Multifunction group for heat pumps

5450 Series

5450CST

replaces dp 000/14 GB

Code				
545009 CST	1 1/4" M x 1 1/4" M	–	9	216

Function

The multi-function group integrates, in a single magnetic dirt separator body, a safety group.
Magnetic dirt separator allows impurities to slow down and fall by gravity on the decantation chamber. Magnetic particles are trapped by an outer removable magnet.
Internal strainer captures all particles bigger than 0,8 mm.
Automatic air vent eliminate air during filling operation to prevent undesired noise, wear of devices and inefficient performance of heating units.
Safety relief valve prevent the system from reaching pressure which could be dangerous for other boiler components.

Features and benefit

Compact – easy to install in narrow spaces inside boiler/heat pump frame.
Efficient – high separation performances and low head losses
Reliable – high strength resistance, very low humidity absorption, resistant to wear and abrasion.
Easy maintenance – simple discharge of the impurities removing the magnet and operating the drain cock
Flexible – standard clip connection on cover allows to customize the optional features (safety valve, air vent, gauge..)

Product range

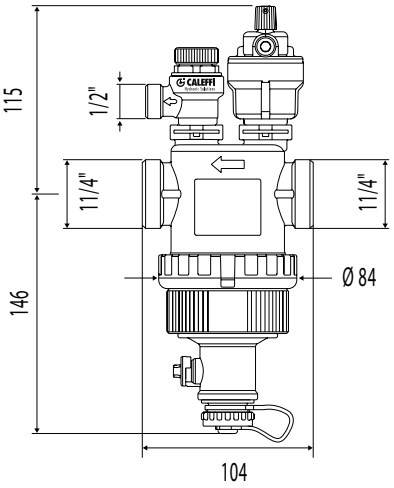
545009CST Multifunction group for heat pumps — sizes DN 32 (1 1/4")

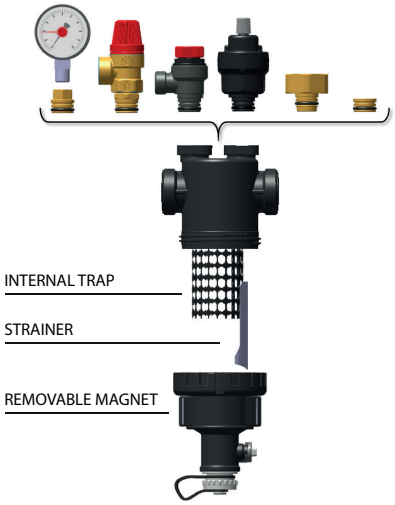
Technical specifications

series	545009CST
Materials	
Body:	PA66G30
Air vent:	PA66G30
PRV:	PA66G30
Strainer:	Stainless steel
Clips:	Stainless steel
O-rings / Sealing:	EP-Perox
Performance	
Safety relief valve performance	
Set pressure:	3 bar
Nominal pressure class:	PN 10
Air Vent Performance	
Max. discharge pressure:	6 bar
Max. pressure:	10 bar
Dirt Separator Performance	
Max. pressure:	3 bar
Max. temperature:	Max. temperature: 90°C
Magnet strength:	Br = 1.26 T
Medium:	water, glycol solutions
Max. % glycol:	50%
Strainer net (mesh inscribed circle):	0.8 mm
Fluid dynamic characteristics – Kv @ 1bar:	13.6 m^3/h

series	545009CST
Connections Separator body: Safety valve outlet:	 G 1 1/4" ISO 228/1 G 1/2" ISO 228/1
Equipped with:	Manometer, Automatic air vent, Safety relief valve, 3/8" M connection for expansion vessel.

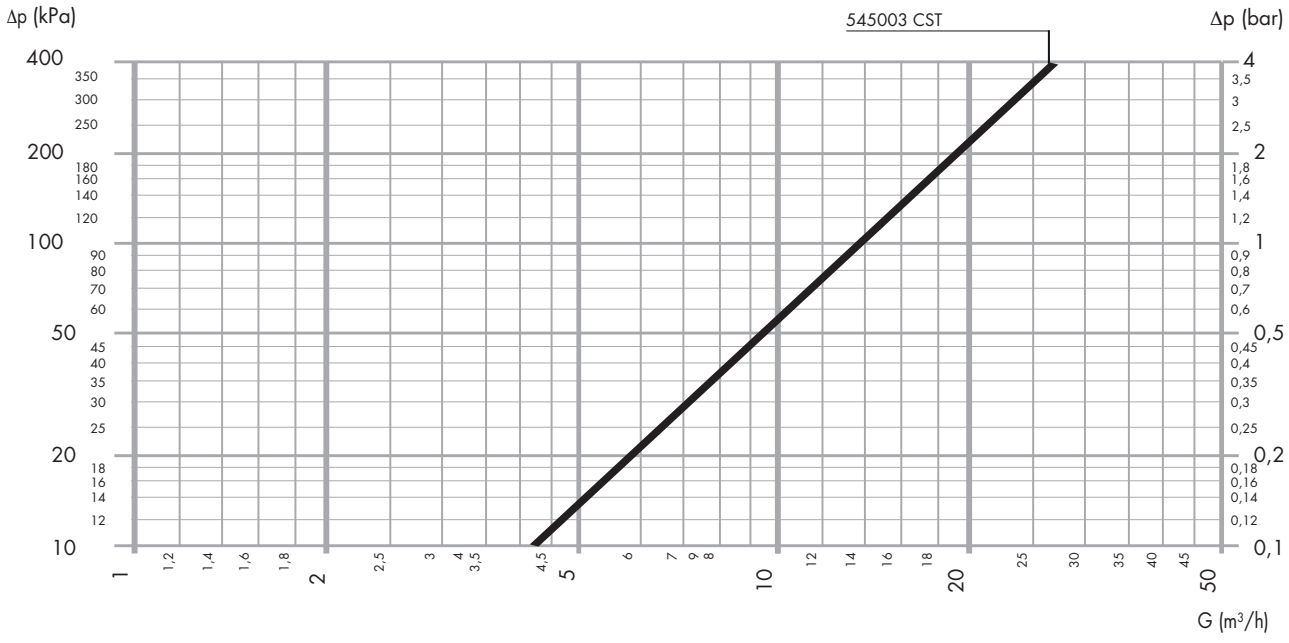
Dimensions





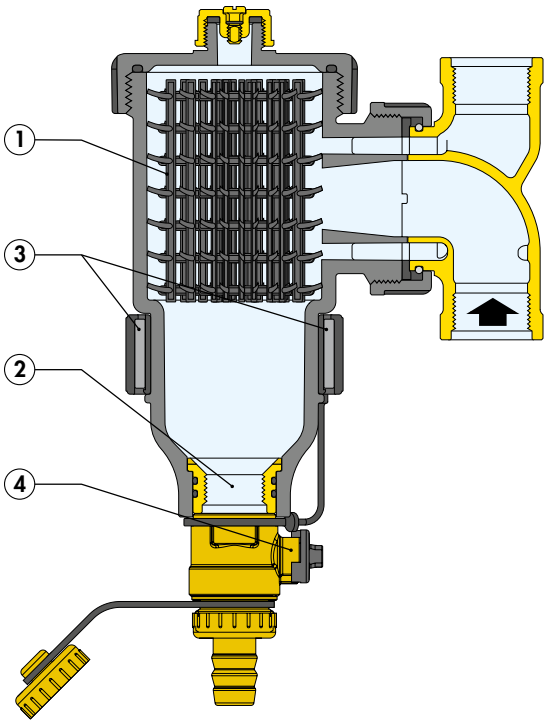
Dimensions valid only for geometry evaluation

Hydraulic characteristics



Operating principle

The operating principle of the dirt separator with magnet is based on the combined action of a number of physical phenomena.
The internal element (1) consists of a set of mesh surfaces. The impurities in the water, on striking these surfaces, get separated, dropping into the bottom of the body (2) where they are collected.
Ferrous impurities are also trapped inside the dirt separator body, thanks to the action of the two magnets (3) inserted into a special removable outer ring.
The large internal volume of the DIRTMAG® slows down the flow speed of the medium thus helping, through gravity, to separate the contained particles.
The collected impurities are discharged, even with the system running, by opening the drain cock (4).



Low head losses and performance maintained over time

The high performance of the dirt separator is based on the use of the internal element with mesh surfaces. The principle of collision and decantation of particles makes the dirt separation action more efficient if compared to the common strainers. This performance is constant over time, unlike common strainers which instead get clogged by the trapped sludge, thus changing the functional features.

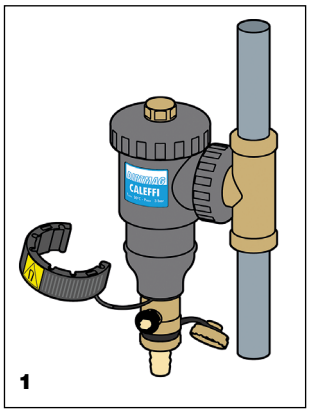
Geometric structure and large dirt collection chamber

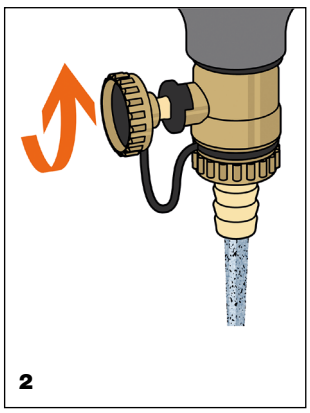
The dirt collection chamber has the following features:

- it is located at the bottom of the device, at such a distance from the connections that the collected impurities are not affected by the swirling of the flow through the mesh;
- it is large enough to increase the amount of collected dirt, which means emptying/discharging procedures are required less often (in contrast to strainers, which need to be frequently cleaned);
- It is easy to inspect, by unscrewing it from the valve body for servicing the internal element in the event of obstruction with fibres or large debris

Sludge drain

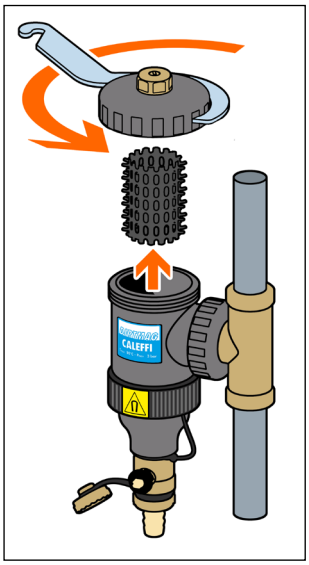
Remove the ring in which the magnets are housed (1) and drain the impurities, even while the system is running, using the special key provided (2).





Maintenance

In case of maintenance to the dirt collection chamber, simply unscrew the top cover using the provided key, then extract the internal element, which is attached in the proper way to be removed for cleaning.



SPECIFICATION SUMMARY

Multifunction group for heat pumps 545009CST
For horizontal pipes. Size DN 32 connections (1 1/4"M). PA66G30 body. EP-Perox seals. Medium water and non-hazardous glycol solutions. Maximum percentage of glycol 50%. Maximum working pressure 3 bar. Working temperature range, Max 90°C.

We reserve the right to make changes and improvements to the products and related data in this publication, at any time and without prior notice.

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