



SOLAR EXTROL®

CLOSED LOOP SYSTEM EXPANSION TANKS

INSTALLATION & OPERATION INSTRUCTIONS

Models SE-15, SE-30, SE-60
For Use In Closed-Loop Solar Heating 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, shows signs of corrosion, or if indicator cap is discolored, 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 RESIDENTIAL 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 Solar EXTROL® for closed-loop solar heating systems.

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 250° F (Intermittent); 225° F (Continuous). 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.

SOLAR EXTROL® is designed for use in a closed-loop solar heating systems with a maximum operating temperature of 250° F (Intermittent); 225° F (Continuous).

Pre-Installation

1. Visually inspect for any damage. Ensure expansion tank is sized properly for the application (Figure 1).
2. With tank empty of fluid, remove plastic cap from air stem (Figure 2).
3. Adjust air precharge to match the system fill pressure. Unit is shipped at 25 PSIG.
4. Replace cap and tighten snugly, ensuring the cap is flush against the tank surface.

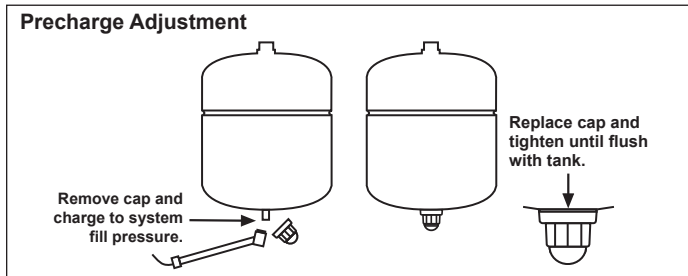
⚠ WARNING FAILURE TO PROPERLY SEAL VALVE CAP WILL RESULT IN LOSS OF PRECHARGE CAUSING PRODUCT TO FAIL.

Figure 1.

Solar Extrol® Sizing					
System Volume (Gallons)	Average System Operating Temperature				
	140° F	160° F	180° F	200° F	220° F
10	SE-15	SE-15	SE-15	SE-15	SE-15
20	SE-30	SE-30	SE-30	SE-30	SE-30
30	SE-30	SE-30	SE-60	SE-60	SE-60
40	SE-60	SE-60	SE-60	Contact AMTROL	
50	SE-60	SE-60	SE-60		

Sizing based on: 25 PSIG fill; 50 PSIG relief valve; 50% water and propylene glycol max. For other applications, consult AMTROL Technical Support.

Figure 2.



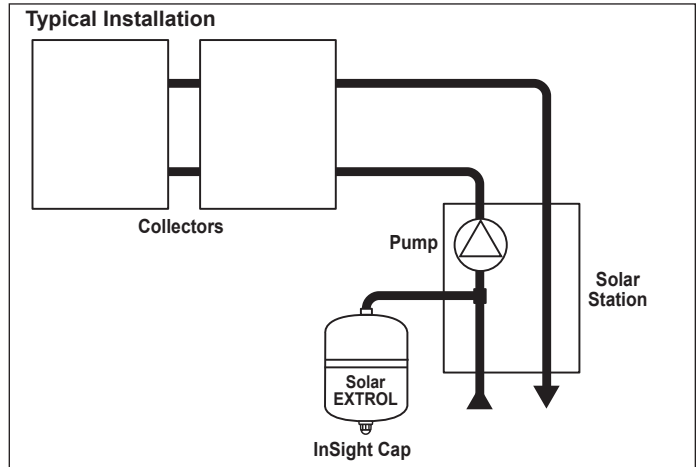
Installation

1. Drain the solar system or isolate the area where the Solar Extrol will be installed.
2. Install the Solar Extrol on the suction-side of the circulator (Figure 3).

- ⚠ WARNING** Mount tank vertically only. Ensure the piping can support the entire weight of the tank when full .
- ⚠ WARNING** Do not install on a dead-end pipe or wherever air can collect. This can cause internal corrosion and possible leakage.
- ⚠ WARNING** Do not install in floor joist space.

3. Once the Solar Extrol is installed, re-pressurize the system and check for leaks. Repair as necessary.
4. Restart the system and check for relief valve discharge. If the relief valve drips, the tank may be improperly charged or undersized.
5. The Solar Extrol is now operational and will absorb expanded fluid during system operation.

Figure 3.



Operation

1. The Solar Extrol is installed on the supply-side of the solar system. Its sealed-in air pre-charge prevents fluid from entering the tank until the system pressure begins to rise.
2. As the water temperature rises, fluid enters the Solar Extrol.
3. As the system cools, the diaphragm is forced downward. Fluid is expelled from the Solar Extrol, back into the system.

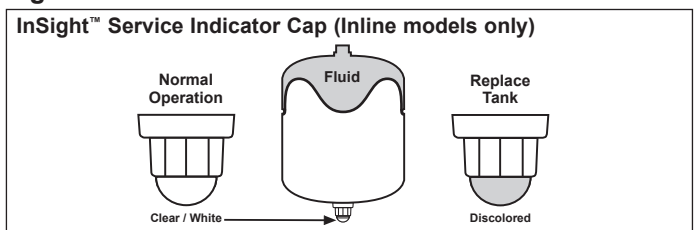
NOTE:

Although the Solar Extrol does not have to be installed at the base of an air purger, this installation is recommended to reduce air in the system and provide a compact installation. Some method of air elimination is required to reduce entrained air.

Maintenance

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 quantity of air to escape and can result in an insufficient air charge. Always check the precharge while the tank is isolated and empty of fluid, and be sure to maintain the proper precharge whenever the tank is inspected. Monitor the tip of the service indicator cap for discoloration (Figure 4) in addition to regular product inspection. Contact the installer or a plumbing professional if indicator cap is discolored; tank replacement required. Do not rely on cap as sole indication of tank condition.

Figure 4.



Warranty

SE Models: Five (5) Year Limited Warranty
 Visit www.amtrol.com for complete warranty details.



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