

## 3149HF

### “TM-MAG MAXI”

## HIGH-FLOW LINEAR MAGNETIC DIRT SEPARATOR FILTER

## COMPLETE INSULATION



### DESCRIPTION

Modern systems are very often based on hybrid generators (heat pump + boiler) which allow the production and distribution of fluid at both low and high temperatures.

The **TM-MAG MAXI** high flow linear magnetic dirt separator filter protects system components from the presence of metal particles, sand and rust formed by corrosion and scale during normal operation of the system.

Geometries and materials have been carefully designed to ensure performance, strength and durability.

The device allows, thanks to the large collection chamber, to effectively and efficiently treat the fluid circulating in the system, blocking impurities present inside and, through the discharge tap, channel them outwards.

It is important to clean the filter regularly in order to remove accumulated particles from the collection chamber. For more details, see the "MAINTENANCE" section of this data sheet.

### ADVANTAGES/ STRENGTHS

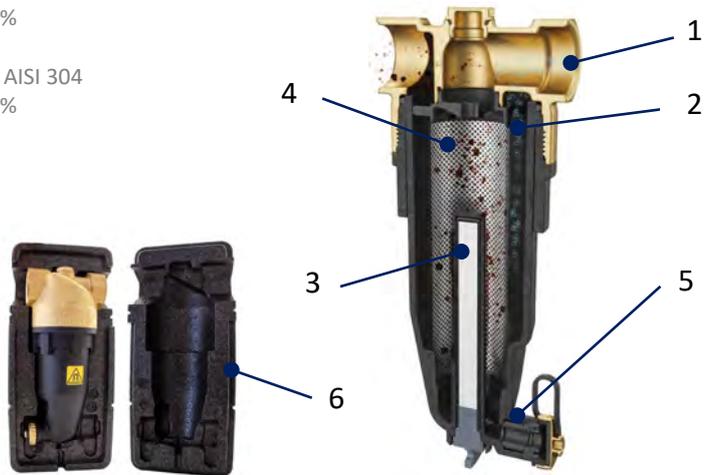
- Guarantees high flow rates and low pressure losses: characteristics that make it the ideal product for the protection of heat pumps;
- Triple filtering action (settling, magnetic and mechanical);
- Stainless steel filter with filtration degree of 800 µm;
- High capacity magnet (14,000 Gauss);
- PPE insulation included;
- Large settling chamber;
- Equipped with 1/2" connection for air vent valve (optional);
- Easy ordinary and extraordinary maintenance.

### PRODUCT RANGE

Art.	Code	Connection generator side	Connection system side	Connection air vent valve (optional)
3149HF	315 0084	G 1"1/4 F (ISO 228)	G 1"1/4 F (ISO 228)	G 1/2" F (ISO 228)

**CONSTRUCTION CHARACTERISTICS**

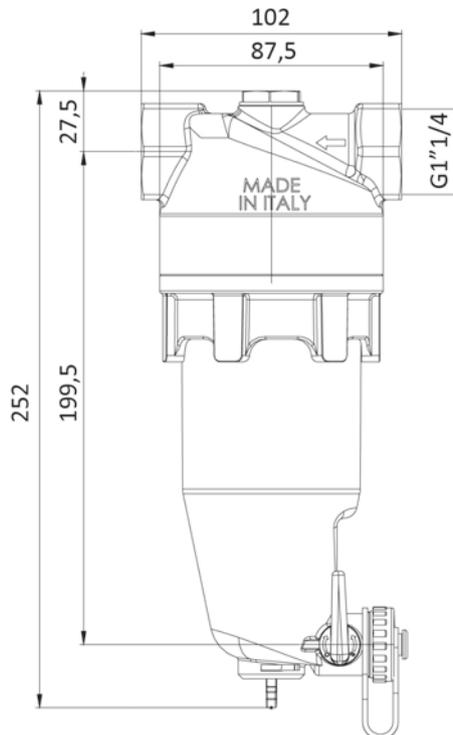
- (1) Body: Brass CW617N
- (2) Settling chamber: PA 66 + FV 30 %
- (3) Magnet: Neodymium
- (4) Filter cartridge: Stainless steel AISI 304
- (5) Exhaust valve: PA 66 + FV 30 %
- (6) Insulation: PPE
- Gaskets: EPDM Perox
- Threads: ISO 228



**TECHNICAL CHARACTERISTICS**

- Maximum operating temperature: + 90 °C
- Minimum operating temperature: 0 °C
- Maximum working pressure: 6 bar
- Flow coefficient Kv: 17.80 m3/h
- Degree of filtration filter mesh: 800 µm
- Magnetic induction: 14,000 Gauss
- Fluid compatibility: Water and glycol solutions (max 30 % glycol)

**DIMENSIONAL CHARACTERISTICS**



Dimensions in mm.

**OPERATION**

The fluid passing through the **TM-MAG MAXI** magnetic dirt separator filter follows an obligatory path that forces it to cross the mesh of the cartridge in order to enter the filtration chamber. This forced passage initially causes the fluid to undergo a sudden change of section (the inlet duct has a smaller diameter than the settling chamber) in order to slow down its movement and, consequently, reduce the drag rate of particles in it suspended. The particles collide with the meshes of the filter cartridge and further slow down their movement. Heavier particles fall downwards due to the force of gravity which prevails over the drag force. The magnet inside a cylinder located in the center of the settling chamber attracts all impurities with magnetic characteristics. In this way all magnetic (ferrous residues) and non-magnetic contaminants (sludge, sand) present in the system are removed.



**INSTALLATION**

- The **TM-MAG MAXI** magnetic dirt separator filter must be installed with the impurities drain tap facing downwards.

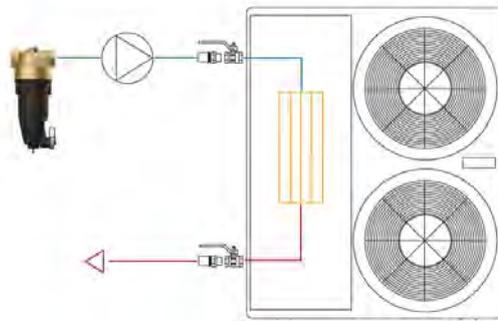


- It is important to respect the direction indicated by the arrow on the body in order to guarantee the maximum efficiency of the filtering action.
- The filter should preferably be installed on the return pipe from the generator.
- The air collected in the device can be expelled by applying a vent valve located on the top cap (optional).



**EXAMPLE OF INSTALLATION:**

It is recommended to install the **TM-MAG MAXI** magnetic filter on the return circuit, at the inlet of the heat pump, in order to protect from all impurities present in the system, especially during the start up phase.



**WARNING:** Tiemme Raccorderie S.p.A. disclaims all liability in the event of failures and/or accidents if the installation has not been carried out in accordance with current technical and scientific standards and in accordance with manuals, catalogues and/or related technical provisions indicated by Tiemme Raccorderie S.p.A.

For detailed instructions on the assembly, use and maintenance of the **TM-MAG MAXI** filter refer to its instruction sheet. The installation of the device must comply with applicable regulations and must be carried out by a qualified installer.

**MAINTENANCE**

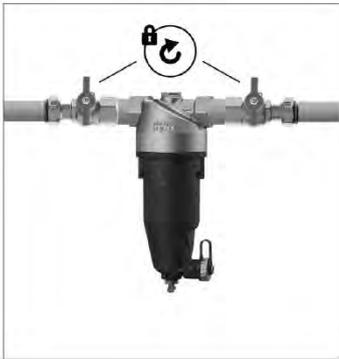


**ATTENTION**

Before performing any inspection, cleaning or maintenance operation, turn off the generator, close the shut-off valves upstream and downstream of the filter and wait for the components to cool down.

To clean the device, proceed as follows:

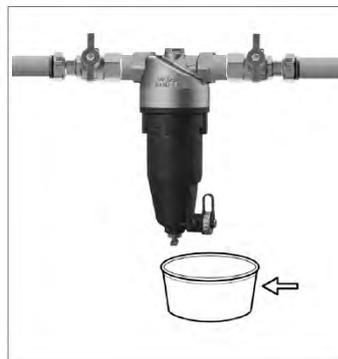
1. Close the shut-off valves upstream and downstream of the dirt separator filter.
2. Pull out the magnet, so that debris can fall off and settle on the bottom of the chamber.
3. Unscrew the bottom drain tap cap.
4. Connect a drain pipe to the tap or prepare a collection vessel.
5. Open the drain tap by turning the plunger.
6. Open the shut-off valve slightly upstream of the device to allow the flow of washing water and the escape of debris.
7. At the end of the purge, close the shut-off valve and the drain valve, remove the collecting tube or container, then screw on the bottom cap.
8. Reposition the magnetic insert in its housing and re-open the shut-off valves.



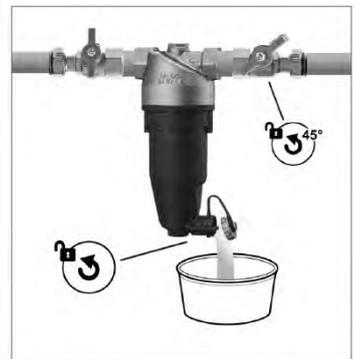
1. Closing of the shut-off valves.



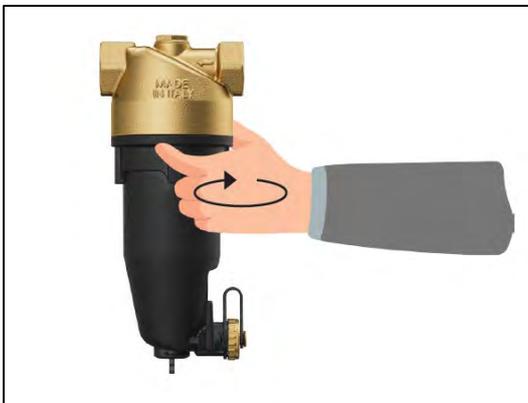
2. Removing the magnet.



3. Connect drain pipe, or arrange collecting container.



4. Opening of the shut-off valve upstream and washing of internal parts.



**ATTENTION:**

To fully inspect the filter or to clean or replace the filter cartridge, you can completely unscrew the settling chamber by unscrewing the appropriate ring.

1. Close the shut-off valves upstream and downstream of the dirt separator filter.
2. Open the drain valve to depressurize the system and empty the water contained in the filter. Collect the wastewater in a collection container of at least 1 litre.
3. Unscrew the ring. Release the body. Remove the magnet and store it in a clean place. Remove the INOX cartridge. Wash body and cartridge under running water.
4. Reassemble the body and tighten the ring. Reassemble the magnet. Open the shut-off valves. Operate the pump. Discharge the air using an air vent valve.

It is recommended to carry out the cleaning at least with the following frequency:

- 1 month after first installation;
- thereafter, once a year.

In any case, the frequency of cleaning shall be appropriate to the characteristics of the installation.



**WARNING:** The symbol on the product indicates the presence of magnets which generate a strong magnetic field and may cause damage to electronic equipment in its vicinity.

It is recommended that pacemaker wearers remain at an appropriate distance during the operation and/or maintenance of the filter.

\* WATER TEMPERATURES ABOVE 50 °C CAN CAUSE SEVERE BURNS. DURING THE INSTALLATION AND MAINTENANCE OF THE FILTER, TAKE ALL NECESSARY MEASURES TO ENSURE THAT SUCH TEMPERATURES DO NOT CONSTITUTE A DANGER TO PERSONS. BEFORE CARRYING OUT ANY INSPECTION, CLEANING OR MAINTENANCE OPERATION WAIT UNTIL THE FLUID IN THE FILTRATION CHAMBER HAS COOLED.

## TIEMME INFORMS

### GUARANTEE GENERATORS:

If the impurities present in the thermal energy carrier fluid are not eliminated, they can compromise the operation of equipment or components such as boilers or heat exchangers, especially during the commissioning phase of the system, already at the first pass.

**This problem should not be underestimated as the manufacturers of boilers/ heat pumps make the warranty conditions lapse if their product is not adequately protected with a filter, from the time of commissioning.**

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

## ACCESSORIES



**Art. 1900G**  
**Cod. 198 0007**  
Automatic air vent valve (1/2")



**Art. 3352**  
**Cod. 198 0018**  
Manual vent valve (1/2")



**Art. 1901**  
**Cod. 198 0009**  
Locking and shut-off valve with self-sealing seal (1/2")

## ITEM SPECIFICATIONS

### **Art. 3149HF**

TM-MAG MAXI - Linear self-cleaning magnetic dirt separator filter for heat pumps. Brass body and settling chamber in plastic polymer. Reinforced filter cartridge in AISI 304 stainless steel. Hydraulic seals made of EPDM Perox elastomer. Threaded connections FF 1"1/4 UNI-EN-ISO 228. Maximum working pressure 6 bar. Working temperature 0 ÷ +90 °C. Neodymium magnet B=14,000 gauss. Filtration grade 800 µm. Complete with discharge ball valve and PPE insulation shell. Available size: 1"1/4.

## CERTIFICATIONS

