

# BOILER-M8<sup>®</sup>

# Defender 2

## Installation & Operating Manual



**WARNING**

Prior to installation, please read these installation and operating instructions carefully. The product warranty requires the installation and commissioning of Boiler-m8 magnetic filter to be carried out by a qualified installer in compliance with BS 7593:2019 and all local building regulations and accepted codes of practice in force at the time of installation.

Failure to follow the correct installation or use of the product for any purpose outside of the manufacturers intended design will invalidate the product warranty.

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## 1. 5 Year Guarantee

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Congratulations on your purchase of the Boiler-m8 Defender2. We want you to get the very best performance from it so this handbook includes information on safety, handling and care. Please retain this handbook in case you need to refer to any of this information in the future.

Your magnetic filter comes with a market leading 5 year guarantee, giving you ultimate piece of mind.

**This guarantee specifically excludes losses caused by:**

- Misuse or abuse
- Modification or tampering
- Lack of routine maintenance
- Incorrect maintenance
- Accidental damage
- Failure to follow the installation instructions

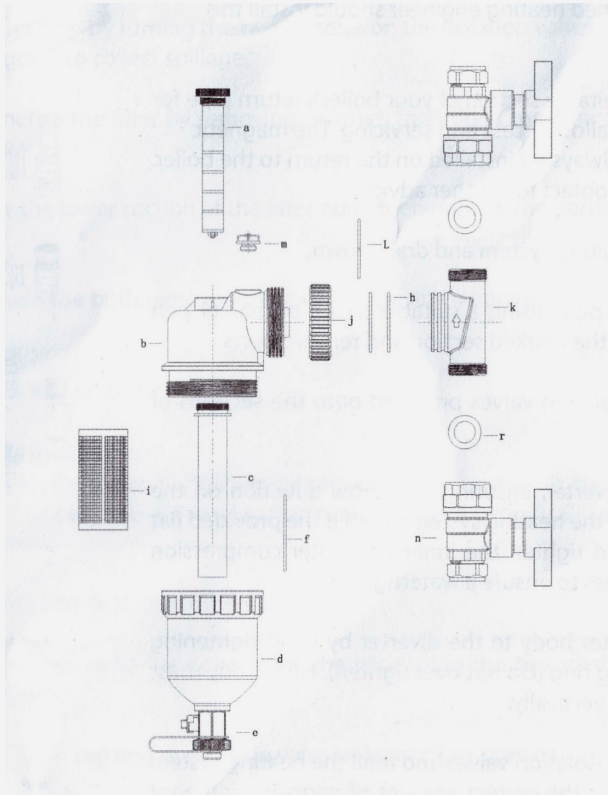
## 2. Important Information

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1. Installation should be carried out by a qualified professional.
2. Please check that all components are present. If there are any missing or damaged parts, please contact your supplier immediately.



### 3. Component Parts



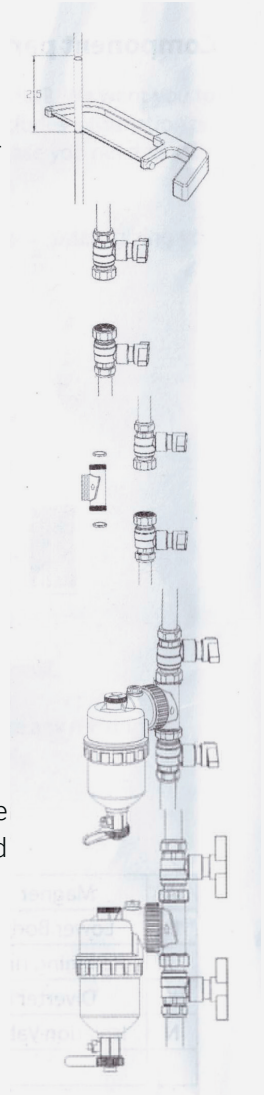
<b>A</b>	Magnet -	auss	<b>B</b>	Upper Body	<b>C</b>	Cleaning Cover
<b>D</b>	Lower Body		<b>E</b>	Drain-Off Valve	<b>F</b>	O Ring
<b>J</b>	Retaining Ring		<b>H</b>	O Ring	<b>I</b>	Particulate Filter S
<b>K</b>	Diverter - Brass		<b>L</b>	Snap Ring	<b>M</b>	Air-Vent
<b>N</b>	Isolation Valve - P		<b>R</b>	Shim		

**BOILER-M8**

## 4. Installation Instructions

**Only a qualified heating engineer should install this product.**

- 1** Locate a suitable section of your boiler's return pipe for the filter, to allow access and servicing. The magnetic filter should always be installed on the return to the boiler wherever possible. If in doubt contact for further advice.
- 2** Isolate heating system and drain down.
- 3** Mark the pipe, using a suitable pencil or marker pen and cut out the marked section and remove burrs.
- 4** Fit the isolation valves provided onto the sections of cut pipe
- 5** Fit the diverter ensuring the arrow direction on the part follows the heating system flow. The provided flat-faced union washers sit between the diverter body and valves. Tighten the flat-faced unions and compression nuts (or BSP connections depending on valve type) on valves to ensure a watertight seal.
- 6** Fit the filter body to the diverter by hand tightening the retaining ring (Do not over tighten). Filter body should be installed vertically with the drain off port at the base.
- 7** Open the isolation valves and refill the heating system ensuring that the correct amount of corrosion inhibitor is added.
- 8** Vent as required by using the Top Air Bleed Valve.



# BOILER-M8

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## 5. Annual Servicing Requirement

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To get the best out of your filter, annual servicing is required.

1. Isolate the filter by turning the two handles on the isolation valves. Prepare a suitable bucket to collect spillage.
2. Demagnetise the filter by removing magnet, then drain the filter using the drain valve.
3. Unscrew the lower section of the filter body then remove the particulate filter.
4. Rinse down both of the removed pieces, ensuring any magnetite is disposed of correctly.
5. Re-attach and un-isolate.

## 6. Rapid Servicing

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Although we recommend a full annual service, rapid servicing is also possible and should be carried out 2 weeks after installation and periodically on heavily soiled systems.

1. Prepare a suitable bucket for drainage
2. Isolate the return to the boiler from the filter using the provided isolation valve.
3. Remove drain cap and open drain valve over your pre-prepared bucket.
4. Once the water runs clean, close the drain valve, refill the filter and vent using the air-vent.

**WARNING:** Please observe the safety instructions provided in this document. This filter contains a strong magnet. Care and attention should be taken at all times during installation and servicing. Do not place the magnetic core on any ferrous surfaces or near ferrous items.



## 7. Chemical Dosing

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1. Isolate the filter by closing both isolation valves. Release air pressure by opening the top air vent.
2. Drain the filter fully, loosen the diverter and rotate the filter 180° degrees.
3. Remove the lower body and dose chemicals through the open filter top. Once complete re-fit the lower body.
4. Rotate the filter body back to the correct position with the air vent at the top. Tighten the diverter / filter body connection, slightly open the inlet valve and the air vent until all air is removed. Close drain valve then open fully both inlet and outlet valve and check for any leaks.

**Attention: Do not allow chemicals to remain static in the filter for long periods.**

## 8. Troubleshooting

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**Problem 1:** Water is leaking from the filter

**Solution:** Turn off the system, close the isolating valves. Perform the following checks:

- Check all seals.
- Check the isolation valve nuts to ensure they are fully tightened.
- Check the diverter retaining ring is firmly tightened and not cross threaded.
- replace seals if necessary. Seal it S ode -

**Problem 2:** Poor flow through filter

**Solution:** Clean the filter when reduced flow is noted.



## 8. Troubleshooting continued

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**Problem 3:** Cannot open filter body

**Solution:**

Boiler-m8 filters are factory assembled to a set pressure, it is intended to be tight, but not so tight that you cannot open it with the spanner provided. If the filter is hot, you may have to allow it to cool before opening as heat expansion will make it more difficult to open, but if not, the spanner and sufficient force should be all that is required

There are two nitrile polymer O-ring seals on the centre of the body which offer a resistance when tightened. Under independent KIWA Gastec endurance testing, the Defender-2 filter exceeded the 5 year life cycle endurance testing without leakage.

If you are finding it difficult to open the filter body you may find it easier to place it on the floor to obtain more leverage. To achieve this, isolate the valves, drain off the remaining system fluid in the body through the drain port into a suitable container, loosen the flat faced unions on either side of the diverter and remove the filter canister and diverter from the valves and place it on the floor to obtain more leverage and open the body using the spanner provided.

Large jaw adjustable pump pliers or other similar tools should not be used to attempt to open the body, as these can damage the filter. If in doubt or for assistance in opening the body a qualified installer should be consulted, as the product warranty is conditional upon the installation and maintenance being carried out by a qualified engineer.

Boiler-m8 accept the following as proof of competency:

- 1) Gas Safe Registration (or oil equivalent)
- 2) CIPHE Membership
- 3) IOP Membership

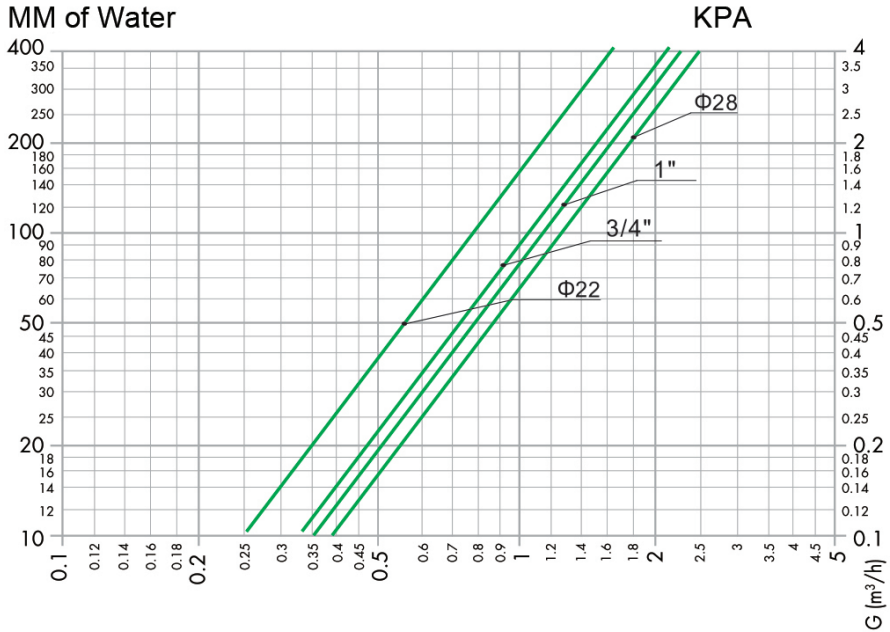




## 9. Pressure Loss



### Pressure Loss Chart



DN	20		25	
SIZE	Ø 22	3/4"	1"	Ø 28
KV(m³h)	10	11.2	11.5	11.7

#### Valve Options:

22mm Compression

28mm Compression

3/4" BSP FI

1" BSP FI



# **BOILER-M8**

A stylized flame graphic with a blue and orange gradient, positioned to the right of the 'BOILER-M8' text.

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