

# TM-MAG MINI

## COMPACT MAGNETIC UNDER-BOILER SLUDGE FILTER

### Art. 3150



### PLUS

- Compact.
- Can be installed under any boiler.
- Dual combined filter action for full removal of impurities:
  - magnetic filtration via a powerful neodymium magnet (12,000 Gauss).
  - mechanic filtration via a filter cartridge (level of filtration is 800 µm).
- Protects the system's components, in particular circulators and exchangers, to prolong the life of the boiler.
- Efficient system and energy savings.
- Quick and easy maintenance.
- Expertly designed for applications in domestic settings.

### DESCRIPTION

The Tiemme TM-MAG MINI under-boiler magnetic sludge filter ensures effective removal of impurities, consisting mainly of sand and rust, from heating system circuits.

TM-MAG MINI collects all the impurities present in the system to prevent them from circulating inside it and thus avoiding damage and/or inefficiency of the rest of the system's components, in particular, circulators and heat exchangers.

The continuous passage of fluid through the internal structures of the filter, during the system's normal operation, gradually leads to the complete removal of impurities.

This occurs thanks to the combined action of the neodymium magnet and the filter cartridge.

**The compact dimensions that characterise TM-MAG MINI, make it possible to install the filter even in limited space, including on existing boilers** (e.g. domestic boilers installed inside kitchen cabinets).

The swivel fitting provided makes it possible to connect the filter directly to the boiler.

The structures of the internal passage have been carefully designed and all materials have been selected to ensure performance, strength and durability.

TM-MAG MINI provides a constant protective action. For optimal operation of the filter, it is important to carry out cleaning on a regular basis, to eliminate the particles accumulated in the cup.

For more details see the "MAINTENANCE" section of this technical data sheet.

### PRODUCTION RANGE

Art.	Code	System-side filter coupling	Boiler-side filter coupling	Straight swivel fitting
3150	315 0039	3/4" M ISO 228	3/4" M ISO 228	3/4" F-F ISO 228



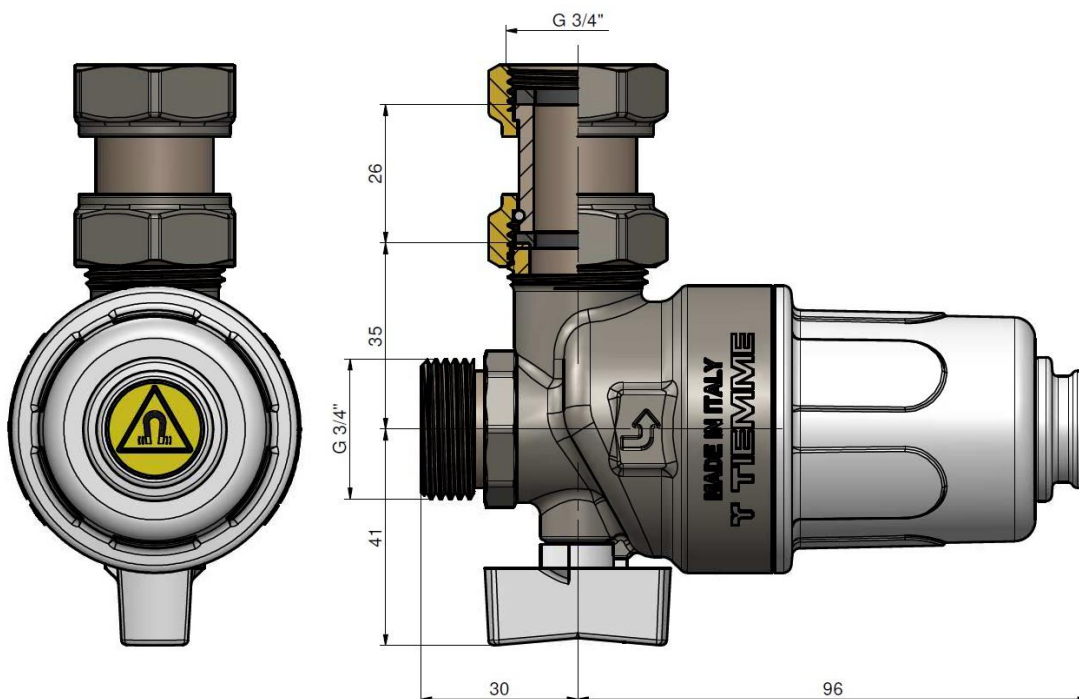
## CONSTRUCTION CHARACTERISTICS

Characteristic	Value
Body	CW617N nickel plated brass
Filter cartridge cup	PA66 + 30% fibreglass
Sealing O-ring	EPDM
Filter cartridge	AISI 304 stainless steel
Magnet	Neodymium 12,000 Gauss
Fitting with swivel	CW617N nickel plated brass
Thread	M-F ISO 228

## TECHNICAL CHARACTERISTICS

Characteristics	Value
Fluid compatibility	Water and glycol solutions (maximum percentage of glycol 30%)
Working temperature range	0 ÷ + 90 °C
Maximum working pressure	6 bar
Level of filtration of filtering mesh	800 µm

## DIMENSIONS



Dimensions in mm.



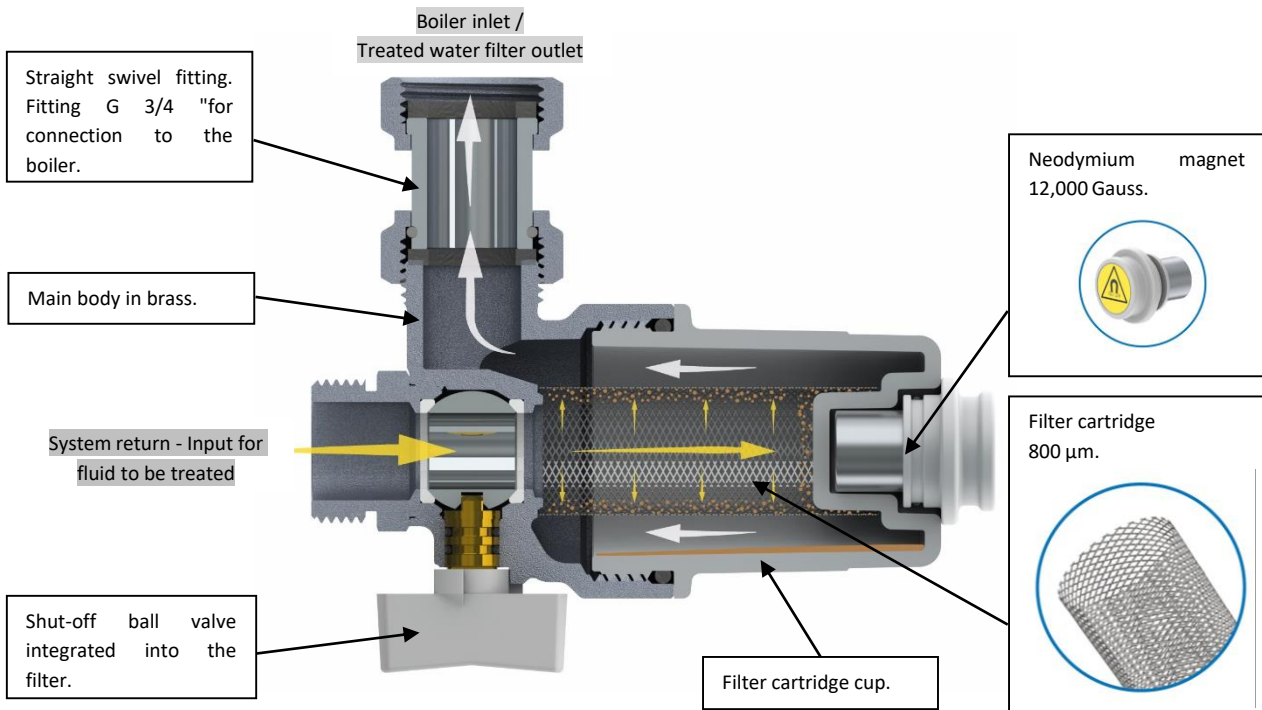
## OPERATION

The TM-MAG MINI magnetic sludge filter guarantees effective removal of impurities (mainly consisting of sand and rust, present in heating circuits), thanks to the combined double action:

- of the **neodymium magnet** which attracts the ferrous particles with the action of its magnetic field
- of the **filter cartridge** which mechanically filters the impurities with granulometry up to 800  $\mu\text{m}$

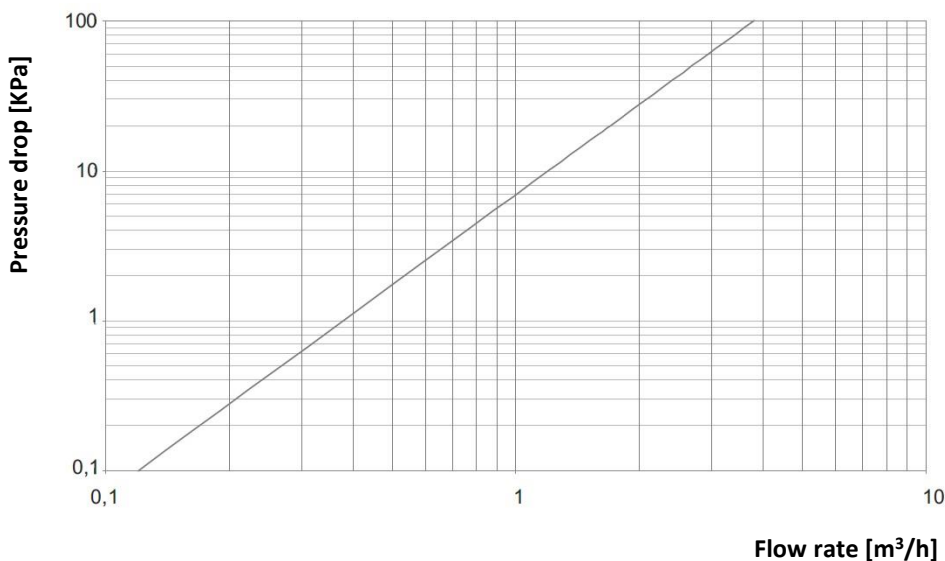
Installed on the heating circuit return, it protects the generator from impurities that could cause malfunctions and damage to exchangers/circulators.

**The shut-off ball valve allows the sludge separator to be isolated from the system to carry out periodic cleaning, by emptying just the water contained in the filter cartridge cup.**



## HYDRAULIC CHARACTERISTICS

Diagram 1: Flow rate/pressure drop



Size	Kv (m <sup>3</sup> /h)
3/4"	3.81

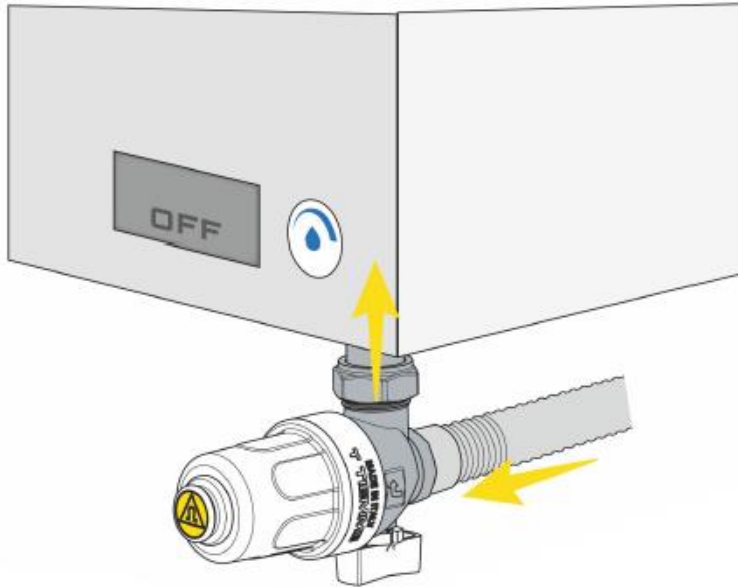
## INSTALLATION

- Check that the boiler is off and the water inside the system is at room temperature.  
Before carrying out any inspection, cleaning or maintenance operation, turn off the generator, close the shut-off valve and wait for the fluid to cool

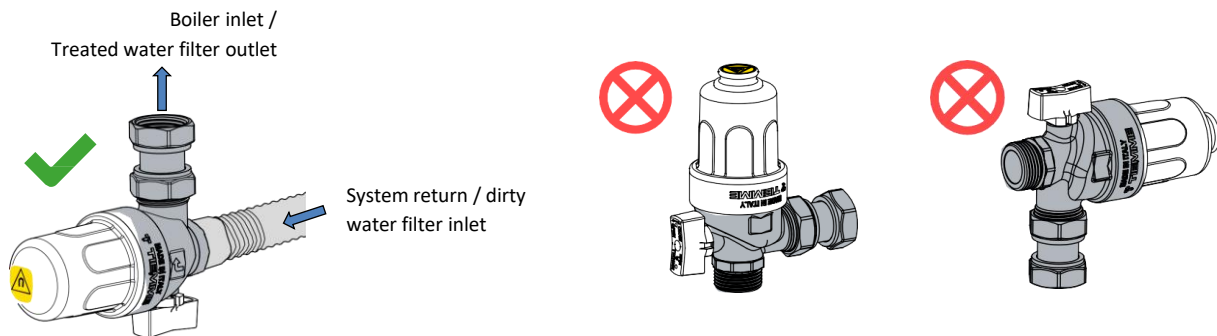
- TM-MAG MINI must be installed on the return circuit, at the boiler inlet.



Risk of burns



- TM-MAG MINI must only be installed in a **horizontal position**.



- We recommend installing TM-MAG MINI so that it is visible and easily accessible for maintenance operations.

- Connection between TM-MAG MINI and the system connection fittings must be carried out using suitable tools. The tightening torque must be such as to guarantee correct water-tightness without damaging the filter or fittings.

- Once installation is complete, the seal check must be performed as specified by the technical standards and/or by the legislation in force in the country of use.

**WARNINGS:** Tiemme Raccorderie S.p.A. declines all responsibility in the event of breakdowns and/or accidents if installation has not been carried out in compliance with the technical and scientific standards in force and in compliance with manuals, catalogues and/or relative technical instructions indicated by Tiemme Raccorderie SpA



## MAINTENANCE

The TM-MAG MINI design focused not only on creating a product that is efficient in its filtration function, but also easy and quick to clean. With just a few simple steps, the filter's functionality is completely restored without the need for complicated and prolonged shutdowns.

Periodically check the efficiency of the filter, especially after initial installation checking and cleaning is required **1 month after installation**. The frequency of filter cleaning depends on the type of system. Perform scheduled filter cleaning **at least once a year**, before the boiler is turned on for the winter season.

- Check that the boiler is off and the water inside the system is at room temperature  
Before carrying out any inspection, cleaning or maintenance operation, turn off the generator.  
Close the shut-off valves and wait for the fluid to cool.

- Close the shut-off valve integrated in the filter and remove the magnet-holding cap (**fig. 1**).
- Place a suitable container under the filter cup to collect the water contained in the filter (**fig. 2**).
- Unscrew the cup manually and remove the internal filtering cartridge (**fig. 2**).
- Rinse the cup and the filter cartridge until all the impurities have been removed. Do not use detergents containing solvents to clean the parts in synthetic material (**fig. 3**).
- Check that the O-ring does not show any signs of wear, replace if damaged.
- Assemble the filter. Manually screw on the cup with a torque of **5 N m**.
- Open the shut-off valve integrated in the filter.
- Bring the system back up to pressure.



Risk of burns

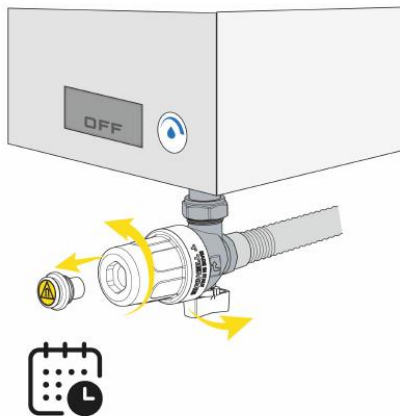


fig. 1

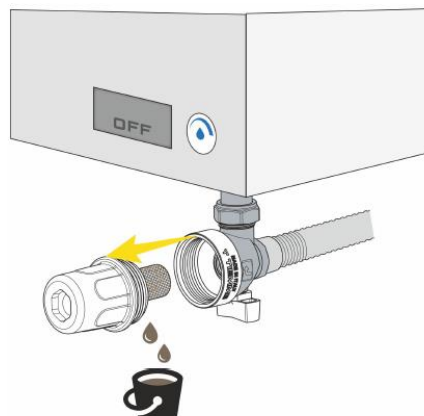


fig. 2



fig. 3

**CAUTION:** The symbol shown on the cap indicates the presence of magnets that generate a strong magnetic field and may cause damage to electronic equipment placed in the vicinity.  
People with pacemaker devices are advised to stay at a safe distance during operation and/or maintenance of the filter.

## SPARE PARTS



Art. 3150A  
Code 313 0116  
Cap with magnet.



Art. 3150X  
Code 313 0122  
Cartridge for compact magnetic filter for under-boiler installation.



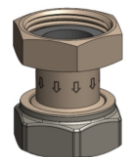
Art. 3150TP  
Code 313 0121  
White filter bowl for compact magnetic filter for under-boiler installation.



Art. 3150OR  
Code 040 0263  
O-ring for collection cup.



Art. 1524  
Code 150 0858  
Female/female straight fitting with loose nut and flat seal.



Art. 1524CK  
Code 150 1026  
Female/female straight fitting with loose nut, flat seal and check valve.



## TIEMME INSIGHT

**Generator guarantee:** If the impurities in the heat transfer fluid are not eliminated, they can compromise the working of appliances or components such as boilers or heat exchangers, especially when the system is first put into operation, right from the initial passage.

**This problem should not be underestimated as the manufacturers of boilers/heat pumps will invalidate the warranty conditions if their product is not adequately protected with a filter, from the time it is first put into operation.**

For this reason, Tiemme always recommends the installation of a filter upstream of the boiler or heat pump.

## SPECIFICATION ITEM

### Art. 3150

TM-MAG MINI. Compact magnetic under-boiler sludge filter equipped with a shut-off ball valve and connection fitting to the boiler. Threaded filter couplings 3/4 "M x 3/4" M. Connection swivel fittings for coupling 3/4 "F x 3/4" F. CW617N nickel-plated brass body. Filter cartridge holder cup in PA66 + 30% fibreglass. EPDM sealing O-ring. AISI 304 stainless steel filter cartridge PVC filter cartridge cap. Neodymium magnet 12,000 Gauss. CW617N nickel-plated brass swivel fitting. MF ISO 228 threaded couplings. Compatibility with water and glycol solutions (maximum percentage of glycol 30%). Working temperature range 0 ÷ +90 °C. Maximum working pressure 6 bar Level of filtration of filtering mesh 800 µm. Available size: 3/4".

## CERTIFICATIONS



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