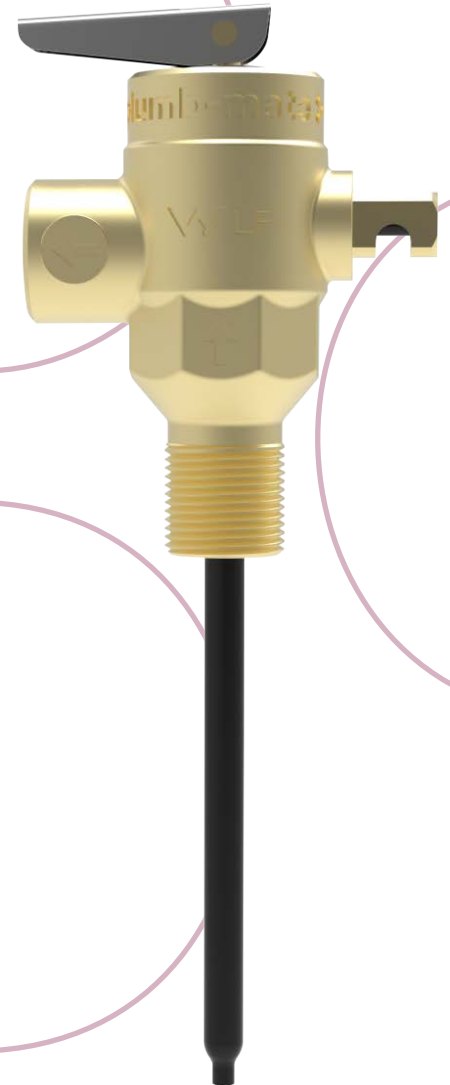


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Pressure & Temperature Relief Valve (PTR)

Installation & Operation Manual



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Pressure & Temperature Relief Valve (PTR)

The plumb-mate PTR valve is a critical safety control designed to protect unvented storage water heaters.

It guards against over-heating and over-pressure hazards by relieving the increase in pressure caused by water expansion during the normal heating cycle.

In the event that thermostatic controls fail and water overheats, the temperature probe activates to discharge hot water, ensuring the system does not exceed 99°C.

All products supplied with insulation jacket suitable for external installation.

Key Features

Lead-Free bronze body

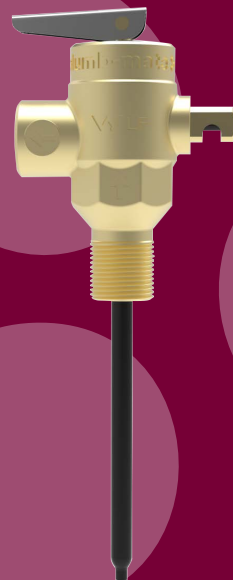
Fully compliant with the lead-free requirements of the National Construction Code Volume 3

Heavy duty auxiliary relief

Upgraded Lead-Free copper auxiliary relief valve provides a longer life expectancy

Flexible installation options

Valve is designed to work in either vertical or horizontal installations



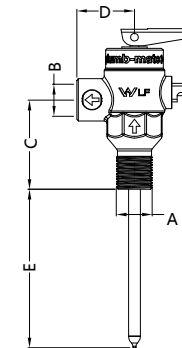
Pressure Rating		15mm PTR	15mm PTRE	20mm PTR
700 kPa (Black)		PMPTR-15-700	-	PMPTR-20-700
850 kPa (Blue)		PMPTR-15-850	-	PMPTR-20-850
1000 kPa (Green)		PMPTR-15-1000	PMPTR-15-1000	PMPTR-20-1000
1400 kPa (Red)		PMPTR-15-1400	PMPTR-15-1400	PMPTR-20-1400

Product Technical Data

Designed and manufactured to meet AS 1357.1:2019



	PMPTR-15	PMPTR-15	PMPTR-20
Inlet Connection	R 1/2" Male	R 1/2" Male	R 3/4" Male
Outlet (Drain) Connection	G 1/2" Female	G 1/2" Female	G 3/4" Female
Pressure Ratings (kPa)	1000 / 1400	700 / 850 / 1000 / 1400	
Expansion Rating	10 kW	10 kW	46 kW
Special Configuration	-	Extended Body	-
Opening Temperature Range	93 °C - 99 °C		



Technical Drawings

Model	Size	A	B	C	D	E
PMPTR-15	DN15	R 1/2"	G 1/2"	52.5	34	95
PMPTR-15	DN15	R 1/2"	G 1/2"	77.5	34	69
PMPTR-20	DN20	R 3/4"	G 3/4"	52.5	34	95

Installation & Operating Instructions

1. Installation Requirements

This valve must be installed by a licensed plumber in accordance with AS/NZS 3500.4 and local water authority requirements.

1.1 Pre-Installation Checklist

Valve Selection: The PTR valve's working pressure rating must not exceed the water heater's maximum working pressure. Additionally, the valve's discharge capacity must be greater than the water heater's power rating (kW). If a cold water ECV is fitted, it will have a lower set pressure than the PTR valve and will serve as the primary operating relief valve.

Inspection: Do not install if the valve or probe is damaged.

System Flushing: Flush all plumbing lines thoroughly before connection to remove debris that could lodge under the valve seat and cause leaks.

1.2 Installation Steps

Placement: Install the valve directly into the water heater's PTR Socket.

Orientation: The valve is suitable for both horizontal or vertical mounting. If horizontal, the drain outlet must face vertically downwards.

Sealing: Apply PTFE thread tape to the male inlet thread. Ensure tape does not overhang the end of the thread, as loose fragments can cause the valve to leak.

Tightening: Do not use a wrench on the valve body. Use only the hexagonal spanner flats provided.

Isolating Devices: No valves, taps, or other isolating devices are to be fitted between the PTR and the water heater.

1.3 Drain Line Requirements

Sizing: The drain line must match the nominal size of the valve outlet (1/2" for DN15, 3/4" for DN20).

Fall: The line must have a continuous fall from the valve to the discharge point.

Blockage: The drain outlet must not be sealed or blocked. If a blockage occurs, the auxiliary relief device opposite the drain will discharge water.

Discharge Point: Must comply with AS/NZS 3500.4, ensuring

discharge is visible and does not cause a nuisance or injury.

1.4 Inlet Pressure Control

High mains water pressure can cause excessive discharge. If the maximum inlet water pressure (typically at night) exceeds 80% of the PTR set pressure, a Pressure Limiting Valve (PLV) must be fitted to the cold water inlet.

2. Maintenance & Servicing

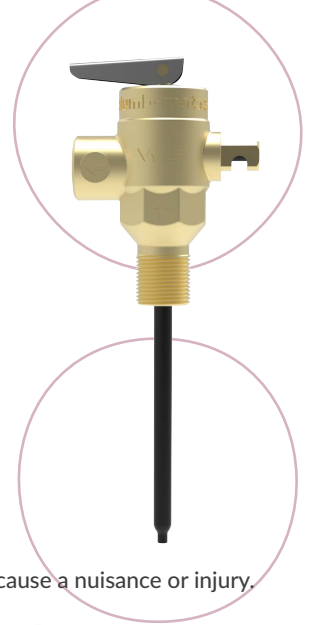
Field Service: This valve is factory set. It cannot be dismantled or serviced in the field. If faulty, the entire valve must be replaced.

6-Month Test: Manually operate the Stainless Steel lever every 6 months to flush out lime/calcium deposits and ensure the valve is functioning.

Replacement: It is recommended that PTRs be replaced every 4 years to ensure continued system safety.

3. Warranty & After-Sales

plumb-mate (manufactured by RBM Systems Pty Ltd) warrants this product against manufacturing defects for a period of **two (2) years** from the date of purchase. The warranty is void if the valve is tempered with, incorrectly installed, or used outside of its specified parameters.



Valve Selection & Identification

Valve Selection & Inlet Pressure Control Chart

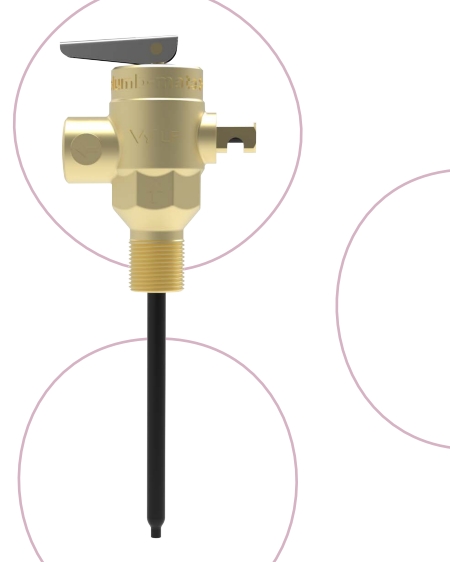
To ensure the longevity of the system and prevent excessive discharge, the maximum inlet water pressure must not exceed **80%** of the set pressure of the operating relief valve.

PTR Valve Setting (on water heater)	Recommended plumb-mate ECV Setting	PLV Required if Mains Pressure Exceeds	PLV Setting (If required)
700 kPa	600 kPa	480 kPa	350 kPa
850 kPa	700 kPa	560 kPa	350 kPa
1,000 kPa	850 kPa	680 kPa	500 kPa
1,400 kPa	1,200 kPa	960 kPa	600 kPa

Identification

The plumb-mate PTR uses a colour-coded rating plate for easy identification and matching with the corresponding plumb-mate ECV valves.

Rating Plate Colour	PTR Model	ECV Model
Black 	PMPTR-15-700 PMPTR-20-700	PMECV-15-600 PMECV-20-600
Blue 	PMPTR-15-850 PMPTR-20-850	PMECV-15-700 PMECV-20-700
Green 	PMPTR-15-1000 PMPTR-20-1000	PMECV-15-850 PMECV-20-850
Red 	PMPTR-15-1400 PMPTR-20-1400	PMECV-15-1200 PMECV-20-1200



Troubleshooting Guide

This guide is designed to help licensed plumbers identify and resolve common issues with the plumb-mate Pressure & Temperature Relief Valve (PTR)

Caution!

Water escaping from the drain line may be hot and could cause scalding.

If the system is malfunctioning, switch off the energy source and call a qualified service technician.



Symptom	Probable Cause	Recommended Action
Slight dripping from the drain line during heating cycle	Normal Operation: The valve is designed to relieve excess pressure caused by water expansion during heating	No action required; this indicates the valve is functioning correctly
Continuous dripping or leaking from the drain line	Debris Contamination: Dirt or scale may be lodged under the valve seat	Manually operate the easing lever several times to flush out deposits. If leaking persists, replace the valve
	High Mains Pressure: Inlet pressure exceeds 80% of the valve's set pressure	Install a Pressure Limiting Valve (PLV) on the cold water inlet
Water discharging from the auxiliary relief device (opposite the drain)	Drain Line Blockage: The main drain line is obstructed or sealed	Clear the obstruction from the drain line immediately. Ensure the drain line has a continuous fall
Excessive or constant discharge (not just during heating)	Mains Pressure Spike: Usually occurs at night during low water usage	Verify inlet pressure and install a PLV if it exceeds the recommended limits
	Faulty Valve: Internal component failure or spring seizure. Thermal cut-out failure (water is overheating)	Danger: Switch off power and call a service technician immediately. The valve will require replacement.
No water flows when easing lever is lifted	Inlet Blockage: Debris in the valve housing or inlet pipe	Disconnect and clean out all deposits from the valve housing or replace the valve

plumb-mate ::

Warehouse 3/99 Canberra St,
Hemmant QLD 4174

(07) 3399 1234
hello@plumb-mate.com.au

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