

THE OWNER'S RESPONSIBILITY

“Contaminants added to the water by circumstances under the control of the consumer are not the responsibility of the supplier of water”. (PUBLIC WATER SUPPLY - FEDERAL REGISTER, Vol. 40, No. 248, page 11.)

In a court case, this could mean that the property owner is liable for any injury resulting from a backflow incident under his control. When it comes to responsibility, it could be very costly for any property owner controlling a Domestic Water System. This responsibility could even cover injuries and/or damages that occur outside of the property owner's building. Remember that contamination of the Public Water Supply caused by a backflow incident reverts to the source of the cross-connection.

THERMAL EXPANSION

With the installation of a meter being set by Patoka Lake Regional Water & Sewer District, we must take this opportunity to inform you of a potential hazard that exists in relation to a dual check valve installed at your meter and your water heater.

Water heaters are installed with a temperature and pressure valve (T & P) which is designed to relieve excessive water temperature or pressure. Also aiding in the control of excessive heat and pressure is a condition known as thermal expansion, which allows extremely hot water to backflow into water main lines, mixing with the cold water and dissipating the heat.

However, when a backflow prevention device (dual check valve) is installed on a household water service line, the water cannot go back out into the water system. This leaves the T & P valve as the only release route for the overheated water.

If a water heater thermostat becomes defective, allowing the water temperature to increase to more than 212 degrees, and the T & P valve fails, your domestic water can become “superheated”. Superheated water can cause water heaters to explode and endanger lives and or property or could allow scalding steam to be released from facets upon personal use.

Patoka Lake Regional Water & Sewer District recommends that you inspect your T & P valve periodically. Also a licensed plumber can inspect, repair or replace your T & P valve to ensure your safety.

Thermal expansion chambers and pressure relief toilet ball cock assemblies can provide additional protections.

Should you have any questions or desire more information, please feel free to contact the Cross-Connection Department at 678-5781 or Toll Free 800-313-5589.

POTABLE WATER EXPANSION TANKS

FOR HOT WATER HEATERS and HOT WATER SUPPLY TANKS

Series DET

Potable water expansion tanks for hot water heaters and hot water supply systems.

Watts Series DET expansion tanks are designed to absorb the increased volume of water created when the hot water storage tank is heated and keeps the system pressure below the relief setting of the T & P relief valve. It is a pre-pressurized steel tank with an expansion membrane that prevents contact of the water with the air in the tank. This prevents loss of air to the water and insures long and trouble-free life for the system. These tanks may be used with all types of Direct Fired Hot Water Heaters (gas, oil or electric) and Hot Water Storage Tanks.

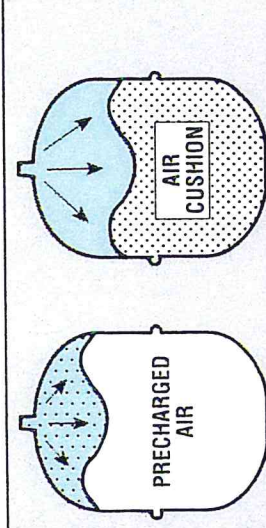


Figure 1

As the water temperature increases, the expanded water is received by the tank.

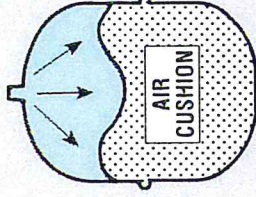


Figure 2

As the temperature and pressure reaches its maximum, the diaphragm flexes against the air cushion (air is compressible) to allow for increased water expansion.

FEATURES:

- Thermally fused epoxy liner
- Rugged flexible Butyl diaphragm
- Field adjustable pre-charge
- Inline and free standing models
- Can be used with most standard hot water heaters and storage tanks
- Made in U.S.A.

Note: Watts DET Series potable water expansion tank shall be installed in the cold water service pipe line on the supply side of the water heater (or water storage tank).

NON-POTABLE WATER EXPANSION TANKS

FOR HOT WATER HEATING BOILERS/SYSTEMS

Series ET

Non-potable water expansion tanks for hot water heating boilers and systems.

Watts Series ET expansion tanks are designed to absorb the increased volume of water created when the hot water boiler is heated and keeps the system pressure below the relief setting of the relief valve. It is a pre-pressurized steel tank with an expansion membrane that prevents contact of the water with the air in the tank. This prevents loss of air to the water and insures long and trouble-free life for the system.



Figure 1

As the water temperature increases, the expanded water is received by the tank.

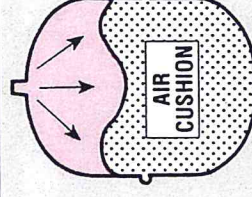


Figure 2

As the temperature and pressure reaches its maximum, the diaphragm flexes against the air cushion (air is compressible) to allow for increased water expansion.

FEATURES:

- Welded steel construction
- Rugged flexible diaphragm
- Pre-charged at 12 psi
- Compact size saves space and energy
- Compatible with Glycol in systems

Note: Watts ET Series non-potable water expansion tank may be installed in a tee or any other suitable tapping in the heating system and can be installed in a vertical or horizontal position.

Selection Guide

Note: Expansion based on 50°F temperature rise.

SUPPLY PRESSURE (PSIG)	WATER HEATER (GALLONS)						
	20	30	40	50	80	100	120
40							
50							
55							
60							
70							
80							
90							
100							
110							
120							

□ DET-5

□ DET-12

□ DET-25

□ Multiple tanks required - consult factory

Standards No. DET-5, DET-12 and DET-25 is  Listed by IAPMO.

Selection Guide

As an alternative to using a formula, you can use this Quick Reference Sizing Chart to select the correct tank for your system. This table is based upon a tank pre-charge of 12 PSI, a pressure relief valve setting of 30 PSI and a system operating temperature of 200°F. The chart takes into account typical system water volumes based upon boiler BTU's and type of radiation installed. Simply go to the boiler output BTU equal to or higher than the installed boiler, read across the chart to the correct tank model as indicated by the type of system radiation column on the chart.

ET-60



ET SERIES SIZING CHART					
Precharge: 12 PSI		Relief Pressure: 30 PSI			
System Operating Temperature: 200°F		TYPE OF RADIATION			
Boiler Output Net BTU's	Finned Tube	Convectors or Unit Heaters	Radiators	Baseboard	Cast Iron
	Baseboard	ET-15	ET-15	ET-30	ET-15
25,000	ET-15	ET-15	ET-30	ET-30	ET-15
50,000	ET-15	ET-15	ET-30	ET-60	ET-30
75,000	ET-30	ET-30	ET-30	ET-60	ET-60
100,000	ET-30	ET-30	ET-60	ET-60	ET-60
125,000	ET-30	ET-60	ET-60	ET-90	ET-90
150,000	ET-30	ET-60	ET-90	ET-90	ET-90
175,000	ET-60	ET-60	—	—	—
200,000	ET-60	ET-60	—	—	—
250,000	ET-60	ET-90	—	—	—
300,000	ET-90	—	—	—	—



Specifications

POTABLE WATER EXPANSION TANKS

Description	No. DET-5 EDP # 67437	No. DET-12 EDP # 67438	No. DET-25 EDP # 67439	No. DET-30 EDP # 67440
Max. Pressure - PSI	150	150	150	100
Max. Temp. - °F	160	160	160	160
Tank Volume - Gal.	2.0	4.8	10.0	15.0
Tank Acceptance - Gal.	1.25	3.0	6.0	6.8
Air Pre-charge - PSI	40	40	40	40
Connections Size - Inches	¾ Male	¾ Male	¾ Male	1 Female
Diameter - Inches	8%	11%	15%	15%
Length - Inches	12½	14¾	14½	24¾
Weight - Lbs.	4.5	7.5	18	25

Specifications and Capacities

Product Number	EDP No.	Tank Volume (Gals.)	Acceptable Volume (Gals.)	Conn. Size	Dia.	Length	Weight (Lbs.)
ET-15	067401	2.1	1.4	½"	7.8"	11.8"	5
ET-30	067411	4.7	3.0	½"	10.6"	15"	8
ET-60	067421	6.6	4.3	½"	12.2"	15"	14
ET-90	067431	13.0	8.0	¾"	15.0"	21.1"	26.5

Max. temperature 240°F, Max. pressure 60 psi

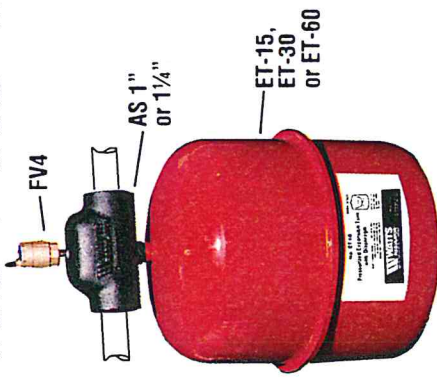
Combination Packages:

Series ET-ASF: Package containing one "ET" Expansion Tank, one "AS" Air Scoop and one "FV4" Float/Vent.

ET-15-ASF — 1" ET-15-ASF — 1¼"

ET-30-ASF — 1" ET-30-ASF — 1¼"

ET-60-ASF — 1" ET-60-ASF — 1¼"



Model ET-ASF

Other Watts products for control of Thermal Expansion

“Watts® Governor 80”

Ball Cock and Relief Valve

A triple purpose product: toilet tank ball cock fill valve, anti-siphon backflow preventer and thermal expansion relief valve in one assembly. Listed by IAPMO and CSA certified for anti-siphon ball cocks, FDA approved under CFR-21-177-2600, ANSI/ASSE No. 1002. It will govern and limit the domestic water system preset static pressure to 80 psi, as required by plumbing codes. Eliminates the need for thermal expansion tanks, auxiliary relief valves and their discharge lines.

Max. operating temperature 110°F

Standard heights are 10", 11½" or 12½"

For additional information, send for F-80.

The answer to thermal expansion problems

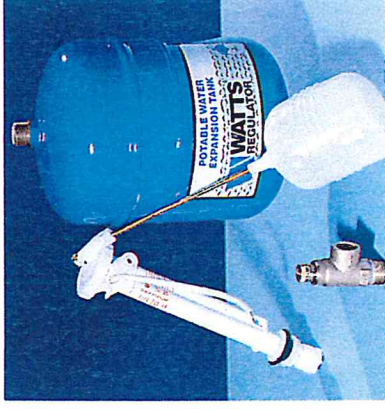


Water Pressure Test Gauge

Features:

- Resettable high pressure indicator

No. 276H300



The Watts Expansion Team: A full range of solutions: DET Expansion Tank, Watts® Governor 80, 530 Pressure Relief Valve.

No. 530

Calibrated Pressure Relief Valve

Calibrated adjustment feature for setting valve to relief pressure. Adjustable range 50-175 lbs.

- All brass construction and stainless steel spring
- Ideally suited as a by-pass thermal expansion relief valve



No.	Size	Height	Width	Weight
53	1/2", 3/4"	2 1/8"	1 3/4"	1/2 lb.
530	1/2", 3/4"	3"	1 5/8"	5/8 lb.

For additional information, send for ES-530.

Other Watts products for control of Hot Water Heating Systems

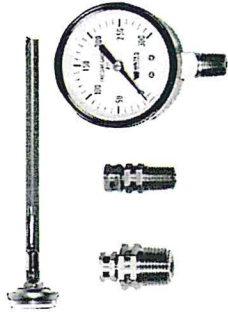
Series 2000

Two-Way Flow Check



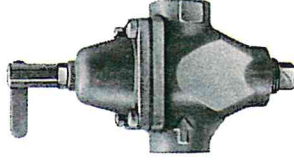
No. P3

Multi-Orifice Flow Control for Tankless Heaters



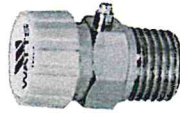
Series TP

Temperature or Pressure Test Plugs



Series 1156F/B1156F

Iron or Bronze Body Feed Water Pressure Regulator



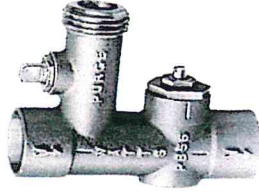
Series HAV

Automatic Vent-Valve



Series AS

Air Scoop



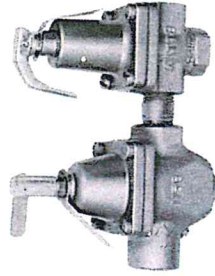
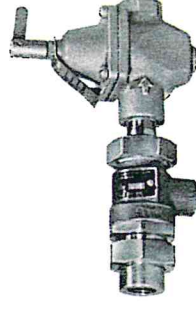
No. PB56

Purge and Balancing Valve

Series 911

Combination Backflow Preventer and Hot Water Boiler Fill Valve

No. 9D and 1156F in one pre-assembled unit



No. 1450F

Iron Body Dual Control

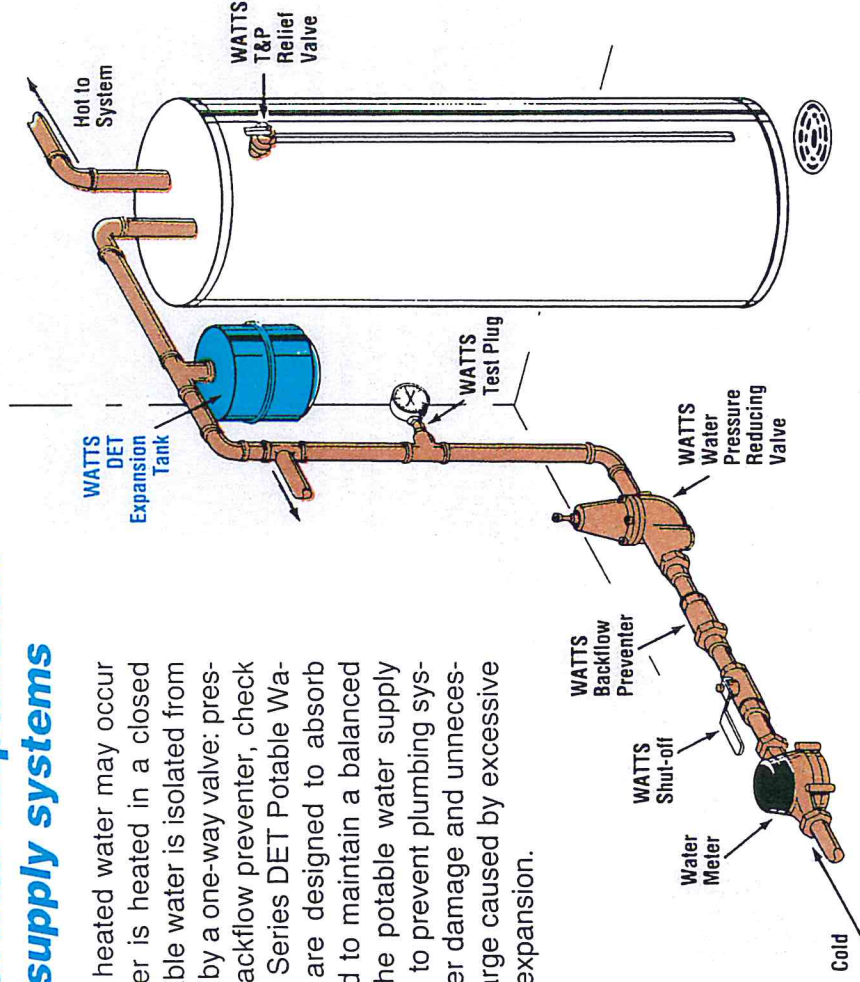


No. 9D

Backflow Preventer with Intermediate Atmospheric Vent

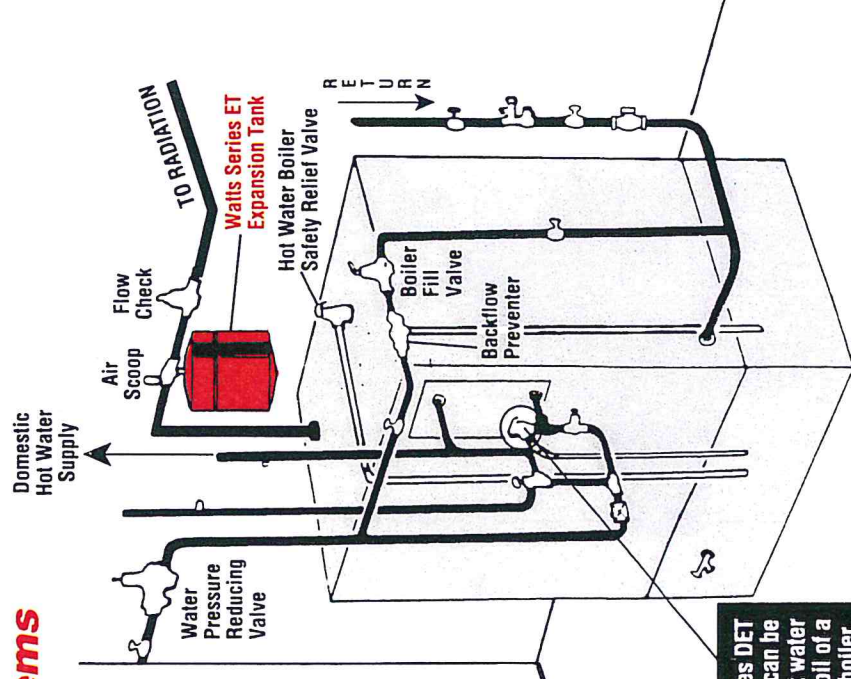
Control Thermal Expansion in hot water supply systems

Thermal expansion of heated water may occur wherever potable water is heated in a closed system (when the potable water is isolated from the public water supply by a one-way valve: pressure reducing valve, backflow preventer, check valve, etc.). The Watts Series DET Potable Water Expansion Tanks are designed to absorb thermal expansion and to maintain a balanced pressure throughout the potable water supply system. They are used to prevent plumbing system and/or water heater damage and unnecessary relief valve discharge caused by excessive pressure from thermal expansion.



Control Thermal Expansion in hot water heating systems

Thermal expansion of heated water may occur wherever water is heated in a closed system (when the potable water is isolated from the public water supply by a one-way valve: feed water pressure reducing valve, backflow preventer, check valve, etc.). The Watts Series ET Non-Potable Water Expansion Tanks are designed to absorb thermal expansion and maintain a balanced pressure throughout the hot water heating system. They are used to prevent system damage and unnecessary relief valve discharge caused by excessive pressure from thermal expansion.



Alternate: The Watts Series DET Potable Expansion Tank can be used on the domestic hot water (tankless) supply coil of a hot water heating boiler.