



FILL-TROL®

COMBINATION EXPANSION TANK AND VALVE UNITS INSTALLATION & OPERATION INSTRUCTIONS

Models FT-109 through FT-111
For Use In Closed Hydronic Systems Only



NOTE: Inspect for shipping damage. Notify freight carrier or store where purchased immediately if damage is present. To avoid risk of personal injury and property damage, if the product appears to be malfunctioning or shows signs of corrosion, call a qualified professional immediately. Current copies of the product manual can be viewed at www.amtrol.com. Use proper safety equipment when installing.



THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY AND OTHER HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO REDUCE THE RISK OF PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.

WARNING **USE ONLY IN CLOSED HYDRONIC SYSTEMS.** Do not install on domestic water systems, or in open heating systems. Corrosion and tank failure may result. Use a Therm-X-Trol® or Therm-X-Span® for domestic water systems. Use a Radiant EXTROL® for radiant heating systems where air elimination equipment or barrier tubing is not used.

WARNING **READ CAREFULLY THE PRODUCT INSTALLATION, OPERATING AND MAINTENANCE MANUAL. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THE MANUAL MAY RESULT IN SERIOUS OR FATAL INJURY AND/OR PROPERTY DAMAGE, AND WILL VOID THE PRODUCT WARRANTY. THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED PROFESSIONAL. FOLLOW ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS, IN THE ABSENCE OF SUCH CODES, FOLLOW THE CURRENT EDITIONS OF THE NATIONAL PLUMBING CODE AND NATIONAL ELECTRIC CODE, AS APPLICABLE.**

WARNING This Product, like most Products under pressure, may over time corrode, weaken and burst or explode, causing serious or fatal injury, leaking or flooding and/or property damage. To minimize risk, a licensed professional must install and periodically inspect and service the Product. A drip pan connected to an adequate drain must be installed if leaking or flooding could cause property damage. Do not locate in an area where leaking could cause property damage to the area adjacent to the appliance or to lower floors of the structure.

CALIFORNIA PROPOSITION 65 WARNING! This product contains a chemical known by the State of California to cause cancer and to cause birth defects or other reproductive harm. (California Installer/Contractor - California law requires that this notice be given to consumer/end user of this product.) For more information: www.amtrol.com/prop65.html

WARNING **RUPTURE OR EXPLOSION HAZARD.** Do not expose product to freezing temperatures or temperatures in excess of 240°F. Do not adjust the pre-charge or re-charge this Product except during installation or regular inspection. Replace the Product and do not adjust the pre-charge if corroded, damaged or with diminished integrity. Adjustments to pre-charge must be done at ambient temperature only. Failure to properly size the Product or follow these instructions may result in excessive strain on the system and may lead to Product failure, serious or fatal personal injury, leakage, and/or property damage.

WARNING A relief valve must be installed to prevent pressure in excess of local code requirement or maximum working pressure designated in the Product Manual, whichever is less. At least once every 3 years or if discharge is present, a licensed contractor should inspect the pressure relief valve and replace if corrosion is evident or the valve does not function. **FAILURE TO INSPECT THIS VALVE AS DIRECTED COULD RESULT IN UNSAFE PRESSURE BUILD-UP WHICH CAN RESULT IN PRODUCT FAILURE, SERIOUS INJURY OR DEATH AND/OR SEVERE PROPERTY DAMAGE AND VOID THE PRODUCT WARRANTY.**

WARNING **Chlorine & Aggressive Water:** The water quality can significantly influence the life of this Product. You should test for corrosive elements, acidity, total solids and other relevant contaminants, including chlorine and treat your water appropriately to insure satisfactory performance and prevent premature failure.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY
IMPORTANT GENERAL SAFETY INFORMATION -
ADDITIONAL SPECIFIC SAFETY ALERTS APPEAR IN THE FOLLOWING INSTRUCTIONS.

FILL-TROL® is a combination of an EXTROL® expansion tank and a specially designed automatic pressure reducing valve. Together, they manage water expansion to provide satisfactory heating system performance.

The EXTROL is pre-charged at the factory to 12 PSIG and is ready to install in most residential and light commercial systems without adjustment. The valve is designed to fill the system with water and automatically shut off the flow when it reaches the precharge pressure in the tank. It will also restore the system to 12 PSIG if the pressure drops below that point. The precharge may be changed to set the desired fill pressure.

Pre-Installation

1. Visually inspect for any damage. Ensure expansion tank is sized properly for application (Figure 1).
2. Remove plastic cap from air valve.
3. With tank empty of water, adjust air precharge to desired system fill pressure. Unit is shipped at 12 PSIG.
4. Replace and tighten plastic cap on air valve.

WARNING FAILURE TO PROPERLY SEAL VALVE CAP WILL RESULT IN LOSS OF PRECHARGE CAUSING PRODUCT TO FAIL.

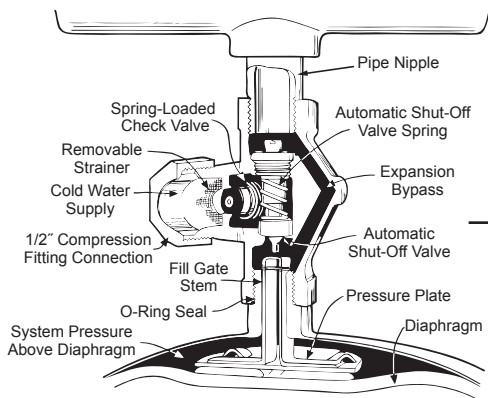
Installation

1. Drain the boiler system or isolate the area where the unit will be installed.
2. Install the unit on the supply side of the boiler, on the suction-side of the heating circulator(s) (Figure 2).

WARNING Mount tank vertically only. Ensure the piping can support the entire weight of the tank when full of water.

WARNING Do not install on a dead-end pipe or wherever air can collect; causing internal corrosion and possible leakage.

3. Make connection to system with 1/2" pipe nipple from tapping marked SYSTEM.
4. Connect cold water supply to 1/2" compression fitting connection at SUPPLY.
5. Pressurize the system and check for leaks. Repair as necessary.
6. Restart the boiler system and check for relief valve discharge. If the relief valve drips, the tank may be improperly charged or undersized.
7. The unit is now operational and will absorb expanded water during boiler operation.



Maintenance

To remove screen in Fill-Trol valve for cleaning, shut off main water supply to heating system and remove compression nut.

A professional plumber should check the complete system, including the expansion tank, yearly and more frequently as the system ages. Checking the precharge allows a small amount of air to escape and can result in an insufficient air charge. Always check the precharge while the tank is isolated and empty of water. Be sure to maintain the proper precharge whenever the tank is inspected.

Operation

Water enters the Fill-Trol valve through the 1/2" compression fitting connection, passes through the removable strainer and pushes open the spring-loaded check valve. It then flows through the automatic shut-off valve which is held in the open position by the diaphragm pushing against the pressure plate. This raises the fill-gate stem and compresses the automatic shut-off valve spring allowing water to flow into the heating system. It is the charge pressure in the tank that forces the diaphragm into position.

As the system reaches the fill pressure, the diaphragm moves, allowing the automatic shut-off valve to close.

When the system falls below the fill pressure, the diaphragm again pushes open the automatic shut-off valve, allowing water to flow into the system and restore system pressure.

The Fill-Trol is shipped with a factory precharge of 12 PSIG which automatically sets the minimum fill pressure to 12 PSIG. Other minimum fill pressures may be used by increasing or decreasing the air charge in the tank. Carefully follow the instructions for changing the air charge.

Warranty

FT Models: Five (5) Year Limited Warranty

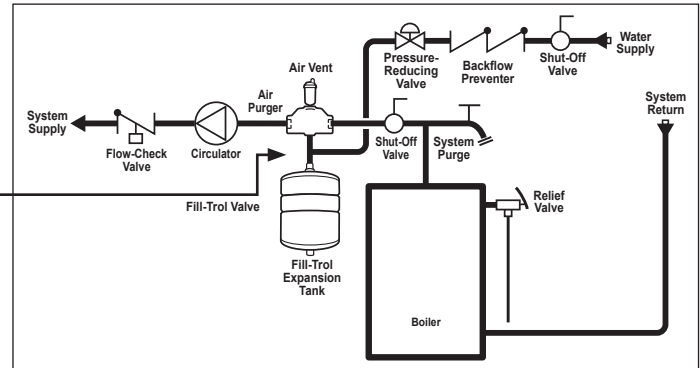
Visit www.amtrol.com for complete warranty details.

Figure 1.

Boiler Net Output in 1000'S of BTU/Hr.	Type of Radiation			
	Finned Tube Baseboard or Radiant Panel	Convectors or Unit Heaters	Radiators Cast Iron	Baseboard Cast Iron
25	FT-109	FT-109	FT-109	FT-109
50	FT-109	FT-109	FT-110	FT-110
75	FT-110	FT-110	FT-110	FT-111
100	FT-110	FT-110	FT-111	FT-111
125	FT-110	FT-111	FT-111	NA
150	FT-110	FT-111	NA	NA
175	FT-111	FT-111	NA	NA
200	FT-111	FT-111	NA	NA
250	FT-111	NA	NA	NA

Sizing based on: 12 psig Fill; 30 psig Relief Valve; 200°F Average Temperature.

Figure 2.



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