



MULTIFUNCTION HYDRAULIC SEPARATOR

CALEFFI
Hydronic Solutions



4-IN-1; HYDRAULIC, AIR, DIRT AND FERROUS PARTICLE SEPARATOR

FUNCTION AND FEATURES

- Keeps circuits independent, thus avoiding interference to the pump installed on the secondary circuit
- Automatically removes the circulating air
- Separates and collects particles, removed via discharge pipe
- Special patented magnetic system collects ferromagnetic particles
- Supplied complete with pre-formed insulation

OPERATING PRINCIPLE

When a single system contains a primary production circuit, with its own pump (or more than one), and a secondary user circuit, with one or more distribution pumps, operating conditions may arise in the system whereby the pumps interact, creating abnormal variations in circuit flow rates and pressures.

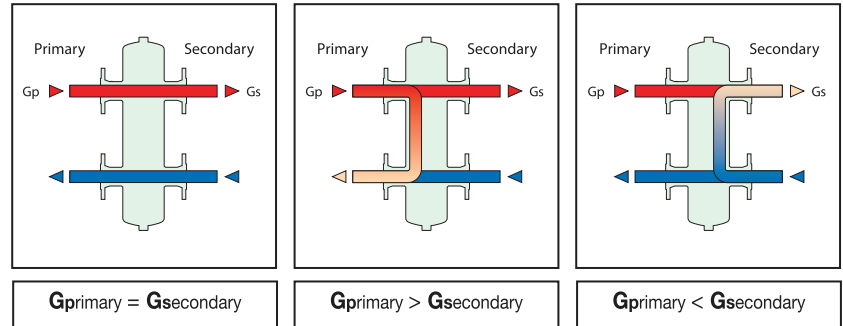
The hydraulic separator creates a zone with low head loss, which enables the primary and secondary circuits connected to it to be hydraulically independent of each other; **the flow in one circuit does not create a flow in the other if the head loss in the common section is negligible.**

In this case, the flow rate in the respective circuits depends exclusively on the flow rate characteristics of the pumps, preventing reciprocal influence caused by their connection in series. Therefore, using a device with these characteristics means that the flow in the secondary circuit only circulates when the relevant pump is on, permitting the system to meet the specific load requirements at that time.

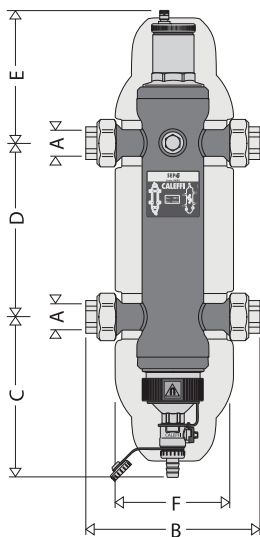
When the secondary pump is off, there is no circulation in the secondary circuit; the whole flow rate produced by the primary pump is by-passed through the separator.

With a hydraulic separator, it is therefore possible to have a production circuit with a constant flow rate and a distribution circuit with a variable flow rate; these operating conditions are typical of modern heating and air-conditioning systems.

PERFORMANCE	
MEDIUM	water, glycol solutions
MAX. PERCENTAGE OF GLYCOL	50%
MAX. WORKING PRESSURE	10 bar
SYSTEM WORKING TEMPERATURE RANGE	0 – 110°C



DIAGRAM



CODE	549506	549507	549508	549509
Size	DN 25	DN 32	DN 40	DN 50
A	1"	1 1/4"	1 1/2"	2"
B	225	248	282	315
C	202	202	202	202
D	220	240	260	300
E	154	144	180	184
F	120	120	180	180
Volume (l)	1.7	2.6	4.8	13.5
Flow rate (m ³ /h)	2.5	4	6	8.5

CONSTRUCTION

Deaerator element

At the top of the device a deaerator element is able to separate air particles within the system, right down to micro-bubble level.

Air release takes place via the automatic air vent positioned at the top of the multifunction separator.

Dirt separator element

Another function of the multifunction hydraulic separator is carried out by the dirt separator element inside the device. This is used to separate and collect any impurities present in the system.

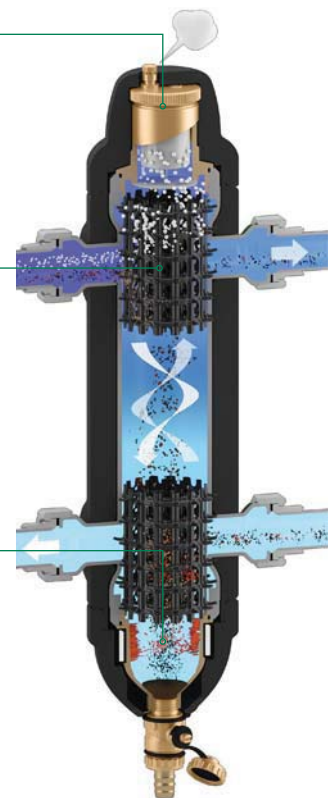
These impurities are eliminated via the drain valve at the bottom (this can be opened while the system is operating), which can be connected to a discharge pipe.

Magnetic element

The magnet positioned towards the bottom of the device offers greater efficiency in the separation and collection of ferrous impurities.

The impurities are trapped inside the separator body by the strong magnetic field created by the magnets inserted in the special outer ring.

The outer ring can also be removed from the body to allow the decantation and subsequent expulsion of sludge while the system is still running. Since the magnetic ring is positioned outside the separator body, the hydraulic characteristics of the device are not altered.



All Valve
INDUSTRIES

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