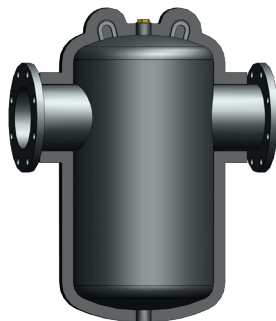


DIRT SEPARATOR



Description

Dirt separators restrain impurities contained in the water of closed systems through a decantation process (precipitation of the particles by gravity). An air vent can be connected to the upper connection, while a drain valve, with or without magnetic insert, can be connected to the lower connection. They are used in heating and air-conditioning systems, in central heating systems with boilers, solid fuel generators, heat pumps. In this way the system is protected, in particular the devices such as heat exchangers and high efficiency pumps. They are complete with insulation.

Range of articles

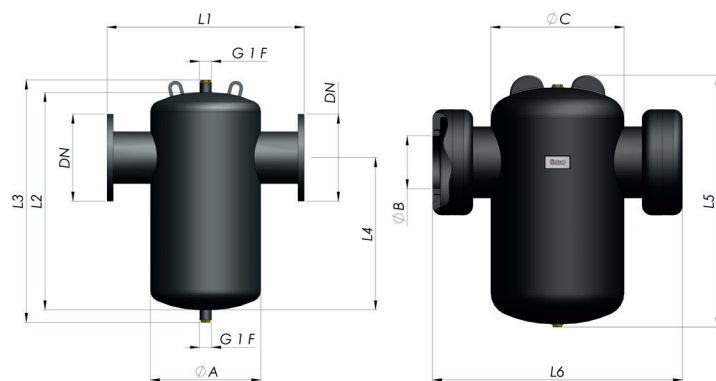
Series F10

Dirt separator with painted steel body for heating and air-conditioning systems, complete with insulation.
Flanged connections

Features

Working temperature range: **0–110 °C (no frost)**
 Max. working pressure: **6 bar**
 Suitable fluids: **water for thermal systems, glycol solutions (max 50%)**
 Connections: **flanged EN 1092 PN 16**
 Upper and lower connections: **G 1 F**

Dimensions



Series	Code		DN			Max flow rate [m³/h]	Power output [kW] ΔT=10 K	Power output [kW] ΔT=20 K		φA [mm]	φB [mm]	φC [mm]
F10	F10100000		DN 100 PN 16			33	384	768		273	115	345
	F10150000		DN 150 PN 16			74	861	1721		356	170	430
Kv [m³/h]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	Volume [l]	Weight [kg]	N. P/B	N. P/C		
310	470	450	530	306	570	640	25	25,6	-	1		
690	635	700	780	490	806	805	67,5	52,8	-	1		

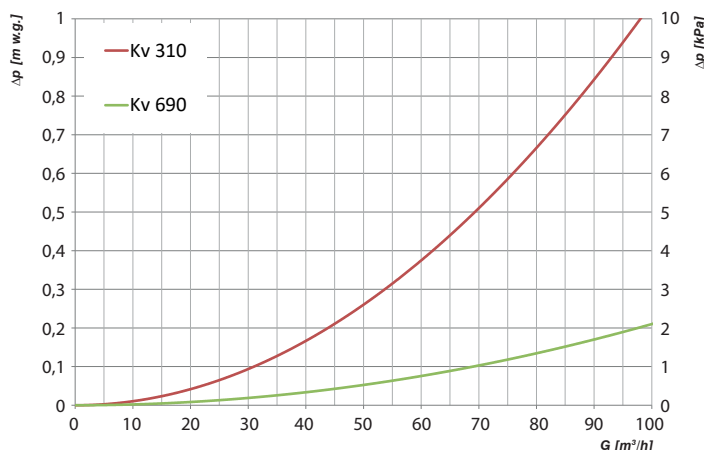
N. P/S: numero pezzi per scatola - N. P/C: numero pezzi per cartone

Materials

Body: **painted steel**
 Plugs: **brass CW617N**
 Inner mesh: **steel**
 Gaskets: **EPDM**
 Insulation:
 • Material: **closed cell expanded PE-X**
 • Thickness: **30 mm**
 • Density: **30-80 kg/m³ (inner-outer)**
 • Thermal conductivity (ISO 2581):
 • **- 0,036-0,043 W/(m·K) (10 °C) (inner-outer)**
 • **- 0,041-0,047 W/(m·K) (40 °C) (inner-outer)**

Coefficient of resistance to water vapour diffusion (ISO 12572):
1300

Diagrams



Working way

The dirt separator is composed of: (1) body with flanged connections and eyelets for lifting, (2) inner mesh, (3) lower plug, (4) upper plug, (5) insulation, (6) drain valve (to be added separately).

Working way

The separation of impurities is obtained through the combined action of the components:

- the increase in volume of the dirt separator body (1) causes a slowing down of the fluid current,
- the particles collide against the inner mesh (2),
- the particles settle on the bottom due to the force of gravity.

The inner net with large mesh does not restrain the particles as a traditional Y-filter but it is used to obstruct the passage for the particles which therefore separate from the fluid current and settle toward the bottom.

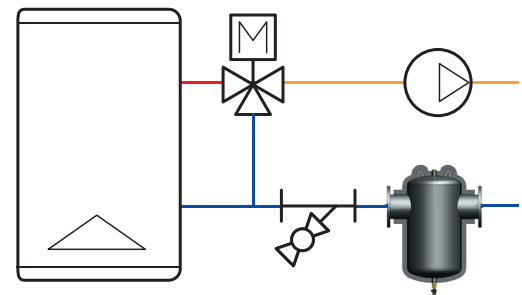
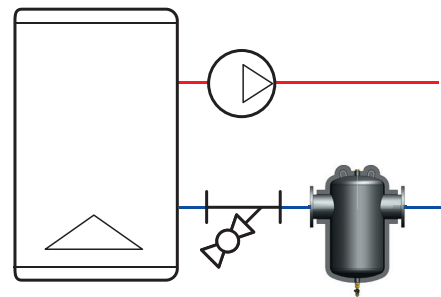
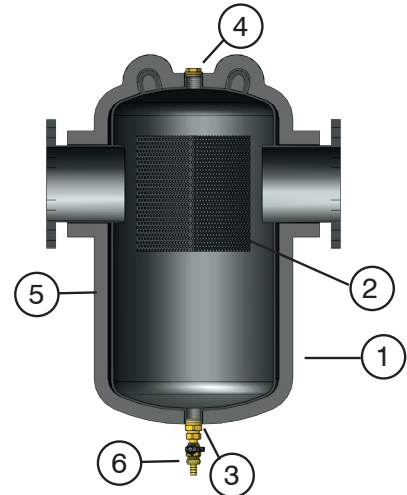
Thanks to this operating principle, the dirt separator removes particles much smaller than traditional Y-filters but only after several passages of the fluid inside of it.

The device eliminates impurities and sludges, helping to prevent clogging of delicate devices such as heat exchangers, mixing valves and blockage of high efficiency pumps.

The lower connection (3) can be used to discharge impurities accumulated at the bottom of the dirt separator (by flushing with the system still running), by adding a specific drain valve (6).

NB: for an accurate cleaning at the first passage, it is suggested to combine the dirt separator with the following devices:

- **Y-filter installed downstream:** the particles, that don't settle on the dirt separator bottom, are held by the filter which has to manage a less difficult cleaning deal and so the filter gets clogged more slowly;
- **magnet:** it's possible to use the lower connection to insert a pocket with a magnet to hold also the ferromagnetic particles.



Features

Advantages

Upper connection

The connection placed at the top of the dirt separator can be freely used to connect several devices such as air vents, sensor holder pockets or as injection point for chemical additives.

Lower connection

The lower connection should be equipped with sludge drain valve, also versions featuring a built-in magnet, or can be used as injection point for chemical additives.

Flow direction

The fluid can pass through the dirt separator in both directions.

Insulation

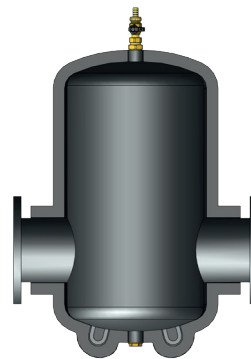
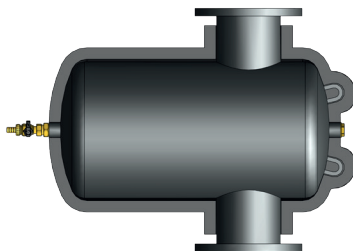
The insulation material allows the use of the dirt separator in heating and air-conditioning systems. It is equipped with a Velcro closure to allow any further checks and maintenance.

Installation

The dirt separator should be installed on the return pipe, in convenient points that allow the fluid cleaning before entering again delicate or important devices such as the generator, heat exchangers, mixing valves, pumps etc. The dirt separator drain valve should always point downward. The flow direction is irrelevant.

It is compulsory the installation of a sludge drain valve (not supplied in the package) on the lower connection, to discharge the residues deposited on the bottom.

It is suggested to install a Y-filter downstream of the dirt separator to optimize the fluid cleaning already at the first passage.



Maintenance

The amount of sludge and impurities that are deposited in the device depend on the system conditions and materials.

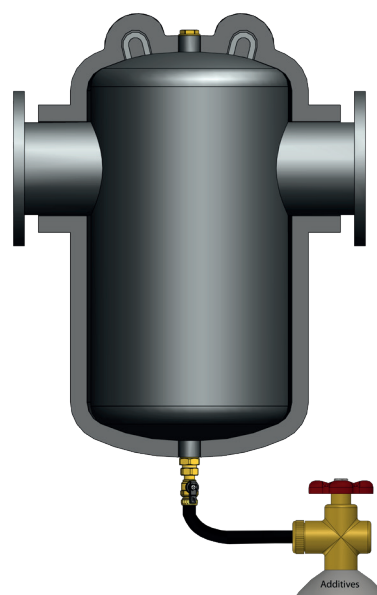
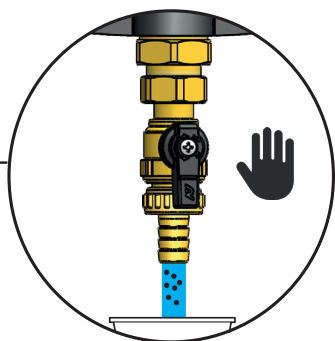
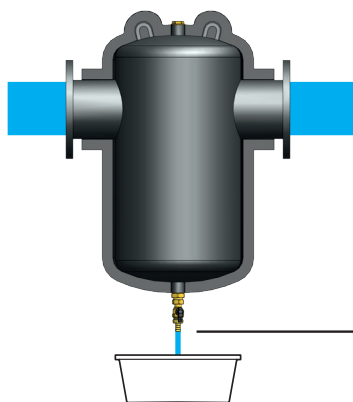
We suggest to clean the dirt separator by flushing at least once a year.

In case of use of a drain valve with magnet, we suggest to perform the cleaning with the boiler off and the system cold to prevent ferromagnetic particles from returning into circulation after removing the magnet.

Procedure:

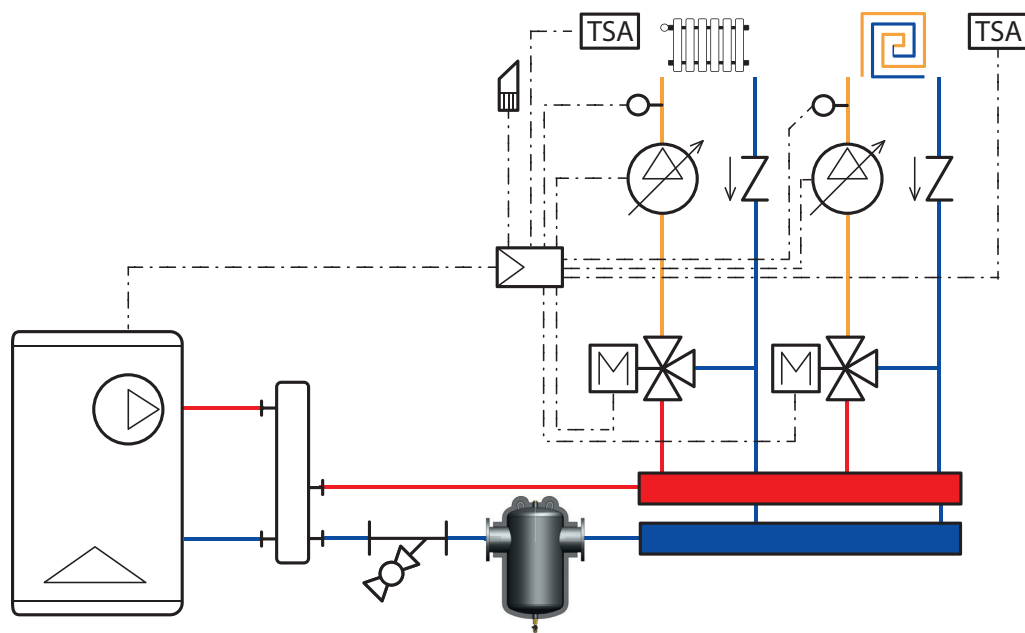
- extract the magnet (if present) to allow the ferromagnetic residues settle on the bottom;
- flush the dirt separator through the drain valve, previously added at the bottom of the device;
- close the drain valve;
- verify and restore, if necessary, the system pressure.

The drain valve or the upper connection can be used as injection point for chemical additives.



Inlet for additives

System diagrams



Specifications

Series F10

Flanged dirt separator for heating and air-conditioning systems. Flanged connections DN 100 PN 16 (and DN 150 PN 16). Body in painted steel. Brass plugs. Steel inner mesh. Gaskets in EPDM, PTFE. Insulation in closed-cell expanded PE-X. Working temperature range 0–110 °C. Maximum working pressure 6 bar. Suitable fluids water, glycol solutions (max. 50%).