APEX VALVES
A WATTS Brand
367 Rosebank Road | Avondale | Auckland 1026 | T: 0800 500 484 | Int +64 9 828 3123

Training Update August 2020

Insulation on hot water cylinder valves

This topic has been discussed in the past but it is worth circulating again for the benefit of all our new staff.

Tempering Valves do NOT require insulation if a vertical heat trap is installed. This is shown below in the G12 compliant installation.

When discussing insulation of valving close to hot water storage cylinders there is a lot of confusion which is best resolved by examining the requirements of the relevant standards. There are great differences between plumbing practices here in New Zealand - and over in Australia. One of the biggest differences being that almost all hot water cylinders in New Zealand are installed indoors. This greatly effects the amount of insulation required.

Plumbing in New Zealand is governed by clause G12 of the building code. This, short document is the one that most inspectors are familiar with. It is true that AS/NZS 3500.1 Section 2, Section 3 Appendix C and AS/NZS3500.4 is also a suitable verification method but this is a very complicated and lengthy set of documents to follow.

If you install to AS/NZS 3500, which is "a suitable verification method" for G12, then insulation is required. Be aware – the whole system must then comply to AS/NZS 3500, which is onerous.

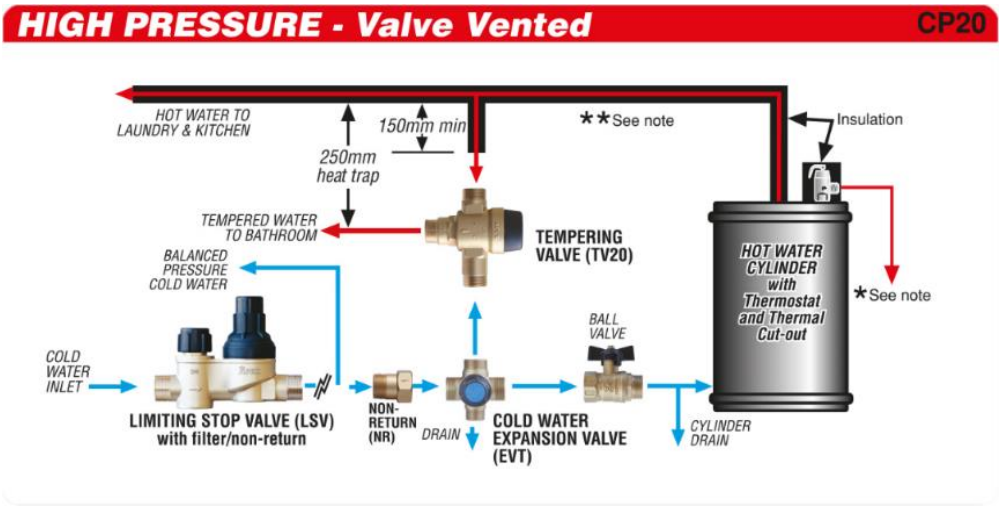
G12 requires that hot water distribution pipes shall be thermally insulated between the storage water heater and one or more of the following points :

a) For horizontal pipe, to not less that 2m.
b) To the end of the first continuous 2m of horizontal pipe, if the pipe has not followed a downward direction.
c) To the first pipe drop of at least 250mm, ie. heat trap. The insulation shall extend at least 150mm past the top of the heat trap.

Also, The untempered kitchen sink distribution pipe from the water heater to the outlet should be insulated.

There is no need to insulate a Tempering valve, cold water expansion valve or a limiting valve providing the valve train is installed sensibly. Apex Valves has always promoted installing the tempering valve in a heat trap because it increases the longevity of the valve.

The diagram below shows a typical, G12 compliant mains pressure installation.



Note:

** R.V and E.V drains may be combined provided discharge is via a minimum airbreak of 25 mm. Drain must have a minimum size of 20mm diameter and be one size larger than the largest relief valve outlet.*

*** 1.0m minimum copper pipe length from cylinder to Tempering Valve and a 250 mm heat trap to the Tempering Valve. (As per G12)*