

# Expansion Control Valve ECV



# Expansion Control Valve

## 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

PTR Valve Setting kpa	Without Expansion Control Valve		With Expansion Control Valve		
	PLV required if mains pressure exceeds:	Pressure Limiting Valve setting kpa	Expansion Control Valve setting kpa	PLV required if mains pressure exceeds:	Pressure Limiting Valve setting kpa
850	680	500	700	550	350
1000	800	600	850	680	500
1400	1120	600	1200	960	600

## ECV SPECIFICATIONS

Model	DN SIZE	COLOUR CODE	PRESSURE RATING	INLET	OUTLET	EXPANSION RATING
ECV15/1400	15	ORANGE	1400 kpa	1/2" male	1/2" female	20 KW
ECV15/1200	15	RED	1200 kpa	1/2" male	1/2" female	20 KW
ECV15/850	15	GREEN	850 kpa	1/2" male	1/2" female	20 KW
ECV15/700	15	BLUE	700 kpa	1/2" male	1/2" female	20 KW
ECV20/1200	20	RED	1200 kpa	3/4" male	3/4" female	46 KW
ECV20/800	20	GREEN	850 kpa	3/4" male	3/4" female	46 KW
ECV20/700	20	BLACK	700 kpa	3/4"	3/4" female	46 KW

### 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.

COLOUR RATING PLATE	ECV VALVES	PTR VALVES
Black	ECV 15/600	PTR 15/700
Black	ECV 20/600	PTR 20/700
Blue	ECV 15/700	PTR 15/850
Blue	ECV 20/700	PTRE 20/850
Green	ECV 15/850	PTR 15/1000
Green		PTRE 15/1000
Green	ECV 20/850	PTR 20/1000
Red	ECV 15/1200	PTR 15/1400
Red		PTRE 15/1400
Red	ECV 15/1200	PTR 15/1400-HTT
Red	ECV 20/1200	
Orange	ECV 15/1400	

### Rating plate colours

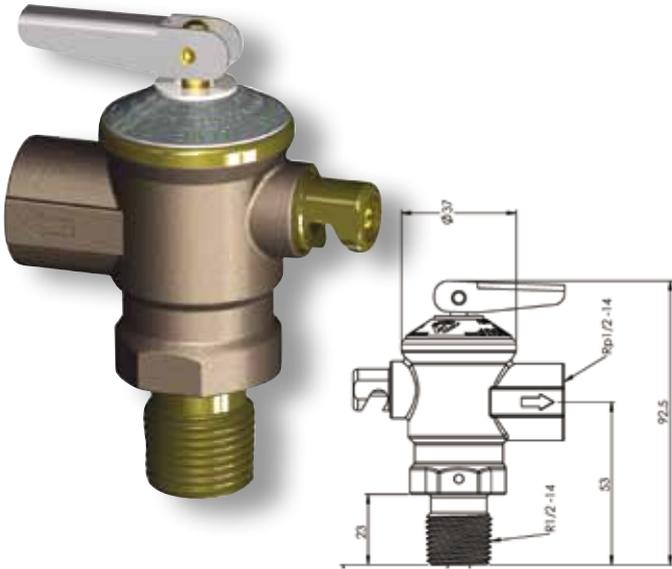
The valve rating plates are colour coded to make selecting the correct valve easy. Simply match the ECV rating plate colour to a PTR with the same colour.



Insulation available according to AS3500.

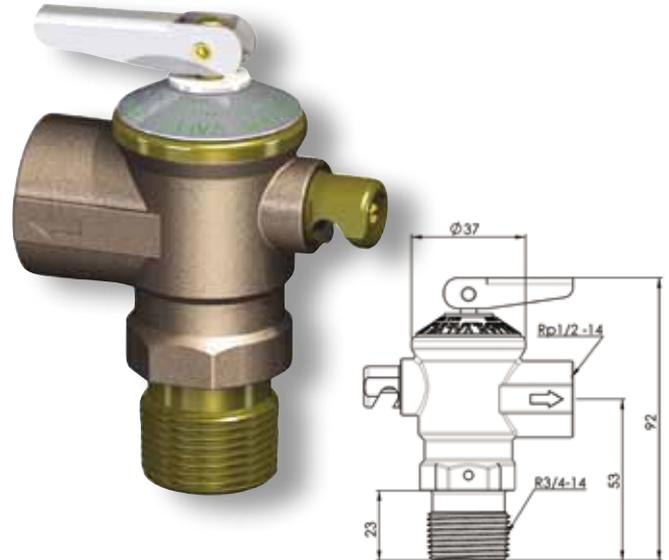


# ECV



**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

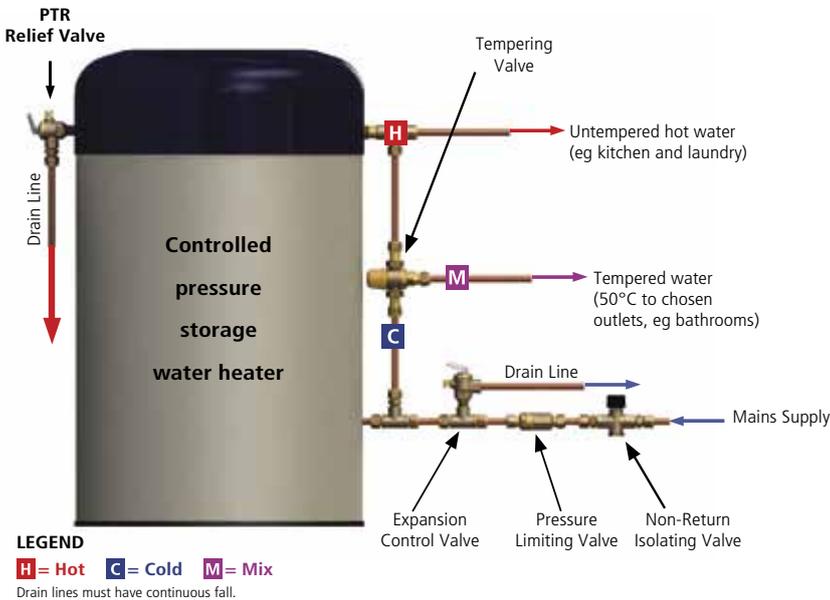
1. Stainless Steel Lever action
2. Should the main relief valve become blocked, this auxiliary will blow out and relieve the valve.
3. The valve has a high temperature seal that remains flexible and continues to perform at temperatures that cause most organic elastomers to become brittle and crack.
4. 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 reset after each action.

# installation

## INSTRUCTIONS

### 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 can mean a malfunction within the system. Switch off the energy source and call a plumber or service person.

### INSTALLATION REQUIREMENTS

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.

Expansion Control Valve