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**Compact, lightweight dirt separator designed for closed heating and cooling systems.**

**Working principle:**

Water will be taken out of the main flow via a compressed particles extractor into a tranquillity zone where:

*Air Separator:* the substantially lowered flow speed will allow air particles to rise, merge together (coalescence) and escape from the fluid to be extracted via a float vent

*Dirt Separator:* the substantially lowered flow speed will allow dirt particles to separate from the fluid and sink down. Magnetite will be collected by a magnetic field. Removal of the magnet will allow the magnetite to sink. All dirt particles can be released via a ball valve.

*Air and Dirt Separator:* the substantially lowered flow speed will allow air particles to rise, merge together (coalescence) and escape from the fluid to be extracted via a float vent. Also, dirt particles will separate from the fluid and sink down. Magnetite will be collected by a magnetic field. Removal of the magnet will allow the magnetite to sink. All dirt particles can be released via a ball valve.

The processed water will re-enter the flow in front of the extraction point in the centre of the main flow, causing the unprocessed water to be pushed to the outside towards the compressed particles extractor.

**The air and dirt separator shall comprise:**

* A 360° rotatable brass connection base with two [ 22mm | 3/4 " | 1" | 1 1/4 " |1 1/2"| 2”] in line connections
* Housing manufactured from high performance Nylon (PPA: Poly Phtal Amide).
* A conical shaped brass venting cap
* 4 neodymium super magnets

**The air separator should be suitable for the following specifications:**

* Working temperatures up to 120° C
* Working pressures up to 10 bar.
* Water/glycol mixtures up to 50%.
* Functioning separation at flow speeds up to 3 m/s.
* Significantly low flow resistance to support low energy consumption for a green environment.
* Suitable for IE4 class (super premium efficiency) systems (IEC TS 60034-31 Ed. 1).