# DIRTMAGMINI® composite under-boiler dirt separator and strainer with magnet

## Code 545000

01348/18 GB

### Function

The DIRTMAGMINI® dirt separator and strainer separates the impurities in air conditioning systems to protect the boiler circulator and heat exchanger.
The removable magnet captures the ferromagnetic impurities, while the mesh strainer and dirt separator capture the remaining impurities.
Thanks to its compactness, this dirt separator strainer is specific for installation under wall boilers even in small spaces.
The special inlet layout allows for vertical or horizontal installation, with angled or in-line connections as required.

PATENT PENDING

### Product range

| | | |
|---|---|---|
| Code 545000 | DIRTMAGMINI® composite under-boiler dirt separator and strainer with magnet | 3/4" M x 3/4" F |

### Technical specifications

#### Materials

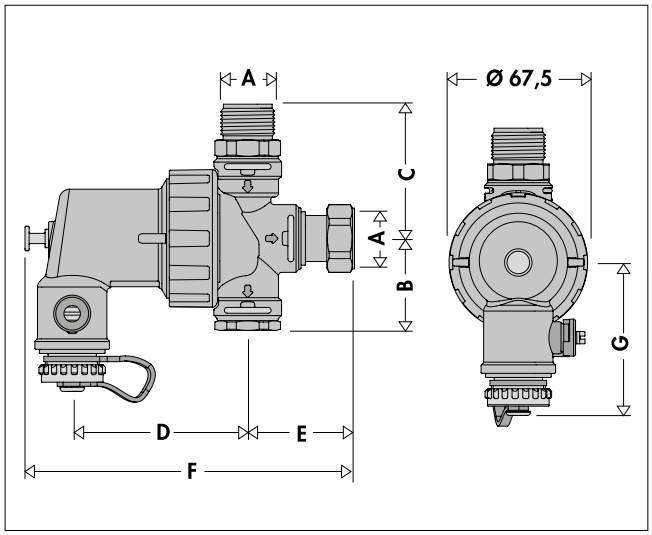
| | |
|---|---|
| Body: | PA66G30 |
| Internal filter element: | POM /stainless steel EN 10088-2 (AISI 304) |
| Fittings: | brass EN 12165 CW617N |
| Hydraulic seals: | EPDM |
| Drain cock with hose connection: | brass EN 12164 CW614N, chrome plated |

Connections:
- boiler side: 3/4" F (ISO 228-1) captive nut
- system return side: 3/4" M (ISO 228-1)

#### Performance

| | |
|---|---|
| Fluids: | water, non-hazardous glycol solutions |
| Maximum percentage of glycol: | 30% |
| Maximum working pressure: | 3 bar |
| Working temperature range: | 0–90°C |
| Strainer mesh size: | 800 µm |
| Magnetic induction of magnet: | 1,3 T |
| Kv ($m^3/h$) with in-line configuration: | 4,2 |
| Kv ($m^3/h$) with angled configuration: | 3,9 |

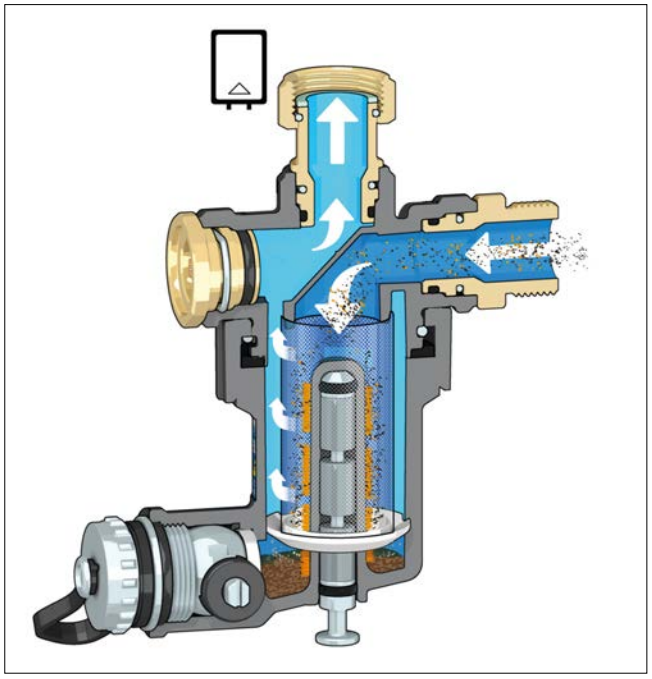
### Dimensions



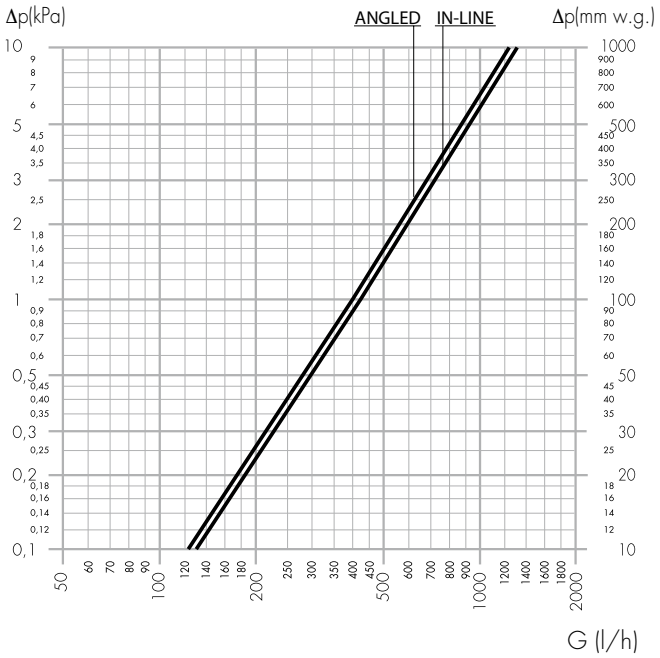

| Code | A | B | C | D | E | F | G | Mass(kg) |
|---|---|---|---|---|---|---|---|---|
| 545000 | 3/4" | 45 | 65 | 85,5 | 52 | 160,5 | 74,5 | 0,610 |

## Operating principle

The DIRTMAGMINI® magnetic dirt separator and strainer filters, separates and captures impurities in the system thanks to the combined action of the strainer and dirt separator. Ferrous impurities are also captured inside the body, thanks to the action of a removable magnet. Opening a dedicated cock drains the captured impurities.
The fluid from the system is slowed down, so that the smaller particles that are not stopped by the filter separate and deposit, and are thereby removed from circulation. The special profile of the bottom allows the impurities to be captured and drained effectively.



## Hydraulic characteristics




**Kv (m³/h) with in-line configuration = 4,2**
**Kv (m³/h) with angled configuration = 3,9**
**Maximum recommended flow rate = 1,3 m³/h**

## Construction details

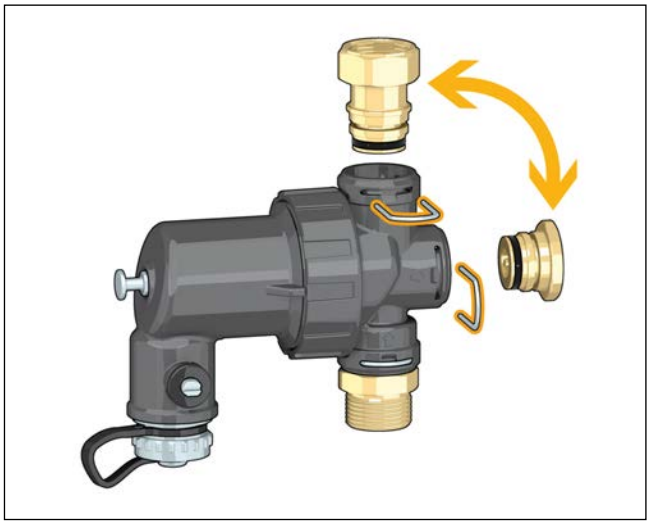
### Technopolymer

The dirt separator is made using a polymer specifically selected for heating and cooling system applications. The main features of the technopolymer are:
- high strength to strain, while maintaining good ultimate elongation;
- good resistance to crack propagation;
- very low humidity absorption, for consistent mechanical behaviour;
- high resistance to abrasion caused by continuous medium flow;
- performance maintained over temperature variation;
- compatibility with glycols and additives used in circuits.

These basic material characteristics, combined with the appropriate shaping of the most highly stressed areas, enable a comparison with the metals typically used in the construction of dirt separators.

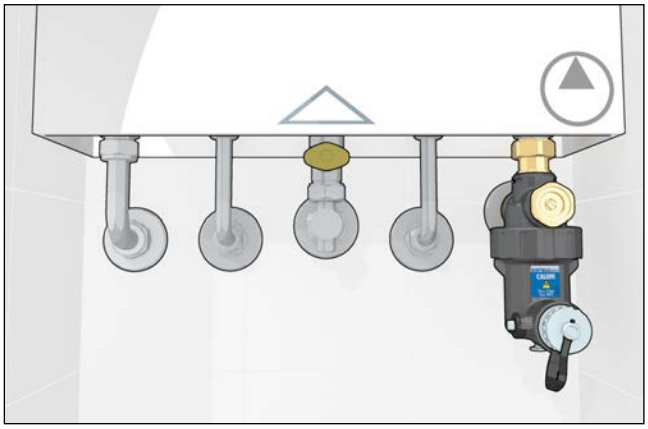
## Horizontal or vertical installation

The threaded connections on the DIRTMAGMINI® body are interchangeable and reversible as they have a quick-fit system with fixing clip, making it easy to install the dirt separator by turning it to the horizontal or vertical position.



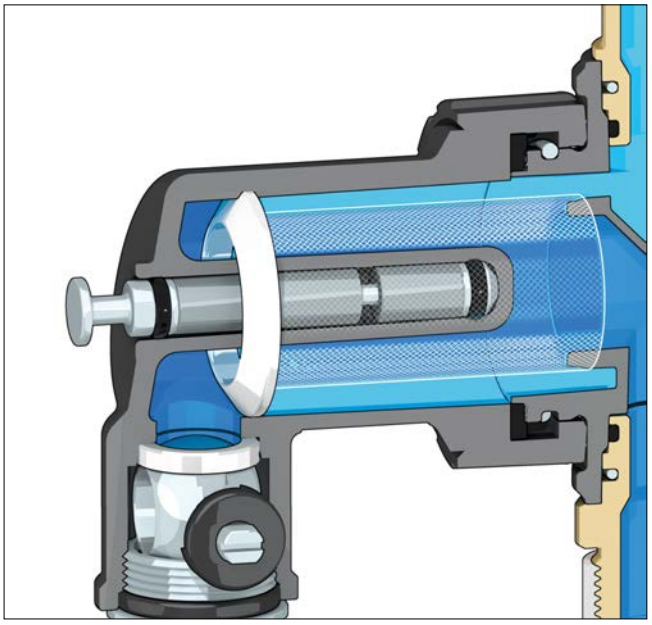
## Compact

Thanks to the compactness of the body, the dirt separator can be easily installed in narrow spaces under wall-mounted boilers without the need for additional accessories.

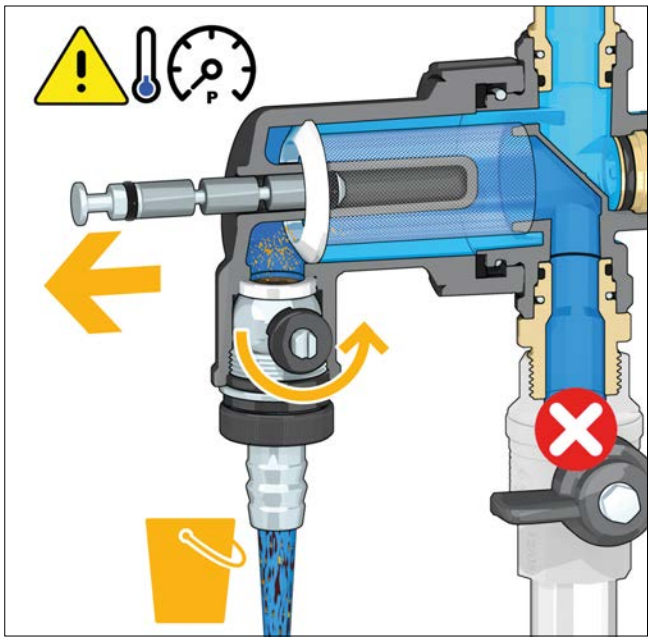


## Filtration, dirt separation and self-cleaning

The high performance of the dirt separator is based on the combined action of the strainer and dirt separation function. The strainer mesh, with a mesh size of 800 µm, can capture non-magnetic residues such as sand, soldering residues and residues of sealants such as hemp or silicone. The magnet, which is not in direct contact with the fluid, separates and captures magnetic particles.

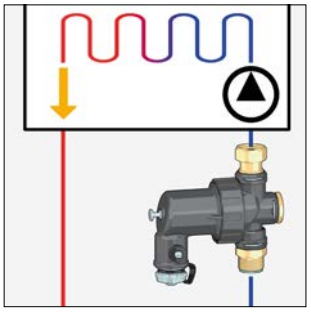


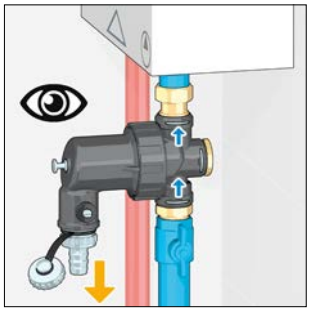
It is possible to drain the impurities without disassembling the body, just by removing the magnet and opening the dedicated cock. Only perform this operation when the system is not in operation.
A self-cleaning function activates during draining, using the same system water (which is then collected in a dedicated container and disposed of in accordance with the regulations in force) to clean the strainer. For this reason, there is normally no need to open the strainer body to clean it manually, although this may be required during extraordinary maintenance.

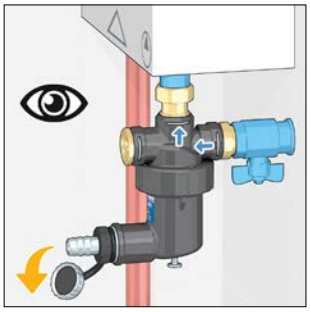


## Installation

The magnetic dirt separator should be installed in the return circuit to protect the boiler from all the impurities in the system, especially during start-up. It may be installed either vertically or horizontally, with the drain cock always in a suitable position, in accordance with the flow direction indicated by the arrows on the valve body.



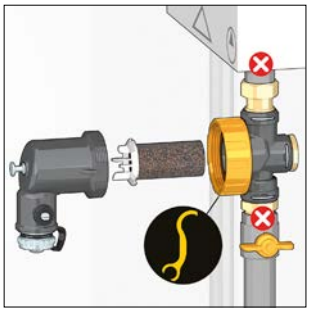


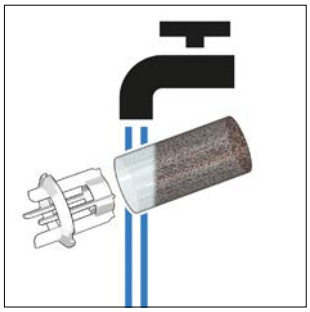


When necessary, it is possible to use the cap with manual air vent to eliminate air inside the strainer.

## Extraordinary maintenance

When clogged with fibres or large impurities, it is possible to access the inside of the strainer to clean the elements. This is done by unscrewing the bottom of the valve body and washing the filter element thoroughly under running water to completely remove the impurities.





## SPECIFICATION SUMMARY

**Code 545000 DIRTMAGMINI®**

Composite dirt separator and strainer with magnet for under-boiler installation. Size DN 20. 3/4" M (ISO 228-1) x 3/4" F (ISO 228-1) connections with captive nuts. Brass drain cock with hose connection. PA66G30 body. Internal elements made of POM/stainless steel EN 10088-2 (AISI304). EPDM hydraulic seals. Medium water and glycol solutions; maximum percentage of glycol 30%. Maximum working pressure 3 bar. Temperature range 0–90°C. Strainer mesh size 800 µm. Magnetic induction of magnet 1,3 T.



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