CashAcme™

Tank Booster Pro™

Water Heater Mixing Valve

For the Homeowner

The Solution:

The Tank Booster Pro is a cost effective solution for increasing usable hot water capacity on an existing tank or a new high efficiency water heater. Adding a Tank Booster Pro mixing valve to a water heater allows water to be stored at a higher temperature, but safely delivered at 49ºC (120ºF) to all outlets. The valve mixes both hot and cold water, which increases the tank's water capacity. It also reduces the chances of Legionella growth by allowing the thermostat to be set at 60ºC (140ºF).

Getting More Hot Water

Installing a Tank Booster Pro increases the amount of usable hot water by as high as 234% on gas water heaters and 125% on electric water heaters. The amount of hot water available may change based on the size and manufacturer of the water heater, flow rate and the cold water inlet temperature.

Percentage Increase of Hot Water – Electric Water Heater

Hot Water Tank Storage Temperature	Cold Water Inlet Temperature			
	3.9ºC (39ºF)	13ºC (55ºF)	18ºC (65ºF)	26.7ºC (80ºF)
49ºC (120ºF)				
60ºC (140ºF)	41%	42%	57%	60%
71ºC (160ºF)	82%	92%	96%	125%

Percentage increase compared to tank with water heater stored at 49ºC (120ºF) and water drawn at a steady rate of 3 gallons per minute until the outlet temperature dropped by 10ºC. (Based on results at an independent test laboratory–CSA International on a 40 gallon electric water heater.)

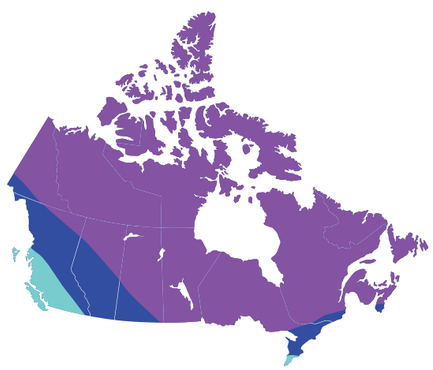
Percentage Increase Of Hot Water – Gas Water Heater

Hot Water Tank Storage Temperature	Cold Water Inlet Temperature			
	3.9ºC (39ºF)	13ºC (55ºF)	18ºC (65ºF)	26.7ºC (80ºF)
49ºC (120ºF)				
60ºC (140ºF)	42%	51%	68%	174%
71ºC (160ºF)	72%	104%	117%	234%

Percentage increase compared to tank with water heater stored at 49ºC (120ºF) and water drawn at a steady rate of 3 gallons per minute until the outlet temperature dropped by 10ºC. (Based on results at an independent test laboratory–CSA International on a 40 gallon gas water heater.)

Ground Water Temperatures

Degrees in Celsius 3 6 8 11 14 17 19 22 25



How It Works

The Tank Booster Pro is a mixing valve that combines hot and cold water to ensure that water is delivered at a constant safe temperature to outlet fixtures such as showers, baths and faucets.

This means that the temperature of the water heater can be increased to 60ºC (140ºF) without the risk of scalding. The hotter 60ºC (140ºF) water mixes with cold water until it can be released from the valve at a safe 49ºC (120ºF). Mixing the hot water with cold water means that less hot water is drawn from the water heater, therefore boosting the water heater's capacity and the amount of useable hot water for the home.

Time/Temperature Relationships in Scalds

Temperature	Time for a Mild First Degree Burn	Time For Permanent Second Degree Burn
49ºC (120ºF)	3 minutes	9 minutes
50ºC (122ºF)	1 minute	5 minutes
52ºC (125ºF)	30 Seconds	90 seconds
55ºC (131ºF)	5 seconds	25 seconds
60ºC (140ºF)	2 seconds	5 seconds
65ºC (149ºF)	1 second	2 seconds

It only takes seconds for hot water to burn or scald, and it can happen even quicker with young children. Include a Tank Booster Pro mixing valve with water heater installations to prevent scalding and ensure that water is delivered at a safe temperature to all outlet fixtures.

Peace of Mind

Legionella is a form of bacteria found naturally in water. It thrives in warm water environments, and storing water at 49ºC (120ºF) or less creates the ideal conditions for this bacteria to grow. When exposed to Legionella, it can lead to illnesses like Legionnaires' disease and Pontiac fever. The growth of this bacteria can be minimized, or eliminated, by increasing the hot water heater's temperature to 60ºC (140ºF) or higher.

Legionella pneumophila

Legionella Bacteria

Store Above 60ºC

Disinfection: >71ºC

Legionella die in <2 minutes — 71ºC

Legionella die in 32 minutes — 60ºC

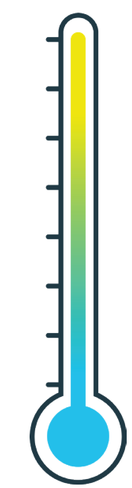
Legionella die in 5-6 hours — 54ºC

Ideal growth range: 32ºC – 42ºC — 49ºC

Legionella growth range: 21ºC – 49ºC — 21ºC

Legionella survive but dormant: <21ºC

*Results may vary based on usage conditions.



Improve Customer Satisfaction

Comfort

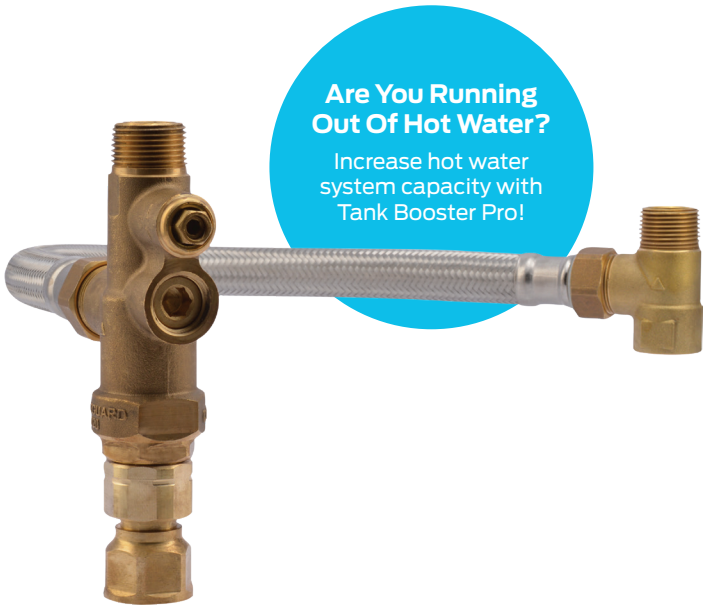
Easy add on water heater accessory that increases usable hot water on existing water heaters and new energy efficient water heaters.

Protection

Controls hot water to prevent injury from scalding when showering, bathing or washing by ensuring water is delivered at a safe temperature to all fixtures. Certified to ASSE 1017, ASSE 1070 and CSA B125.3

Safety

Reduces the risk of legionella bacteria growth by enabling hot water to be stored at a germ killing 60ºC (140ºF), while ensuring that water is delivered at a safe temperature to outlets.



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Certifications
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