



Environmental Services

Check List for Customers Connecting to Reclaimed Water Service

- ❑ Receive City of Edgewater's Policies and Procedures Information Packet
- ❑ Read and Review Policies and Procedures Information Packet
- ❑ Complete Part One of the Application/Agreement For Reclaimed Water Service
 - SKETCH – drawing with notations of location for meter box to be installed.
 - Placement of meter MUST be a minimum of 5 feet from your city potable water meter.
 - Placement of meter MUST be a minimum of 5 feet from your driveway.
 - Placement of meter MUST be along city right-of-way on the street of address not the numbered street if on the corner.
 - DON'T FORGET A DAYTIME PHONE NUMBER
- ❑ **Return Completed Application/Agreement to:
City Hall 8:30am-3:00pm Monday, Tuesday, Thursday, Friday.**
- ❑ Application reviewed by City Representatives – this could take a few days.
- ❑ Receive call from City Representative when Application/Agreement is ready for payment to be made at City Hall.
- ❑ Payment made - Receive purple flag from City Representative at City Hall
- ❑ Place purple flag at location where you would like your reclaimed water meter to be installed according to your sketch on Application/Agreement.
- ❑ Purchase a 3/4" hose for connection to meter box, if you wish to use hose hook up.
- ❑ Please allow three weeks from the time of payment for installation of the service.
- ❑ Once reclaimed meter is installed and you have made connection to your irrigation system, please call Environmental Services at 386-424-2400 ext 4007 for a service tech to inspect your irrigation system and install quick-connect to your 3/4" hose you have previously purchased.
- ❑ Please use your reclaimed water according to the water restrictions.
- ❑ If you should have any questions please contact the Department of Environmental Services at 386-424-2400 ext 4007 or 386-424-2400 ext 4006.

**CITY OF EDGEWATER
CARE-CITIZENS APPLYING REUSE EFFECTIVELY
RECLAIMED WATER SYSTEM
NEW CUSTOMER ORIENTATION PACKAGE**

This package is provided to all new customers. Literature contained in this package includes:

- ❖ Application/Agreement for Reclaimed Water Service
- ❖ Check List for Customers Connecting to Reclaimed Water Service
- ❖ City of Edgewater Reclaimed Water System
- ❖ Protecting Your Home or Business Against Cross-Connections
- ❖ Customer Orientation Citizens Applying Reuse Effectively (C.A.R.E.) System
- ❖ Reclaimed Water – Water Restrictions
- ❖ Reasons to use Reclaimed Water
- ❖ Irrigation System Diagram (for water and reclaimed water line on same side of house)
- ❖ Thermal Expansion in Water Heaters

If you have any questions, please call the
Environmental Services Department at
386-424-2400 ext 4007 or 386-424-2400 ext 4006.

RECLAIMED WATER CUSTOMER ORIENTATION

C.A.R.E. SYSTEM

CITIZENS APPLYING REUSE EFFECTIVELY

City of Edgewater Ordinance No. 94-O-01 provides for a reclaimed water system within the City. Section 19-129 states the customer must complete an application to receive reclaimed water service. The application is included with this reclaimed water information packet. This packet is designed to further educate the customer about the requirements and proper use of reclaimed water systems. The applicant must fill out an application form that he/she has received the information packet and will read and abide by the City's policies and procedures for reclaimed water service.

CITY RESPONSIBILITIES

1. The City will install a backflow prevention device on the customer's potable water service.
2. The City will provide two points of connection within the purple reclaimed water box, one for in-ground sprinkler systems and one below grade hose bib adapted with special "quick-connect" fittings on the customer's $\frac{3}{4}$ inch hose. The purple reclaimed water box will be labeled "Reclaimed Water".
3. The City will provide the reclaimed water information to the customer.
4. The City will make every effort to provide a continuous supply of reclaimed water, however, there may be times during dry weather periods or maintenance of the system that it will be necessary to shut down the system.

CUSTOMER RESPONSIBILITIES

1. The Customer shall make no connections of reclaimed water to potable (drinking) water lines.
2. The Customer shall not plumb reclaimed water into a dwelling for any purpose.
3. The Customer shall not share reclaimed water with neighbors.
4. The Customer shall not have any above ground spigots connected to reclaimed water.
5. The Customer shall not connect reclaimed water to water cooled air conditioners.
6. The Customer shall not fill swimming pools, wading pools, spas or hot tubs with reclaimed water.
7. The Customer shall not operate irrigation systems during periods of high wind conditions creating misting or over spray to other people's property.
8. There shall be no direct spraying of fruits or vegetables with reclaimed water unless the food is skinned, peeled, cooked, or thermally processed.
9. The Customer shall disconnect existing irrigation systems on potable water before connecting to the reclaimed water. Customer will call for inspection after connection is made.
10. Existing irrigation wells to be interconnected with reclaimed water system must be fitted with a reduced pressure zone (RPZ) backflow prevention device on the well. Customer will call for inspection after connection is made.
11. The Customer will inspect and operate the hot water tank pressure relief valve to ensure proper operation. (Thermal expansion occurs when pressure build-up within the tank cannot backfeed into the City's water mains due to installation of the double check valve on the potable water line at the meter).
12. No alteration or damage to the reclaimed water connections within the master control valve box or the purple reclaimed meter box is permitted.
13. The Customer will allow the city to inspect the irrigation system within reasonable times to ensure compliance with all rules and regulations.
14. The Customer will disconnect the $\frac{3}{4}$ " hose from the reclaimed meter box when not in use.

RATES AND COSTS

MONTHLY RATES

Effective October 2018 the monthly fee for reclaimed water is \$9.50, which includes unlimited usage of reclaimed water. This fee is subject to change upon City Council approval.

CONNECTION CHARGES

As stated in City of Edgewater Resolution No. 2009-R-08, charges for connecting a service line to the reclaimed water system include the costs for tapping the main, extending the service to the property line, inspection of the on-site irrigation system and installation of a backflow prevention device on the potable water service to the same tract.

1" CONNECTION FEE \$600.00

All services in excess of 1" in diameter, or that involve modification to potable water services (other than installation of backflow preventer), or those that involve unusual installation costs, pavement repairs, or other unusual conditions will be charged actual costs.

STEPS TO OBTAIN RECLAIMED WATER

*Obtain a copy of the reclaimed water information packet.

*Complete the application for reclaimed water service and pay all applicable connection fees.

*Buy a 3/4 inch hose, (any length of your choice), so a quick-connect fitting can be put on your hose at time of connection, if you wish to use the hose system.

*Schedule an inspection of your irrigation system after the utilities department has installed the connection and after your irrigation system is connected to the box. You must leave the point of connection of your irrigation system open for our inspector to check. You must sleeve the reclaimed water 5 feet on both sides anywhere you cross over any potable water lines. These areas must be left open for our inspector as well. Annual inspections will be required thereafter to assure continued compliance.



RECLAIMED WATER SYSTEM

Our goal is to save a valuable resource:
Your Drinking Water

By promoting the use of sound water management practices through conservation and the development of its reclaimed water system, the City of Edgewater is striving to meet this conservation goal. A major focus for the City's water conservation program is the expansion of the reclaimed water system (an alternative water source). This water will be available for irrigation purposes and other non-potable uses.

RECLAIMED WATER

Reclaimed water is highly treated wastewater effluent. This water has been subjected to strict water quality standard established by the Florida Department of Environmental Protection (FDEP).

The reclaimed water available in the City of Edgewater is treated to advanced wastewater treatment standards at our state of the art Advanced Wastewater Treatment Plant. This product, which has undergone a high level of disinfections, is continuously monitored and analyzed by our licensed wastewater plant operators and lab Administrator to insure continued quality and compliance with regulations.

Reclaimed water is currently available in the Florida Shores section of the city of Edgewater. The service is limited by the extent of our reclaimed water distribution system, which is a completely separate system of underground piping from the pipes carrying potable water.

In addition to reducing the demand on potable water supplies, a reclamation system offers a form of environmental protection through the wise disposal of wastewater. Effluent that would have otherwise been discharged into the Indian River, is “re-used” for other purposes. This reduction of effluent discharge helps the City of Edgewater meet current legislation regulating surface water discharge while benefiting all of us by conserving water supplies.

REQUIREMENTS FOR CONNECTION TO THE RECLAIMED WATER SYSTEM

There are specific requirements for connection to the system and for uses of reclaimed water. These requirements are taken from the City of Edgewater Code of Ordinances, Article X and from the State of Florida Administrative Code No. 62-610.

~ An underground irrigation system of large droplet, low trajectory spray heads to avoid misting or below-ground hose bibbs adapted with quick-connect fittings can be utilized for irrigation purposes.

~ The reclaimed water cannot enter any building containing a dwelling unit.

~ If a well is currently used for irrigation, it must be disconnected from the system or a reduced pressure zone backflow prevention device must be installed on the well to interconnect the reclaimed water system to the well.

~ A backflow prevention device must be installed on the potable water system. The cost and installation of this device is included in the connection charge.

REASONS TO USE

FOR INFORMATION CALL:

Environmental Services: 386-424-2400 ext 4006 or 424-2400 ext 4007
7:00am—3:30pm Mon.—Fri.

FOR EMERGENCY SERVICES RELATED TO RECLAIMED WATER CALL:

Advanced Wastewater Treatment Plant
386-424-2488, 24 hours per day

RECLAIMED WATER

~ Reclaimed water provides for a more economic means of irrigation.

~ Reclaimed water has a low salt content which will not harm plants.

~ Reclaimed water has a low iron content which will not stain walkways and buildings. Also unlike some wells, it does not have an odor.

~ Reclaimed water eliminates the expense of wells—no drilling, pump installation, pump operation, or maintenance costs.

~ Reclaimed water usage reduces the demand on potable and groundwater sources.

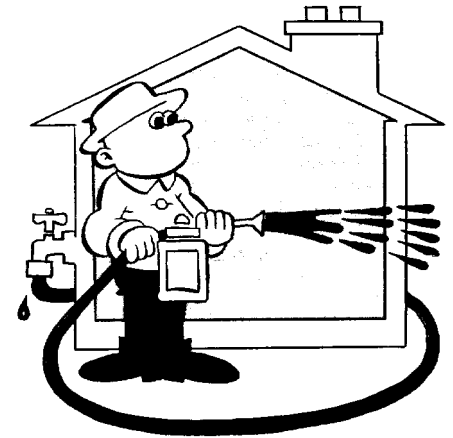
~ Reclaimed water recharges the shallow surficial aquifer.

~ Reclaimed water usage reduces the quantity of effluent discharged into the Indian River.

Backflows due to cross-connections are serious plumbing problems. They can cause sickness and even death. However, they can be avoided by the use of proper protection devices. Each spigot at your home should have a hose-bib vacuum breaker installed. This is a simple, inexpensive device which can be purchased at any plumbing or hardware store. Installation is as easy as attaching your garden hose to a spigot



For more information on cross-connection control and backflow prevention for your home or business, please contact the City of Edgewater Environmental Services at 386-424-2400 ext 4006 or 386-424-2400 ext 4007.



PROTECTING YOUR HOME OR BUSINESS AGAINST CROSS-CONNECTIONS



● For information call 424-2400 ext 4006 or 424-2400ext 4007

Without proper protection devices, something as useful as your garden hose has the potential to poison your home's water supply. In fact, over half of the nation's cross-connections involve unprotected garden hoses.

What is a "cross-connection"?

A cross-connection is a permanent or temporary piping arrangement which can allow your drinking water to be contaminated if a backflow condition occurs.

What is "backflow"?

It's just what it sounds like: the water is flowing in the opposite direction from its normal flow. With the direction of flow reversed, due to a change in pressures, backflow can allow contaminants to enter our drinking water system through cross-connection.

A potentially hazardous cross-connection occurs every time someone uses a garden hose sprayer to apply insecticides or herbicides to their lawn. Another cross-connection occurs when someone uses their garden hose to clear a stoppage in their sewer line.

Without a backflow prevention device between your hose and bib (spigot), the contents of the hose and anything it is connected to can backflow into the piping system and contaminate your drinking water.

This hazardous situation sometimes can affect more than a single home. In 1977,

an entire town in North Dakota had to be rationed drinking water from the National Guard water trucks while the town's water distribution system was flushed and disinfected following contamination by DDT. Investigation determined that two residents spraying DDT had made direct cross-connections to their home. A backflow condition had occurred, sucking the DDT through the home piping system and out into the town's water distribution system.



WATER RESTRICTIONS

For Reclaimed Water Irrigation Only

RECLAIMED WATERING RESTRICTIONS HAVE BEEN

LIFTED

UNTIL FURTHER NOTICE.

RECLAIMED WATER MAY BE USED AT ANYTIME ON ANY DAY.

PLEASE REFRAIN VOLUNTARILY FROM USING IT BETWEEN 10AM-4PM.

For Potable and Well Water Only

Restrictions apply to private wells and pumps, ground or surface water and water from public and private utilities.

Daylight Savings Time

Homes with odd
numbered or no address

Homes with even
numbered addresses

Nonresidential
properties

Wednesday/Saturday

Thursday/Sunday

Tuesday/Friday

Eastern Standard Time

Homes with odd
numbered or no address

Homes with even
numbered addresses

Nonresidential
properties

Saturday

Sunday

Tuesday

REASONS TO USE RECLAIMED WATER

- *Reclaimed water provides for a more economic means of irrigation.
- *Reclaimed water has a low salt content, which will not harm plants.
- *Reclaimed water has a low iron content, which will not stain walkways and buildings.
- *Reclaimed water usage reduces the demand on potable and groundwater sources.
- *Reclaimed water recharges the shallow surficial aquifer with fresh water.
- *Reclaimed water usage reduces the quantity of effluent discharged into the Indian River.

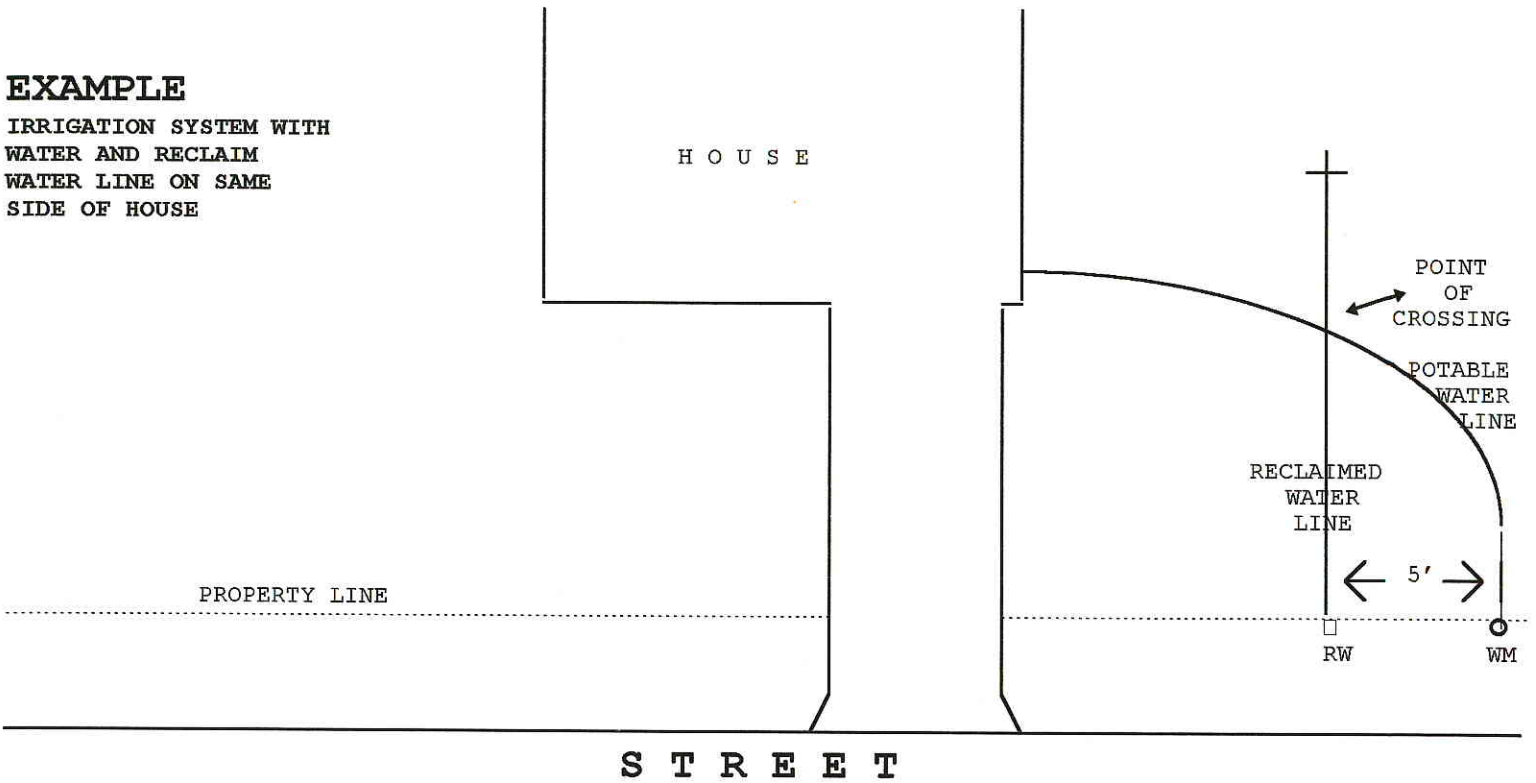
Reclaimed water is highly treated wastewater effluent that is treated to advanced wastewater treatment standards at our Advanced Wastewater Treatment Plant. This water has been subjected to strict water quality standards established by the Florida Department of Environmental Protection (FDEP). This product is continuously monitored and analyzed by our Licensed Wastewater Treatment Plant Operators and Lab Administrator to insure continued quality and compliance with regulations.

Reclaimed water is currently available in the Florida Shores area of the City of Edgewater. The service is limited by the extent of our reclaimed water distribution system, which is a completely separate system of underground piping from the pipes carrying potable water.

For further information about reclaim water please contact:
Environmental Services Department
386-424-2400 ext 4007 or 386-424-2400 ext 4006.

EXAMPLE

IRRIGATION SYSTEM WITH
WATER AND RECLAIM
WATER LINE ON SAME
SIDE OF HOUSE



OPTION (1)	OPTION (2)	OPTION (3)
<p>GROUND</p> <p>POTABLE WATER LINE</p> <p>18"</p> <p>RECLAIM WATER LINE</p> <p>REQUIREMENT MAINTAIN 18" VERTICAL SEPARATION FROM BOTTOM OF POTABLE WATER LINE TO TOP OF RECLAIM WATER LINE</p>	<p>HOUSE</p> <p>Reclaimed Water Line</p> <p>5'</p> <p>POTABLE WATER</p> <p>SLEEVE OVER RECLAIM WATER LINE</p> <p>5'</p> <p>RW</p> <p>WM</p> <p>REQUIREMENT SLEEVE RECLAIM WATER LINE 5' IN BOTH DIRECTIONS AT POINT OF CROSSING WITH ONE CONTINUOUS 10' PIECE OF PVC PIPE</p>	<p>LOCATE RECLAIM WATER CONNECTION TO OPPOSITE PROPERTY LINE</p> <p>REQUIREMENT</p> <p>None</p>

NOTES:

NO OTHER SLEEVES OR PRECAUTIONS NEED TO BE TAKEN IN OTHER AREAS OF THE IRRIGATION SYSTEM.

SLEEVED AREAS ARE TO BE LEFT UNCOVERED FOR INSPECTION, AS WELL AS TRENCHED AREA TO ENSURE 18" VERTICAL SEPARATION.

MUST CALL ENVIRONMENTAL SERVICES DEPARTMENT FOR INSPECTION AFTER CONNECTION IS MADE. (386) 424-2476 EXT 4007 OR (386) 424-2494 EXT 4006



THERM-X-TROL® THERMAL EXPANSION ABSORBERS

The Best Solution for
Controlling Thermal Expansion



As Seen On
ASK
This Old
House



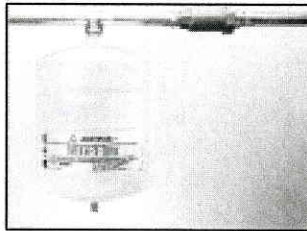
THERM-X-TROL® Expansion Tanks

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What Is Thermal Expansion?

With modern plumbing codes mandating backflow prevention, thermal expansion can cause pressure buildup in domestic water systems. When demand is put upon a potable water system, hot water is drawn from the water heater. Cold water from the supply line enters the water heater to replenish it. The cold water is heated to replace the hot water used. With the installation of a backflow preventer, check valve or pressure reducing valve on the supply line, the water heater and the system piping form a closed plumbing system under pressure.



As the water is heated, thermal expansion occurs. Pressure increases until the relief valve opens and the expanded water spills from the water heater. This spillage results in wasted energy and a potential safety hazard. (See Diagram 1)

Closed Potable Hot Water System without THERM-X-TROL

Backflow preventer, pressure reducing valve or other one-way device causes expanded (heated) water to build pressure causing the relief valve to open resulting in...

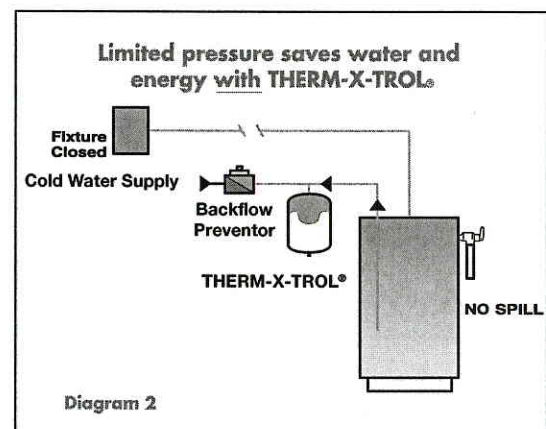
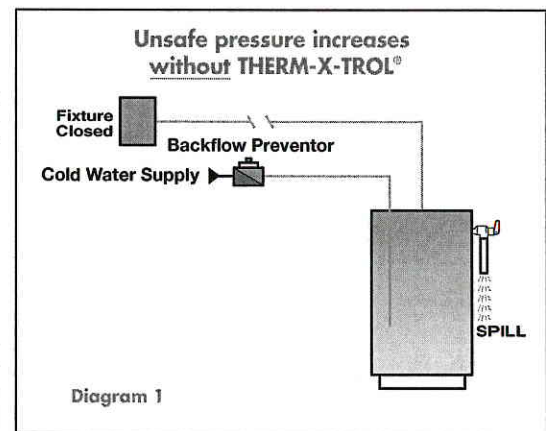
- Wasted energy
- Shortened water heater life
- Wasted municipal water and sewer dollars
- Potential safety hazard

The THERM-X-TROL® is designed to eliminate this problem by providing control of maximum pressures at a level below the relief valve setting. It also provides an additional space in the system to accommodate the increased volume of water created by thermal expansion, returning it to the system when hot water delivery is demanded. Maximum pressure is kept well below the relief valve setting by the THERM-X-TROL®, with its pre-charged air cushion that is separated from system water. The relief valve does not open, therefore spillage is eliminated (Diagram 2).

Closed Potable Hot Water System with THERM-X-TROL®

Expanded (heated) water is absorbed by THERM-X-TROL® which means...

- Water heater and fixtures are protected
- Eliminates energy and water waste, saving money
- No dangerous pressure build up in the system
- Relief valves will not open
- Potential safety hazard reduced



THERM-X-TROL®: The Market Leader

- #1 choice of Professional Installers
- Safest and most cost effective way to control Thermal Expansion
- Easy to install - Maintenance free
- The innovator of Thermal Expansion Control in Closed Potable Hot Water Systems
- Broadest line of sizes and models
- Recognized Industry leader in Quality, Design, Manufacturing, Delivery and Service
- Extensive Network of Plumbing & Heating Distributors
- First to obtain ANSI/NSF61, IAPMO, SBCCI & City of Los Angeles listings
- First to offer 5 year limited warranty

Product Features

Brass system connection for resistance to aggressive water

Deep Drawn Steel Domes for maximum strength & pressure rating

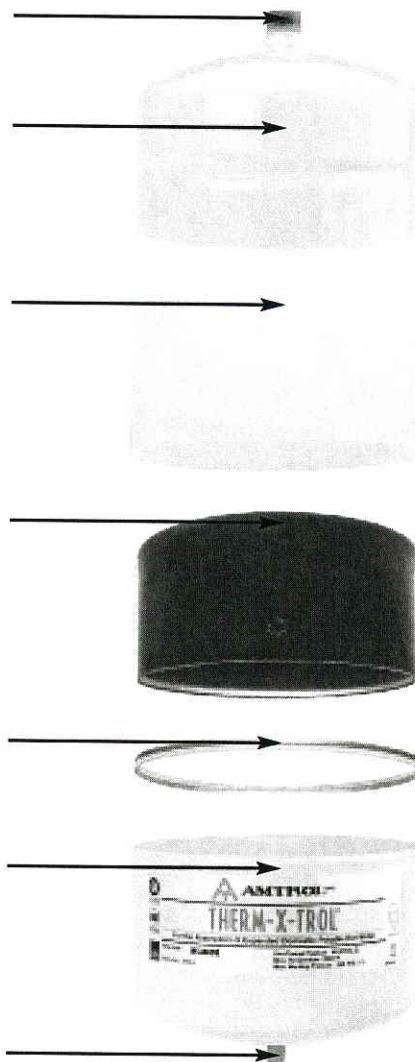
Rigid Polypropylene Liner for corrosion resistant reservoir

Butyl diaphragm for long life expectancy

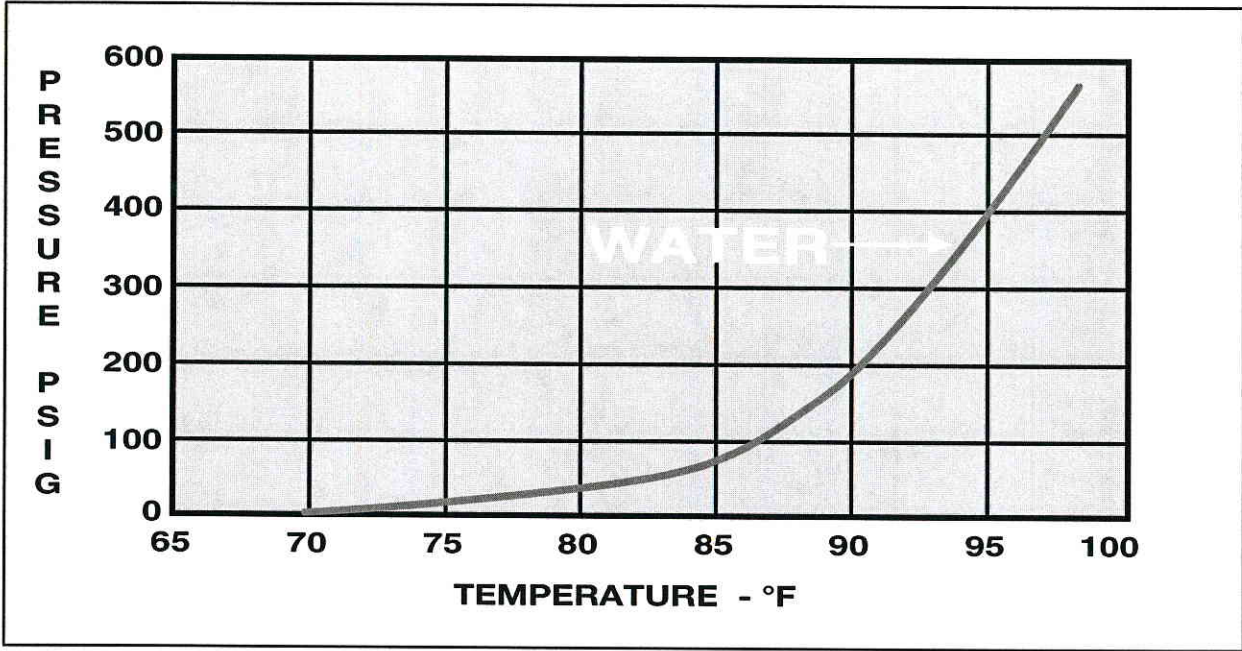
Diaphragm Hoop Ring mechanically grooved for permanent air-tight seal

Welded Steel Construction

Welded Air Charge Fitting with protective plastic cap for corrosion resistance and maximum air-tight seal



Pressure Increase in Closed Piping System



Precise Sizing Procedure - For Special Applications

The procedure for sizing the Therm-X-Trol® for any application depends on four (4) vital pieces of information:

1. ASME or non-ASME requirement
2. Calculated thermally expanded water volume
3. Minimum water pressure experienced at the tank location
4. Maximum water pressure allowable at the tank location

The tank required for any application can be sized with the following equation:

$$T_v = \text{Design Pressure Factor} \times \text{expanded water}$$

Where T_v is the total Thermal-X-Trol® volume required in gallons.

Example: A 240 gallon water heater with a 150°F aquastat setting is installed with a 125 psi maximum pressure requirement. For a static supply line pressure of 60 psi, what Therm-X-Trol® model is required for critical protection?

Critical Sizing AMTROL® Therm-X-Trol®

1. Total Water Heater Volume (Gallons)
2. Water Expansion Factor (Table I)
3. Calculate Expanded Water (Gallons)
(Line 1 x Line 2)
4. Design Pressure Factor (Table II)
5. Therm-X-Trol Volume Required (Gallons)
(Line 3 x Line 4)
6. Select Therm-X-Trol® Model (pg. 6 & 7)

Critical Sizing AMTROL® Therm-X-Trol®: EXAMPLE

- | | |
|--|-------------------|
| 1. Total Water Heater Volume (Gallons) | 240 |
| 2. Water Expansion Factor (Table I) | 0.0179 |
| 3. Calculate Expanded Water (Gallons)
(Line 1 x Line 2) = (240 x .0179) | 4.3 |
| 4. Design Pressure Factor (Table II) | 2.1 |
| 5. Therm-X-Trol Volume Required (Gallons)
(Line 3 x Line 4) = (4.3 x 2.1) | 9.0 |
| 6. Select Therm-X-Trol® Model (pg. 6 & 7) | ST-25V
ST30V-C |

Note: The Therm-X-Trol® air pressure should be equal to static line pressure.

For conditions not shown in table, use equation:

$$DPF = \frac{\text{Max. Allow. Pressure} + 14.7}{\text{Max. Allow. Pressure} - \text{Line Pressure}}$$

Operating (Design) Temperature of Water Heater (Tank)	Expansion Factor* (Percentage of Water Volume Increase)	
100°F	0.0062	0.6%
120°F	0.0100	1.0%
130°F	0.0124	1.2%
140°F	0.0150	1.5%
150°F	0.0179	1.8%
160°F	0.0209	2.0%
170°F	0.0242	2.4%
180°F	0.0276	2.8%

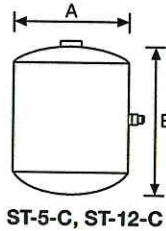
* Based on the initial temperature of 40°F

Maximum Allowable Pressure	Line Pressure psi	Design Pressure Factor (DPF)
100	40	1.9
	50	2.3
	60	2.9
	70	3.8
	80	5.7
125	40	1.6
	50	1.9
	60	2.1
	70	2.5
	80	3.1
150	40	1.5
	50	1.6
	60	1.8
	70	2.1
	80	2.4

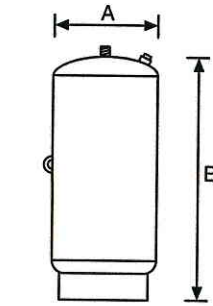
ASME THERM-X-TROL®

Code Applications

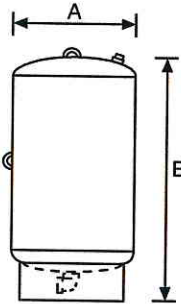
- Commercial Water Heaters
- Laundromats
- Hospitals and Nursing Homes
- Car Washes
- Dishwashers
- Plant Washrooms
- Hotels and Motels
- Restaurants
- Schools and Dormitories
- Other Applications as Required by Code



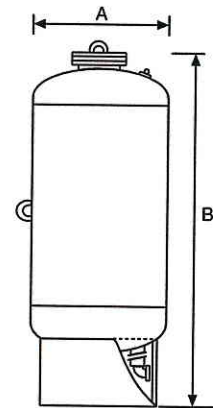
ST-5-C, ST-12-C



ST-20V-C to ST-70V-C



ST-80V-C to ST-210V-C



ST-447-C to ST-457-C

THERM-X-TROL® ASME Specifications

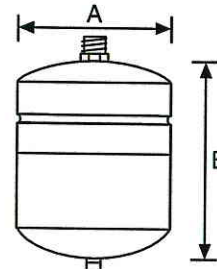
Model No.	Max. Working Pressure (PSIG)	Total Volume (Gals.)	Maximum Acceptance Factor	Diameter (A)	Height (B)	System Connection	Ship Weight (lbs)
ST-5-C	150	2.1	.42	10"	10 3/8"	3/4" NPT	21
ST-12-C	150	6.4	.41	12"	15 5/8"	3/4" NPT	26
ST-20V-C	150	8.0	.40	12"	19 1/2"	3/4" NPT	41
ST-30V-C	150	14.0	.64	16 1/4"	19 1/8"	3/4" NPT	84
ST-42V-C	150	17.5	.62	16 1/4"	24 1/4"	3/4" NPT	90
ST-60V-C	150	25.0	.45	16 1/4"	34"	3/4" NPT	96
ST-70V-C	150	34.0	.33	16 1/4"	45 3/4"	3/4" NPT	123
ST-80V-C	150	53.0	.42	24"	40 1/2"	1 1/4" NPT	229
ST-120V-C	150	66.0	.65	24"	47 3/4"	1 1/4" NPT	258
ST-180V-C	150	77.0	.50	24"	52 5/8"	1 1/4" NPT	288
ST-210V-C	150	90.0	.44	24"	60"	1 1/4" NPT	318
ST-447-C	125	53.0	.38	24"	45 1/4"	2" NPT	263
ST-448-C	125	80.0	.65	24"	59 1/8"	2" NPT	308
ST-449-C	125	106.0	.65	24"	73 1/8"	2" NPT	353
ST-450-C	125	132.0	.65	24"	86 5/8"	2" NPT	391
ST-451-C	125	158.0	.65	30"	73 1/4"	2" NPT	508
ST-452-C	125	211.0	.65	30"	91"	2" NPT	760
ST-453-C	125	264.0	.65	36"	85 5/8"	3" NPT	810
ST-454-C	125	317.0	.65	36"	98"	3" NPT	914
ST-455-C	125	370.0	.65	36"	110 3/8"	3" NPT	1,018
ST-456-C	125	422.0	.65	48"	81 7/8"	3" NPT	1,655
ST-457-C	125	528.0	.65	48"	97 1/4"	3" NPT	1,925

Maximum Allowable Working Temperature: ST-5-C through ST-210V-C: 200°F; ST-447-C through ST-457-C: 240°F. Standard Factory Precharge: 55 PSIG.
 All Models Certified to NSF 61 for domestic hot water use (excluding ST-447-C through ST-457-C). ST-447-C through ST-457-C are replaceable bladder design.

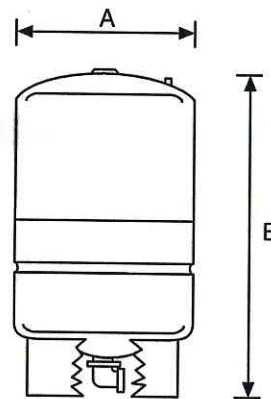
Non-ASME THERM-X-TROL®

General Usage

- Residential Water Heaters
- Office Buildings
- Apartment Buildings
- Dormitories
- Elderly Housing
- Extended Care Facilities
- Condominiums/Multiple Residential
- Food Service
- Laundromats
- Hospitals
- Other General-Use Hot Water Systems



ST-5, ST-8, ST-12



ST-25V through ST-210V

THERM-X-TROL® Non-ASME Specifications

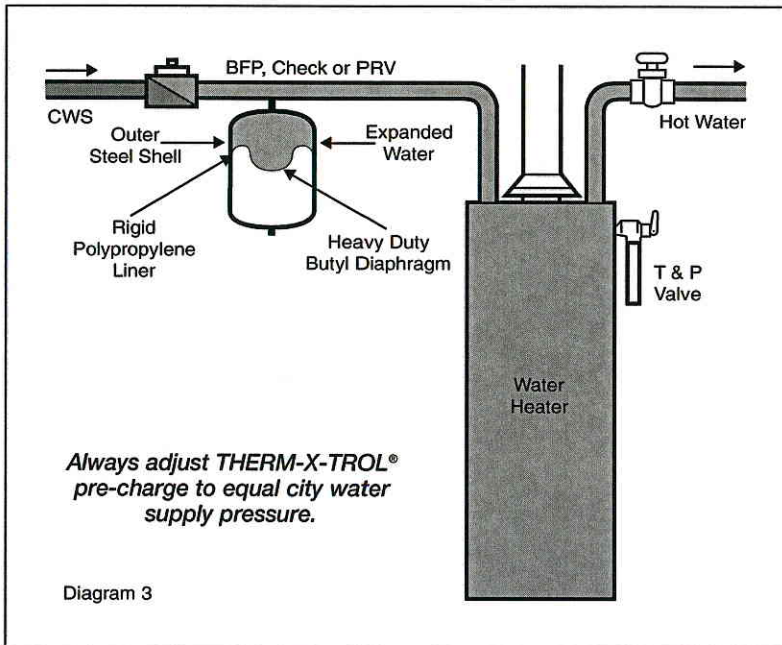
Model No.	Total Volume (Gals.)	Maximum Acceptance Factor	Diameter (A)	Height (B)	System Connection	Ship Weight (lbs)
ST-5	2.0	.45	8"	12 5/8"	3/4" NPT	5
ST-8	3.2	.45	9"	15"	3/4" NPT	7
ST-12	4.4	.45	11"	15"	3/4" NPT	9
ST-25V	10.3	.45	15 3/8"	19 1/4"	3/4" NPT	23
ST-30V	14.0	.45	15 3/8"	23 7/8"	3/4" NPT	25
ST-42V	20.0	.45	15 3/8"	31 5/8"	3/4" NPT	33
ST-60V	34.0	.45	22"	29 5/8"	1 1/4" NPT	61
ST-80V	44.0	.45	22"	36"	1 1/4" NPT	69
ST-180V	62.0	.45	22"	46 3/4"	1 1/4" NPT	92
ST-210V	86.0	.45	26"	47 1/4"	1 1/4" NPT	123
ST-451	158.0	.45	73 1/4"	30"	2" NPT	508
ST-452	211.0	.45	91"	30"	2" NPT	760
ST-453	264.0	.45	85 5/8"	36"	3" NPT	810
ST-454	317.0	.45	98"	36"	3" NPT	914
ST-455	370.0	.45	110 3/8"	36"	3" NPT	1,018
ST-456	422.0	.45	81 7/8"	48"	3" NPT	1,655
ST-457	528.0	.45	97 1/4"	48"	3" NPT	1,925

Maximum Working Pressure: 150 PSI. All Models listed by NSF 61 (excluding ST-451 – ST-457); Maximum Allowable Working Temperature: ST-5 through ST-210V: 200°F; ST-451 through ST-457: 240°F; Standard Factory Precharge: 40 PSIG (ST-5 – ST-210V); 55 PSIG (ST-451 – ST-457)

THERM-X-TROL®

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The THERM-X-TROL® from AMTROL® is designed to protect domestic water heaters from the effects of thermal expansion. Installation is easy; just tee it into the cold water inlet (before the water heater) as shown in Diagram 3.



If your Plumbing Code requires a Backflow Preventer, Check Valve or Pressure Reducing Valve...
You Need a THERM-X-TROL® on Every Job!

THERM-X-TROL®

Quick-Sizing Chart

Sizing Charts are based on 40°F incoming water temperature and a 150 psi T & P safety relief valve.

Water Heater* Size (gals.)	Static Supply Pressure (psi)**		
	40	60	80
40	ST-5	ST-5	ST-5
50	ST-5	ST-5	ST-5
60	ST-5	ST-5	ST-8
80	ST-8	ST-8	ST-12
120	ST-12	ST-12	ST-25V

Max. Temp. Setting 140°F

Water Heater* Size (gals.)	Static Supply Pressure (psi)**		
	40	60	80
40	ST-5	ST-5	ST-5
50	ST-5	ST-5	ST-8
60	ST-8	ST-8	ST-8
80	ST-8	ST-8	ST-12
120	ST-12	ST-12	ST-25V

Max. Temp. Setting 150°F

Water Heater* Size (gals.)	Static Supply Pressure (psi)**		
	40	60	80
40	ST-8	ST-8	ST-8
50	ST-8	ST-8	ST-12
60	ST-8	ST-12	ST-25V
80	ST-12	ST-25V	ST-25V
120	ST-25V	ST-25V	ST-25V

Max. Temp. Setting 180°F

* For multiple heater, use the total volume of the heaters plus any storage tanks.

** Therm-X-Trol Precharge must be set to equal Static Supply Pressure prior to installation.



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