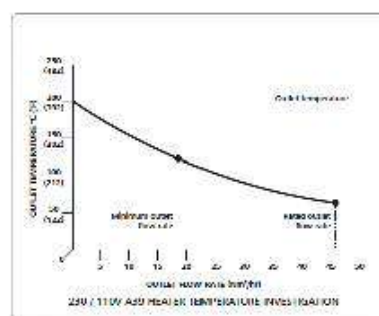
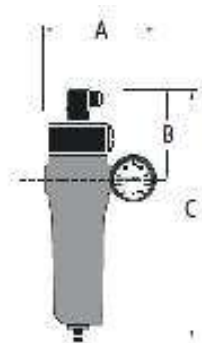
Product Safety in Mind Bi-metallic thermometer located internally within the heater isolates power to the heater if temperature exceeds 125°C (257°F)

Variable Temperature Control Air can be filtered and controlled at any temperature between 20°C and 120°C (68°F and 248°F) providing a versatile heater suitable for both industrial and breathing air applications

**Technical data :**

Filter model	Pipe size	Flow rate		Dimensions (mm)			Weight Kg	Element model
		Nm ³ /h	SCFM	A	B	C		
A39TH-230V-RC-2813TK	3/8	47	27	138	130	337	1.3	-

Accessory model	Description
WKN40037	replacement heating element
WKN40170	replacement printed circuit board
WKN40171	replacement sensor
WKN40173	replacement thermometer



Heater specification	230 volt AC	
Supply voltage	230 Volt AC - 50/60Hz	
Power rating (Cold start)	1.5 Kw	
Power rating (Functional state)	0.7 Kw	
Maximum working pressure	16 barg	232 psig
Controlled output range	20°C to 120°C - 68°F to 248°F	
Minimum inlet temperature	-20°C	-4°F
Amp	6.5 amps	
Recommended fuse	8 amp	
Minimum Air Flow	3 Nm ³ /h (1.7 SCFM)	

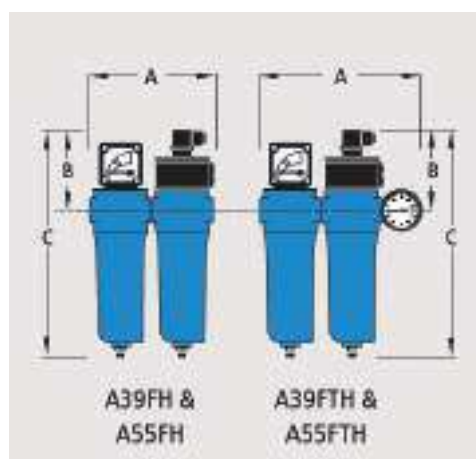
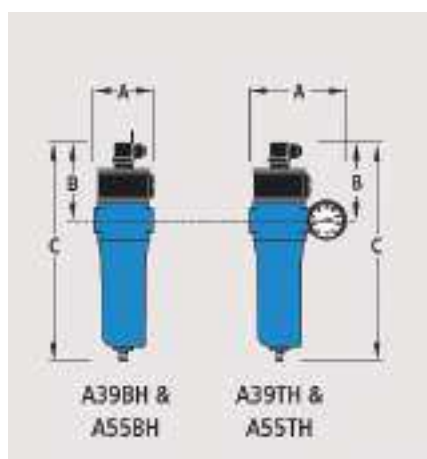
Important!

It is essential that a switched fuse spur including an RCD (Residual Current Device) is used for connecting the heater to the electrical supply. It is recommended that the circuit breaker should be near to the location of the heater, easily reached and marked as the disconnecting device.

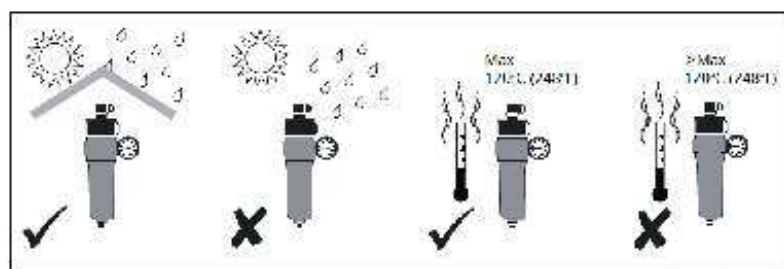
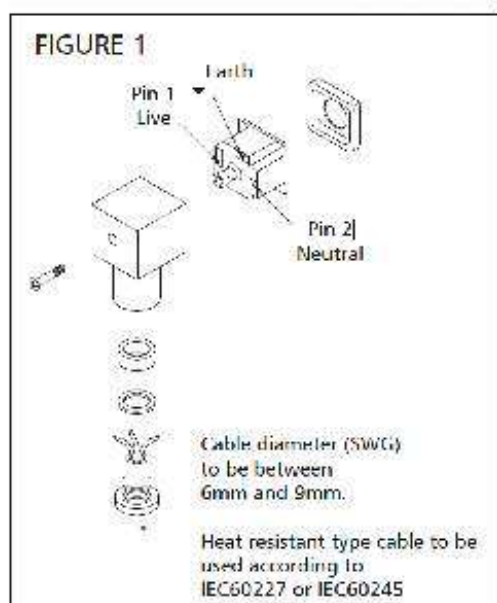


Technical Notes

1. Semi-automatic Drain Valve (SDV25) is fitted to all heaters. Float Operated Automatic Drain Valve (ADVS16) is fitted to pre-filters.
2. When liquid, oil and water are present, FH or FTH models should be specified.
3. Electrical connections to the unit are via an industry standard DIN connector.
4. When placing an order, please specify voltage required (example A39FTH-115V).
5. If used in a breathing air installation, please note adequate breathing air filtration is required prior to the heater assembly. Heater and filter packages will not remove certain types of gases, including carbon monoxide (CO) and carbon dioxide (CO₂).
6. Threaded filters are manufactured from cast aluminum alloy and are PED 2014/68/EU compliant for group 2 gases.
7. Threaded connections are Rp (BSP parallel) to ISO 7/1 or NPT to ANSI B2.1 if supplied within North America. For NPT connections, add the suffix N e.g. A39BHN.
8. Minimum flow rate of 1.7 SCFM (3 Nm³/hr) is recommended.
9. The internal bi-metallic strip will activate to cut the power to the heater once the outlet temperature reaches 125°C (257°F).
10. Water Separator must be used as pre-filtration.



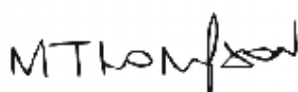
Variable outlet temperature upto 120°C (248°F) is dependant upon the inlet temperature.



Environmental conditions

- (A) Indoor use only.
 (B) Altitude up to 2000m.
 (C) Ambient temperature = 5°C - 50°C.
 (D) Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 50°C.

EU Declaration of conformity

2014/30/EU, 2014/35/EU, 2014/68/EU, UK S.I. 2016 No. 1101, UK S.I. 2016 No. 1091, UK S.I. 2016 No. 1105		
Name of Manufacturer	Walker Filtration Ltd.	
Address of Manufacturer	Birtley Road, Washington, Tyne & Wear, NE38 9DA, England.	
Description of Product	Compressed Air Heaters	
Designation of Product	A55BH, A55TH, A55FH, A55FTH, A39BH, A39TH, A39FH, A39FTH	
Standards Used Harmonised Standards* applied where available — with alternatives specified where harmonised standards do not exist.	LVD: 2014/35/UE	EN 61010-1:2010*
	EMC : 2014/30/UE	EN 61000-6-2:2005+AC:2005* EN 61000-6-3:2007+A1:2011*
Quality Assurance System	ISO 9001 LRQA Ltd 1 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES, Royaume-Uni	
Year of Manufacture	Refer to product marking	
Name of Authorised Representative	Michael Thompson	
Position of Authorised Representative	CDO (Chief Design Officer)	
	This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of Walker Filtration Ltd (the manufacturer) and as authorised representative, that the above started products fulfill the requirements of the new approach directives.	
	August 2021	



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Vanessa HENRION
SGI Pastry Manager
V.henrion@sgi-france.com

Email : contact@sgi-pastry.com
Mobile : + 33 (0)6 30 03 23 27
After-Sales Service : sav@sgi-pastry.com

Discover our webshop: www.sgi-pastry.com

*"We are at your disposal to advise you on the most suitable equipment for your daily use.
Optimal results are achieved through a combination of high-quality equipment, a
sufficiently powerful air supply, and your expertise!"*

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SGI SUBSIDIARY

11 rue des Prés de Lyon
10600 La Chapelle-Saint-Luc



@sgi_pastry
@vanessa_sgi_sata

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