

ART.2220

**COMBIFAR** Deaerator - Dirt Separator for heating systems.



ART.2225

**COMBIFAR** Deaerator - Dirt Separator for heating systems for the elimination of iron particles.



WITH MAGNETIC INSERTS

ART.2229

**COMBIFAR** Swiveling Deaerator - Dirt Separator for heating systems.



ART.2231

**COMBIFAR** Swiveling Deaerator - Dirt Separator for heating systems for the elimination of iron particles.



WITH MAGNETIC INSERTS

## 1 DESCRIPTION

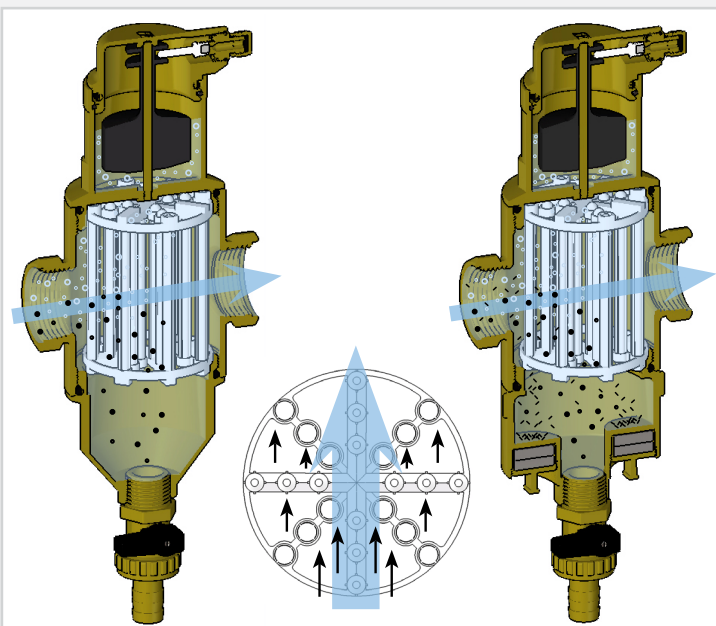
The deaerator and dirt-separator COMBIFAR is designed to remove from the heating system the air bubbles and the impurities, like iron particles, thus improving heat exchange and ensuring good thermal fluid circulation. The COMBIFAR has an internal chamber that reduces the flow rate and decreases the drag force, facilitating the separation of impurities. A cartridge with vertical bars is placed in this chamber transversally to the flow direction. The sediments deposit at the bottom of the chamber and they are flushed out through the opening of a drain cock.

An air vent valve is placed on the top part of the COMBIFAR, in order to remove the gas and air bubbles.

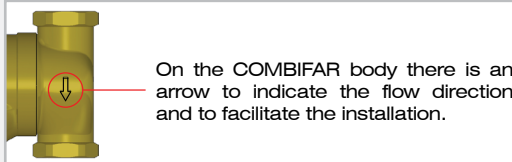
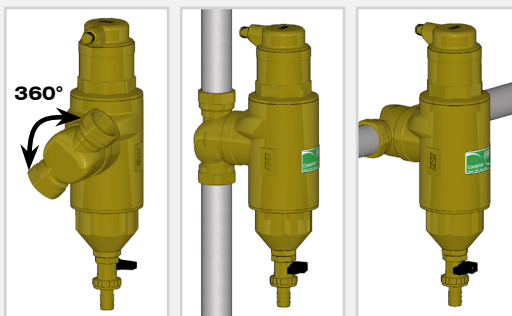
## 2 WORKING PRINCIPLE AND CONSTRUCTION DETAILS

As illustrated, the use of vertical bars aligned to the direction of the fluid maximizes the surface area for contact with particles of dirt suspended in the fluid. Small tongues create turbulence to slow the flow rate and facilitate the separation of impurities which fall by gravity, while air bubbles are guided to the air vent valve on top.

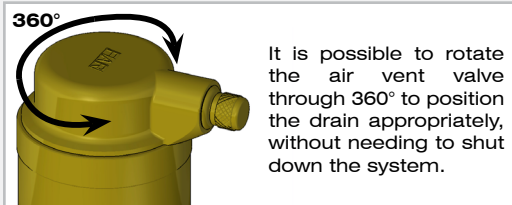
COMBIFAR art.2225-2231, equipped with magnetic inserts, offer an extra advantage in the elimination of iron particles in older systems, which are subject to corrosion and where there is a high dirt concentration.



The swiveling COMBIFAR can be installed on the pipeline in either vertical or horizontal position, as the part with threaded connections can rotate 360° around its own axis.



On the COMBIFAR body there is an arrow to indicate the flow direction and to facilitate the installation.



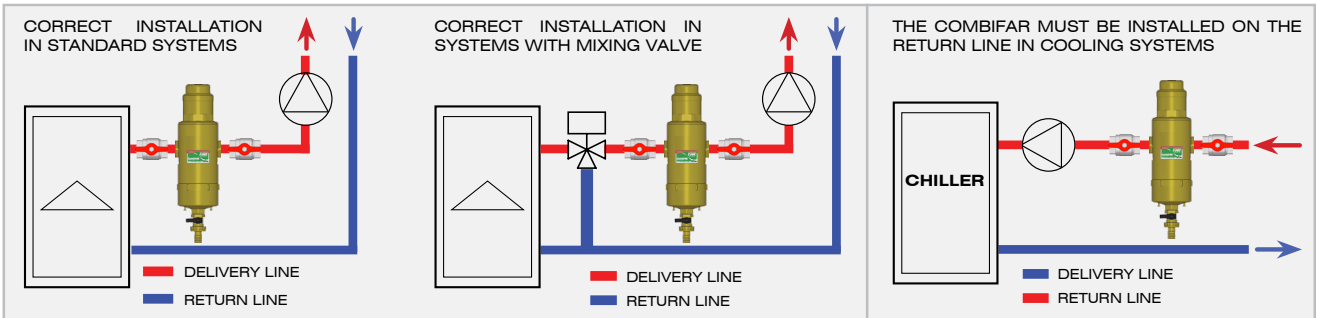
It is possible to rotate the air vent valve through 360° to position the drain appropriately, without needing to shut down the system.

### 3 INSTALLATION



**WARNING:** Because of the magnetic inserts, anybody fitted with a pacemaker is advised to keep a safe distance during operation and maintenance. Attention should also be paid to the use of electronic equipment near magnetic inserts to avoid interference.

The COMBIFAR should be placed on the delivery line of the heating system, right after the boiler, where the fluid temperature is higher. This is because air bubbles that can damage some components or create malfunctioning are created during the heating of water in the boiler. It is recommended to install the COMBIFAR between two isolating valves for maintenance.

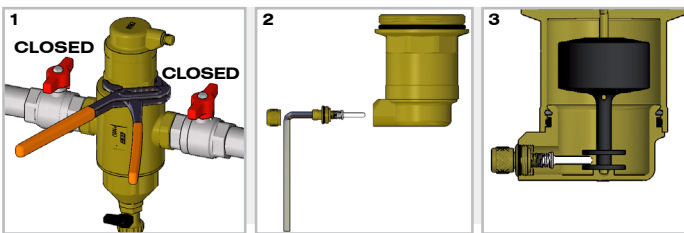


**Warning!** For proper operation the COMBIFAR should always be installed in a vertical position.

### 4 MAINTENANCE

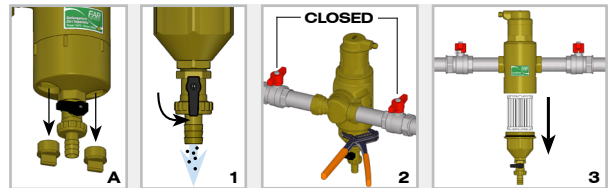
#### Air vent valve maintenance

In order to carry out maintenance, it is first necessary to close the isolating valves located before and after the COMBIFAR, and then unscrew the upper body using a plumbing wrench (picture 1). In the event of leakage from the air vent valve it is necessary to clean or replace it as follows: remove the cap and use a 4 mm Allen key to unscrew the air vent valve. Then proceed with cleaning or replacement (picture 2). For the correct insertion of the stem on the float, unscrew with the upper body of the COMBIFAR upside down and the air vent valve as shown in picture 3.



#### Cartridge maintenance

The COMBIFAR requires a periodical maintenance of the internal cartridge to remove the deposited impurities. In addition to the usual discharge procedure through the drain cock located at the bottom (picture 1), it is possible to unscrew the lower body using a plumbing wrench (picture 2) and remove the filter cartridge for cleaning (picture 3), in order to remove all the impurities.



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Before starting the maintenance, remove the magnetic inserts by unscrewing them by hand, as shown in Picture A, then it is possible to proceed with the dirt separator cleaning, as mentioned above.

### 5 TECHNICAL FEATURES

Body: CB753S brass  
 Upper cap: CW617N brass  
 Bottom cock: CW617N brass

Filter cartridge: PA6  
 O-Ring: EPDM  
 Available size: 3/4" - 1"

Nominal pressure: 10 bar  
 Fluid maximum speed: 1.4 m/s  
 Max. working temperature: 110°C

### 6 FLUID-DYNAMIC AND DIMENSIONAL FEATURES

