Brass MB – Air Separator

Description

The Brass MB is a high efficiency in-line air separator suitable for use on heating and chilled systems. In sealed heating systems free and dissolved air cause a number of problems. Micro-bubbles form on the pump suction as a direct result of localised pressure drop. This directly affects the liquid displacement of rotary pumps, reducing the flow capacity and therefore the efficiency of the system. The presence of micro-bubbles and dissolved gas can reduce the liquid displacement of a pump by 10 to 45%. Heat will also allow dissolved gasses to be drawn out of solution, following Henry's law, placement of this equipment is important to guarantee effective operation. Effective removal of free air is essential for increasing the operational life of the system as a whole.

Product Features

- PALL Ring Technology
- Additional manual air vent for rapid air release during commissioning

Certifications and Standards Applied

- PED 97/23/EC Sound Engineering Practice
- EN 60534-2-3
- DIN 2633
- CE Marked

Maximum Operating Conditions

- Maximum Working pressure: 10 Bar
- Working Temperature Range: -10°C to 120°C
- Maximum Velocity: 1.5 m/s
- Connections: 22mm & 3/4" to 1-½"

Applications

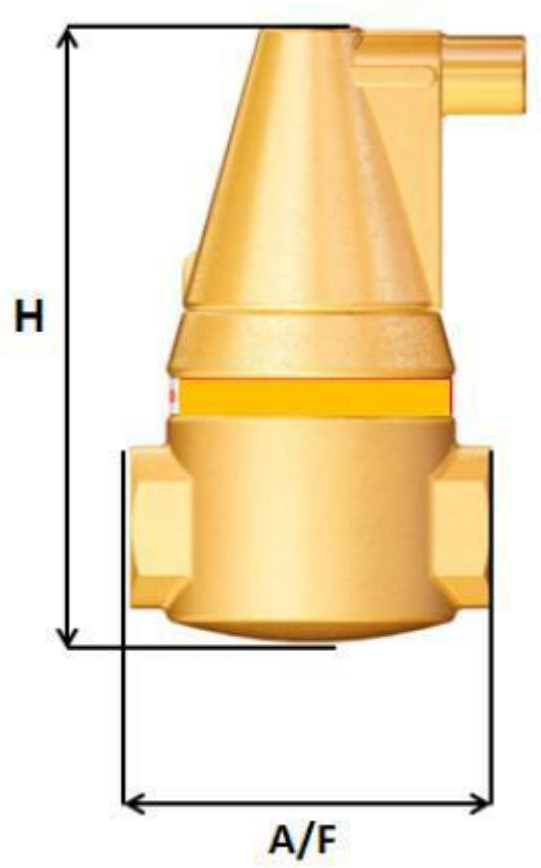
- Heating system
- Chilled System

Technical:

- Brass housing, corrosion resistant internals.
- Maximum operating pressure: 10.0 bar.
- Maximum working temperature: 120 °C.
- Maximum flow velocity: 1.5 m/s.

Material of Construction

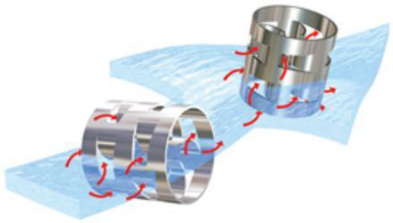
- Main Body: Brass
- PALL Rings: 316 Stainless Steel
- Air Chamber: Automatic Air Vent



Type	Flow Rate (l/s)	Volume (l)	Dimensions (mm)		Weight (Kg)	Order Code
			Across Face	Height		
22 mm	0.6	0.22	98	151	1.4	18711222
3/4" BSP	0.51	0.22	88	151	1.4	18710006
1" BSP	0.75	0.35	100	171	1.8	18710017
1 1/4" BSP	1.25	0.48	114	192	2.4	18710028
1 1/2" BSP	1.9	0.48	114	192	2.5	18710039

Installation & Placement:

The Brass MB should preferably be installed in the hottest part of the system, (typically the flow pipe from the heat exchanger). The Brass MB should also preferably be situated on the suction side of the circulating pump to take advantage of the localised pressure drop.



PALL RINGS

The cross section presented to the flowing water has no clear path through, all the water is diverted over the PALL rings. The increased surface area and hydrofoil action of the PALL rings allow further pockets of lower pressure to develop accelerating the de-aeration process and promoting coalescence (micro bubbles merging into larger more buoyant bubbles) on the large stainless steel surface area of the PALL rings. The automatic air vent on the top of the unit is then used to vent the larger bubbles to atmosphere.

This unit also utilises a sump / sludge trap. As water borne debris hits the Pall rings the forward momentum is lost, the debris is then free to fall into the sludge trap ready for manual venting at a later stage.

Pressure Loss Chart

PRESSURE DROP

The expression for the calculation of pressure drop in relation to flow rate on Air and Dirt removal equipment is as follows:

Δp Pressure Drop (KPa)
f Water Flow Rate (l/s)
K Equipment Co-efficient (see right)

$$\Delta p = f^2 * K$$

Size	K
50	0.225
65	0.0864198
80	0.046875
100	0.015625
125	0.0073
150	0.0034444
200	0.00125
250	0.0005
300	0.0002667
350	0.0001667
400	0.0001041
500	4.444E-05
600	2.089E-05