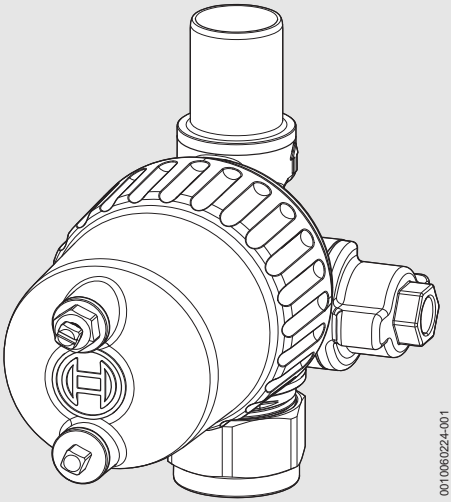
BOSCH

Installation and Maintenance Instructions

Sealed heating system filter

System Filter Micro 22mm

Water treatment product



0010060224-001

6 721 111 139 (2025/07) UK/IE

Table of contents

1 Explanation of symbols and safety instructions 2
1.1 Explanation of symbols 2

2 General safety instructions 3

3 Product Information 3
3.1 Scope of delivery 4
3.2 General information 4
3.3 System Filter Micro pressure drop 4
3.4 Dimensions 4
3.5 System Filter Micro function 5

4 Pre-installation 5
4.1 Protecting the heating system 5
4.2 Installation location within system pipework 6

5 Installation 6

6 Commissioning 8
6.1 System inhibitor from canister 8
6.2 Final actions 8

7 Environmental protection and disposal 9

8 Inspection and maintenance 9
8.1 Inspection and cleaning 9
8.2 Recommissioning 10
8.2.1 System inhibitor from canister 10

9 Spare Parts 11

10 Guarantee 11

11 Technical Specifications/Logs 12
11.1 Service record 12

1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.

The following signal words are defined and can be used in this document:

DANGER

DANGER indicates that severe to life-threatening personal injury will occur.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in serious personal injury or danger to life.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor to moderate personal injury.

NOTICE

ATTENTION indicates that material damage may occur.

Important information

The info symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document
•	a list entry
–	a list entry (second level)

Table 1

2 General safety instructions

⚠ Strong magnetic field

DANGER

Magnetic hazard to equipment or tools!

- This product contains a strong magnet.
- No access for people with active implanted cardiac devices.
- Interference to the operation of or damage to active implanted cardiac devices from equipment generating strong electromagnetic fields.

⚠ Additional safety instructions

Please read these instructions in conjunction with the appliance Installation and Maintenance Instructions carefully before starting installation.

- Observe all the safety precautions described in the Installation and Maintenance Instructions for the appliance.

⚠ Fitting and modification

The unit must not be fitted in any way other than described in the Installation Instructions and any misuse or unauthorised modifications to the unit or associated components and systems could invalidate the guarantee. The manufacturer accepts no liability arising from any such actions. This does not affect your statutory rights.

3 Product information

The following instructions are designed to assist engineers in the safe and effective installation and servicing of the System Filter Micro 22mm and should be followed at all times.

Any queries arising from either the installation or servicing should be directed to the local Bosch Group Technical Support.

Water treatment product for sealed combi heating systems with 22mm pipework. The System Filter Micro is designed for installation in Greenstar 1000 and Greenstar 2000 boiler systems.

NOTICE

- Max. working pressure: 4.5 bar
- Max. working water temperature: 90 °C
- Magnet peak strength (+/- 10%): 3,200 Gauss

The System Filter Micro 22mm should only be installed by a competent person. If in any doubt, consult a qualified heating engineer.

Health and safety

The appliance contains no substances that contravene the COSHH Regulations (Control of Substances Hazardous to Health regulations 1988).

3.1 Scope of delivery

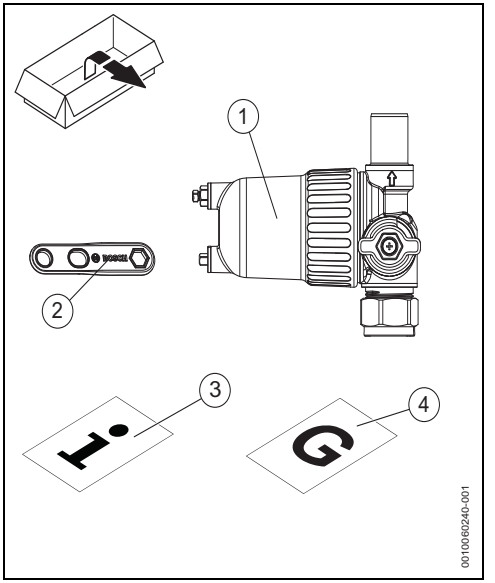


Fig. 1 Standard package

[1] System Filter Micro 22mm
[2] Filter Service Tool Micro
[3] Quick installation guide
[4] Guarantee card

3.2 General information

The System Filter Micro 22mm incorporates a powerful internal magnet that captures magnetic particles.

The System Filter can be installed on the heating system return pipe providing there is sufficient residual pump head to overcome the hydraulic resistance at higher flow rates.

The system should be flushed and a suitable inhibitor added in accordance with BS7593 before installing the System Filter Micro 22mm. Failure to comply with the guidance will limit the effectiveness of the System Filter Micro 22mm in protecting your boiler and central heating system.

3.3 System Filter Micro pressure drop

This graph shows the pressure drop through the System Filter Micro in relation to flow rate in the system.

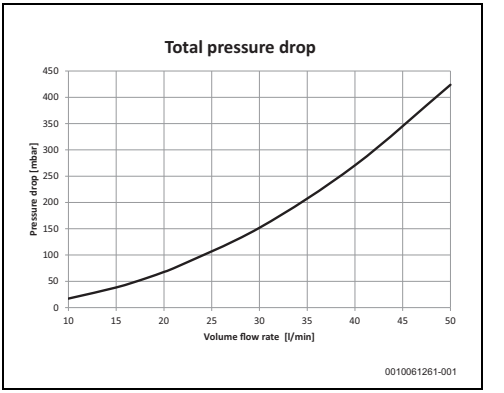


Fig. 2 Pressure drop graph

3.4 Dimensions

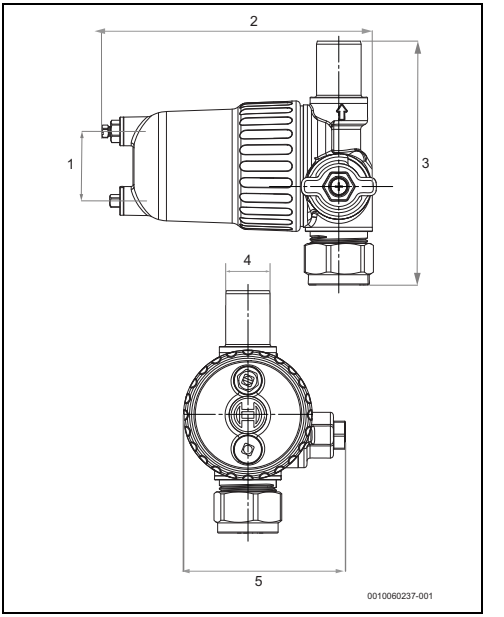


Fig. 3 Dimensions

[1] 34mm
[2] 133.5mm
[3] 119.3mm
[4] Ø 22mm
[5] 80.5mm

3.5 System Filter Micro function

NOTICE

The System Filter Micro has an integrated isolation valve on the inlet port only. Utilise the boiler isolation valve to fully isolate the Filter.

The System Filter Micro is uni-directional, this means that the central heating water can only flow one way through the Filter. The heating return pipe to the appliance will determine the flow and orientation of the Filter as indicated by an arrow on the Filter's receiver head.

The central heating system water is circulated through the Filter to remove the black iron oxide sludge.

The system water is slowed down as it circulates around the Filter where a powerful magnet captures the potentially damaging iron oxide sludge, preventing it from being circulated within the system thereby protecting the heat exchanger, pump and valves.

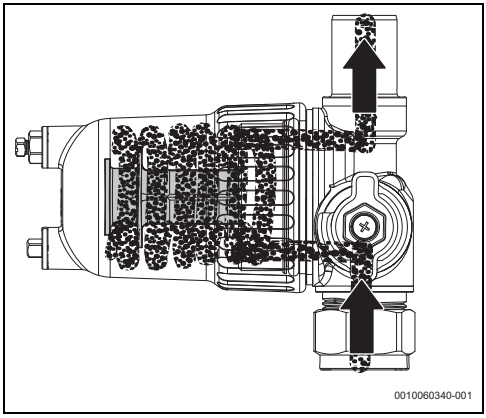


Fig. 4 System Filter Micro

4 Pre-installation

4.1 Protecting the heating system

Unnecessary breakdowns

A contaminated central heating system can cause pumps, heat exchangers and valves to block.

The contamination can also cause radiator cold spots that will reduce the effectivity of that radiator and even cause the radiator to corrode from the inside, resulting in leaks.

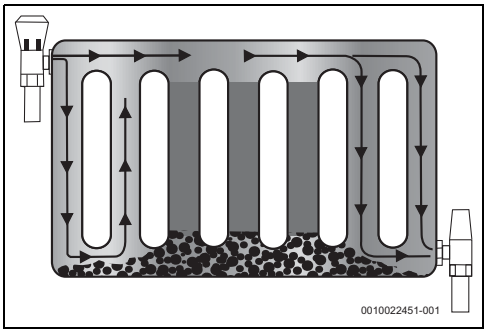


Fig. 5 Radiator contamination

Increased fuel usage and bills

Dirty water also creates a build up of sludge that coats the inside of radiators and the boiler heat exchanger.

This sludge creates a barrier inside the radiators and effectively reduces heat from that radiator into the room.This results in your heating system working harder to overcome the layers of dirt in the system to achieve your desired room temperature.The heating system will use more fuel in an effort to reach your desired room temperature, leading to higher heating bills.

Your options

Every system is different and advice should be taken from your reputable heating engineer to comply with BS 7593 (Code of practice for treatment of water in central heating systems).

Best practice would be to have your system drained, refilled with water and a flushing chemical.

This would then be drained and flushed with clean water until the water runs completely clear.

Where the Filter is installed on an existing system that shows signs of magnetite contamination a chemical gravity flush of the system is required or for best practice a power flush or alternatively a MagnaCleanse® flush (using a suitable adaptor) is undertaken prior to installation.

To ensure that dirt does not build up again, a System Filter should be fitted and a chemical inhibitor added. The System Filter should be cleaned each year during the annual boiler service.

4.2 Installation location within system pipework

The System Filter Micro has an integrated isolation valve on the inlet port only. Therefore, the System Filter Micro should be installed on the primary heating return directly (or as close as possible, max 1.5 metre) to the boiler utilising the boiler isolation valve to fully isolate the Filter.

The System Filter Micro could also be installed elsewhere on the primary pipework using an additional full flow isolation valve at the outlet side of the Filter to fully isolate.

To maximise the effectiveness the Filter should be installed on a vertical run of pipework after the last radiator connection on the return pipe to the boiler.

In determining a suitable location for installation, it is important to ensure you allow adequate access for servicing.

Sealed combi heating system

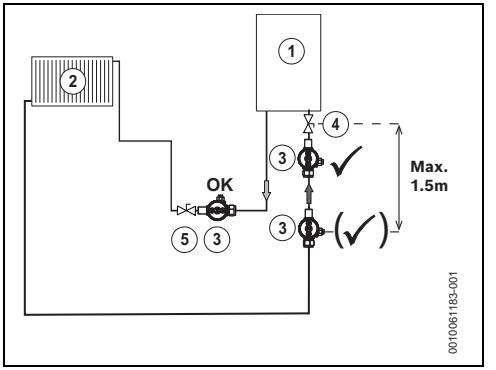


Fig. 6

[1] Combi Boiler (Greenstar 1000 or Greenstar 2000)
[2] Radiator
[3] System Filter Micro
[4] Boiler isolation valve
[5] Additional isolation valve
[✓] Optimum location, utilising boiler isolation valve
[(✓)] Suitable location, utilising boiler isolation valve, need for 22mm compression coupler
[OK] Acceptable location, need for additional isolation valve

5 Installation

Installation preparation

NOTICE

The System Filter Micro has an integrated isolation valve on the inlet port only. Utilise the boiler isolation valve to fully isolate the Filter.

NOTICE

If the System Filter Micro is not installed on the primary heating return directly (or as close as possible, max. 1.5 metre) to the boiler, there is the need to install an additional full flow isolation valve at the outlet side of the Filter to fully isolate.

CAUTION

Risk of injury or damage to property

- **Before commencing any work, turn off all supplies to the appliance and drain the heating system.**

- Drain the heating system.
- Choose a suitable installation location, preferably on the return pipe directly (or as close as possible, max 1.5 metre) to the boiler isolation valve to fully isolate the Filter.

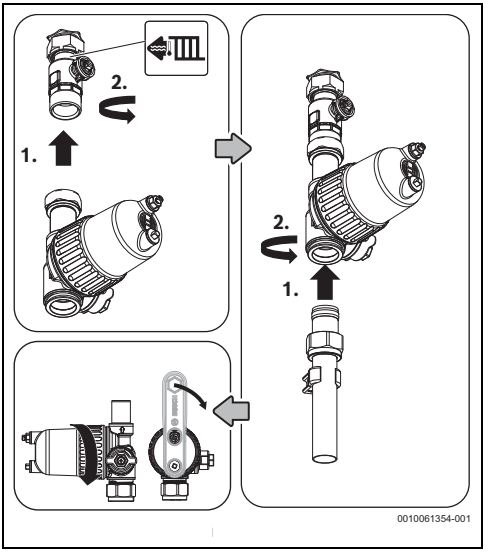


Fig. 7 Installing the Filter

- ▶ Fit the outlet side of the Filter (“spigot”) to the boiler isolation valve.
- ▶ Tighten the isolation valve compression fitting once the Filter has been correctly fitted.
  - – Do not overtighten the isolation valve compression fitting.
- ▶ Cut the return pipe.
- ▶ Ensure that the pipe is adequately supported below the cut section on the wall.
- ▶ Deburr the cut end of the pipe and fit the nut and olive over the pipe end.
- ▶ Fit the return pipe into the Filter isolation valve.
- ▶ Tighten the isolation valve compression fitting once the return pipe has been correctly fitted.
  - – Do not overtighten the isolation valve compression fitting.
- ▶ Tighten the canister assembly by hand.
- ▶ Secure the canister firmly, using the Filter servicing tool. There are stops to indicate the lid is secure.
  - – Do not overtighten!
  - – Align the air vent (top) and drain plug (bottom) with the pipework.

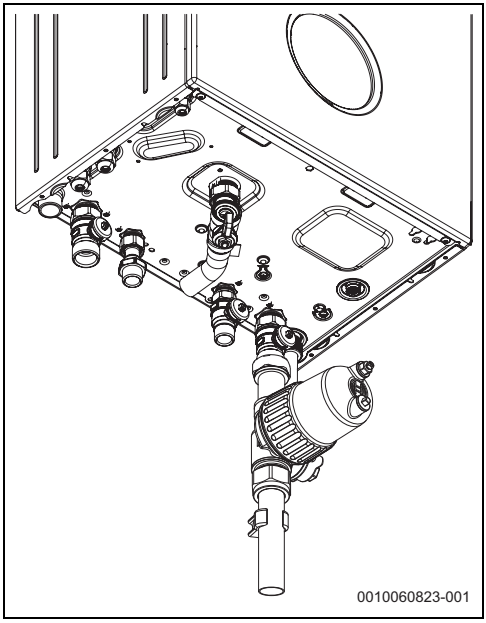


Fig. 8 Installation example (Greenstar 1000)

1. The air vent always has to be positioned at the top and the drain plug at the bottom of the Filter.
2. In case the Filter is installed on a vertical dropping run of pipework, the air vent and drain plug screws need to be swapped.
3. In case the Filter is installed on a horizontal run of pipework and the inlet of the Filter is on the left side, the air vent and drain plug are positioned inline with the pipework. During maintenance the canister is turned one-quarter to the left to place the air vent to the top.
4. In case the Filter is installed on a horizontal run of pipework and the inlet of the Filter is on the right side, the air vent and drain plug are positioned inline with the pipework. During maintenance the canister is turned three-q.uarter to the left to place the air vent to the top.

See Fig. 9 for more details.

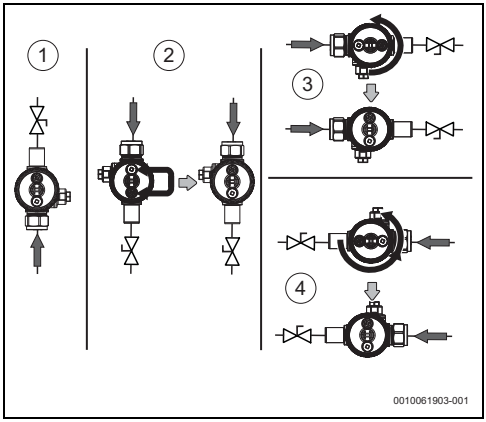


Fig. 9 Correct positioning of the Filter and air vent.

6 Commissioning

System protection

Add chemicals before the system is refilled.

Chemicals can be added by either:

- Injection from a canister, with removal of the air vent and inserting the nozzle of the canister.
  -or-
- Using a suitable dosing point (e.g. towel radiator).

The following commissioning actions assume the heating system is fully drained.

6.1 System inhibitor from canister

The adaptor on market leading chemical additives, either liquid or concentrate form, will fit into the vent once the bleed screw has been removed.

- ▶ Ensure that the Filter isolation valve (green indicator) [1] as well as the boiler isolation valve are in the open position.
- ▶ Remove the vent bleed screw [2] using a radiator key (not supplied) [3].

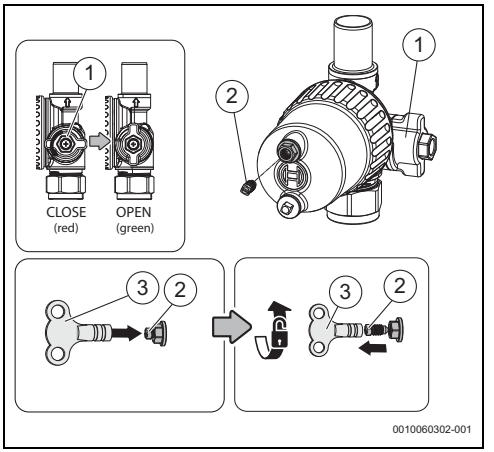


Fig. 10 Removing the vent bleed screw

- ▶ Attach or insert the chemical adaptor or tube into the vent.
- ▶ Feed in the chemical.
- ▶ Remove the chemical adaptor or tube from the vent.

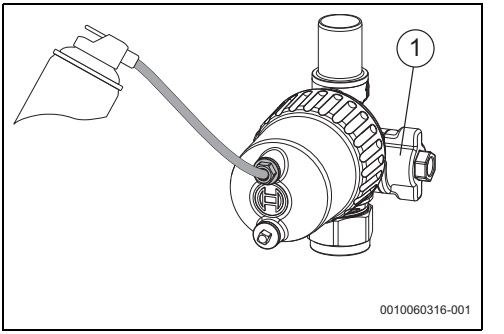


Fig. 11 Adding inhibitor

- ▶ Using a radiator key [3], replace the vent bleed screw [2].

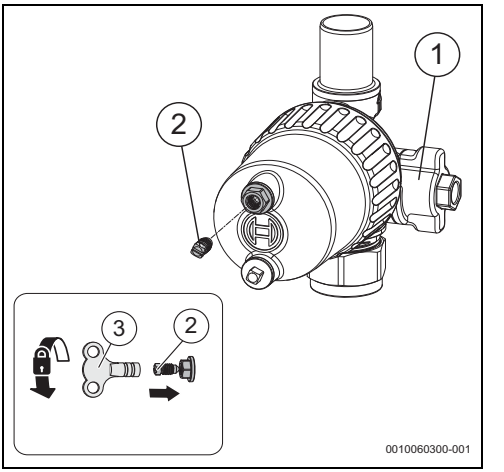


Fig. 12 Replacing the vent bleed screw

- ▶ Refill the heating system.
- ▶ Using the radiator key [3], loosen the vent via the bleed screw to allow the air in the system to escape.
- ▶ Close the vent via bleed screw [2] when water runs out.

6.2 Final actions

- ▶ Run the central heating system and check for leaks on the System Filter.
- ▶ Clean the System Filter case, ensuring no residue from the installation and commissioning is left behind on the Filter or isolation valves.
- ▶ Store the servicing tools and instruction manual away for future use.

7 Environmental protection and disposal

Environmental protection is a fundamental corporate strategy of the Bosch Group.
The quality of our products, their economy and environmental safety are all of equal importance to us and all environmental protection legislation and regulations are strictly observed. We use the best possible technology and materials for protecting the environment taking account of economic considerations.

Packaging

Where packaging is concerned, we participate in country-specific recycling processes that ensure optimum recycling. All of our packaging materials are environmentally compatible and can be recycled.

Used products

Used products contain valuable materials that can be recycled. The various assemblies can be easily dismantled. Synthetic materials can be recycled and are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

8 Inspection and maintenance

8.1 Inspection and cleaning

It is recommended that your System Filter is serviced annually at the same time as the main appliance service.

NOTICE

Sludge disposal

Magnetite sludge can stain certain types of sanitary ware.

- ▶ Rinse the magnetite sludge into a stainless steel or plastic container.

Bosch Group recommends for best practice that where any O ring seals are disturbed that these O ring seals are replaced.

- ▶ Ensure that the Filter is fully isolated by closing both, first the Filter (red indicator)[1] and then the boiler isolation valve.
- ▶ Use a radiator key to loosen the vent bleed screw [2].
- ▶ Open and remove the drain plug [3]; use a suitable container to collect any water and debris.

CAUTION

Risk of scalding, Hot Water!

- ▶ Replace the drain plug [3], close the vent bleed screw [2] and secure both, do not overtighten.

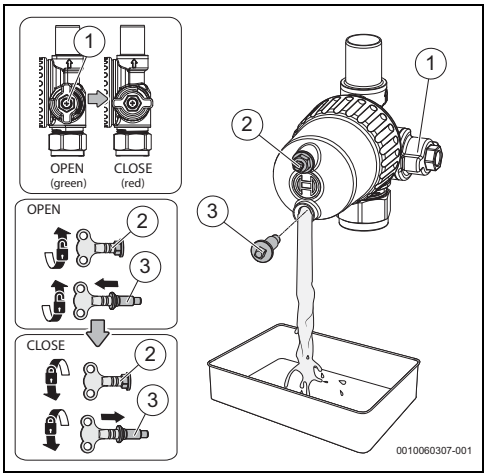


Fig. 13 Draining the Filter

- ▶ Using the Filter servicing tool, loosen the canister assembly [4].

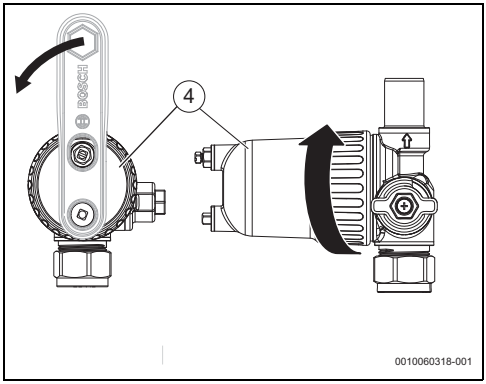


Fig. 14 Removing the canister

- ▶ Remove the canister assembly [4] and magnet sleeve [5].
  - – Use a cloth or rag to prevent any spillage as you move to stainless steel or plastic container.
- ▶ Under running water slide the sleeve [5] off the magnet.
- ▶ Rinse the magnetite sludge off the sleeve [5].
- ▶ Inspect and clean all parts of the sleeve [5] and canister [4].

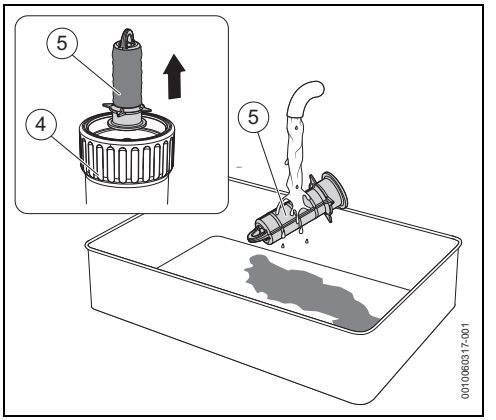


Fig. 15 Cleaning the sleeve

8.2 Recommissioning

8.2.1 System inhibitor from canister

- ▶ Replace the sleeve back over the magnet.
- ▶ Inspect and clean the seals on the receiver head.
- ▶ Replace the canister assembly and tighten by hand.
- ▶ Secure canister firmly, do not overtighten, using the Filter servicing tool. There are stops to indicate the lid is secure.
  - – Do not overtighten!
  - – Align the air vent (top) and drain plug (bottom) with the pipework. In case the Filter is installed on a vertical dropping or horizontal run of pipework, see Fig. 9 for more details.

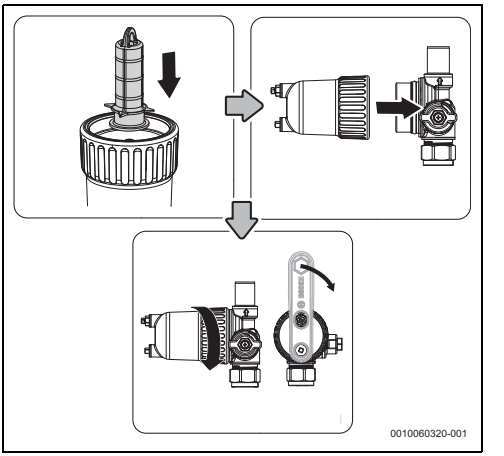


Fig. 16 Filter reassembly

Recommissioning the System Filter.

- ▶ **Full system drain down**
  - – Follow the details given in the Commissioning section.
- ▶ **System Filter drain down**
  - – Use the following advice.

- ▶ Ensure that the Filter is fully isolated by closing both, first the Filter (red indicator) [1] and then the boiler isolation valve.
- ▶ Remove the vent bleed screw [2] using a radiator key [3].

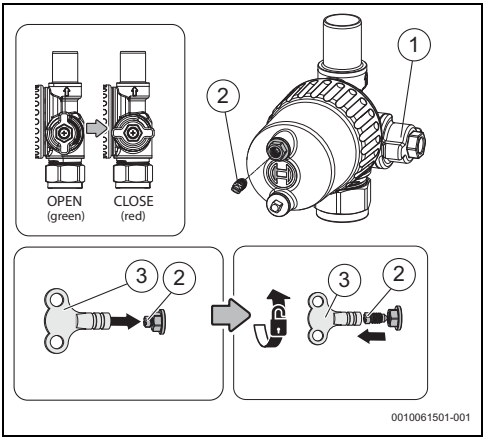


Fig. 17 Removing the vent bleed screw

- Attach or insert the chemical adaptor or tube into the vent.
- Open only the valve on the Filter (green indicator)[1].
- Feed in the chemical.
- Close the valve on the Filter (red indicator)[1].
- Remove the chemical adaptor or tube from the vent.
- Using a radiator key [3], replace the vent bleed screw [2].

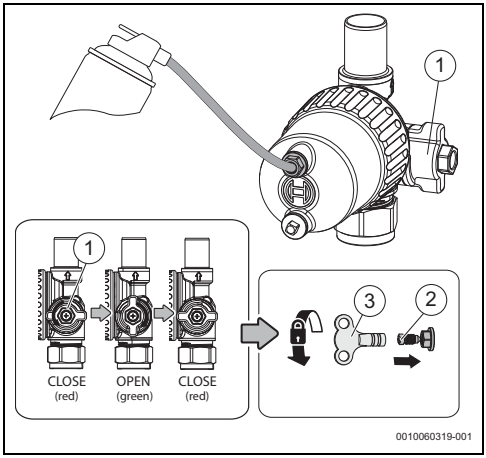


Fig. 18 Adding inhibitor and refitting vent bleed screw

- Open the Filter (green indicator) [1] and then the boiler isolation valve.
- Using the radiator key [3], loosen the vent via the bleed screw to allow the air in the system to escape.
- Close the vent via bleed screw [2] when water runs out.

9 Spare Parts

System Filter - Spare parts

System Filter Micro 22mm

Part Number	Item
7-724-002-407	Air Vent Assembly Micro
7-724-002-408	Drain Plug Assembly Micro
7-724-002-409	Seal Pack Micro
7-724-002-410	Magnet Sleeve Micro
7-724-002-411	Filter Service Tool Micro

Table 2

10 Guarantee

Guarantee registration

Your appliance/product carries a guarantee against faulty material or manufacture subject to Terms and Conditions.

To read the full Terms & Conditions please visit us online at www.worcester-bosch.co.uk/guarantee.

Your statutory rights are not affected by the manufacturer's guarantee.

11 Technical Specifications/Logs

11.1 Service record

It is recommended that your System Filter is serviced annually at the same time as the main appliance service and that this Service Interval Record is completed as proof of the service.

Service Provider

Before completing the appropriate Service Record Below, please ensure you have carried out the service as described in the servicing section of the manual. Always use Bosch approved parts.

Service 1	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 2	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 3	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 4	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 5	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 6	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 7	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 8	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 9	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 10	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 11	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 12	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 13	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 14	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	

Service 15	Date:
Engineer Name:	
Company Name:	
Telephone No.	
Comments:	
Signature:	





Bosch Thermotechnik GmbH
Junkersstr. 20-24
73249 Wernau
Germany
www.bosch-homecomfort.com

Bosch Thermotechnology Ltd.
Cotswold Way, Warndon
Worcester WR4 9SW
United Kingdom
www.worcester-bosch.co.uk