ECV

Expansion Control Valve

INSTRUCTIONS

In addition to these instructions, ECV Valves must be installed in accordance with AS/NZS3500 National Plumbing and Drainage Code. All local government requirements must be met and the PTR must be installed in line with the water heater manufacturer's instructions.

The ECV to be fitted must have a set pressure lower than that of the pressure temperature relief valve (see “Set Pressures for Water Heater valves” Table on previous page.)

*Australian Valve Group (AVG) Expansion Control Valve should be installed by a licensed plumber in accordance with AS/NZS3500.*

*Clean out any foreign matter from the valve before fitting a valve.*

*Flush the plumbing lines before connection. Deposits left in the line can lodge under the valve seat causing the valve to leak.*

*Apply thread seal tape to the thread. Be sure not to use excessive amounts of thread seal that could hang over the thread, break off and lodge under the valve seat, causing it to leak.*

*Install the expansion control valve between the non-return isolating valve and the heater inlet.*

*Do not use a wrench on the valve body. Use the spanner flats provided.*

*No valve, taps, or other isolating valves are to be fitted between the ECV and the water heater.*

*If a drain line is fitted it must be of the same nominal pipe size as the valve, in accordance with AS/NZS3500.4. The drain line must have a continuous fall.*

*Test the manual relief by lifting the lever. Water should flow out of the relief. It is recommended that the manual relief be operated every 6 months, so as to flush out any deposits that may accumulate under the seal.*

TYPICAL INSTALLATION OF CONTROLLED PRESSURE HOT WATER SYSTEM

The tempering valve may be installed at the point of use, but there must be a minimum 1 metre pipe run between the valve and the outlet tap.

Caution: Water escaping from the drain line may be hot and could cause scalding. This valve is a Safety Valve. Excessive discharge from the drain line or operation of the small auxiliary relief valve opposite the drain line can mean a malfunction within the system. Switch off the energy source and call a plumber or service person.

Controlled pressure storage water heater

Tempering Valve

Untempered hot water (eg kitchen and laundry)

Tempered water (50°C to chosen outlets, eg bathrooms)

Mains Supply

Non-Return Isolating Valve

Pressure Limiting Valve

Expansion Control Valve

LEGEND

= Hot = Cold = Mix

Drain lines must have continuous fall.
ECV VALVE FUNCTION
The Expansion Control Valve (ECV) is designed to relieve the increase in pressure caused by the water expansion during the normal heating cycle. It is recommended that an ECV be fitted to the cold water supply line. This will relieve cold water, not hot water, during the heating cycle saving energy and increasing the life of the Pressure Temperature Relief valve (PTR). Some local governments make it mandatory to install an ECV in the cold water line. PTR and ECV valves are safety valves and should be replaced every 4 years.

INLET PRESSURE CONTROL
High pressure may cause excessive discharge and possible premature failure of the operating relief valve (see table). The maximum water pressure usually occurs during the night, at the time of lowest water usage. In any mains pressure water heater installation if the water pressure exceeds 80% of the nominal set pressure of the operating relief valve, a Pressure Limiting Valve must be fitted to the cold inlet. If a cold water expansion control valve is fitted it will have a lower set pressure than the PTR valve and therefore will be the main operating relief valve.

SET PressURES FOR WATER HEATER VALVES

<table>
<thead>
<tr>
<th>Without Expansion Control Valve</th>
<th>With Expansion Control Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTR Valve Setting kpa</td>
<td>PLV required if mains pressure exceeds:</td>
</tr>
<tr>
<td></td>
<td>Pressure Limiting Valve setting kpa</td>
</tr>
<tr>
<td>850</td>
<td>680</td>
</tr>
<tr>
<td>1000</td>
<td>600</td>
</tr>
<tr>
<td>1400</td>
<td>1120</td>
</tr>
</tbody>
</table>

ECV SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>DN SIZE</th>
<th>COLOUR CODE</th>
<th>PRESSURE RATING</th>
<th>INLET</th>
<th>OUTLET</th>
<th>EXPANSION RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECV15/1400</td>
<td>15</td>
<td>ORANGE</td>
<td>1400 kpa</td>
<td>1/2&quot; male</td>
<td>1/2&quot; female</td>
<td>20 KW</td>
</tr>
<tr>
<td>ECV15/1200</td>
<td>15</td>
<td>RED</td>
<td>1200 kpa</td>
<td>1/2&quot; male</td>
<td>1/2&quot; female</td>
<td>20 KW</td>
</tr>
<tr>
<td>ECV15/850</td>
<td>15</td>
<td>GREEN</td>
<td>850 kpa</td>
<td>1/2&quot; male</td>
<td>1/2&quot; female</td>
<td>20 KW</td>
</tr>
<tr>
<td>ECV15/700</td>
<td>15</td>
<td>BLUE</td>
<td>700 kpa</td>
<td>1/2&quot; male</td>
<td>1/2&quot; female</td>
<td>20 KW</td>
</tr>
<tr>
<td>ECV20/1200</td>
<td>20</td>
<td>RED</td>
<td>1200 kpa</td>
<td>3/4&quot; male</td>
<td>3/4&quot; female</td>
<td>46 KW</td>
</tr>
<tr>
<td>ECV20/800</td>
<td>20</td>
<td>GREEN</td>
<td>850 kpa</td>
<td>3/4&quot; male</td>
<td>3/4&quot; female</td>
<td>46 KW</td>
</tr>
<tr>
<td>ECV20/700</td>
<td>20</td>
<td>BLACK</td>
<td>700 kpa</td>
<td>3/4&quot;</td>
<td>3/4&quot; female</td>
<td>46 KW</td>
</tr>
</tbody>
</table>

WARRANTY
This valve is factory set and cannot be serviced or repaired in the field. The Australian Valve Group (AVG) will not honour any warranty claim where these instructions have not been followed, or where the valve has been tampered with or subjected to obvious abuse.

DISCLAIMER
Every care has been taken in the preparation of these instructions, which have been issued as a guide only. Compliance with the requirements of Local Authorities is required at all times. These requirements may change from time to time. Always be aware of the local requirements. Subject to any statutory obligations and manufacturers warranties no liability can be accepted for any losses, consequential or otherwise which may arise or be said to have arisen from relying upon the contents of this installation instruction. As to the fitness of any particular product for any particular purpose, use or application, The Australian Valve Group Pty Ltd reserves the right to modify designs and specifications and to withdraw and introduce products at any time without notice.
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### ECV SPECIFICATIONS

#### SET PRESSURES FOR WATER HEATER VALVES

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If a cold water expansion control valve is fitted it will have a lower set pressure than the PTR valve and therefore will be the main operating pressure. PTR Valve and ECV valves and should be replaced every 4 years.

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**ECV15**

**Expansion Control Valves**

- **1400** 15mm (1/2") BSP
- **1200** 15mm (1/2") BSP
- **850** 15mm (1/2") BSP
- **700** 15mm (1/2") BSP
- **600** 15mm (1/2") BSP

**ECV20**

**Expansion Control Valves**

- **1200** 20mm (3/4") BSP
- **850** 20mm (3/4") BSP
- **700** 20mm (3/4") BSP

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**1. Stainless Steel Lever action**

**2. Should the main relief valve become blocked, this auxiliary will blow out and relieve the valve.**

**3. The valve has a high temperature seal that remains flexible and continues to perform at temperatures that cause most organic elastomers to become brittle and crack.**

**4. Colour coded valve rating plate for ease of identification**

**5. Forged DR brass body.**

**6. The valve is a dry spring design. It has a high temperature silicon boot that shields the spring from any corrosive elements in the water supply, that may build up and prevent the valve from relieving.**

Each valve is individually tested and calibrated to ensure that it meets the correct pressure specifications. Designed and manufactured to meet Australian Standard AS1357.1, under licence No. 2639 and meets AS4020, Drinkable Water Standard. Manufactured under Quality Assurance ISO 9001 and ISO 9002 (UK) Suitable for either horizontal or vertical installations. The valve is designed to automatically reseat after each action.
TYPICAL INSTALLATION OF CONTROLLED PRESSURE HOT WATER SYSTEM

INSTALLATION REQUIREMENTS

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