Product Warranty

To be read in conjunction with and subject to warranty conditions and exclusions found in this document. Claims that instructions were missing are not accepted as a means of avoiding this condition.

From date of purchase, Waterware Sales Ltd warrants the following to be free from manufacturing defect for 5 years on parts and labour.

Warranty conditions and exclusions;

This limited warranty is not transferable, and rests with the original householder.

If any fault arising from the manufacturing processes is found in a new product and if after consultation with Waterware, the product is returned, within the stated warranty period for that product, for inspection and or testing, Waterware will repair or exchange the product at its sole discretion.

Waterware Service Ltd shall in no way be liable for any loss, damage (direct, indirect or consequential), cost or expense suffered or incurred by the purchaser.

Any costs associated with the removal, replacement and return of any faulty product are not accepted without prior arrangement with Waterware. Under no circumstances will such costs be accepted by Waterware for products purchased and installed in remote, rural or locations greater than 50km's from the point of purchase.

Warranty does not apply where faults arise from;

- Normal wear and tear of perishable components like working seals and surface finishes.
- Normal maintenance, cleaning or tuning requirements or faults that are a result of minimum maintenance requirements not being followed.
- Foreign matter in the water supplies.
- Water supplies that do not meet normal expected municipal water quality standards.
- Installation in a manner not in accordance with the manufacturers installation instructions or relevant NZ and or Australian Standards and local plumbing codes including G12.
- Environment operating conditions that are outside the minimum and or maximum recommendations

Evidence must be produced which confirms the relevant product was purchased from a known customer of Waterware to validate any claim.

Obligations accepted by Waterware are in addition to all other rights and remedies had by the Purchaser in law in respect of the product and does not limit the right the Consumer may have under the Consumers Guarantee Act 1993.

Subject to the exceptions and conditions previously listed, all expressed or implied conditions, statements warranties as to the quality of fitness on any purpose of a product or otherwise are hereby expressly excluded to the fullest extent permitted by law except under conditions and warrants which cannot be legally excluded by law and which are intended in the contract for the supply of the valve by the Trade Practises and any other Act of Law.

WATERWARE

COMBO20CS
Mains Pressure Solar Valve Set

Solar Tempering Valve

Ball Valve Male/Male

Ball Valve

PRV15 / 20

Pack Includes:

1 x PRV20	Adjustable Pressure Limiting Valve (1 to 6 bar)
1 x BV20M	Ball Valve male/male
1 x DSV312480	Cold water expansion valve (8 bar relief)
1 x MA20	Inlet manifold + male adaptor + male isolator adaptor
1 x TV252150	Adjustable Solar Tempering Valve (30-65°C)

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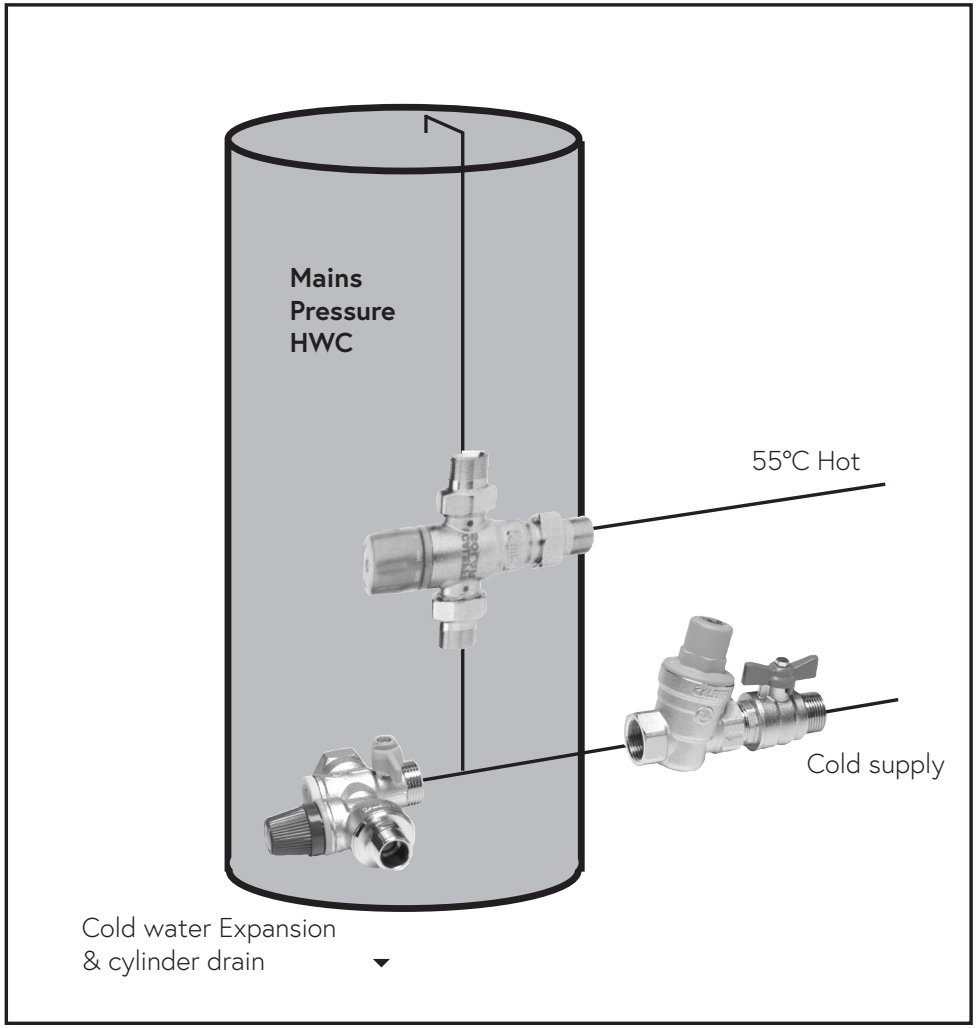
Installation Configuration

Installations should firstly conform to any relevant local requirements, NZ and or Australian plumbing standards. The inlet group valve connects directly to the bottom of the cylinder via the cylinder isolation valve and is



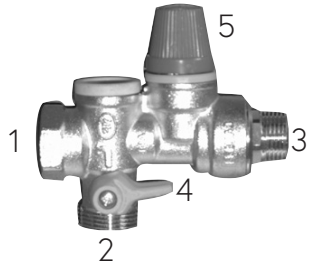
flow directional as indicated by an arrow.

Important tips;

- The primary isolating valve provided can be located on the PRV as shown for ease of maintenance.
- Use only synthetic thread seal or tape on any connections to the hot water cylinder.

HWCM Inlet Group Valve

The HWCM provides an inlet isolator, non-return, cold water expansion and cylinder drain.



Inlet manifold features

1. 3/4" female thread for direct connection to cylinder
2. 3/4" male cold inlet
3. 1/2" cold water expansion drain outlet
4. HWC input isolating valve
5. Safety valve knob for manual HWC draining and cold water expansion valve operation.

Cold water expansion valve function

The cold water expansion valve will start to vent and then discharge at a pressure greater than 700kPa inside the cylinder. As the cylinder heats and its contents expand, the volume of discharged water could reach 3% of the cylinders total capacity during the process. For example a 180 litre cylinder could vent 5.4 litres when heated from cold.

NOTE: The drain connection from the cold water expansion valve should only vent to atmosphere and not to upstream pressure. No air break is required unless the drain is over 10m in length.

To drain the hot water cylinder

To drain the hot water cylinder, turn the safety valve knob, #5 having previously closed the cold supply #4.. Ensure a hot water tap is open to allow air into the system and prevent a vacuum being formed in the system.

Cold water expansion valve specifications

Factory set 700kPa
Stainless steel seat
Maximum opening pressure + 20%
Minimum reseating pressure -20%
Maximum Temperature 110°C

TV252150 Series Tempering Valve

The Caleffi tempering valve is adjustable from 30 - 65°C and set once the system has been commissioned. The set point of the tempering valve can be locked in place by removing the cap then replacing the cap on the spline while lining up the locking grooves in the inside of the cap and the outside of the escutcheon.

- Place valve at supply source to prevent un-tempered hot water bursts from being delivered to the outlet.
- Valve can be installed in vertical or horizontal position (any orientation).
- Standard valves include a check valve in the cold union for domestic HWC installations.
- All supply lines should be protected by a y strainer or similar.
- The valve must not be subjected to extreme temperatures either during installation or in use. In particular, avoid brazing or soldering near the valve.
- Before final installation and commissioning the system must be thoroughly flushed out to ensure removal of all debris (See above on y-strainers). On older systems, it may be necessary to consider chemical cleaning (de-scaling) of the system. In known hard water areas, the use of a water softener in the system should be considered to promote ongoing trouble-free operation.

Note re:G12;

G12 requires a minimum 1m of copper pipe between the outlet of the hot water cylinder and the tempering valve. The manufacturer of the Caleffi tempering valve, series 5216, states there is no technical reason against installing this valve directly into the outlet of a domestic hot water cylinder providing all other standard installation instructions are followed.

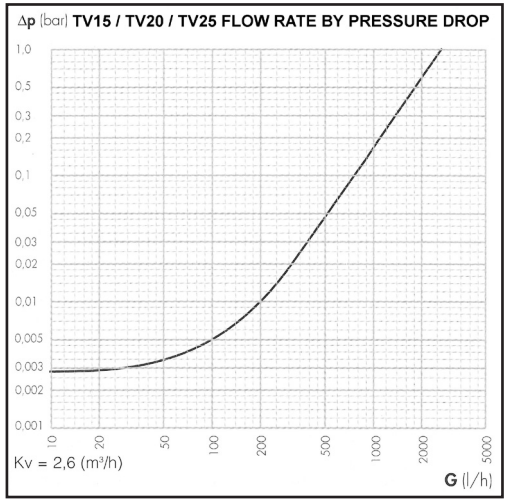
Important Note;

- Valve is rated for continuous hot water up to a maximum of 100°C. Systems operating beyond this temperature will cause irreparable damage not covered by the conditions of warranty.
- The check valve installed on the cold water union to the TV provides a non-return check valve to prevent un-wanted re-circulation.

Specifications

Approv.	UNI EN 12165CW602N
Quality Assured	ISO9001
Temp Adjustment Range	30 - 65 °C
Temp Control	+/- 2 °C
Max Op. Temp.	100 °C
Operating Press. Range	20 - 500 kpa
Max. Press. Differential @ low press (20 - 100kPa)	40kPa
Max. Press. Differential @ high press (100 - 500kPa)	200kPa
Max Test Press.	1000 kPa
Flow Rates	see graph
Min. flow rate	5 L/min
Material	DR Brass
Sizes available	15, 20mm

Min. Operating Failsafe Temp. Differential 10 °C
* The failsafe feature of this valve conforms to BS7942-2000 as tested at 300 kPa, valve shut off bypass will occur at higher pressures.



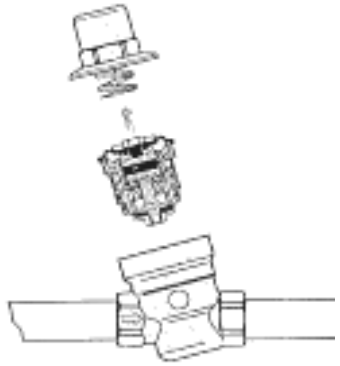
PRV20 Pressure Reducing / Limiting Valve

The Caleffi pressure reducing/limiting valve is adjustable from 100 - 600 kPa and is preset to 300 kPa, a pressure suited to ceramic disk taps and mixers, limiting the occurrences of water hammer.

WARNING!!

We recommend a pressure differential of 300 kPa between the cold water expansion valve setting of 800 kPa and the setting of the pressure limiting valve to minimise water loss due to expansion and prevent premature seat failure. Therefore **DO NOT** do not adjust the PRV higher than 500 kPa.

- The pressure reducing/ limiting valve can be installed in vertical or horizontal position but not upside down.
- The valve must not be submerged under water or dirt
- It is recommended that the PRV is installed with all household feeds (with the possible exception of the external garden taps,) being taken from the pressure reduced side providing equal hot and cold water pressure to the appliances.
- Note the PRV has its own filter which can be removed periodically for maintenance without removal of the body from line. Ensure the water supply is isolated and use a large spanner to remove the grey valve body cap. Use pliers or similar to pull the PRV cartridge from the body which reveals the strainer gauze. Replacement cartridge assemblies are available as a spare part.

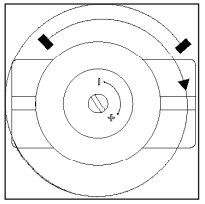


Technical data

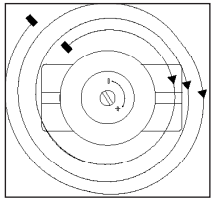
Inlet max working pressure	1600 kPa
Max working Temp.	65°C kPa
Outlet adjustable pressure	100 to 600 kPa (1 to 6 bar)
Suitable for:	water & compressed air
Factory set at:	300 kPa (3 bar)

Approximate Pressure setting

400 kPa



500 kPa



600 kPa