

Rev. 09/2022

SERIES 3892 MAG-NET

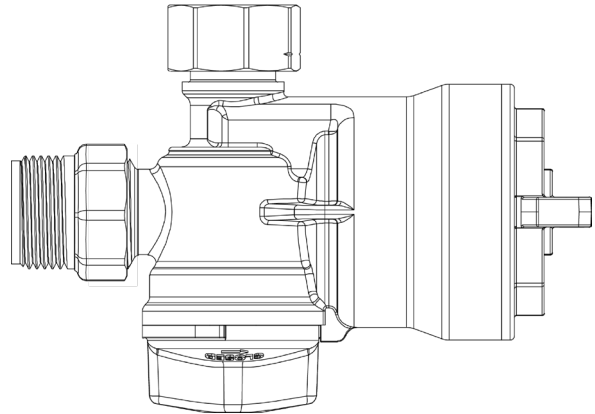
Compact under-boiler magnetic filter.



SERIES 3892 MAG-NET

Compact under-boiler magnetic filter.



- +** Supercompact
- Shut-off system included
- High efficiency
- Eliminates impurities
- Fights corrosion
- Increases the lifespan of the boiler
- Maintains optimum system efficiency



PRODUCTION RANGE

| | Code | Size | Couplings |
|---|------------|--------|--|
|  | 3892.05.50 | G 3/4" | M UNI-EN-ISO 228 / F UNI-EN-ISO 228 Flat seat connection to filter / swivel fitting |

PRODUCTION RANGE - ACCESSORIES

| | Code | Description | Size | Connection on boiler side |
|---|------------|---|--------|---------------------------|
|  | 3174.05.20 | Ball valve with rotary connection. | G 3/4" | MF UNI-EN-ISO 228 |
|  | 3174.05.30 | Flexible extendible fitting, for filter connection. | G 3/4" | MF UNI-EN-ISO 228 |

DESCRIPTION OF OPERATING PRINCIPLE

Through its effective and constant action, the magnetic filter collects all the impurities present in the system, preventing them from circulating within it, thus avoiding wear and damage of the rest of the components making up the system, circulators and heat exchangers in particular.

Mag-net performs a continuous protective action on the boiler.

USE

It is advised to install **Mag-net** on the return circuit, at the inlet of the boiler, in order to protect it from any impurities in the system, especially during the start-up phase.

Thanks to its compact dimensions, it can be installed under the boiler, in systems for domestic use, where installation spaces are very limited and there is no room for a traditional dirt separator.

FILTRATION RATING

Mag-net removes magnetic and non-magnetic particles that may cause damage to the system during the first day of operation. The continuous passage of the fluid through the filter during the normal operation of the system on which it is installed, gradually removes any dirt.



WARNING: This filter contains a series of magnets, therefore, we recommend the holders of pacemaker devices to keep a safe distance during filter operation and/or maintenance. Pay attention when using electronic devices near the magnets, to avoid affecting their operation.

CONSTRUCTION FEATURES

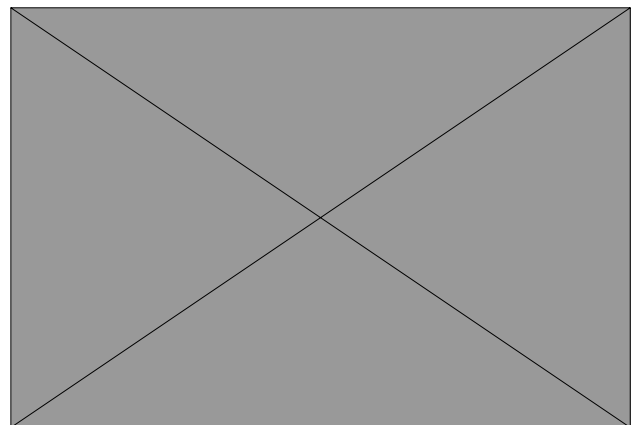
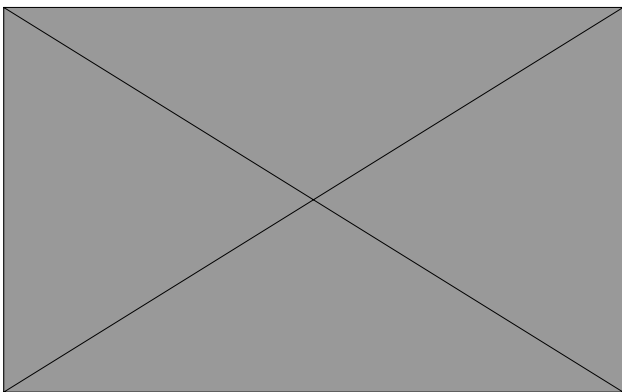
| | |
|---|--|
| Cartridge body: | Polyamide PA66 +30% FV |
| Filtering cartridge: | AISI 304 |
| Hydraulic seals: | EPDM PEROX |
| Magnets: B (Tmax) / B (Tamb)* < 1% (where Tmax = 130°C, Tamb = 21°C) Tested according to IEC 60404-5 & ASTM A977 | Neodymium REN35 B= 11000/12000 Gauss |
| Connections: | System return: M 3/4" flat seat Boiler input: Rotary nut 3/4" Flat seat UNI-EN-ISO 228 |

TECHNICAL FEATURES

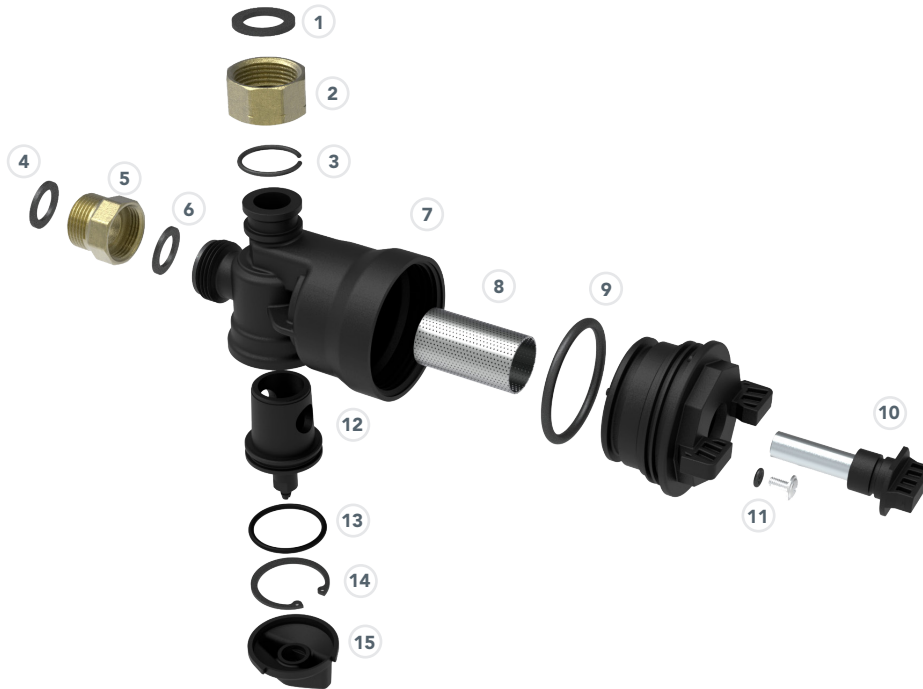
| | |
|--|-----------------------|
| Compatible fluid: | Water, water + glycol |
| Max. operating pressure: | 3 Bar |
| Operating temperature: | 0-80°C |
| Standard filter degree of filtration: | 800 µm |

Noise-induced (according to EN13443 and UNI 3822)
The noise induced by Mag-net in the piping is 0 dB(A).
As specified in EN 13443 regulation, Mag-net belongs to the I group, as well as all other products having noise levels < 20 dB(A).

DIMENSIONAL FEATURES



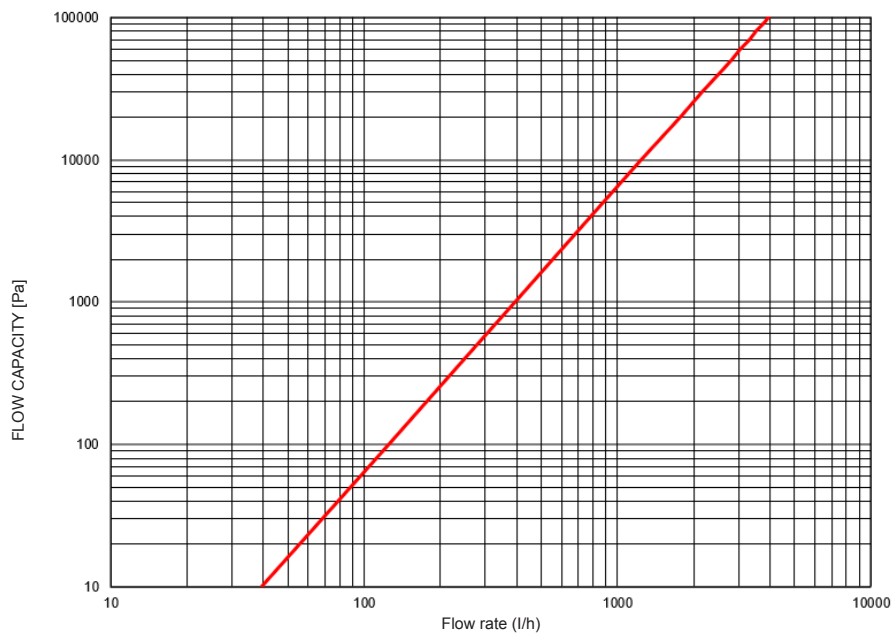
COMPONENTS DESCRIPTION



- | | |
|--------------------------------------|---|
| 1 Flat gasket | 9 Seal o-ring |
| 2 3/4" nut for double swivel fitting | 10 Cover |
| 3 Snap ring | 11 O.R seal + screw M4x8 |
| 4 Flat gasket | 12 Diametric Magnet |
| 5 3/4" MF nut flat seat | 13 Co-moulded cylinder for interception |
| 6 Flat gasket | 14 Seal o-ring |
| 7 Filter body | 15 Indoor Seeger ring UNI 7437 |
| 8 AISI 304 filtering cartridge | 16 MAG-NET knob |

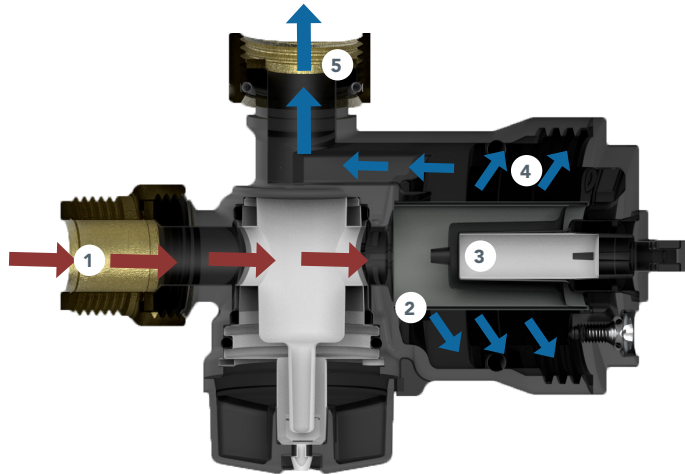
FLUID DYNAMICS FEATURES

Horizontal configuration



| Size | Kv horizontal conf. [m ³ /h] |
|--------|--|
| G 3/4" | 3.94 |

OPERATING PRINCIPLE



- ① Input flow
- ② Filtering cartridge
- ③ Magnet
- ④ Filtering chamber
- ⑤ Output flow

PRINCIPLE OF FILTRATION:

By going through a set course, the fluid is forced to cross the mesh of the filtering cartridge (800 μm) and enter the filtering chamber.

In this filtering chamber, thanks to the simultaneous action of the:

- filtering cartridge (direct mechanical filtration)
- magnet
- design choices for the filtering chamber section

the water full of debris undergoes a filtering grade treatment.

First of all, the sudden cross-section variation (the filtering chamber has a greater diameter than the conduit) slows down the fluid motion and, consequently, the entrainment rate of the particles suspended in it.

Larger particles are stopped directly by the mechanical filter.

The magnet, placed inside a cylinder at the centre of the filtering chamber, attracts all the impurities having magnetic characteristics.

In this way, all magnetic (ferrous residues) and non-magnetic (algae, sludge, sand, etc.) contaminants in the system are retained in the filtering chamber.

The standard stainless steel cartridge was designed in order not to exert excessive resistance to the passage of fluid (low pressure drops) and acts by direct mechanical filtration without compromising the operation of the heating/cooling system.

THE SHUT-OFF SYSTEM:

To be used for maintenance when the boiler is switched off, it only drains the water in the filter, minimising water loss already treated with chemical additives in the closed heating/cooling circuit and avoiding continuous refilling from the network that can re-initiate chemical/physical corrosion processes that over time had reached the saturation phase.

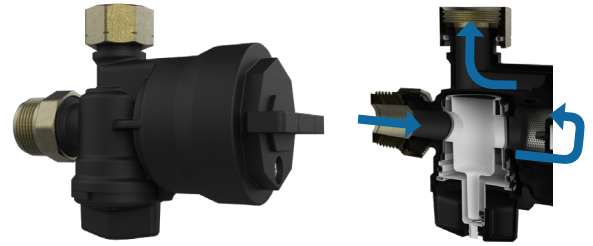
Absolutely innovative and fully included in the filter, it fulfils the same function as a ball valve:

- One ball valve installed on the return.

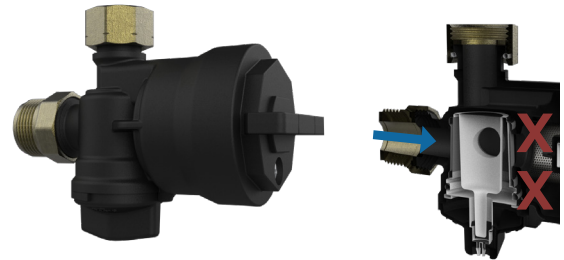
The fluid passage is always total on both the delivery and return circuits; there are no section reductions.

IMPORTANT:

The **Mag-net** shut-off system does not perform the tasks of the boiler shut-off ball valves. To be used only during maintenance operations with the boiler off. With the filter closed, the shut-off system must always be in the OPEN position.



MAG-NET OPEN position.
Guarantee of TOTAL passage



MAG-NET CLOSED position.
Filtering chamber completely isolated.

INSTALLATION:



It is advised to install **Mag-net** on the return circuit, at the inlet of the boiler, in order to protect it from any impurities in the system, especially during the start-up phase.

Mag-net can only be installed horizontally, the shank with rotary nut included in the pack is used to connect the boiler and the connection on the circuit can be made with a flexible fitting (accessory **3174.05.30**).

MAINTENANCE INTERVENTIONS

FILTERING CARTRIDGE CLEANING:

It is possible to carry out periodical cleaning operations in 4 simple steps.

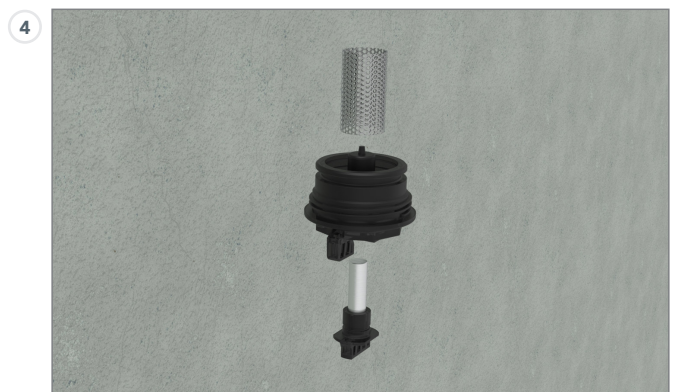
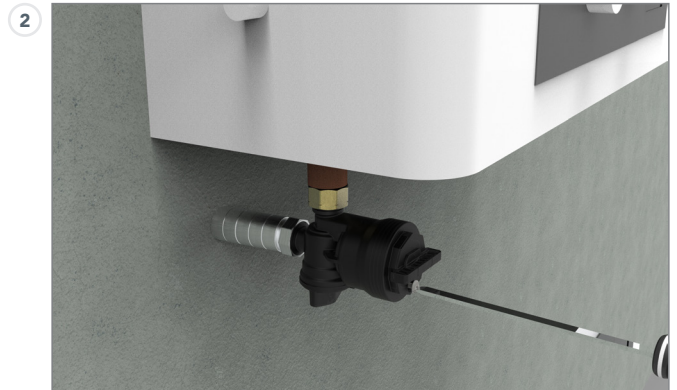
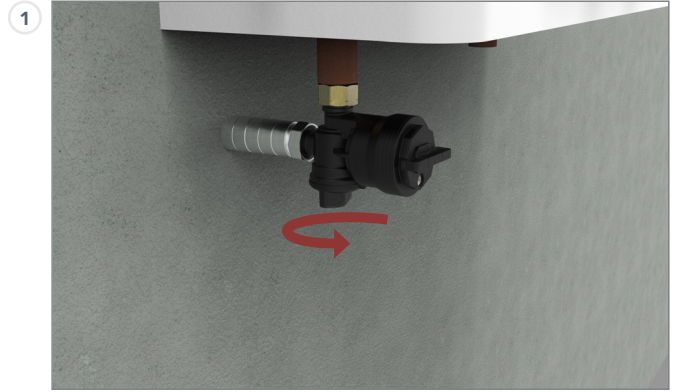
Before cleaning **Mag-net**, ensure the working environment is safe. RBM recommends that the boiler is turned off and the system is allowed to cool to room temperature before carrying out any maintenance intervention. This is to avoid damage and burns.

1. Shut-off the filter by rotating the knob.
2. Partially unscrew the screw to relieve internal pressure.
3. Once the flow of water has stopped, remove the magnet holder lid completely. The water in the filter will gradually start to drain out. Ensure that water is collected in a container of suitable dimensions.

IMPORTANT NOTE: To reduce the outflow, fit a ball valve with a swivel connection in zone **A**.

4. Unscrew the magnet from the filter so as to easily eliminate ferrous particles. Wash with water and thoroughly rinse under the tap to completely remove any impurities. Ensure the O-ring seal is not damaged; otherwise replace it. Reassemble in reverse order.

Ensure there are no leaks prior to recommissioning. It is important to perform cleaning at least once a year. In case of first application, perform the first cleaning after a month.



SPECIFICATIONS

SERIES 3892

Under-boiler magnetic sludge remover filter, model Mag-net. 3/4" M x 3/4" F threaded connection. Body in polymer. AISI 304 steel filtering cartridge. EPDM PEROX seals. Brass swivel fitting. Threaded connections MF UNI-EN-ISO 228. Max. operating pressure 3 bar. Operating temperature 0-80°C Neodymium magnet. $B(T \text{ max}) / B(T \text{ room})^* < 1\%$ where * T max = 130 °C - T room = 21 °C. Reduced dimensions; eliminates all impurities; excellent hydraulic properties; increases the lifespan of the boiler; fights corrosion; maintains optimum system efficiency; total passage shut-off valve.

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