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› Amtrol 444-1 Air Purger Instruction Manual

Amtrol 444-1

Amtrol 444-1 Air Purger Instruction Manual

Model: 444-1

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1. PRODUCT OVERVIEW

The Amtrol 444-1 Air Purger is designed to efficiently remove dissolved air from hot water heating systems. Water introduced into a heating system, whether initially or as make-up, contains dissolved air. When this water is heated, the air is released and can circulate within the system, necessitating venting. This air purger continuously separates and collects air from the circulating water, allowing it to be automatically vented by a float air vent, thereby eliminating the need for frequent manual venting.



Figure 1: The Amtrol 444-1 Air Purger. This image shows the main body of the air purger, a robust grey cast iron component. It features threaded connections at both ends for integration into the main heating system line, and a smaller threaded tapping on the top for connecting an automatic air vent. The brand name "AMTROL" and "AIR PURGER" are embossed on the side, along with an "INLET" marking indicating flow direction.

2. SAFETY INFORMATION

Read all instructions carefully before installation and operation. Failure to follow these instructions could result in property damage, personal injury, or death.

- Ensure the heating system is depressurized and cooled before attempting any installation or maintenance.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Installation should be performed by a qualified professional in accordance with local codes and regulations.
- Do not exceed the maximum operating pressure or temperature specified for the device.
- Keep children and unauthorized personnel away from the installation area.

3. INSTALLATION

Proper installation is crucial for the efficient operation of the air purger.

1. **System Preparation:** Ensure the hydronic heating system is completely drained and depressurized. Allow the system to cool down to a safe temperature.
2. **Location:** Install the Amtrol 444-1 Air Purger horizontally on the main return line of the heating system. It should be positioned as close to the boiler as possible to maximize air separation efficiency.
3. **Orientation:** Observe the "INLET" marking on the purger body to ensure correct flow direction. The purger must be installed with the flow arrow pointing towards the boiler.
4. **Connections:** Use appropriate pipe thread sealant on all threaded connections. Securely tighten the purger into the main line.

5. **Air Vent Connection:** Connect an automatic float air vent to the threaded tapping on the top of the air purger. Ensure this connection is also sealed and tightened properly. The air vent allows the separated air to be expelled from the system.
6. **System Refill:** After installation, slowly refill the heating system, ensuring all manual air vents (if present) are open to allow initial air purging. Close manual vents once water flows steadily.
7. **Leak Check:** Once the system is refilled and pressurized, carefully inspect all connections for leaks.

4. OPERATING INSTRUCTIONS

The Amtrol 444-1 Air Purger operates automatically once installed correctly within a hydronic heating system.

- As water circulates through the heating system and passes through the air purger, dissolved air is released, particularly as the water heats up.
- The design of the purger facilitates the separation of these air bubbles from the water flow.
- The separated air rises to the top of the purger body and collects in the chamber.
- The connected automatic float air vent then detects the presence of this accumulated air and automatically opens to release it from the system.
- Once the air is expelled, the float in the air vent drops, closing the vent and preventing water loss.
- This continuous process ensures that air is effectively removed from the system, preventing issues such as noise, reduced heating efficiency, and corrosion.

5. MAINTENANCE

The Amtrol 444-1 Air Purger is designed for minimal maintenance. However, periodic checks of the associated automatic air vent are recommended.

- **Annual Inspection:** Annually inspect the air purger and the connected automatic air vent for any signs of leaks, corrosion, or damage.
- **Air Vent Functionality:** Periodically check the automatic air vent for proper operation. If the system exhibits signs of air (e.g., gurgling noises, cold spots in radiators), the air vent may be clogged or faulty and might require cleaning or replacement. Refer to the air vent manufacturer's instructions for specific maintenance procedures.
- **Cleaning:** The air purger itself typically does not require internal cleaning. If external dirt or debris accumulates, wipe it clean with a damp cloth.
- **System Water Quality:** Maintaining good system water quality (e.g., using inhibitors) can help prevent internal corrosion and extend the life of all hydronic system components, including the air purger.

6. TROUBLESHOOTING

If you experience issues with air in your hydronic heating system after installing the Amtrol 444-1 Air Purger, consider the following:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Air still present in the system (e.g., noisy pipes, cold radiators).	<ul style="list-style-type: none"> Faulty or clogged automatic air vent. Improper installation (e.g., incorrect orientation, not close enough to boiler). Excessive air ingress from make-up water or leaks. System not fully purged during initial fill. 	<ul style="list-style-type: none"> Inspect and clean or replace the automatic air vent. Verify the purger is installed horizontally on the main return line, close to the boiler, with correct flow direction. Check for leaks in the system and ensure make-up water is properly managed. Manually vent the system at all high points and re-check purger operation.
Water leaking from the air purger or vent.	<ul style="list-style-type: none"> Loose connections. Damaged air vent. Cracked purger body (rare). 	<ul style="list-style-type: none"> Tighten all threaded connections. Replace the automatic air vent if it is leaking. If the purger body is damaged, the unit must be replaced.

If troubleshooting steps do not resolve the issue, contact a qualified HVAC professional.

7. SPECIFICATIONS

- **Model:** Amtrol 444-1
- **Part Number:** 444-1
- **Type:** Hydronic Air Purger
- **Material:** Cast Iron (typical construction for such devices)
- **Item Weight:** 0.01 ounces (Note: This value appears unusually low and may be a data entry error. Actual weight for a cast iron component of this size would be significantly higher.)
- **Product Dimensions:** 4 x 2.5 x 6 inches
- **Manufacturer:** APR Supply Co.
- **Date First Available:** August 24, 2010

8. WARRANTY AND SUPPORT

For specific warranty information, please refer to the documentation provided with your purchase or contact Amtrol directly. Warranty terms and conditions may vary based on region and retailer. For technical support or further assistance, please contact your supplier or a qualified HVAC professional.