

# Self-cleaning dirt magnetic filter for heat pumps and hybrid systems

Art. 9063 – 9065



100% MADE IN ITALY 

## Function

Pintossi+C self-cleaning filters are the perfect solution to clean water and **constant protection** of all the system components present in the circuit in which they are installed.

They are particularly indicated for **heat pumps** and **hybrid systems** and generally in all closed **heating circuits**.

The filters are designed to separate particles such as sand, dirt, and impurities of various kinds, through a stainless steel filter, in order to prevent phenomena such as water pipeline corrosion or important system components damages.

The dirt magnetic filter water treatment takes place thanks to three protection devices:

- A **large stainless steel filtering mesh**, which collects the impurities present in the systems through the mechanical action of the filter. These impurities are deposited on the bottom part of the container, in order to be easily expelled with the drain valve opening;
- A **powerful magnet**, which holds all the systems ferrous particles, thanks to its attractive force;
- A **big filtration chamber**, which slows down the fluid, making the impurities falling down in the container and allowing a more homogeneous and large use of the filtering mesh surface.

The **self-cleaning action** is granted by the special design of the magnetic filter. Passing through a forced path inside the filter cartridge, all the impurities inside the fluid are blocked. Thanks to its special geometry, dirt is automatically deposited on the bottom of the container, right behind the drain valve. In this way the cleaning of the filter takes place automatically with the only opening of the drain valve, without the need to disassemble the filter.

Besides the filter can be provided with an **automatic air vent**, installable in the filter upper part. In this way the air and microbubbles present, that can be generated by system filling or working operations, can be expelled.

## Product range

Art. 9063	3/4" - 1" - 1 1/4" - 1 1/2"	Without air vent valve art.507
Art. 9065	3/4" - 1" - 1 1/4" - 1 1/2"	With air vent valve art.507

## Technical characteristics

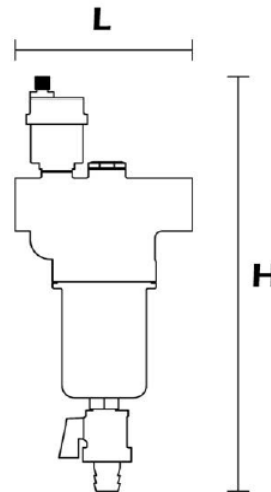
Fluid:	Water or glycol solutions
Max glycol:	30%
Max working temp.:	110°C
Max working pressure:	10 bar
Magnet:	12.000 gauss
Thread:	ISO228
Filtration grade:	300 micron
Air vent connection:	3/8"

## Materials

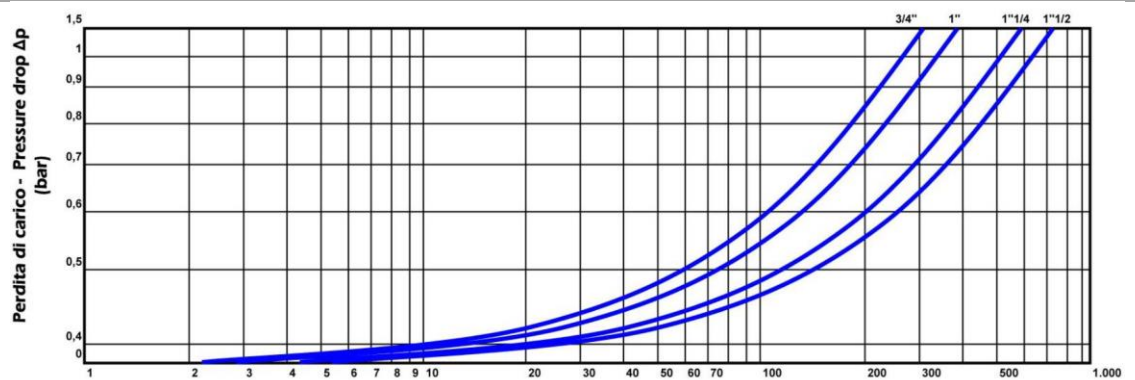
Body:	Brass CB753S
Filter:	Stainless steel
Magnet:	Neodymium
Gaskets:	NBR

## Dimensions

Ø	L	H 9063	H 9065	Kv [m <sup>3</sup> /h]
3/4"	115	234	291	10,8
1"	115	234	291	17,7
1 1/4"	137	265	322	23,7
1 1/2"	137	265	322	35,7



## Head loss diagram



## Installation

It is recommended to install filters on the return circuit of the heating pumps or boilers, to protect all their components, in particular on commissioning phases.

Filters must be installed with the drain valve in the bottom position.

For a proper functioning it is also important that the fluid direction follows the orientation of the directional arrow on the filter body.

In order to make easier maintenance operations is recommended to install shut off valves on the inlet and outlet connections.

## Maintenance

It is very important to carry out periodic checks, at least every 12 months, of the self-cleaning filter, which still maintains excellent flow rates even in case of clogging of the filter.

During commissioning phases it's important to make more frequent checks.

In heat pumps systems is important to make maintenance operations when the pump is off, waiting the fluid temperature to reach a reasonable value.

**Ordinary cleaning** is very simple and can be done by following the steps below:

1. Isolate the filter by closing the shut-off valves;
2. Open the drain valve to let out the water contained in the filter;
3. Unscrew the magnet cap, located in the upper part of the filter, in order to remove the magnet, using a CH24 wrench; clean the magnet with running water from all the ferrous debris;
4. Screw the magnet cap on its seat; the PTM system (Pintossi Soft Sealing) allows a perfect seal without the use of extra sealant products, like hemp or PTFE;
5. Close the drain valve and open the shut-off valves.

Occasionally it is also recommended to carry out **extraordinary cleaning** operations of the filter, complete with disassembling of the body and removal of the stainless steel internal filter for visual control and extra cleaning of the filter meshes.

This cleaning is very simple and can be done by following the steps below:

1. Isolate the filter by closing the shut-off valves;
2. Open the drain valve to let out the water contained in the filter;
3. Disassemble the container using a CH24 wrench;
4. Remove the internal cartridge, making a visual check of the condition of the filter network and carrying out an accurate cleaning of the same. If necessary, replace with a new cartridge;

Re-assemble the cartridge and close the container using a CH24 wrench and a max tightening force of 10Nm.

## Chemical additives

Pintossi+C dirt magnetic filter can be even use as an access point to add chemical additives in the system. In particular it can be used the inlet access on the upper part of the filter, where the magnet is located.

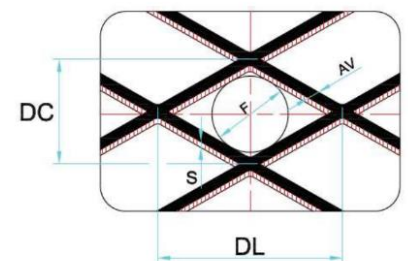
The use of this access point is feasible only if shut-off valves have been installed upstream and downstream the filter.

## Filter performance

The filter cartridge inside the container is the most important component of the self-cleaning filter.

Its filtering capacity is expressed in microns (1micron=0,001mm) and is represented in the image at the side by the diameter of the circle F.

The higher the value in microns, the greater the width of the filter mesh and therefore lesser its filtering power.



## 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: Passivated 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.