MULTIMAG dirt magnetic separator

Art. 9064-9066-9068

100% MADE IN ITALY

Function

The **MULTIMAG** adjustable magnetic dirt separator by Pintossi+C is designed to effectively protect heating systems from corrosion and from the impurities that form within the heat-transfer fluid.
These contaminants, if carried towards the generator, can cause partial or complete blockages of the heat exchanger or be attracted by the pump's internal magnets, leading to the risk of seizure and pump malfunction.
Impurities naturally develop during normal operation of the heating system as a result of corrosion and scaling processes.

Thanks to its **4-stage protection**, the MULTIMAG dirt separator ensures continuous and long-lasting protection of the boiler or heat pump, guaranteeing reliable performance over time.

With its **large filtering surface** and **high-capacity settling chamber**, the MULTIMAG filter is particularly suitable for use in systems that require high performance standards and are characterized by significant flow rates.

The MULTIMAG dirt separator is equipped with swivel brass connections, allowing installation on both vertical and horizontal pipes. Routine maintenance can be carried out quickly and easily, without the need to drain the hydraulic circuit.

Product range

Art. 9064	3/4" - 1" - 1 ¼"	Male thread
Art. 9066	1"	Female thread
Art. 9068	3/4" - 1"	Male thread with shut-off valves

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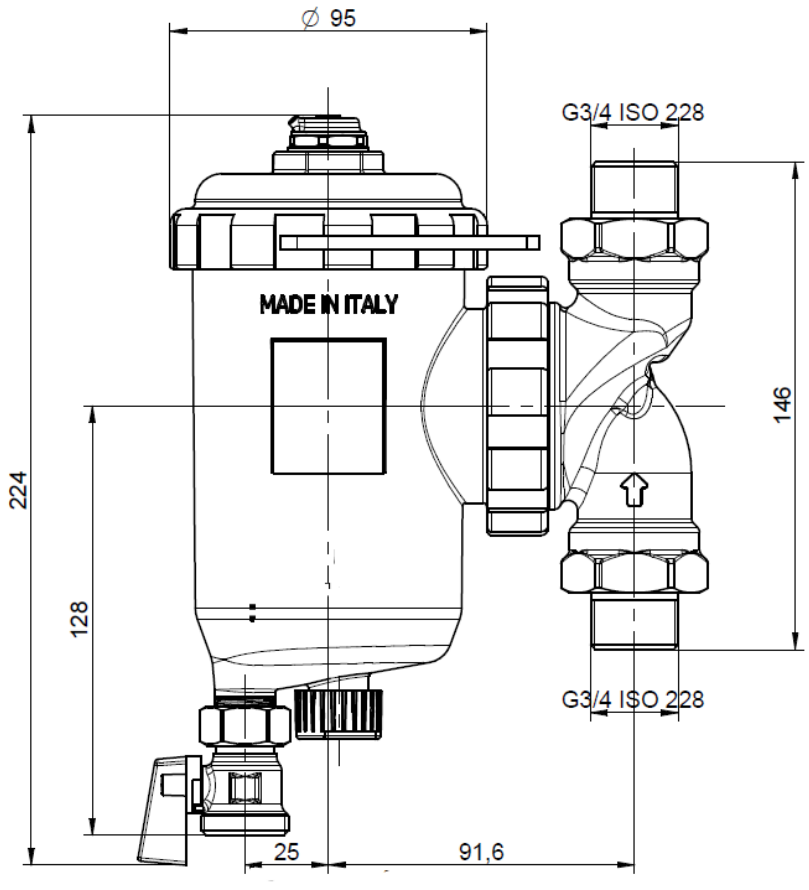
Fluid:	Water or glycol solutions
Max. glycol:	50%
Max. working temperature.:	90°C
Max. working pressure:	4 bar
Magnet:	**14.000 Gauss**
Filtering power:	**3000 micron + 300micron**
Shut-off valves:	PN30

Materials

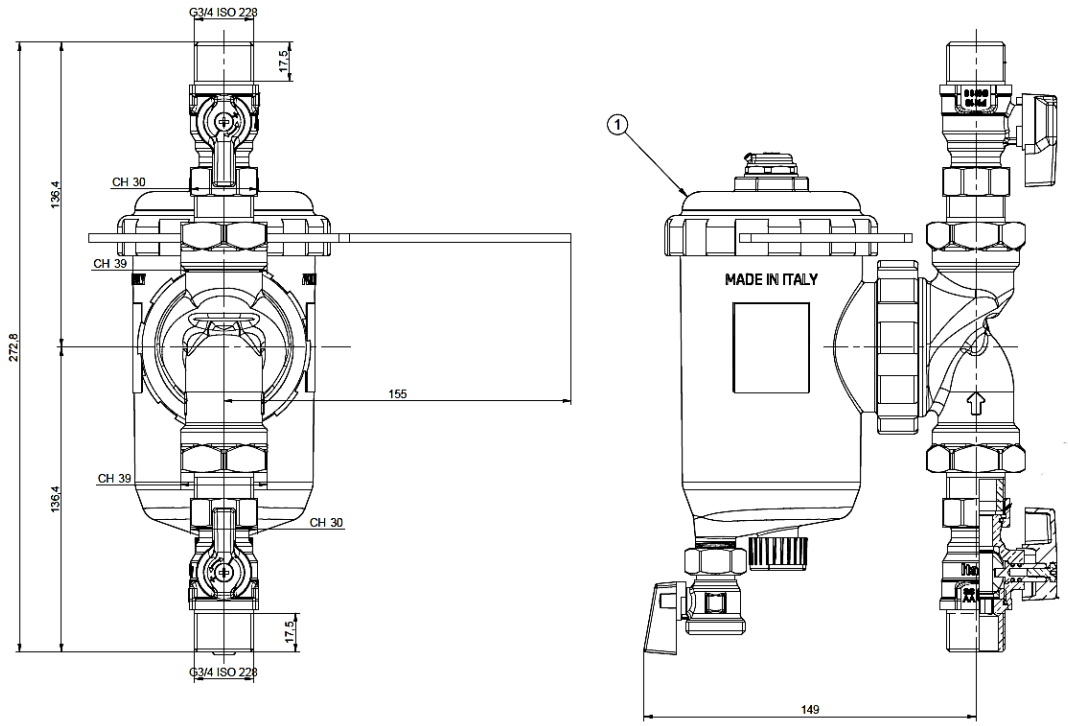
Body:	Technopolymer PA66GF30
Plug:	Technopolymer PA66GF30
Ring nut:	Technopolymer PA66GF30
Fitting:	Brass CB753S
Filtering cartridge:	Stainless steel AISI 304
Drain valve:	Brass CW617N
Air vent:	Brass CW617N
O-ring:	EPDM
Magnet:	NdFeB
Magnet holder:	Technopolymer PA66GF30

Dimensions

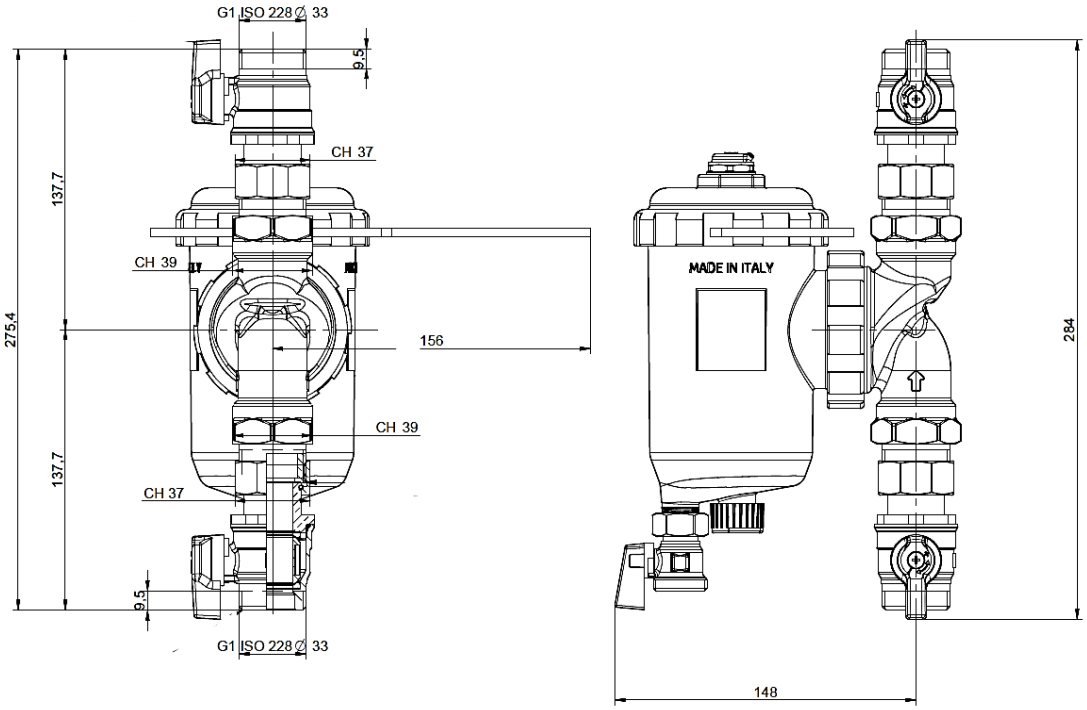
ART.9064-9066 (without valves)



ART.9068 3/4" (with valves)



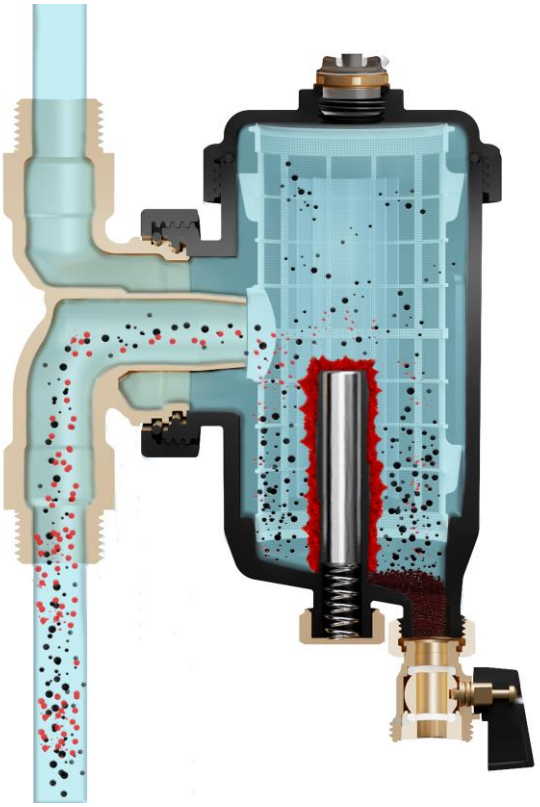
ART.9068 1" (with valves)



Operating principle

The fluid, through a forced flow path, is directed into the impurity collection chamber and then passes through the meshes of the filtering cartridge.
Inside the cartridge, a multiple filtration process takes place, achieved through the synergistic action of:

- An **internal grid element**;
- a **filtering cartridge**;
- a **high-induction magnet**, housed in a dedicated cylinder positioned at the center of the chamber;
- a **special internal geometry** that guides and regulates the flow of the fluid.



The abrupt change in cross-section caused by the filtration chamber—whose diameter is significantly larger than that of the inlet duct—leads to a reduction in the fluid velocity and, consequently, in its ability to carry solid particles.
The impurities are therefore intercepted by the internal grid element and the filtering mesh, which further slow down their movement. During the first stage, particles with higher specific gravity tend to settle by gravity at the bottom of the chamber, while ferromagnetic particles are captured by the central magnet. A second filtration stage collects smaller particles, ensuring maximum filtration efficiency.
In this way, both **magnetic contaminants** (such as oxides and ferrous residues) and **non-magnetic contaminants** (such as sludge, algae, sand, etc.) are retained within the filtration chamber.

The filtering cartridges, made of stainless steel, are designed to ensure low pressure losses while promoting an induced fluid motion that facilitates the settling of heavier particles at the bottom of the chamber.

Structural features

MATERIALS USED

The body of the MULTIMAG dirt separator is made of **high-performance technopolymer**, particularly suitable for use in heating and air conditioning systems.
This special material offers:

1. **Dimensional and functional stability** under varying operating temperatures;
2. **High resistance to plastic deformation**, while maintaining good elongation at break, ensuring a ductile and robust mechanical behavior;
3. **Excellent resistance to crack propagation**, reducing the risk of structural failure over time;
4. **Full chemical compatibility** with glycols and additives commonly used in thermal circuits.

The **adjustable fitting** is made of cast brass, a material chosen to provide **high mechanical strength, pressure resistance, and long-term durability** under the operating conditions typical of hydronic systems — particularly in the most stressed areas during installation.

CHEMICAL ADDITIVE DOSING

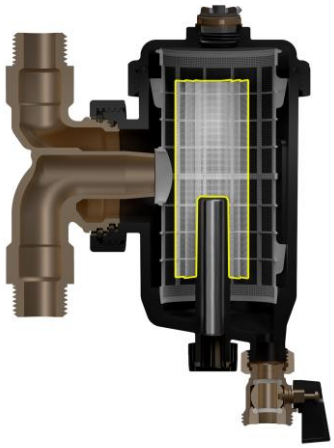
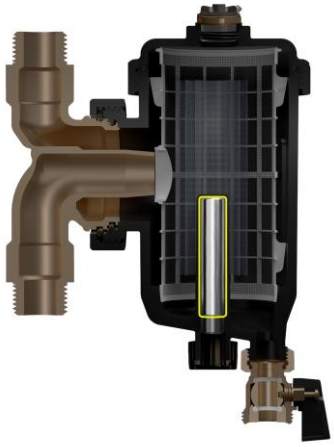
The air vent valve can be removed from its seat thanks to the PTM soft seal.
In this way, the dirt separator can be used as an injection point for chemical additives into the circuit, ensuring effective system protection.

Note: The removal of the air vent valve must only be carried out after closing the shut-off valves located upstream and downstream of the dirt separator, and after draining its contents through the drain valve.

4-STAGE PROTECTION

The mechanical and magnetic separation process inside the dirt separator is carried out through the synergistic action of four distinct filtration stages, each designed to maximize efficiency in capturing solid and ferrous impurities present in the heat-transfer fluid:

1. **First filtration stage**: removes larger particles using an internal grid element.
2. **Large-volume settling chamber**: significantly reduces the speed of the heat-transfer fluid, allowing additional separation of impurities that settle by gravity.
3. **High-power 14.000-gauss magnet**: effectively captures ferrous particles present in the fluid.
4. **Final filtration stage**: a wide-surface 300-micron mesh filter removes any remaining particles.

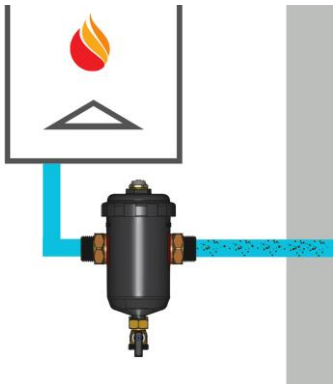
1  INTERNAL GRID ELEMENT	2  500 ML SETTLING CHAMBER DECANTATION
3  14.000 GAUSS MAGNETIC ACTION	4  300 MICRON FINAL FILTRATION

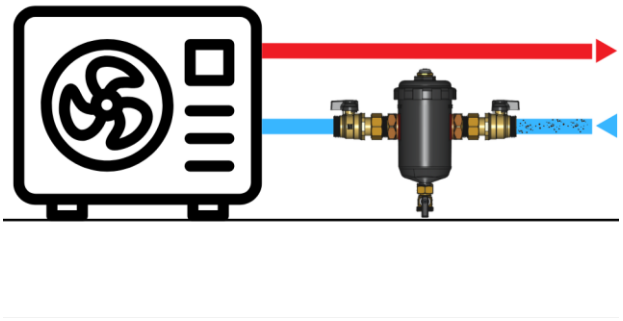
AIR REMOVAL

At the top of the dirt separator body, there is a rotatable manual air vent valve with a ½" connection.
This valve can be used to remove residual air that is not expelled during the system filling phase, as well as to eliminate microbubbles generated by the physico-chemical processes that occur during the normal operation of the hydronic circuit.

Installation

It is recommended to install the dirt separator on the return line, at the inlet of the boiler or heat pump, as shown in the images below.





The dirt separator must be installed following the direction of the arrow indicated on the swivel fitting.
The body of the dirt separator must always remain in a vertical position, with the drain valve facing downward.

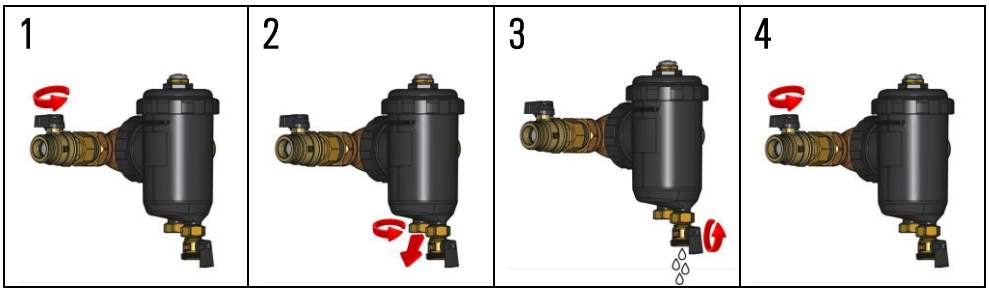
Regular Maintenance

Cleaning and maintenance of the MULTIMAG dirt separator are quick and easy.

The presence of a **high-volume filtration chamber** and the use of **wide-mesh filtering elements** help prevent progressive clogging of the hydraulic circuit, while ensuring greater operational continuity and a **reduction in pressure losses** over time.

To carry out routine maintenance and ensure proper cleaning of the dirt separator, follow the procedure below:

1. Close the shut-off valves located upstream and downstream of the dirt separator.
2. Unscrew the magnet holder and remove it, allowing the ferrous impurities inside the filtration chamber to settle.
3. Open the drain valve to discharge the fluid and impurities collected in the filtration chamber.
4. Slightly open the upstream shut-off valve to allow an additional flush of any remaining residues inside the unit.

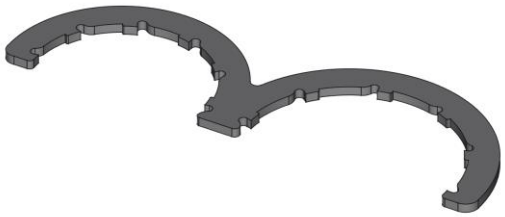


Make sure that the drained fluid is collected in a suitably sized container.

It is recommended to perform routine **cleaning operations at least once a year**.
For new systems, carry out the first cleaning after approximately one month of operation.

Extraordinary Maintenance

For a more thorough cleaning of the dirt separator, it is possible to remove the two internal filtering meshes.
The extraction must be carried out from the top of the dirt separator, by unscrewing the upper cap using the special opening/closing key provided.



The internal filters can be easily cleaned by rinsing them under running water.
Once the cleaning has been completed:

- The central grid element must be properly repositioned around the magnet holder sleeve;
- The outer 300 μm filter must be placed with the inlet cylinder aligned with the cylindrical section of the brass fitting, making sure to insert the tabs into the designated guide slots to ensure correct alignment.

Head loss

DN	Kv [m³/h]
20	
25	14,3
32	

Guidelines and Recommendations

- The filter must be installed by a qualified technician.
- Before installation or maintenance, make sure that the system is isolated.
- Install the filter on the return line, at the inlet of the boiler.
- Ensure adequate access for maintenance or repair operations.
- Make sure the system is properly designed and installed before proceeding with the installation of the filter.
- If the pressure exceeds 5 bar, a pressure reducer must be installed upstream of the filter.
- In the presence of water hammer, an expansion vessel or shock absorber must be installed downstream of the filter.
- Use only original spare parts.

The manufacturer is not responsible for any damage to persons, animals, or property resulting from improper use or from failure to comply with the provided instructions. The manufacturer also declines any responsibility in the following specific cases:

- Partial or total failure to comply with installation and maintenance instructions.
- Incorrect operating temperature.
- Pressure surges or water hammer exceeding the design limits.
- Improper use of the filter.
- Unauthorized modifications or interventions.
- Use of non-original parts.
- Negligence in performing routine or extraordinary maintenance.

Fluid characteristics

Reference standard for water treatments in heating systems is Norm UNI 8065:2019 which regulates the parameters that must be observed to avoid scale and corrosion phenomena.
In order to grant product warranty, the fluid characteristics must comply with the rules in force in the country of relevance or at least present features not less to the ones prescribed by the Norm UNI 8065:2019.
In particular, minimum standards necessary but not sufficient to control are the following:

Fluid aspect:	Limpid
PH:	Between 7 and 8
Iron (FE):	< 0,5 mg/kg (< 0,1 mg/kg for steam)
Copper (CU):	< 0,1 mg/kg (< 0,05 mg/kg for steam)
Antifreeze:	Passiveted Propylene Glycol
Conditioning:	as indicated by the producer

In any case when using antifreeze and conditioning solutions, is required to control and verify the correct compatibility between these substances and the construction materials stated in Pintossi+C technical datasheet.