

DIRTMAGIQ™
THE SMART MAGNETIC SEPARATOR PRIME



PTC
International
Application
Pending

altecnic



Application

In heating and chilled water systems the circulating water will undoubtedly contain debris which entered the pipework during site storage and construction.

The debris may consist of pipe scale, thread turnings, rust particles, thread sealing tape or jointing paste and air borne dust particles.

If left within the pipework this debris may cause erosion to bends and fittings, and cause damage to pumps and control valves. Modern systems contain many small control valves in which the seats could become damaged or blocked, these types of valve require a clean system to work efficiently.

Dirt separators are an efficient way of removing debris and are capable of removing small particles down to microns in size.

Debris is collected in the large chamber allowing longer periods between cleaning, which can be done whilst the system is operating.

Dirt separators if cleaned regularly have a low pressure loss characteristic, important for reducing energy demands and on going running costs.

Design

The DIRTmagPrime™ body tee and dirt separator chamber is manufactured from glass fibre re-inforced polyamide 66 with a high density polyethylene internal filter element and external magnet.

The magnet is positioned around the body below the flow line for improved collection of ferrous particles.

The conventional method is to position the magnet inside the collection chamber but the DIRTmagPrime™ has the magnet positioned around it, helping to maintain a low pressure loss.

The union joint between the body tee and separator body makes the DIRTmagPrime™ suitable for installation in horizontal, vertical or inclined pipes.

Supplied with two ball isolating valves complete with swivel joint and compression end complying with BS EN 1252-2 for use with R250 (half hard) copper tube.

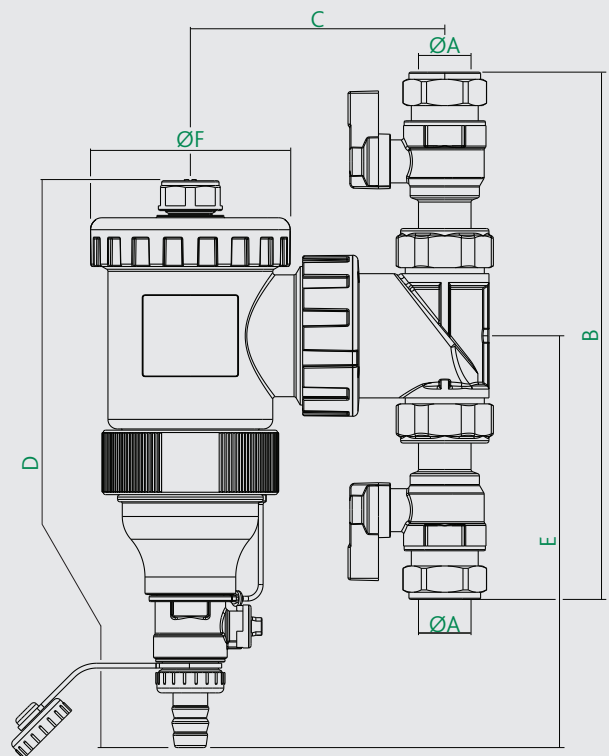
Supplied with hose union ball blow down valve and manual air vent.

Construction Details

Component	Material	Grade
Body Tee	Polyamide 66	PA 66 GF 30
Union Nut	Polyethylene	PPS GF 40
Dirt Collection Chamber	Polyamide 66	PA 66 GF 30
Dirt Chamber Cover	Polyamide 66	PA 66 GF 30
Internal Element	Polyethylene	HDPE
Seals	EPDM	
Air vent	Brass	BS EN 12164 CW614N
Blowdown Valve	Brass	BS EN 12165 CW614N
Magnet	2600 G	
Ball Valve	Brass	BS EN 1982 CB753S
Swivel Joint Seal	Compressed fibre	

Product Code	Size	Connections
545342 LTC	22 mm	comp. x comp.
545343 LTC	28 mm	comp. x comp.

Dimensions



Prod Code	A	B	C	D	E	F	kg
545342 LTC	22	231	106.5	238	173	84	1.72
545343 LTC	28	237	106.5	238	173	84	1.79

Technical Data

Medium:	water glycol solution
Max. percentage of glycol:	30%
Max. working pressure:	3 bar
Temperature range:	0 to 90°C

Operating Principle

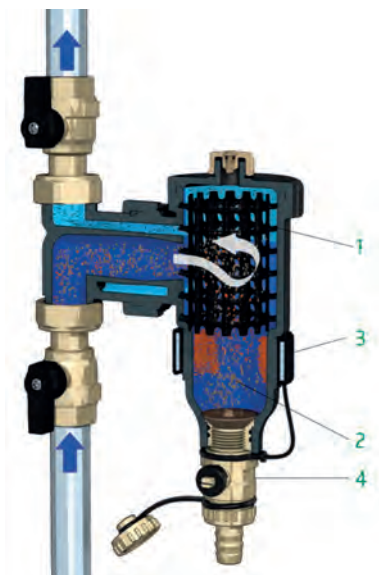
Dirt separators operate by a combination of physical principles.

The internal element (1) is constructed to form a radial net shaped element.

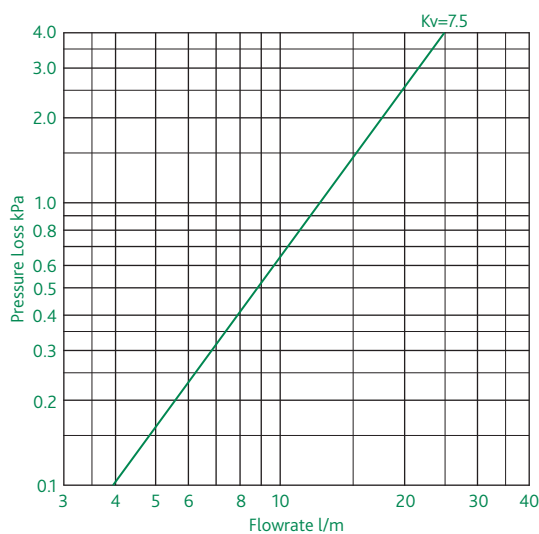
Debris in the water strikes the element, causing it to drop to the bottom of the body (2).

The larger internal volume of the DirtmagPrime™, compared with the area of the pipe, reduces the velocity of flow and with the aid of gravity and the magnetic element (3) helps to collect the debris.

The collected debris can be discharge from the dirt separator whilst the system is in operation by opening the blow down valve (4) and flushing through the debris.



Pressure Loss Chart



Size	22mm	28mm
Kv - m³/h	7.5	7.5

The maximum recommended flow velocity inside the pipe is 1.2 m/s. The following shows the maximum flow rates to meet this requirement.

Size	Ø22	Ø28
l/m	23.1	38.8

Based on BS EN 1057 copper tube.

Blowdown Valve

DirtmagPrime™ dirt separators are equipped with a hose union ball isolating blowdown valve.

This valve allows debris in the collection chamber to be flushed through with the system still running, by connecting a suitable hose to the union connection and opening the ball valve.

The blanking cap is the operating key for the ball valve and provides long term security.



Air Vent

The collection chamber can be vented to release any trapped air that may have accumulated during system filling or when in service using a screw driver to open the manual air vent.



Installation

Dirt separators are easy to install and should preferably be installed in the return circuit upstream of the boiler.

This enables debris already present in the pipework to be intercepted before it reaches the boiler, particularly during system flushing.

Dirt separators should always be installed as shown with the blowdown valve beneath the collection chamber.

DirtmagPrime™ dirt separator are uni-directional and must be installed with the flow direction as indicated by the arrow on the body.

The union joint between the body and the collection chamber allows the DirtmagPrime™ to be installed in horizontal, vertical or inclined pipework thus eliminating the need to stock both horizontal and vertical models.



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