

Stainless steel magnetic filter CALEFFI XL

579 series



Function

The CALEFFI XL magnetic filter separates off the impurities circulating within the closed circuits of systems – consisting mainly of sand, dirt and rust particles – from the very first passage. They are intercepted by the high-performance filter mesh elements and the magnets; the large filtering surface means it needs to be cleaned less frequently. The device is capable of efficiently removing even the smallest particles, with minimal pressure drops.

Caleffi XL is designed to make maintenance operations quick and easy without needing to drain the water from the system.

Constructed entirely in stainless steel, Caleffi XL comes with pre-formed shell insulation to ensure perfect thermal insulation when using hot and chilled water alike.

PATENT PENDING

Product range

579 series CALEFFI XL magnetic filter for horizontal pipes with flanged connections and insulation _____ sizes DN 50 - DN 65
 579 series CALEFFI XL magnetic filter for horizontal pipes with flanged connections and insulation plus legs _____ sizes DN 80–DN 150

Technical specifications

Materials

Body: AISI 304 stainless steel
 Filter insert closure locking ring: brass EN 12165 CW617N
 Upper cap: AISI 304 stainless steel
 Purge screws: dezincification resistant alloy CR EN 12164 CW724R
 Filtering elements: AISI 304 stainless steel
 Hydraulic seals: EPDM
 Drain cock with hose connection: dezincification resistant alloy CR EN 12164 CW724R

Performance

Medium: water, glycol solutions
 Maximum percentage of glycol: 50 %
 Maximum working pressure: 10 bar
 Working temperature range: 0–90 °C
 Filter mesh size: 100 µm
 Magnetic induction:
 - code **579055**, **579065**: 15 x 0,475 T
 - code **579085**, **579105**: 28 x 0,475 T
 - code **579125**, **579155**: 54 x 0,475 T

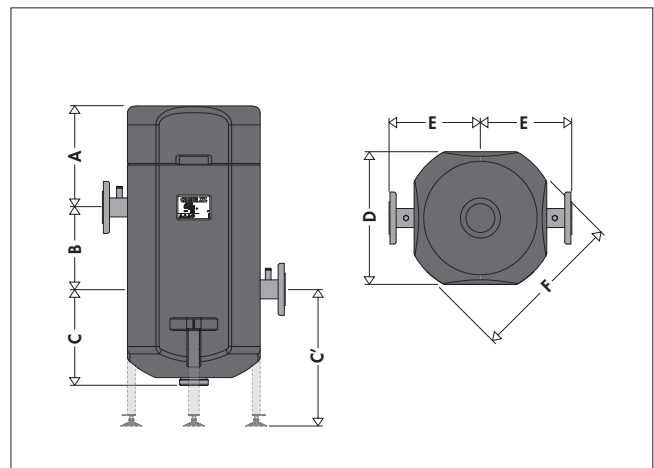
Connections

Body:
 - flanged (PN 16): DN 50, DN 65, DN 80, DN 100, DN 125, DN 150
 Drain cap: 1" F
 Upper cap: 1/2" M

Technical specifications of insulation

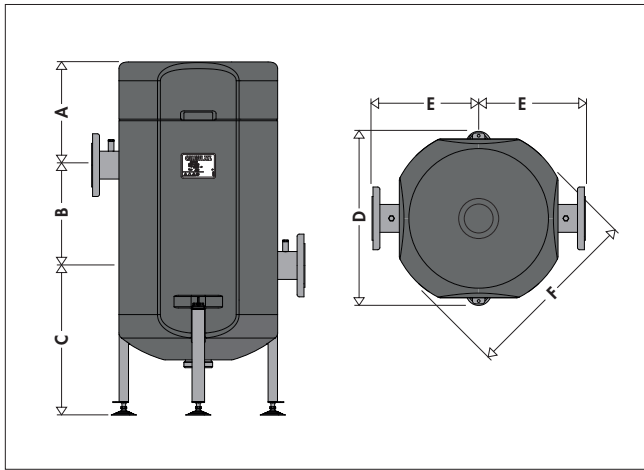
Materials: EPP
 Density: 30 g/l
 Conductivity (8301): at 10 °C: 0,039 W/(m·K)
 Coefficient of resistance to water vapour (EN 12086): ≥ 40
 Working temperature range: 0–110 °C
 Resistance to fire (UL-94): HBF class

Dimensions

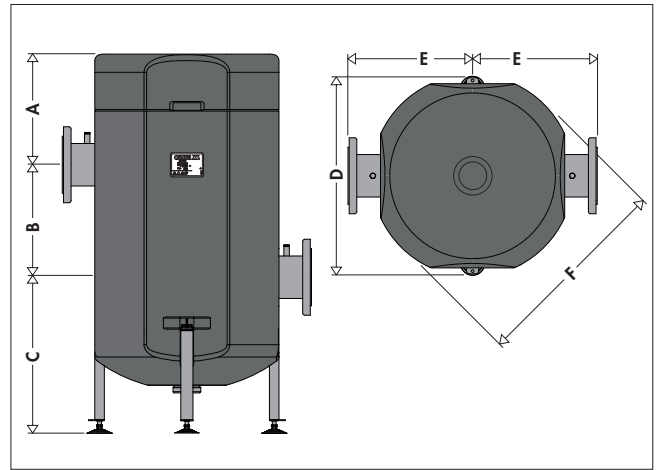


Code*	A	B	C	C'	D	E	F	kg
579055	322	260	305	476	421	290	Ø 480	24
579065	322	260	305	476	421	290	Ø 480	26

* Stainless steel legs optional for both models.



Code	A	B	C	D	E	F	kg
579085	329	320	485	506	340	∅ 565	42
579105	329	320	485	506	340	∅ 565	44



Code	A	B	C	D	E	F	kg
579125	364	370	516	606	410	∅ 665	74
579155	364	370	516	606	410	∅ 665	78

Problems caused by impurities in hydraulic circuits

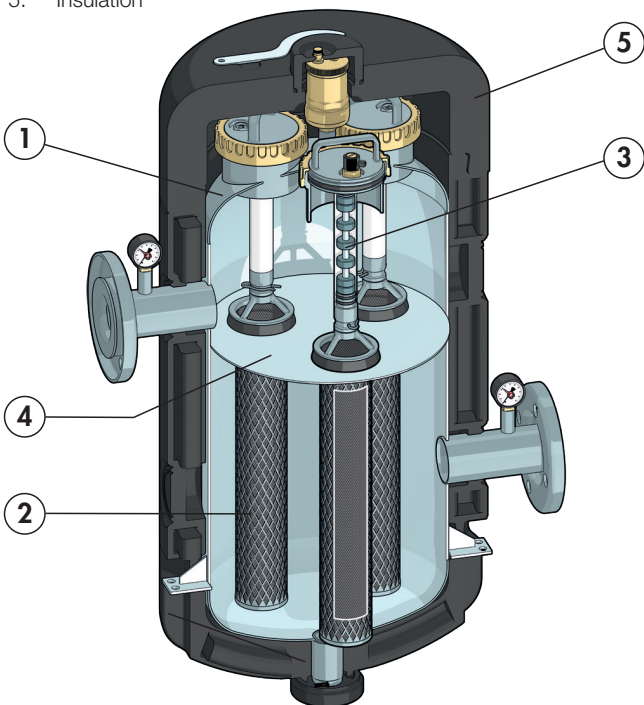
The components of a heating and cooling system are exposed to degradation caused by the impurities that circulate in the thermal medium. If they are not removed, they can impair the operation of boilers, heat pumps, chillers, circulators or adjustment devices, especially during system commissioning. This problem must not be underestimated because generator warranties will be null and void if they are not protected from the moment they are commissioned.

It is therefore necessary to use a device that can remove impurity particles in all working conditions.

The mesh filter elements completely remove particles with diameters measured in tenths of a millimetre by mechanically capturing the impurity particles carried by the thermal medium, **from the very first passage.**

Characteristic components

1. Stainless steel body
2. Stainless steel filter element
3. Magnetic inserts
4. Separator disc
5. Insulation



Hydraulic characteristics

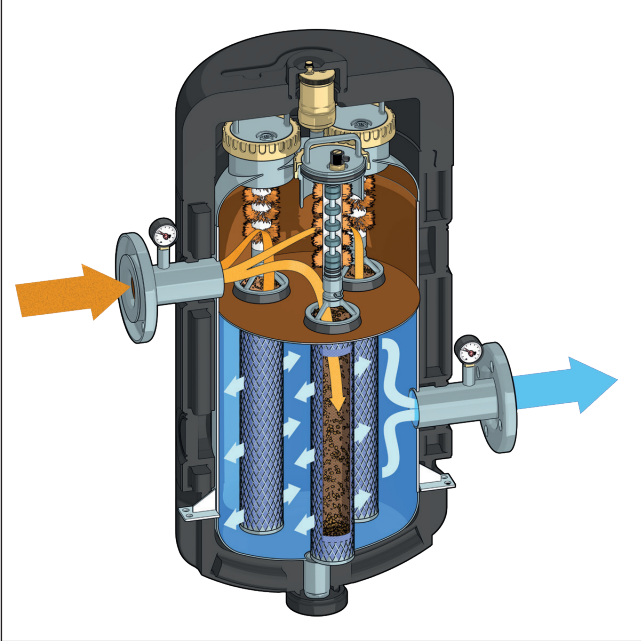


code	DN	Kv (m³/h)
579055	50	60
579065	65	95
579085	80	140
579105	100	190
579125	125	300
579155	150	340

Operating principle

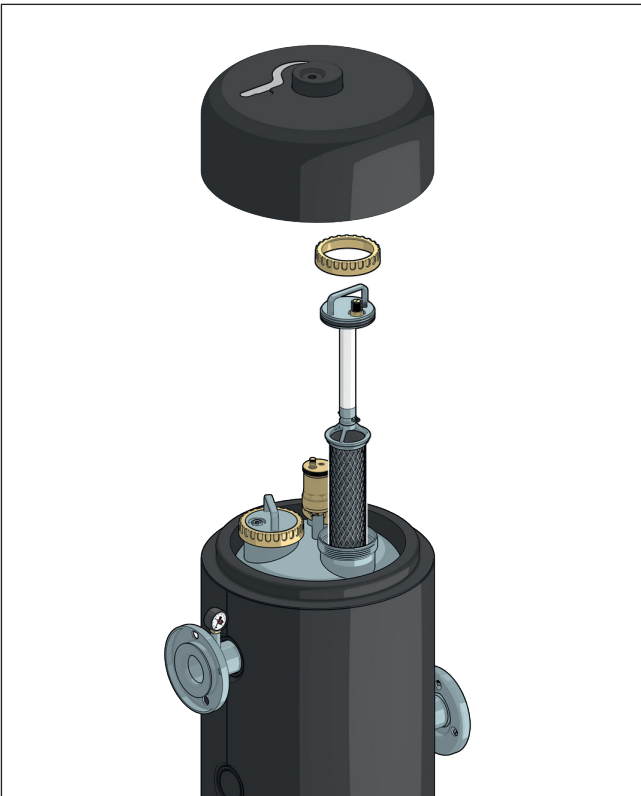
The water enters the device and passes through the zone in which magnetic impurities are intercepted and then through the filter elements, which retain the impurities by mechanically selecting the particles according to their size.

The large surface area of the filter meshes, with a mesh size of 100 µm, helps to maintain excellent hydraulic characteristics in spite of the high degree of separation.



Maintenance

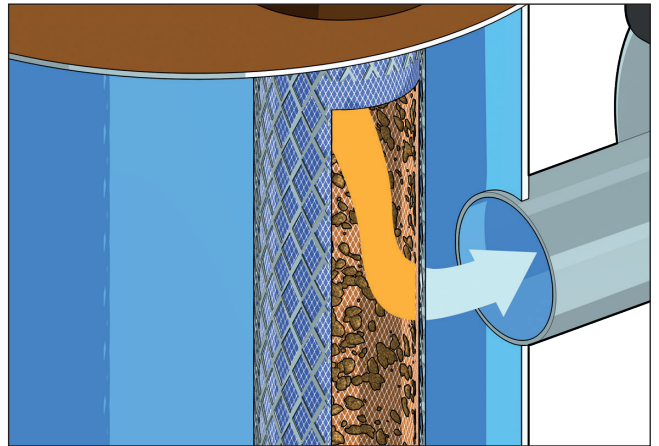
The device can be maintained and cleaned by removing and washing the filter elements, **without it being necessary to empty the main body**. The fact that there are several small filter elements also means that this procedure can be carried out by one person on their own and without the aid of special equipment.



Construction details

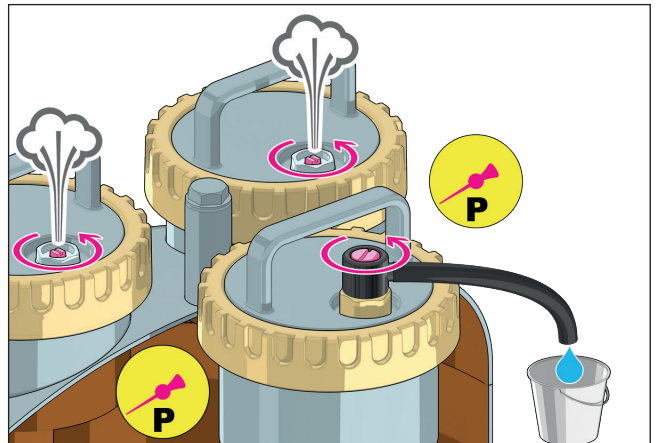
High-performance filter mesh

The filter mesh captures impurities to a size of 100 µm from the very first passage and ensures ultra-efficient separation. The large filter surface allows improved dirt distribution, however it does not hinder the flow and therefore helps to maintain a high Kv level.



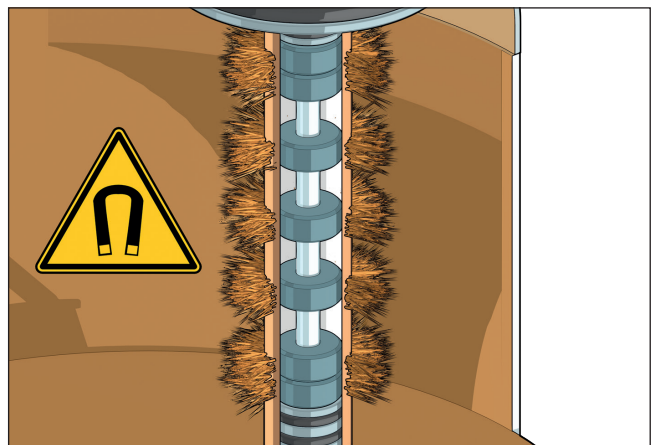
Drain cock

The connected drain cock prevents unwanted leaks of water during maintenance. Plus, pressure venting via the relevant screws makes cleaning easier, as it ensures the filter pressure level is the same as its surrounding environment, thereby reducing the risks to the operator and preventing uncontrolled leaks.



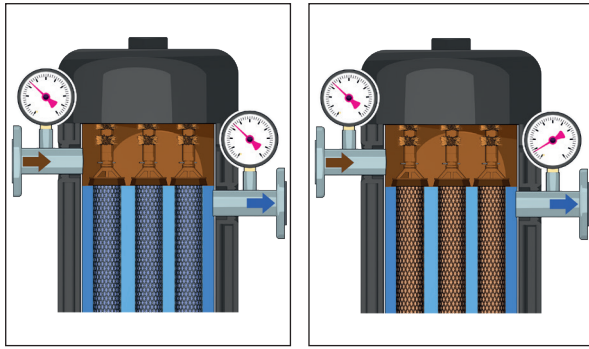
Separation of ferrous impurities

Caleffi XL comes with high-performance magnetic inserts, which allow greater efficiency in terms of the separation and collection of ferrous impurities. They are captured by the strong magnetic field generated at the top of the filter elements.



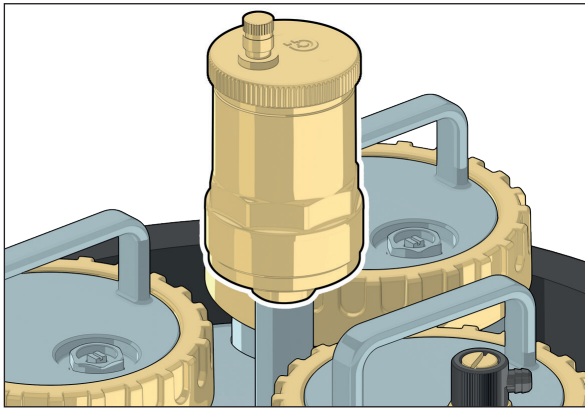
Control pressure gauges

Caleffi XL comes with pressure gauges for controlling the pressure drop caused by the device. They can be used to monitor the status of the filter mesh elements and to determine when they need cleaning.



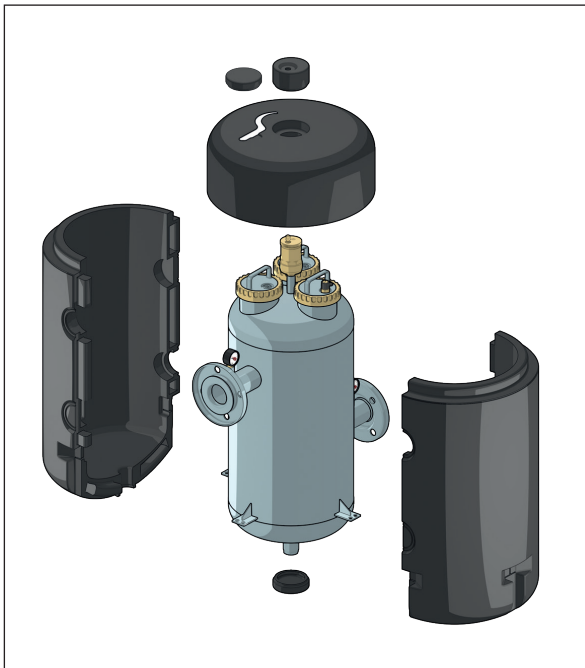
Top connection

The connection on the top of the device can be used to install an automatic air vent, code 579006 (optional).



Insulation

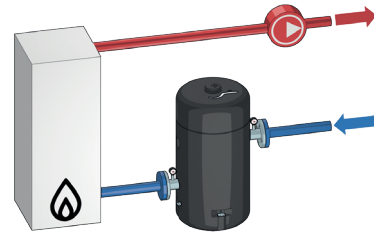
CALEFFI XL devices are supplied complete with pre-formed shell insulation. This system ensures not only perfect thermal insulation, but also the watertightness required to prevent water vapour entering the device from outside. For this reason, this type of insulation may also be used in chilled water circuits as it prevents condensation from forming on the surface of the device body.



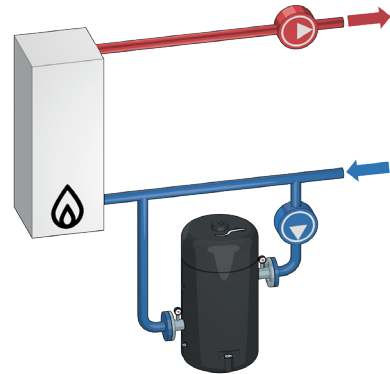
Installation

Caleffi XL must be fitted upstream of the generator, observing the flow direction indicated on the plate, with the top flange as the inlet and the bottom flange as the outlet. Installation can be either in-line or by-pass with a dedicated circulator.

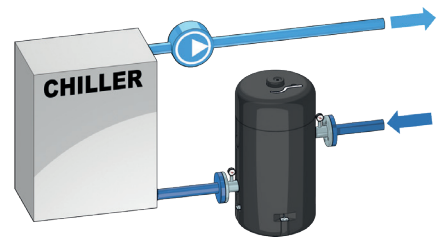
In-line diagram – heating



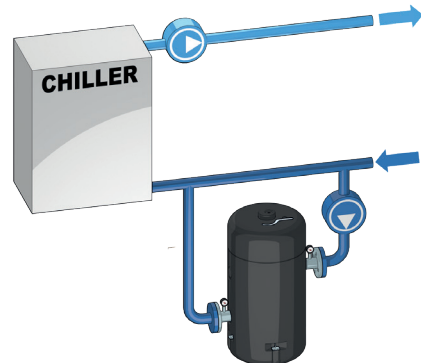
By-pass diagram – heating

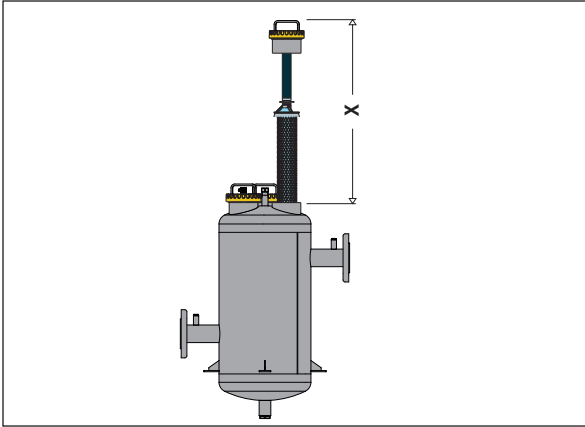


In-line diagram – cooling



By-pass diagram – cooling





Minimum space for removal

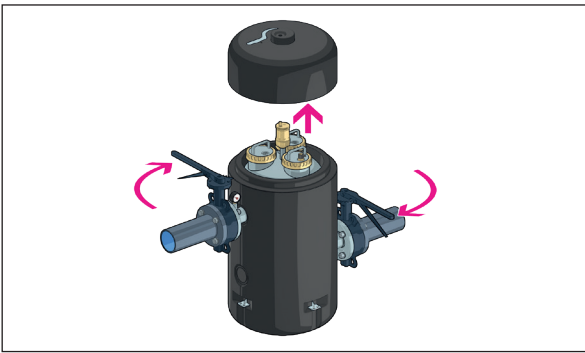
To allow proper removal of the filter elements, we recommend a minimum space is left free at the top of the device.

code	X (mm)
579055	800
579065	
579085	880
579105	
579125	1010
579155	

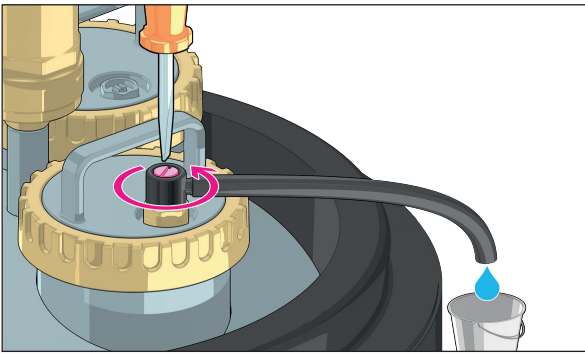
Maintenance and sludge drain

The filter can be cleaned in a few simple steps after it has been shut off using the butterfly valve. The multiple filter elements mean that a single operator can perform maintenance on the Caleffi XL.

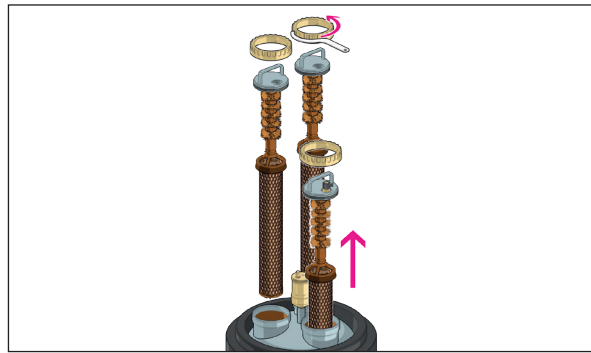
1) Shut off the device and remove the top part of the insulation.



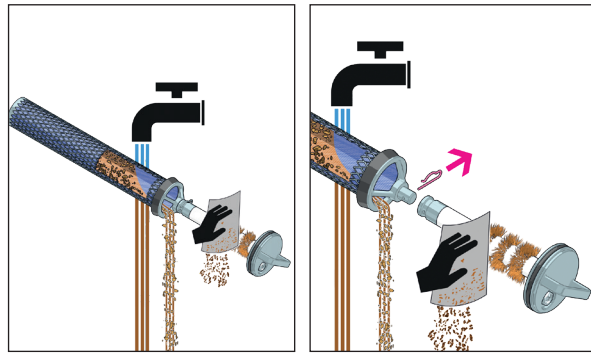
2) Discharge the pressure using the manual cock with adjustable hose.



3) Take out the filter elements and wash them, ensuring the magnetic impurities are removed from the stems.



4) If necessary, the individual filter elements can be split into two parts by removing the fixing clip.



Accessories



579
AISI 304 stainless steel legs for 579 series magnetic filters.

Code

579005

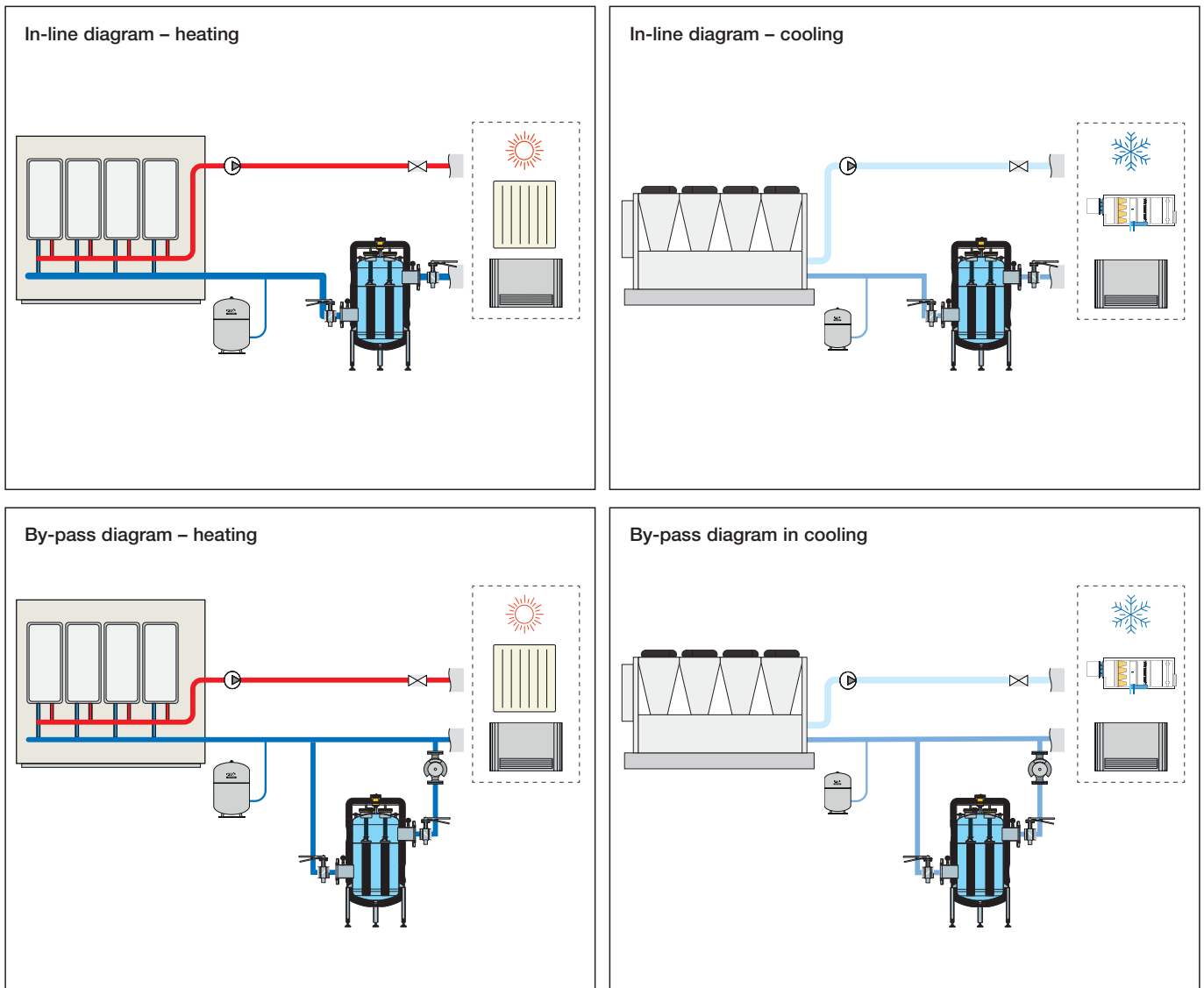


579
High-performance automatic air vent for 579 series magnetic filter. With insulation.

Code

579006

Application diagrams



SPECIFICATION SUMMARY

579 series CALEFFI XL

CALEFFI XL stainless steel magnetic filter. Flanged connections DN 50 (from DN 50 to DN 65) PN 16, can be coupled with counterflanges EN 1092-1. Top connection 1/2" (with cap). Bottom connection 1" (with cap). AISI 304 stainless steel body, AISI 304 stainless steel filter mesh elements, EPDM hydraulic seals. Medium: water and glycol solutions; max. percentage of glycol 50 %. Maximum working pressure 10 bar. Working temperature range 0–90 °C. Filter mesh size 100 µm. Pressure gauge with 0-10 bar pressure scale. DN 50-65 magnetic induction: 15 x 0,475 T. PATENT PENDING.

579 series CALEFFI XL

CALEFFI XL stainless steel magnetic filter. Flanged connections DN 80 (from DN 80 to DN 150) PN 16, can be coupled with counterflanges EN 1092-1. Top connection 1/2" (with cap). Bottom connection 1" (with cap). AISI 304 stainless steel body, AISI 304 stainless steel filter mesh elements, EPDM hydraulic seals complete with stainless steel legs. Medium: water and glycol solutions; max. percentage of glycol 50 %. Maximum working pressure 10 bar. Working temperature range 0–90 °C. Filter mesh size 100 µm. Pressure gauge with 0-10 bar pressure scale. Floor supports for sizes DN 80 (from DN 80 to DN 150). Magnetic induction for DN 80–100 28: x 0,475 T, DN 125–DN 150: 54 x 0,475 T. PATENT PENDING.

We reserve the right to make changes and improvements to our products and the related technical data in this publication, at any time and without prior notice.

The website www.caleffi.com always has the most up-to-date version of the document, which should be used for technical verifications.