**WHAT IS A THERMOSTATIC MIXING VALVE?**

A thermostatic mixing valve (TMV) mixes hot water with cold water to ensure a constant safe water temperature at shower, bath and faucet outlets, helping to reduce the risk of scalding and threat of Legionella bacteria growth, while also adding comfort by increasing the amount of available hot water.

**APPLICATIONS**

Cash Acme is a trusted manufacture of thermostatic mixing valves for residential, commercial, industrial and even hydronic heating applications. Our mixing valves accurately control the temperature of hot water at the source of heat (water heater) or at the point-of-use (faucet, bath or shower) to ensure that it is delivered at a safe temperature.

The Cash Acme family of valves offers an extensive range of connections suitable for any application, including SharkBite, PEX, CPVC, sweat, and threaded (NPT).
COMFORT
Get more hot water!
Hot water mixing valves increase the amount of usable hot water in both homes and commercial uses. They enable an entire family to have longer lasting showers without having to worry about running out of hot water. When using a mixing valve, hot water can be stored at a higher temperature, but safely delivered at 49°C (120°F) to all outlets. The valve mixes hot water with cold water until it can be released at a safe 49°C (120°F). 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.

PROTECTION
Helps prevent scalding.
Thermostatic mixing valves can improve the safety of hot water systems by helping prevent burns and injury from accidental scalding. It only takes seconds for hot water to burn, or scald, and it can happen even quicker with young children. Mixing valves help prevent this by controlling the water temperature at either the water heater or at the outlet (faucet, bath or shower). They ensure that water is delivered at a safe temperature and provide added protection from scalding.

SAFETY
Reduces the risk of Legionella Bacteria growth.
Legionella is a form of bacteria found naturally in water. It thrives in warm water environments, and storing water at 49°C (120°F) 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 water heater’s temperature to 60°C (140°F) or higher. However increasing temperature also increases the risk of scalding. By installing a mixing valve on the water heater, the temperature can be safely increased to prevent the growth of Legionella bacteria without the risk of scalding, providing the ultimate in peace of mind.

Legionella Bacteria
STORE ABOVE 60°C
Disinfection: >71°C
Legionella die in <2 minutes
Legionella die in 32 minutes
Legionella die in 5-6 hours
Ideal growth range: 32°C – 42°C
Legionella growth range: 21°C – 49°C
Legionella survive but dormant: <21°C
*Results may vary based on usage conditions.

TIME/TEMPERATURE RELATIONSHIPS IN SCALDS

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Time for a mild First Degree Burn</th>
<th>Time For Permanent Second Degree Burn</th>
</tr>
</thead>
<tbody>
<tr>
<td>49°C (120°F)</td>
<td>3 minutes</td>
<td>9 minutes</td>
</tr>
<tr>
<td>50°C (122°F)</td>
<td>1 minute</td>
<td>5 minutes</td>
</tr>
<tr>
<td>52°C (125°F)</td>
<td>30 Seconds</td>
<td>90 seconds</td>
</tr>
<tr>
<td>55°C (131°F)</td>
<td>5 seconds</td>
<td>25 seconds</td>
</tr>
<tr>
<td>60°C (140°F)</td>
<td>2 seconds</td>
<td>5 seconds</td>
</tr>
<tr>
<td>65°C (149°F)</td>
<td>1 second</td>
<td>2 seconds</td>
</tr>
<tr>
<td>68°C (154°F)</td>
<td>Instantaneous</td>
<td>1 second</td>
</tr>
</tbody>
</table>

One small accessory that improves comfort, helps protect accidental scalding and reduces the risk of Legionella bacteria growth.

PROTECT YOUR REPUTATION
Canada’s Legislation
Section 2.2.10.7 of the National Plumbing Code of Canada requires maintaining a water outlet temperature that does not exceed 49°C to various fixtures in residential application. This can be achieved by having a single tempered water supply that is controlled by a master Thermostatic Mixing Valve conforming to CAN/CSA B 125.3.

Legionella pneumophila

60°C

49°C

21°C

71°C

60°C

55°C

49°C

21°C

*Results may vary based on usage conditions.