

DIRTMAG MINI®

composite under boiler
dirt separator



altecnic
CALEFFI group

DIRTMAG MINI® composite under-boiler dirt separator



Application

The DIRTMAG MINI® dirt separator and strainer separates the impurities in air conditioning systems to protect the boiler circulator and heat exchanger.

The removable magnet captures the ferro magnetic particles, whilst the mesh strainer and dirt separator capture the remaining debris.

The compact design of this dirt separator strainer is ideal 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 Code

Code 545022 DIRTMAG MINI® composite under boiler dirt separator and strainer with magnet

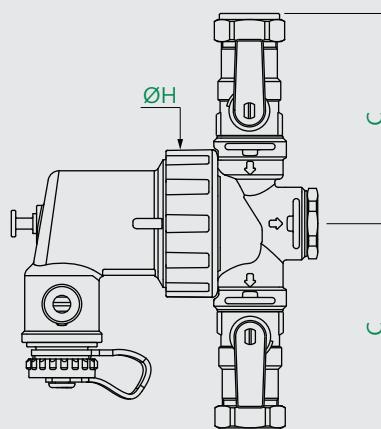
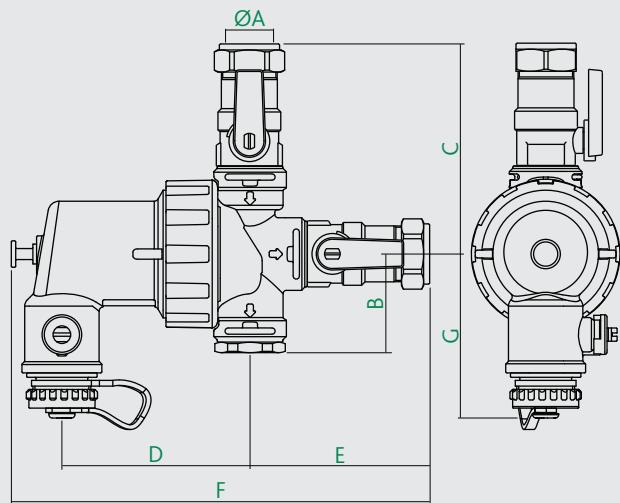
Construction Details

Component	Material	Grade
Body:	Nylon reinforced	PA66G30
Internal filter element:		
	Polyacetal	
	AISI 304 Stainless steel	BS EN 10088 -2
Fittings:	Brass	BS EN 12165 CW617N
Seals	Elastomer	EPDM
Drain cock with hose connection:	Brass	BS EN 12164 CW614N
Ball valves:	Brass	BS EN 12164 CW614N

Technical Data

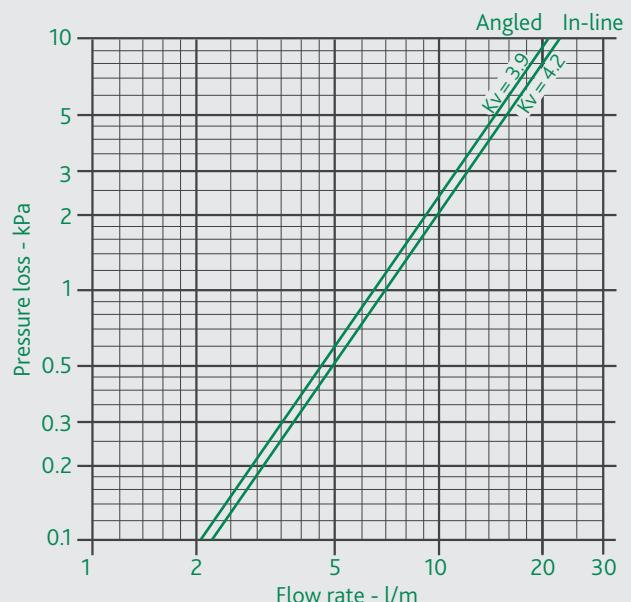
Medium:	water, non hazardous glycol solutions
Max. percentage of glycol:	30%
Max. working pressure:	3 bar
Working temperature range:	0 to 90°C
Filter mesh size:	800 µm
Magnetic induction of magnet:	1.3 T
Kv with in line configuration:	4.2 m³/h
Kv with angled configuration:	3.9 m³/h
Max. recommended flow rate:	22 l/m
Compression end sizes:	22
Compression ends:	BS EN 1254-2*

Dimensions



A	B	C	D	E	F	G	H	kg
Ø22	45	95.5	85.5	82.5	190.5	74.5	67.5	0.7

Flow Chart & Kv Values



* Use with R250 (half hard) copper tube

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Operating Principle

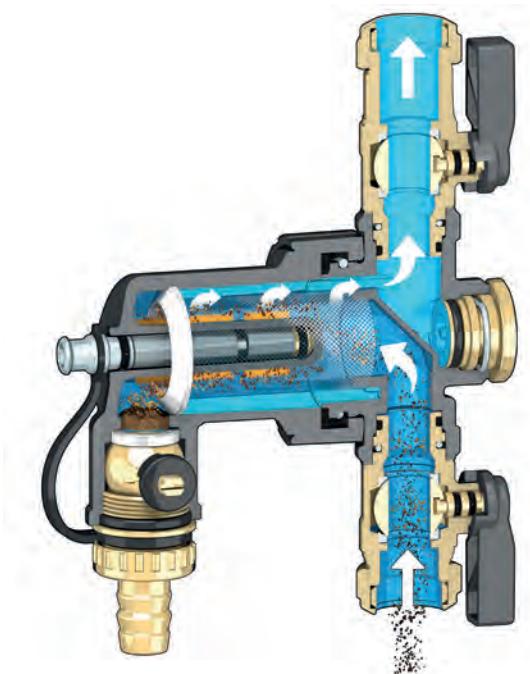
The DIRTMAG MINI® magnetic dirt separator and strainer, separates and captures debris in the system thanks to the combined action of the strainer and dirt separator.

The fluid inside the system slows down in the large collection chamber, allowing smaller particles to collect.

Ferrous particles are captured inside the body, thanks to the action of the removable magnet.

Larger particles are trapped inside the strainer screen.

The special profile of the bottom allows the impurities to be captured and drained effectively.



Construction Details

Technopolymer

The dirt separator is made using a polymer specifically selected for heating and cooling system applications.

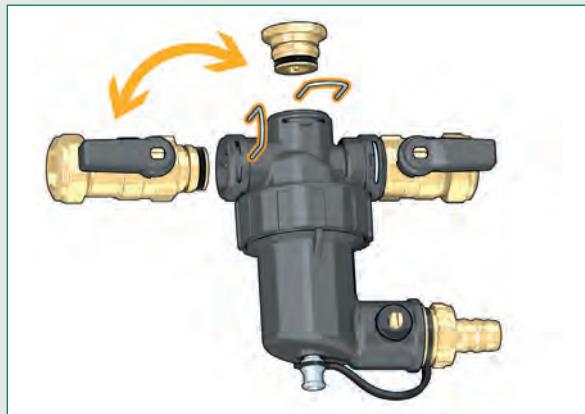
The main features of the technopolymer are:

- high strength, while maintaining good elongation
- good resistance to crack propagation
- very low water absorption, for consistent mechanical strength
- high resistance to erosion caused by water flow
- performance maintained over temperature variations
- compatibility with glycols and additives used in heating systems

These 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.

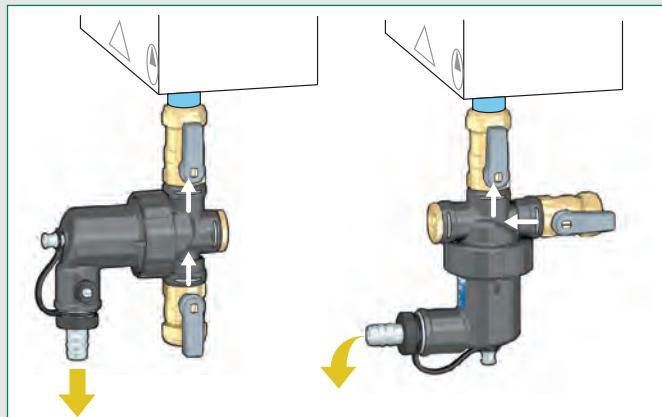
Horizontal or Vertical Installation

The pipe connections of the DIRTMAG MINI® body are interchangeable and reversible as they have a quick-fit system with fixing clips, making it easy to install the dirt separator by converting it to the horizontal or vertical configuration.



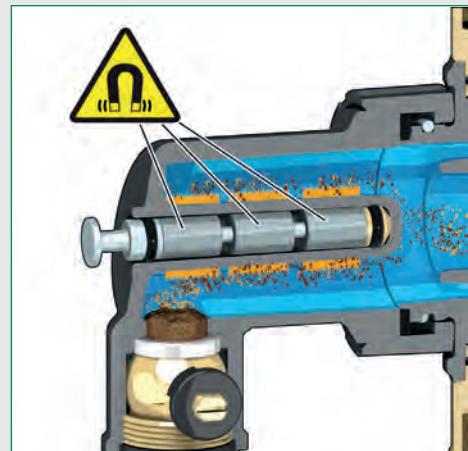
Compact Design

Thanks to the compact design, the dirt separator can be easily installed in confined 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.



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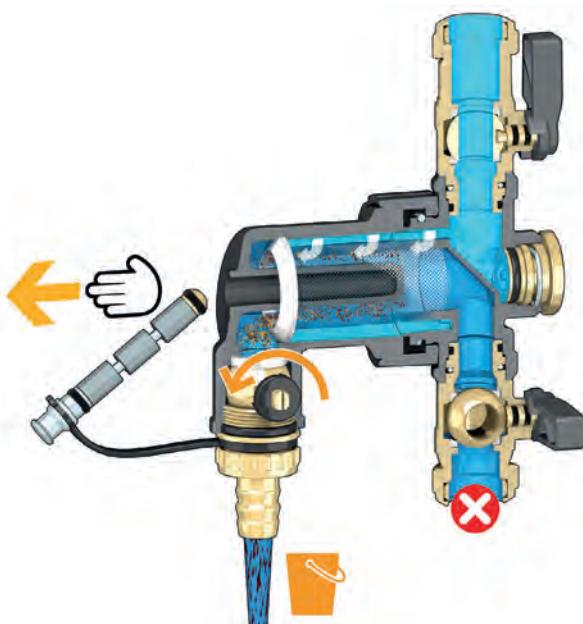
Filtration, Dirt Separation and Self Cleaning Continued

It is possible to drain the debris without disassembling the body, just by removing the magnet and opening the drain cock.

Only perform this operation when the system is not in operation.

A self-cleaning function activates during draining, using the system water (which is then collected in a dedicated container and disposed of in accordance with the local regulations) 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 occasionally required.

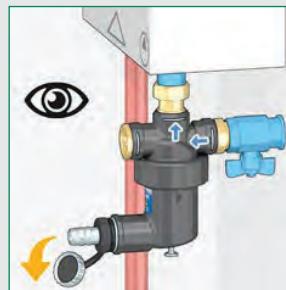
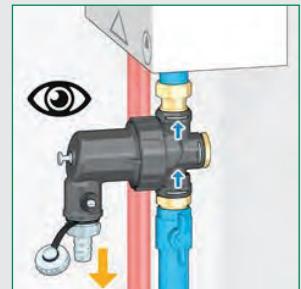
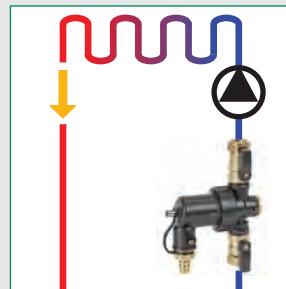


Installation

The magnetic dirt separator should be installed in the return circuit to protect the boiler from all the debris 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.

Installation Continued

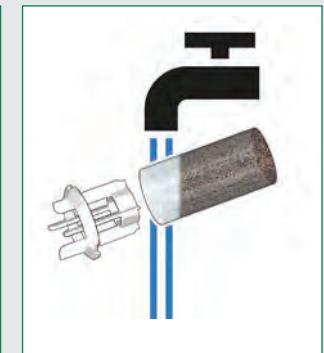
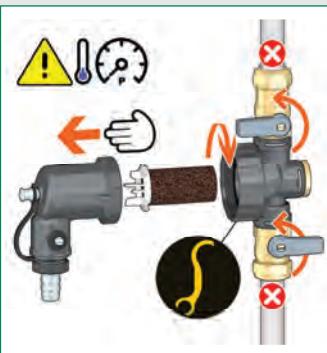


When necessary, it is possible to use the manual air vent in the cap to expel air from inside the strainer.

Cleaning the Screen

If the strainer screen becomes clogged with debris and larger particles the screen should be removed and thoroughly cleaned.

This is done by unscrewing the bottom of the valve body and washing the screen element thoroughly under running water to completely remove the debris.



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