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Flamco DN 25/1

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Instruction Manual

1. INTRODUCTION

The Flamco EcoPlus Air Separator with EPP thermal protection, model DN 25/1", is designed to efficiently remove air from closed hot and cold water systems. This device plays a crucial role in maintaining system performance and longevity by preventing air-related issues such as corrosion, noise, and reduced heat transfer efficiency.

Utilizing internal stainless steel PALLL rings, the separator converts microscopic air bubbles into larger, more easily removable bubbles. These larger bubbles then rise to the top of the unit for automatic discharge through the integrated bleed valve. The robust brass construction ensures durability, while the EPP thermal insulation helps maintain system temperature and efficiency.



Image 1.1: Flamco EcoPlus Air Separator with EPP thermal insulation.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in property damage, injury, or death.

- **Qualified Personnel:** Installation and maintenance should only be performed by qualified and authorized personnel in accordance with local regulations and standards.
- **Pressure and Temperature:** Ensure the system pressure and temperature do not exceed the maximum limits specified for this device (10 bar and 120 °C).
- **System Depressurization:** Always depressurize the system and allow it to cool before attempting any installation, maintenance, or inspection.
- **Hot Surfaces:** The device and surrounding pipes may become hot during operation. Avoid direct contact to prevent burns.
- **Antifreeze:** This device is compatible with glycol-based antifreeze solutions up to 50%. Ensure proper concentration to avoid damage or reduced performance.
- **Leakage:** After installation, carefully check for leaks at all connection points.

3. PRODUCT OVERVIEW

The Flamco EcoPlus Air Separator is engineered for optimal air removal in hydronic systems. Its design incorporates several key features:

- **Brass Housing:** Provides robust and corrosion-resistant construction.
- **Stainless Steel PALLL Rings:** These internal components facilitate the coalescence of micro-bubbles into larger, more easily vented air pockets.
- **EPP Thermal Insulation:** An external layer of EPP (Expanded Polypropylene) insulation minimizes

heat loss or gain, contributing to system efficiency.

- **Automatic Bleed Valve:** Located at the top of the unit, this valve automatically discharges accumulated air from the system. It can also be manually closed if required.



Image 3.1: Flamco EcoPlus Air Separator brass body, showing connection points.



Image 3.2: Flamco EcoPlus Air Separator with EPP thermal insulation, side view.

4. SETUP AND INSTALLATION

Proper installation is critical for the effective operation of the air separator.

4.1. Location

- Install the air separator at the highest point of the system where air naturally collects.
- For optimal performance, install it in the flow pipe, preferably after the heat source (e.g., boiler) and before the first system component.
- Ensure sufficient clearance above the bleed valve for maintenance and air discharge.

4.2. Mounting

- The Flamco EcoPlus Air Separator is designed for flexible installation and can be mounted both horizontally and vertically.
- Ensure the bleed valve is always positioned vertically upwards to allow for proper air venting.

- Use appropriate sealing materials (e.g., PTFE tape or pipe sealant) on threaded connections to prevent leaks.

4.3. Connection

- Connect the air separator to the system piping using the 1" NPT threaded connections.
- Tighten connections securely but do not overtighten to avoid damaging the brass housing.

4.4. Initial Fill and Venting

- After installation, slowly fill the system with water.
- The automatic bleed valve will begin to discharge air as the system fills.
- Monitor system pressure and ensure it remains within the recommended operating range.

5. OPERATING INSTRUCTIONS

The Flamco EcoPlus Air Separator operates automatically once installed and the system is filled. It continuously removes air from the circulating water.

5.1. Automatic Operation

The internal PALLL rings facilitate the separation of air from the system fluid. The separated air accumulates in the upper chamber of the device and is automatically released through the bleed valve when a sufficient volume is collected.

5.2. Manual Bleed Valve

The bleed valve can be manually closed by turning the cap clockwise. This may be necessary during system maintenance or if the valve needs to be replaced. Ensure the valve is open (cap turned counter-clockwise) during normal operation for continuous air removal.

6. MAINTENANCE

The Flamco EcoPlus Air Separator is designed for minimal maintenance. However, periodic checks are recommended to ensure optimal performance.

- **Visual Inspection:** Periodically inspect the unit for any signs of leakage, corrosion, or damage to the EPP insulation.
- **Bleed Valve Check:** Ensure the automatic bleed valve is not obstructed and can freely discharge air. If the valve appears to be stuck or leaking, it may require cleaning or replacement.
- **System Pressure:** Regularly monitor the system pressure. Consistent low pressure might indicate excessive air in the system or a faulty air separator.
- **Cleaning:** If the bleed valve becomes clogged, it may be carefully cleaned. Ensure the system is depressurized before attempting any cleaning.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Persistent gurgling noises in the system.	Air still present in the system.	Allow sufficient time for the air separator to remove all air. It may take several days (e.g., up to a week) for all dissolved air and micro-bubbles to be fully vented, especially after initial system fill. Ensure the bleed valve is open.
Water leakage from the bleed valve.	Bleed valve faulty or clogged.	Close the manual cap on the bleed valve. Depressurize the system and inspect the valve for debris. Clean or replace the bleed valve if necessary.
No air discharge from the bleed valve.	Bleed valve closed or clogged; no air in system.	Ensure the bleed valve cap is open (turned counter-clockwise). Check for blockages. If the system is operating quietly, there might simply be no air to vent.
Reduced heating/cooling efficiency.	Air trapped in system components.	Verify the air separator is installed at the highest point. Check for proper system pressure. Allow time for the separator to work. Manually vent radiators if applicable.

8. SPECIFICATIONS

Feature	Detail
Brand	Flamco
Model	EcoPlus DN 25/1"
Part Number (ASIN)	B07F2LWR94
Internal Model Number	fe0a7eff-f31c-4621-aea1-0abcbb142131
Material	Brass, Stainless Steel (PALLL rings)
External Finish	EPP Thermal Insulation
Max. Operating Pressure	10 bar (145 psi)
Max. Operating Temperature	120 °C (248 °F)
Inlet Connection Size	1 Inch
Inlet Connection Type	NPT Thread
Outlet Connection Size	1 Inch
Outlet Connection Type	NPT Thread (Available sizes: 22 mm, 3/4", 1", 1 1/4", 1 1/2", or 2")
Number of Ports	2
Valve Type	Automatic Bleed Valve
Antifreeze Compatibility	Glycol-based up to 50%
Compliance	CE, Frost protection

9. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or spare parts, please contact Flamco customer service or your authorized dealer. Keep your purchase receipt as proof of purchase.

Contact details can typically be found on the Flamco official website or on the product packaging.