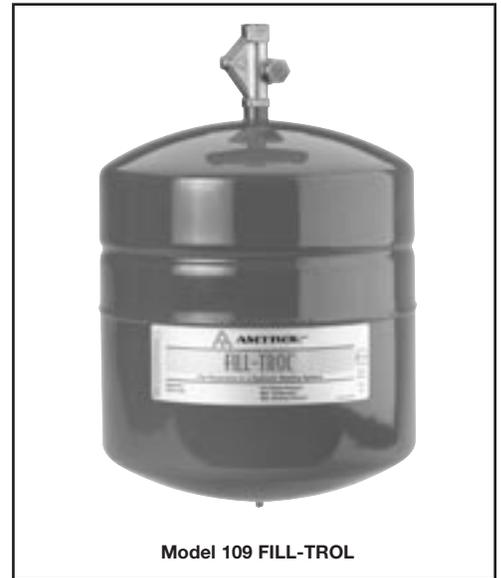


The FILL-TROL® UNIT

The FILL-TROL unit is a combination TANK (the unique, specially adapted, pressurized, EXTROL® diaphragm-type expansion tank), and a specially designed automatic pressure reducing valve. The FILL-TROL tank provides an air chamber to receive the expanded volume of water, which is created in the heating system as the water is heated. It is, therefore, essentially an expansion tank. Pressurizing the tank with a 12-psig air charge results in the pressure-reducing valve being set to 12 psig. Any adjustment to the precharge automatically adjusts the pressure reducing valve setting. It is air-charged at the factory to 12 psig and is ready to install in residential and most commercial systems without adjustments when received.

The FILL-TROL valve fills the system with water and automatically shuts off the flow when the system is filled and pressurized to 12 psig. It will also restore the system pressure to 12 psig if the pressure falls below this point.

The FILL-TROL unit, therefore, will automatically take care of system water expansion and automatically fill the system and maintain a minimum system pressure in a simple manner to provide a more satisfactory heating system operation.



INSTALLATION

An ideal residential FILL-TROL installation is to mount it on the bottom of an AMTROL American air vent and purger, located on the heating system supply main or it may be in a standard pipe tee (see Figure 1).

To Install

1. Make connection to system with 1/2" pipe nipple from tapping marked "SYSTEM".
2. Connect 1/2" copper tubing cold water supply to 1/2" compression fitting connection at "SUPPLY".

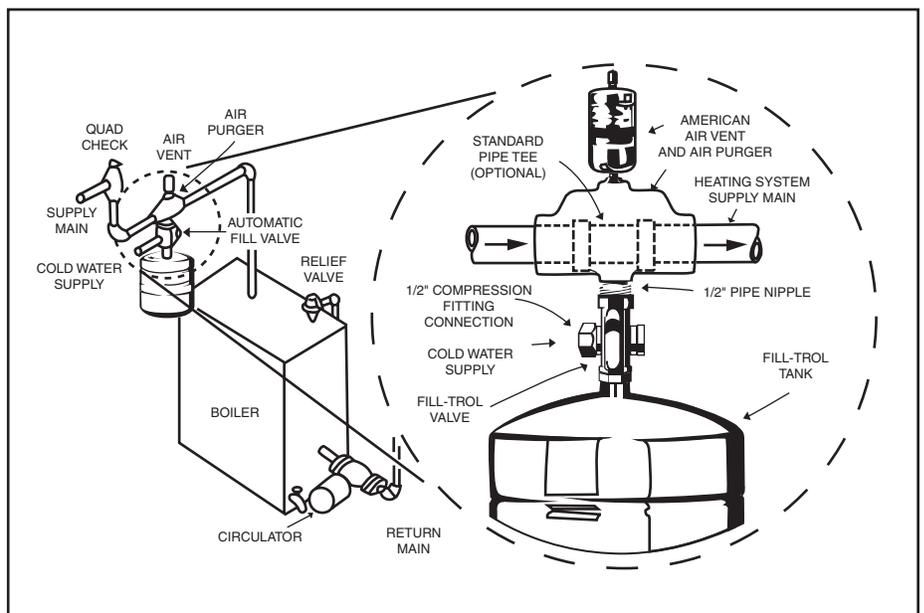


FIGURE 1

(OVER)

OPERATION

The FILL-TROL unit operates in the following manner:

Referring to Figure 2, water enters the FILL-TROL valve through the 1/2" compression fitting connection, passes through the 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 charge pressure in the FILL-TROL tank forcing the diaphragm against the pressure plate, which raises the fillgate stem, compressing the automatic shut-off valve spring. The water then flows through the valve body and through the system connection to the heating system. As the system reaches fill pressure of 12 PSI, the diaphragm in the FILL-TROL tank depresses, permitting the automatic shut-off valve to close (see Figure 3).

If the system falls below 12 PSI, the diaphragm again pushes open the automatic shut-off valve, permitting water to flow into the system to restore system pressure.

NOTE: Although FILL-TROL is shipped from the factory with a standard 12 lb. air charge which automatically sets the minimum fill pressure to 12 lbs., other minimum fill pressures may be selected by simply increasing or decreasing the air charge in the tank to the desired minimum fill pressure. FILL-TROL must be empty (free of water) when changing the air charge.

To place FILL-TROL unit into operation, proceed as follows:

- A. Open water supply shut-off valve and allow system to fill.
- B. After system is filled, the pressure should be 12 psig. After the boiler is brought up to operating temperature, pressure gauge will read higher than fill pressure. If the pressure is higher than desired, draw water from system until desired gauge reading is obtained. A good operating pressure is 18-20 psig. Do not let air out of the FILL-TROL tank.

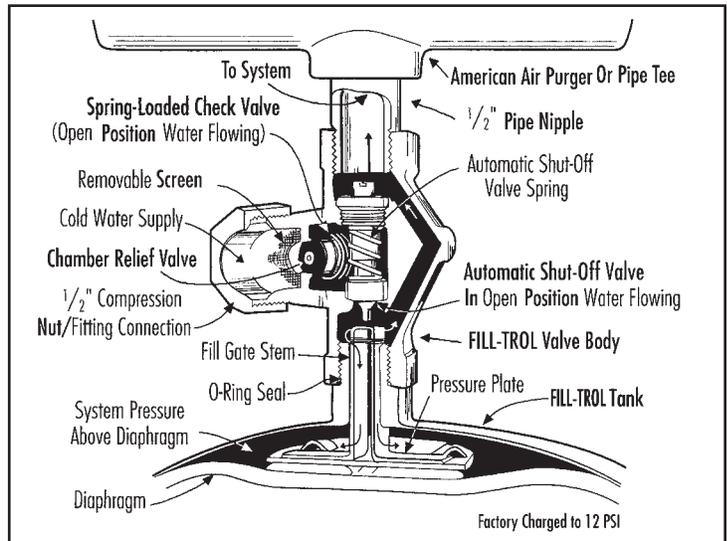


FIGURE 2

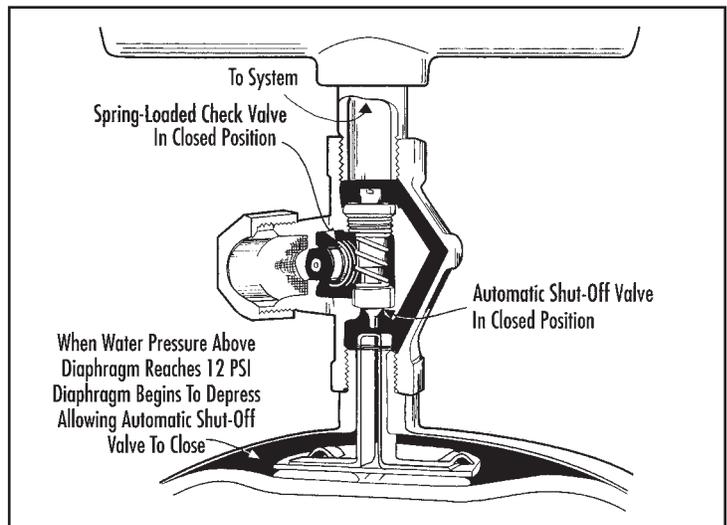


FIGURE 3

SERVICE HINTS

1. If a system is shut down for long periods or emptied, repeat procedure described in Step B, above.
2. If, on reheat cycle, the system pressure is greater than 20 psig:
 - a. Check indicator on boiler gauge.
 - b. Close water supply shut-off and drain system pressure below 12 psig. Open shut-off and allow system to fill. When FILL-TROL valve stops feeding, boiler pressure gauge should read 11-13 psig.
3. If pressure relief valve drips:
 - a. Check system pressure. If pressure is at relief pressure setting, reduce by drawing off boiler water.
 - b. If drip continues at reduced pressure, flush relief valve seat by quickly raising level several times. Inspect FILL-TROL and tank-less heater for leakage if dripping continues.
4. To remove screen in FILL-TROL valve for cleaning, shut off main water supply to heating system and remove compression nut (See Figure 2, above).
5. To make repairs to heating system, simply close water supply shut-off valve and drain system. After repairs have been made, open valve for filling.