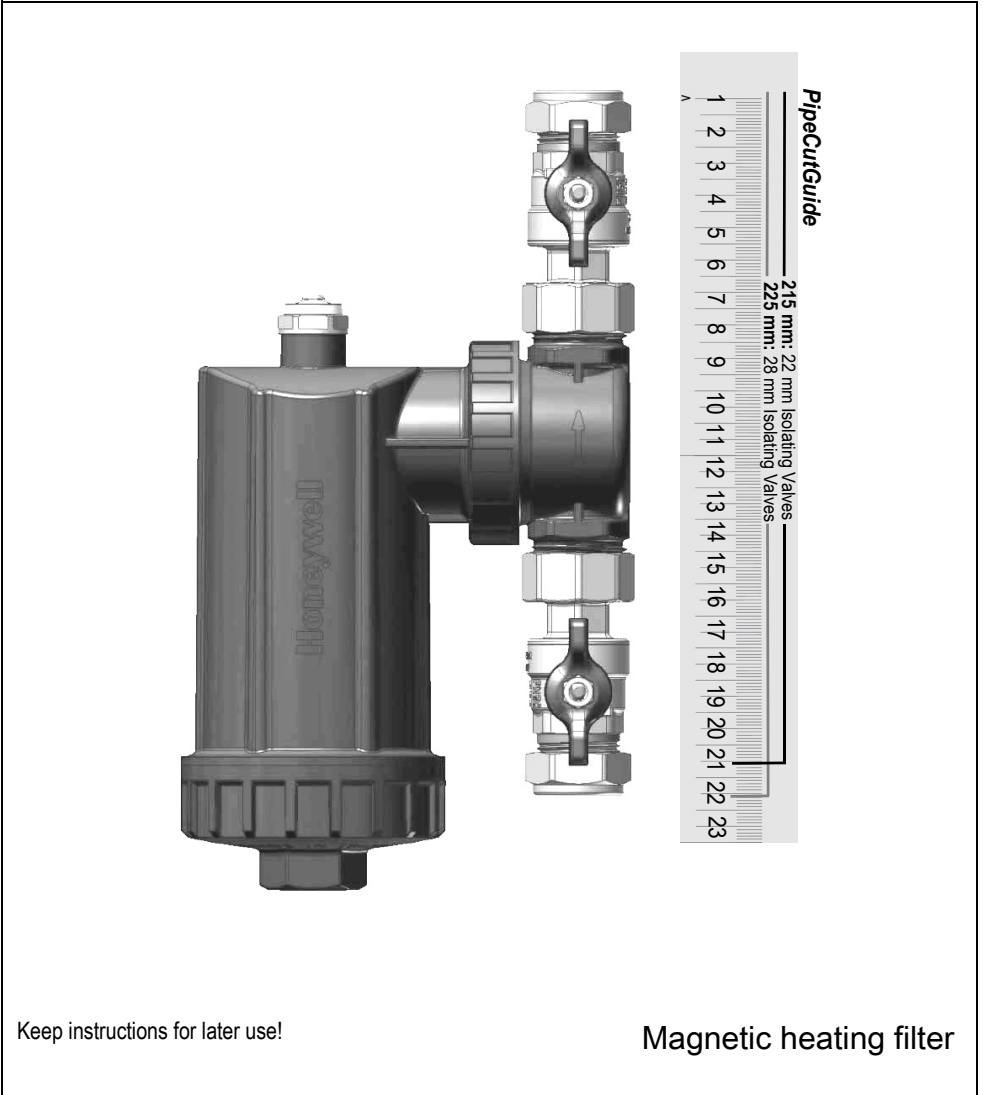


MHF49

Installation instructions



Keep instructions for later use!

Magnetic heating filter

1. General

The installation instructions are intended for the professional installer with knowledge in heating installations.

1.1 Applicable documents

Additional documents are applicable in conjunction with these installation instructions:


- Other available operating instructions for the heating system and its components.
- Product data sheet.

INFO Honeywell assumes no liability for damage that arises from non-observance of this document!

1.2 Cutting ruler

- Included in this Installation Instruction.

1.3 Material numbers

Product options	Material number
	MHF49-22A: Magnetic Heating Filter with 22 mm compression fitting.
	MHF49-28A: Magnetic heating Filter with 28 mm compression fitting.

Tab. 1: Product options

1.4 Retention of documents

Please leave these instructions with the owner for future reference. The instructions and resources are to be kept for later use freely accessible.

1.5 Designation

The magnetic heating filter is hereinafter called MHF49.

2. Safety



WARNING!

Warning against magnetic field!

Magnetic fields may endanger persons with metal parts or implants as well as damage devices and media.

Please avoid placing electronic appliances nearby to avoid potential interference or damage.

INFO Only professional installers are permitted to perform the activities described in these installation instructions!

- Observe the installation instructions.
- Only use device as intended and in proper condition.
- Installation, commissioning and maintenance may only be performed by qualified personnel.
- Immediately resolve faults.
- Unauthorized modifications of the product are not allowed.
- Only use original spare parts and accessories for repairs or replacement.

2.1 Intended use

The MHF49 was built according to the state of the art and recognized safety regulations. However, damage to property may arise from improper or unintended use.

The MHF49 is built into the heating circuit and is intended to filter out residue in order to prevent premature wear or failure of the heating system.

The device is suitable for doses of 0.5 litres of chemicals.

INFO Intended use includes completely reading the installation instructions and all applicable documents!

Any other or additional use is considered improper and excludes any responsibility and liability on the part of the manufacturer/supplier for damages resulting herefrom.

3. Description of device

The MHF49 is used to filter out contaminants (e.g. sludge, sand, rust, iron particles etc.) that arise from the regular operation of a heating system. Thus, premature wear and failure of the heating system arising from contaminants can be prevented.

3.1 Product features

- Removes sludge and impurities
- Improved hydraulic performance
- Suitable for any installation position
- Protects the boiler
- Extends the service life of the heating system
- Guarantees system efficiency
- Can be used to top up Water Treatment (0.5 liters)
- Isolation valves

3.2 Functional principle

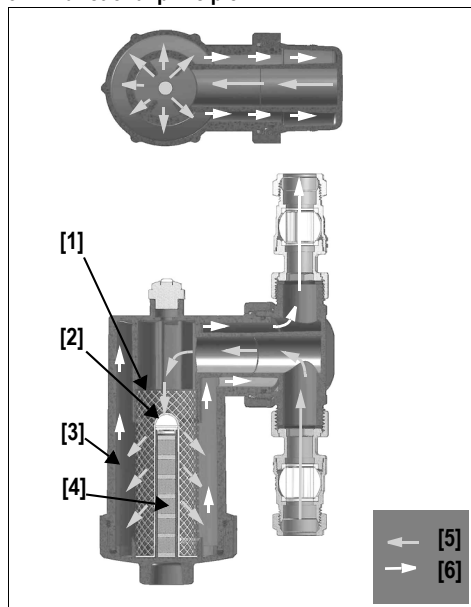


Fig. 1: Functional principle

- [1] Filter cartridge
- [2] Removable sheath to easily clean the magnet
- [3] Filter chamber
- [4] Magnet
- [5] Dirty medium
- [6] Cleaned medium

Through a specifically designed path the medium is forced to pass within the filter cartridge mesh and into the filter chamber. There a combined actions of

the filter mesh, magnet and inner geometry of the Filter chamber, allow heavy particles to sink to the bottom, while the magnet inside the filter captures any rust and iron particles

In that way impurities (eg. sludge, sand, rust, iron particles) normally found in a central heating system can be easily removed and kept inside the filter chamber.

The cartridge is specifically designed to keep the pressure drop low (it exercises low hydraulic resistance) giving a particular path to the medium which contributes to dragging heavy impurities to the bottom of the filter. During maintenance, in order to easily clean the magnet housing, remove the sheath and clean it.

In the first instance, the boiler is protected against damage from impurities. The MHF49 is most effective when it is installed at these positions in the heating circuit:

- In the return flow downstream of the last radiator but upstream of the circulation pump
- Especially at start-up to protect the boiler/buffer by removing medium-sized impurities (mainly sludge and iron particles)
- All (vertical, horizontal) positions are possible for installation

3.3 Accessory (optional)

- MHF49-IS Insulation shell

4. Technical data

Parameter	Value
Medium	Water, Water + Glycol
Max. operating pressure	4 bar
Temperature range	5 °C ... 90 °C

Tab. 2: Technical data

4.1 Dimensions

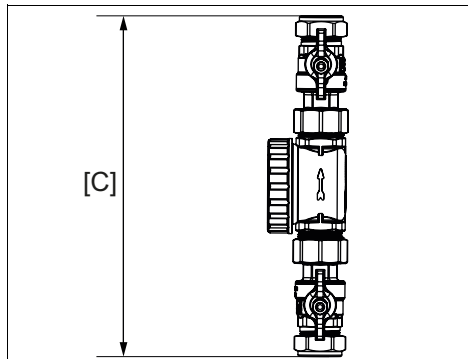


Fig. 2: Dimensions 1

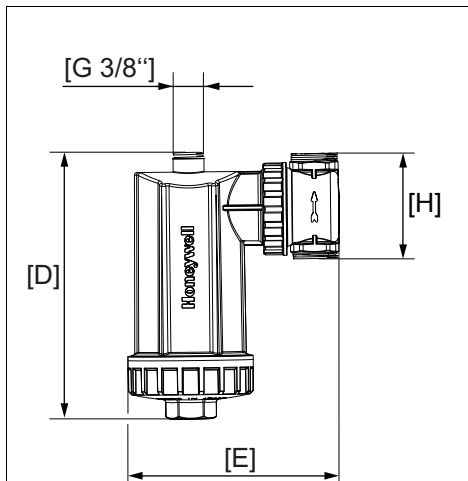


Fig. 3: Dimensions 2

Part no.	Size	C [mm]	D [mm]	E [mm]	H [mm]
MHF49-22A	22 mm	239	189	153	98
MHF49-28A	28 mm	271	189	153	98

Tab. 3: Measurements

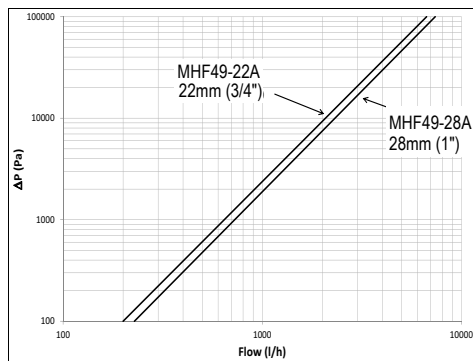


Fig. 4: Pressure Drop Chart

4.2 Hydraulic characteristics

Connection size	Kvs [m ³ /h]
22 mm	6.50
28 mm	7.00

Tab. 4: Flow factor Kvs

4.3 Materials

Component	Material
Filter housing	Polyamide
Diverter body	Polyamide, glass-fibre reinforced
Ring	Polyamide, glass-fibre reinforced
Magnet housing	Polyamide, glass-fibre reinforced
Filter mesh	Stainless steel
Gasket	EPDM
Magnet	Neodymium
	$B(T_{max}) / B(T_{amb}) < 1\%$ (when: $T_{max} = 130\text{ °C}$, $T_{amb} = 21\text{ °C}$)
	Tested according to IEC 60404-5 & ASTM A977

Tab. 5: Component materials

5. Installation

For the installation no special tools are required. Standard heat and sanitary installer's tools are sufficient.

5.1 Torque specification

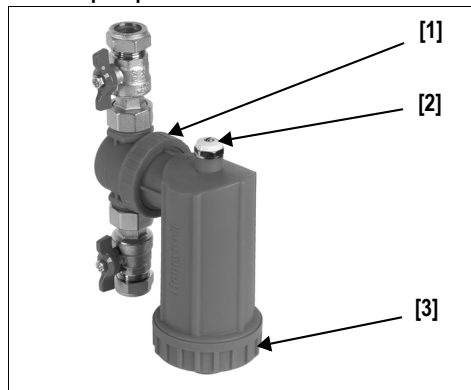


Fig. 5: Torque specification

Number	Torque specification
1	Hand tight
2	Max. 1 Nm
3	Max. 18 Nm $\pm 10\%$

Tab. 6: Torque specification for fasteners

5.2 Checking scope of delivery

Designation	Count
MHF49	1
Installation instructions	1
Cutting ruler (included in 1 Installation Instruction)	

Tab. 7: Scope of delivery

- Check delivery for completeness and integrity.
- Unpack all parts.
- Inform Honeywell Technical Team if parts of the delivery are damaged or missing.
- Never install damaged parts.

5.3 Installation Guidelines

The installation site has to be frost-proof and the protection of the device from chemicals, paints, detergents, solvents and their vapors and environmental influences must be guaranteed.

- Install if possible in horizontal or vertical pipe work with filter housing downwards
 - This position ensures optimum filter efficiency
- Ensure good access
 - Simplifies maintenance and inspection

5.4 Installation

- Read these installation instructions completely before beginning the installation.

INFO Carefully select the installation location of the MHF49 so that the MHF49 is easily accessible for cleaning and maintenance.

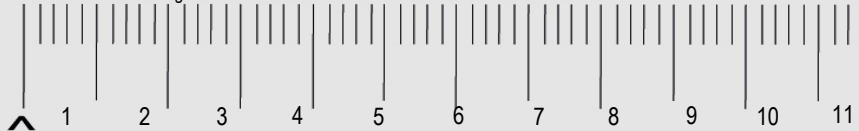
- Make certain that the heating system is standing idle properly (see manufacturer's instructions for the heating system).
- Drain heating system and locate return pipe. Filter is typically installed in the return pipe. Mark the section to be cut out according to the cutting ruler and remove the marked pipe section.

INFO The cutting ruler you find in the middle of the document.

- Mark the length of the pipe section to be removed using the template on the edge of the installation instructions at hand.
- Note that the template is adjusted for a size of A5 for the installation instructions at hand. The template must not be used if your installation instructions are sized A4.

PipeCutGuide

215 mm: 22 mm Isolating Valves
225 mm: 28 mm Isolating Valves



- Mark the length of the pipe section to be removed using the template on the edge of the installation instructions at hand.
- Note that the template is adjusted for a size of A5 for the installation instructions at hand. The template must not be used if your installation instructions are sized A4.
- Make sure there is adequate room to rotate the filter and access it for cleaning purposes.

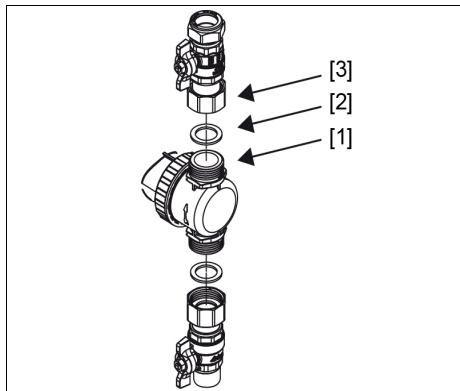


Fig. 6: Install filter connection

- [1] Connection thread
- [2] washer
- [3] Isolation valve

- Fit the isolation valve using the compression fittings and rings provided. Ensure correct assembly and do not make watertight yet.

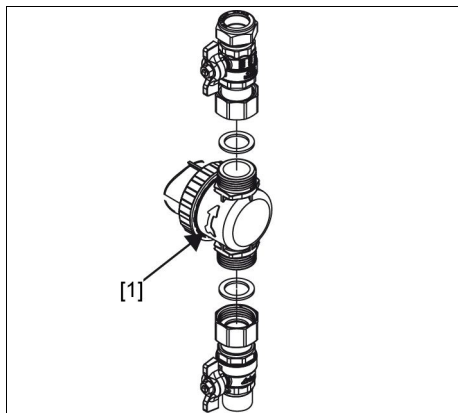
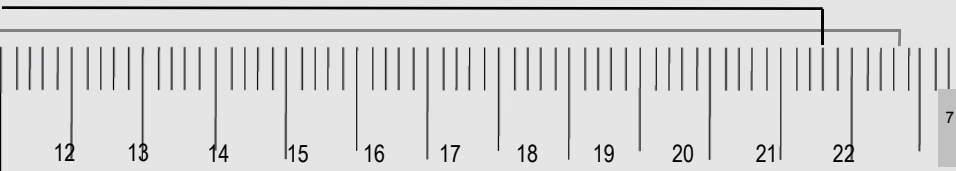


Fig. 7: Check flow direction

- [1] Diverter body

- Check flow arrow direction on diverter body and ensure it is the same as the pipe work flow direction.
- Fit diverter body using flat washers provided.
- Tighten water tight using spanner.
- Position the diverter valve including the isolation valve correctly.
- Make the compression connections water tight.

Note that the template is adjusted for a size of A5 for the installation instructions at hand. The template must not be used if your installation instructions are sized A4.



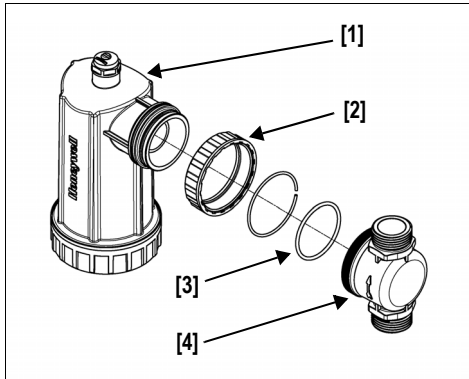


Fig. 8: Assemble MHF49

- [1] MHF49
- [2] Large fastening ring
- [3] O-ring
- [4] Diverter

- Fasten MHF49 [1].
- Adjust mounting position vertically.
- Make certain that the O-ring [3] is correctly positioned.
- Tighten the large fastening ring [2] hand tight.
- Filter body must be installed vertically as shown.
- Unscrew the air vent cap from the top of the filter housing. Open only the inlet isolation valve until water exits the air vent hole.
- Close the isolation valve.
- Screw the the air vent cap back on water tight.
- Open both isolation valves.

6. Cleaning/Maintenance

6.1 Cleaning cycle

- Before the beginning of each heating period
- For every maintenance of the heating system
- In case of heating system malfunctions

6.2 Cleaning the magnet housing

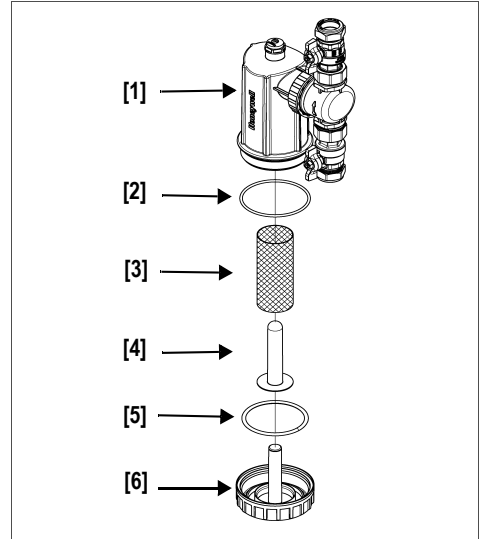


Fig. 9: Put the MHF49 together

- [1] MHF49
- [2] O-ring
- [3] Filter mesh
- [4] Removeable sheath
- [5] Sealing ring
- [6] Housing end cap

- Make certain that the heating system is standing idle properly, the pump must be switched off (see manufacturer's instructions for the heating system).
- Close both isolation valves.



CAUTION!

Warning against hot water!
Hot water may cause burns.

When removing housing end cap hold a bucket below the filter to catch the exiting water and debris.

- Remove housing end cap [5].
- Clean magnetic filter.
- Screw the housing end cap [5] back on, applying a torque of maximum 18 Nm \pm 10 %.
- Make certain that the O-ring [2] is correctly positioned.
- Unscrew the air vent cap from the top of the filter housing. Open only the inlet isolation valve until water exits the air vent hole.
- Close the isolation valve.
- Screw the air vent cap back on water tight.
- Open both isolation valves.

7. Replacement parts

For the MHF49 there are no designated spare parts. In normal operation no spare parts are needed.

In case of damage the whole MHF49 must be replaced.

8. Disposal

Both the MHF49 and the associated packaging consist mostly of recyclable raw materials.

- Dispose of packing and all recyclable materials separately, properly and in an environmentally friendly way.

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