

NEFA NEW INSTALLATION AND WARRANTY RETURN FORM

THIS FORM MUST BE FILLED OUT IN FULL AND RETURNED TO NEFA WITH THE FAULTY VALVE OR YOUR CLAIM WILL NOT BE PROCESSED.

Identify Problem (Please Tick)

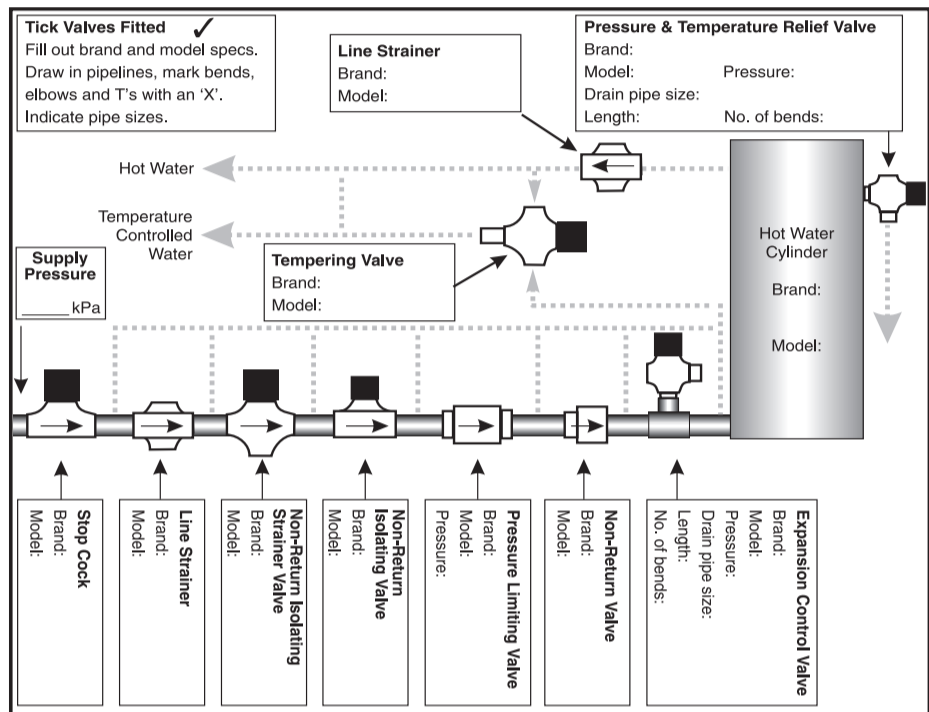
- Valve leaks
- Water hammer
- Noisy valves
- Valve failed
- Insufficient water flow (measure flow of valve litres/minute)
- Pressure Limiting Valve is not limiting pressure (state outlet pressure kPa)
- Tempering Valve does not regulate temperature between 40°C and 50°C.
- Tempering Valve does not limit temperature to 50°C.

Further Details

Was faulty valve replaced? Yes No If yes: Brand _____ Model _____

Did this fix the problem? Yes No

Commissioning sticker details: Date checked: _____ Temp: _____ °C
 Installation date: ____ / ____ / 20 ____ Date checked: _____ Temp: _____ °C
 Commissioned temp: _____ °C Date checked: _____ Temp: _____ °C



Warranty Statement

The following warranty statement shall apply to all NEFA valve products supplied by NEFA Australia.

Where NEFA valves are installed in a suitable, commercial or domestic application, in addition to any other right or remedy which the purchaser or end user may have under any relevant consumer protection legislation, Methven Australia, or any of its subsidiaries, undertake to replace any NEFA brand valve deemed to be faulty by a licensed plumber.

Further, if any NEFA valve submitted for warranty is found to contain a material defect which arose in the course of manufacture or does not satisfy the relevant Australian Standards and/or New Zealand Standards product requirements upon testing, the claimant (licensed plumber) will be reimbursed \$50 (See Note 1.)

These undertakings will only apply if:

- The product was installed by a licensed plumber
- The warranty claim form is completed in its entirety
- The product was installed as described in the installation instructions supplied with every NEFA product
- The product is installed in accordance with the relevant Australian Standards and Plumbing Codes
- The product was installed as described within the limits of the product specifications supplied with every NEFA product
- The product has not been tempered with or repaired in any way
- The product has not been damaged by misuse, accident or neglect
- The product does not contain excessive debris
- The product is installed in the specific Country where the original purchase was made
- The product is submitted to NEFA Australia within 5 years from the date of manufacture. (See Note 2)

Note 1. Upon submitting a NEFA valve to NEFA Australia for warranty claim purposes, the valve will be tested by Methven Ltd in accordance with the relevant AS/NZS product standard. If the valve does not meet the requirements of the product standard, the claimant (licensed plumber) will be reimbursed to a maximum of \$50 (incl. GST).

Note 2 The date of manufacture is marked on the valve, represented by a five digit number. The first two digits of the date of manufacture refer to the last two digits of the year of manufacture. The remaining three digits refer to the numerical day of the year in which the valve was manufactured (example: 30th June 2007 would be represented as 07181).

Methven shall in no way be liable to the purchaser or end user of any NEFA valves for any loss, damage (direct, indirect or consequential), cost or expense suffered or incurred by that person (including, without limitation, any damage and/or labour charges incurred in installation, repair or replacement), other than as provided in the above provisions, under any relevant consumer protection legislation or as consented to by Methven in writing in advance.

CUSTOMER SERVICE

AUSTRALIA
Phone 1300 638 483
Website: www.nefa.com.au

CUSTOMER SERVICE

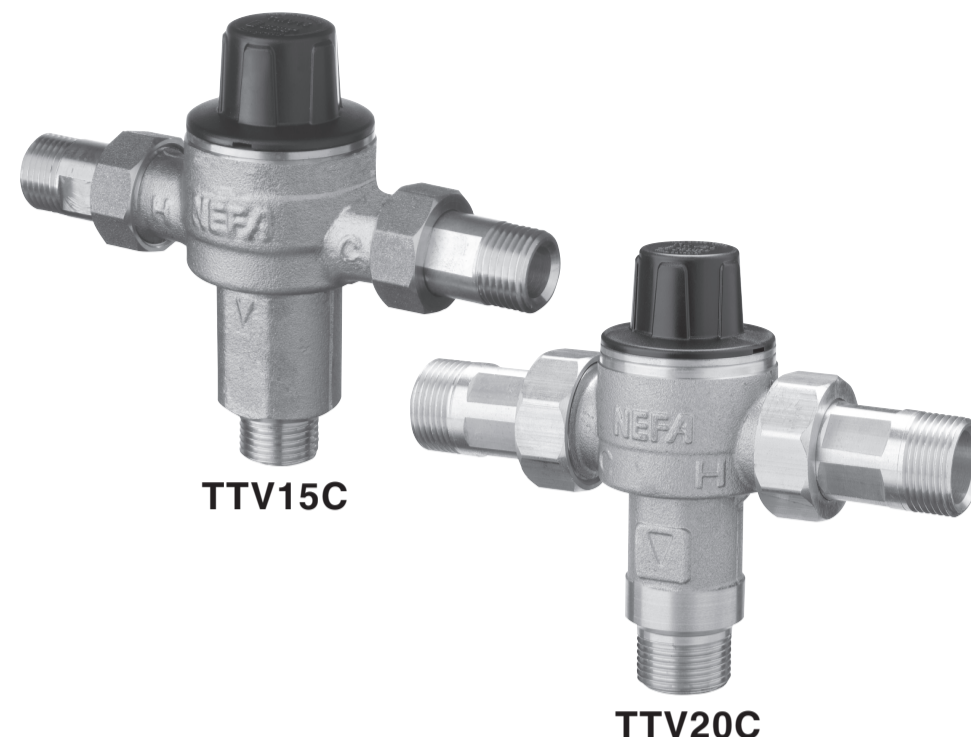
NEW ZEALAND
Phone 0800 804 222
Website: www.methven.com



Designed, distributed and warranted by Methven Limited, Private Bag 19996, Avondale, Auckland, NZ. 285019 Issue E



TEMPERING VALVE



- Provides accurate safe controlled temperature water for sanitary outlets.
- Hot water shut-off on cold water supply failure.
- Tamper-proof adjustment.
- Advanced polymers give greater resistance to calcium deposits.
- Union connections for easy installation with integral Line Strainers and Non- Return valves.
- Integral Non Return Valves.
- WaterMark certified.
- Conforms to AS4032.2



www.nefa.com.au

CONTROLLED PRESSURE WATER HEATER: DOMESTIC BUILDING

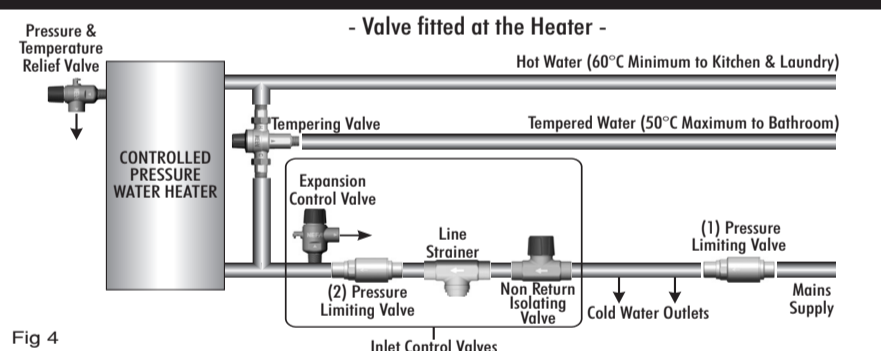


Fig 4 In a domestic installation it is recommended that one Nefa pressure-limiting valve is used at the property boundary (1) to limit pressure to the whole site. Where there is no Pressure Limiting Valve controlling the whole installation (1), it is recommended that the cold supply to the water heater & tempering valve be controlled by a Nefa Pressure Limiting Valve (2) Flush line thoroughly before fitting.

CONTROLLED PRESSURE WATER HEATER: DOMESTIC BUILDING

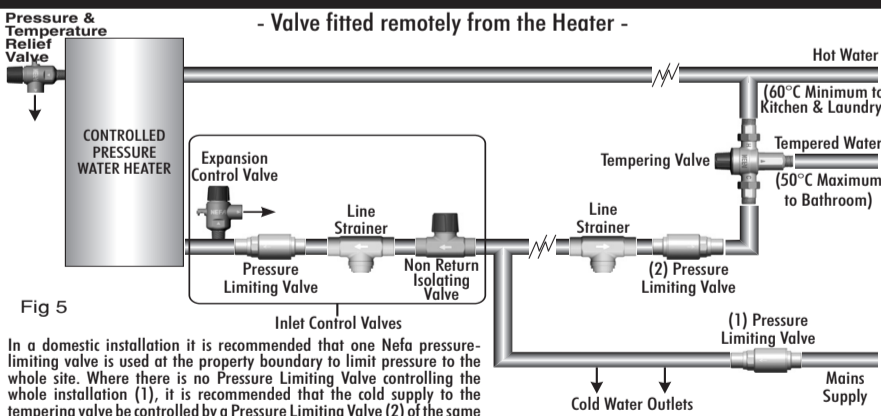


Fig 5 In a domestic installation it is recommended that one Nefa pressure-limiting valve is used at the property boundary to limit pressure to the whole site. Where there is no Pressure Limiting Valve controlling the whole installation (1), it is recommended that the cold supply to the tempering valve be controlled by a Pressure Limiting Valve (2) of the same pressure setting as the valve supplying the water heater. Flush line thoroughly before fitting.

HEAT EXCHANGE WATER HEATER: DOMESTIC BUILDING

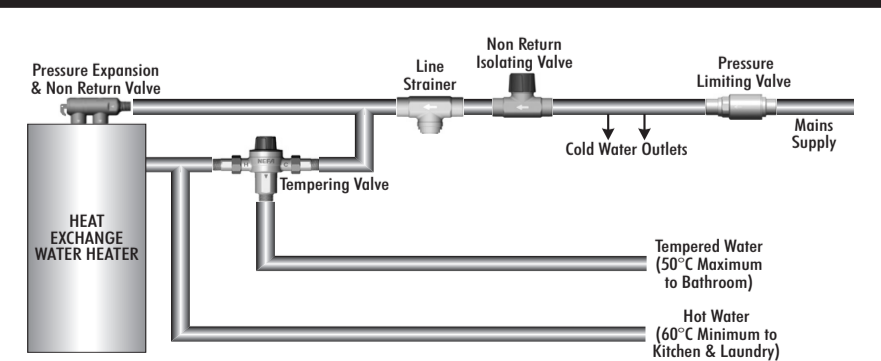


Fig 6 Schematic shows valve fitted at the heater. It is possible to mount the valve remote from the heater. Flush line thoroughly before fitting.

SOLAR WATER HEATER: DOMESTIC BUILDING

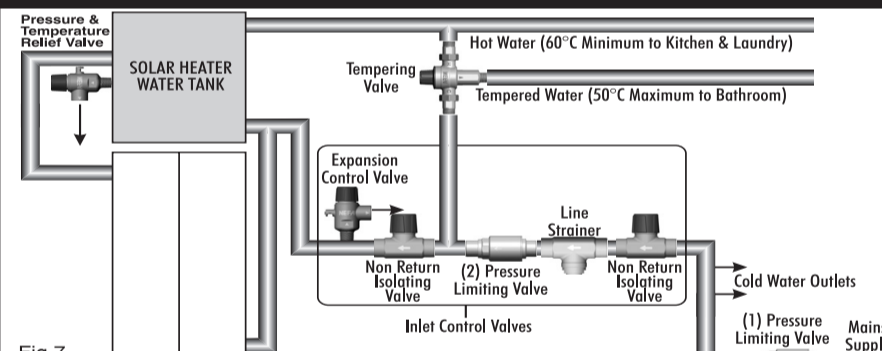


Fig 7 Schematic shows valve fitted at the heater. It is possible to mount the valve remote from the heater. Flush line thoroughly before fitting. In a domestic installation it is recommended that one Nefa pressure-limiting valve is used at the property boundary (1) to limit pressure to the whole site. Where there is no Pressure Limiting Valve controlling the whole installation (1), it is recommended that the cold supply to the water heater & tempering valve be controlled by a Nefa Pressure Limiting Valve (2)

PUMPED SUPPLIES, MULTIPLE VALVES: COMMERCIAL BUILDING

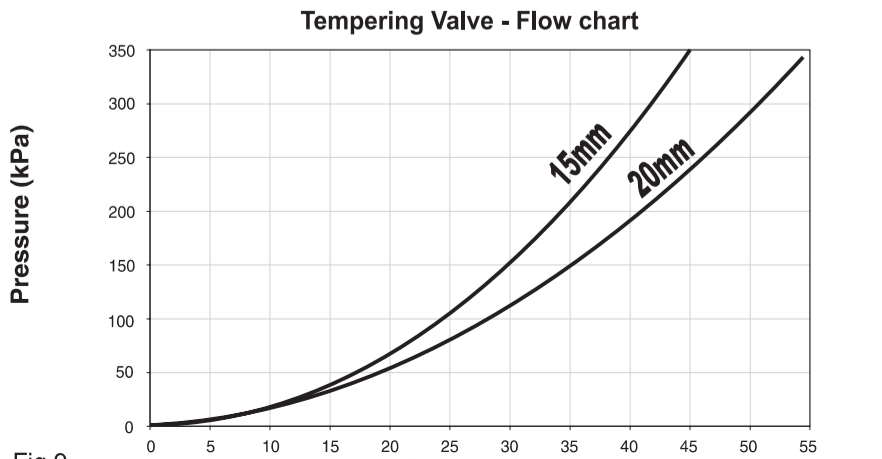
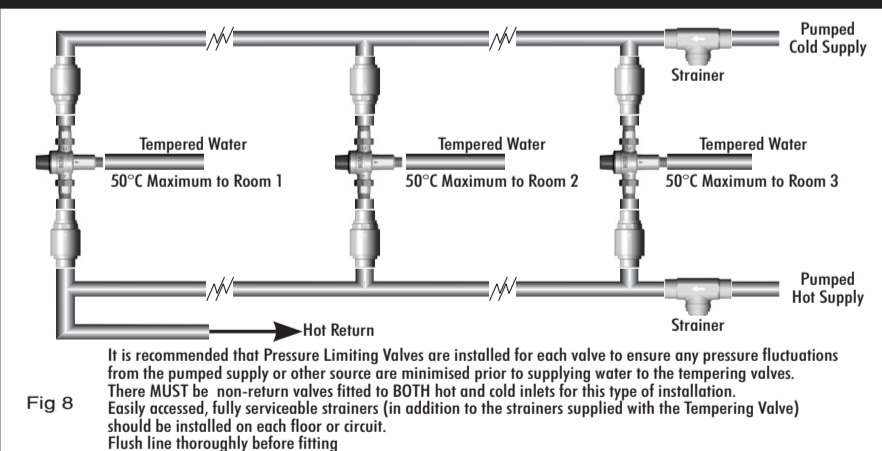


Fig 9

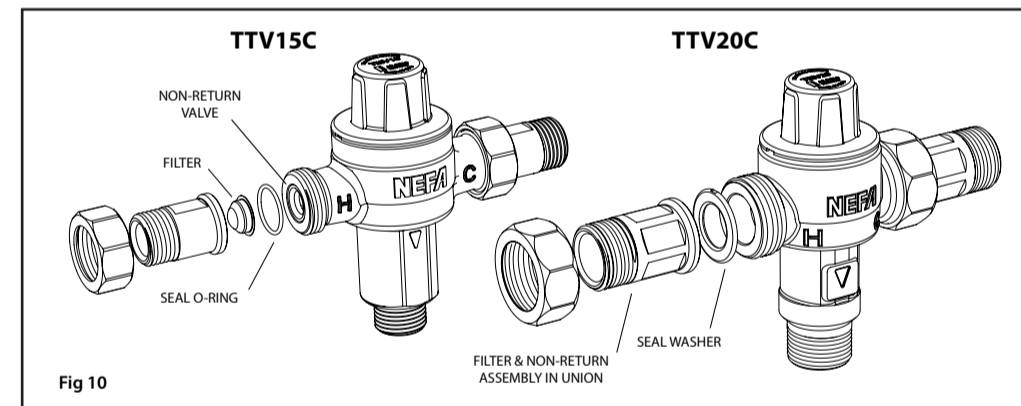


Fig 10

(IMPORTANT) Scalds From Hot Water

The following aims to provide information on the risk of Hot water scalds at different water temperatures and contact time.

The seriousness of a hot water scald burn is directly dependent on the temperature of the liquid and the length of contact time.

Medical research has demonstrated that there is a significant difference in the time that it takes to get a serious, third degree scald at different temperatures. A third degree burn is one that goes through the full thickness of skin and is likely to require surgery.

For water temperatures less than 50°C, there is a substantial safe contact time before third degree burns occur. At 50°C the safe contact time for an adult and a child is 5 minutes. At higher temperatures, the safe contact time particularly for children and the elderly, is substantially reduced as shown in (Figure 10.) below.

Children and elderly people are more likely to suffer injury than other age groups because their skin tends to be softer, they are also more susceptible to falls and are less likely to be able to protect themselves.

Extract from AS 4032.2

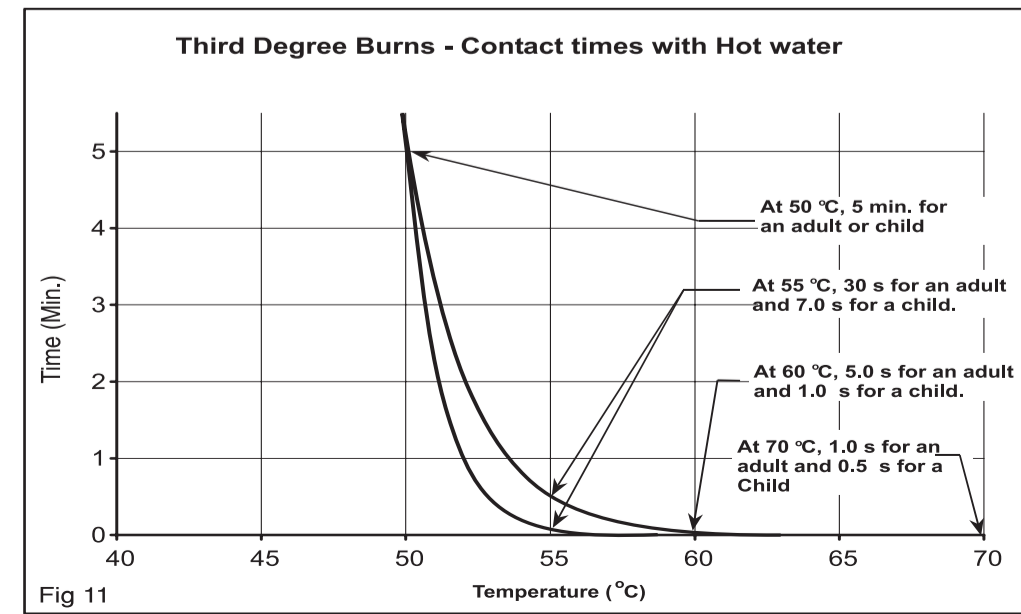


Fig 11

SPECIFICATIONS

• Connections	TTV15C TTV20C	15mm (½" BSP) Male compression 20mm (¾" BSP) Male compression
• Recommended Outlet Temperature range:		40°C - 50°C ²
• Factory setting: (Must be commissioned on site)		50°C nominal
• Accuracy of mixed outlet temperature:		±3° - Tested to AS 4032.2
• Cold water supply:		5°C -25°C
• Hot water supply:		
TTV15C & TTV20C: (Gas & Electric Storage)		55°C - 90°C ^{1,3}
TTV15CHP & TTV20CHP: (Solar Installations)		55°C - 99°C ^{1,3}
• Hot water / mixed water temperature differential:		15°C minimum. ³
• Supply Pressure - Static:		1600kPa maximum
• Supply Pressure - Dynamic:		500kPa maximum
• Maximum permitted pressure variation at inlets: (From supply pressure at commissioning)		±10% maximum ^{5,6}
• Pressure supply differential - Dynamic: (At time of commissioning)		3:1 maximum ⁴
• Minimum flow rate:		4 Litres/min

For solar installations and applications where fluctuating supply pressures may occur such as instantaneous water heaters Nefa recommend the installation of a High Performance Tempering Valve.

Notes:

- The minimum hot water storage temperature stated in AS3500.4 Clause 1.9 shall be not less than 60°C to inhibit the growth of legionella bacteria.
- The valve can be set as low as 35°C or as high as 58°C, depending on site conditions. These temperatures are outside the optimum working range of the valve and the requirements of AS 4032.2 and AS3500.
- This is the minimum temperature differential required between the Hot inlet water temperature and the Mixed outlet of the valve, to achieve outlet isolation in accordance with AS 4032.2 in the event of cold water supply failure, providing the valve is set between the specified adjustable temperature range 40°C to 50°C.
- The maximum ratio permitted between supply pressures, under dynamic flow operation. It is recommended at time of commissioning that Hot and Cold pressures be as equal as possible.
- The maximum permitted pressure variation in either supply from commissioning pressures in order to maintain the outlet temperature to ±3°.
- Note: Steps should be taken to eliminate any causes of rapid changes in supply pressures, as this may result in an outlet temperature spike greater than ±3° from commissioned temperature. If a spike occurs it may take a few seconds for the temperature to stabilize back to within ±3°.

Checks

- Be sure to check site installation parameters (Temperature, Pressure etc.) against the working specifications of the valve. If these parameters are outside of the stated specifications, they must be rectified prior to installation.
 - Never expose valves to a torch flame or heat. Heat will destroy the seals and sealing parts.
 - Never expose valves to freezing conditions. If installed where freezing conditions may occur, then suitable insulation must be used to prevent damage to the valve.
 - Not to be used on Steam supplied systems.
 - Not to be used on low-pressure systems.
 - The use of excess thread sealant (liquid, tape or any other form) must be avoided as this may cause the valve to fail.
 - A copy of these instructions should be left with the householder for future reference.
- The Installation details sticker, should be completed by the installer and attached to the water heater or other prominent position near the valve or as specified by the local Authority requirements.

Operation

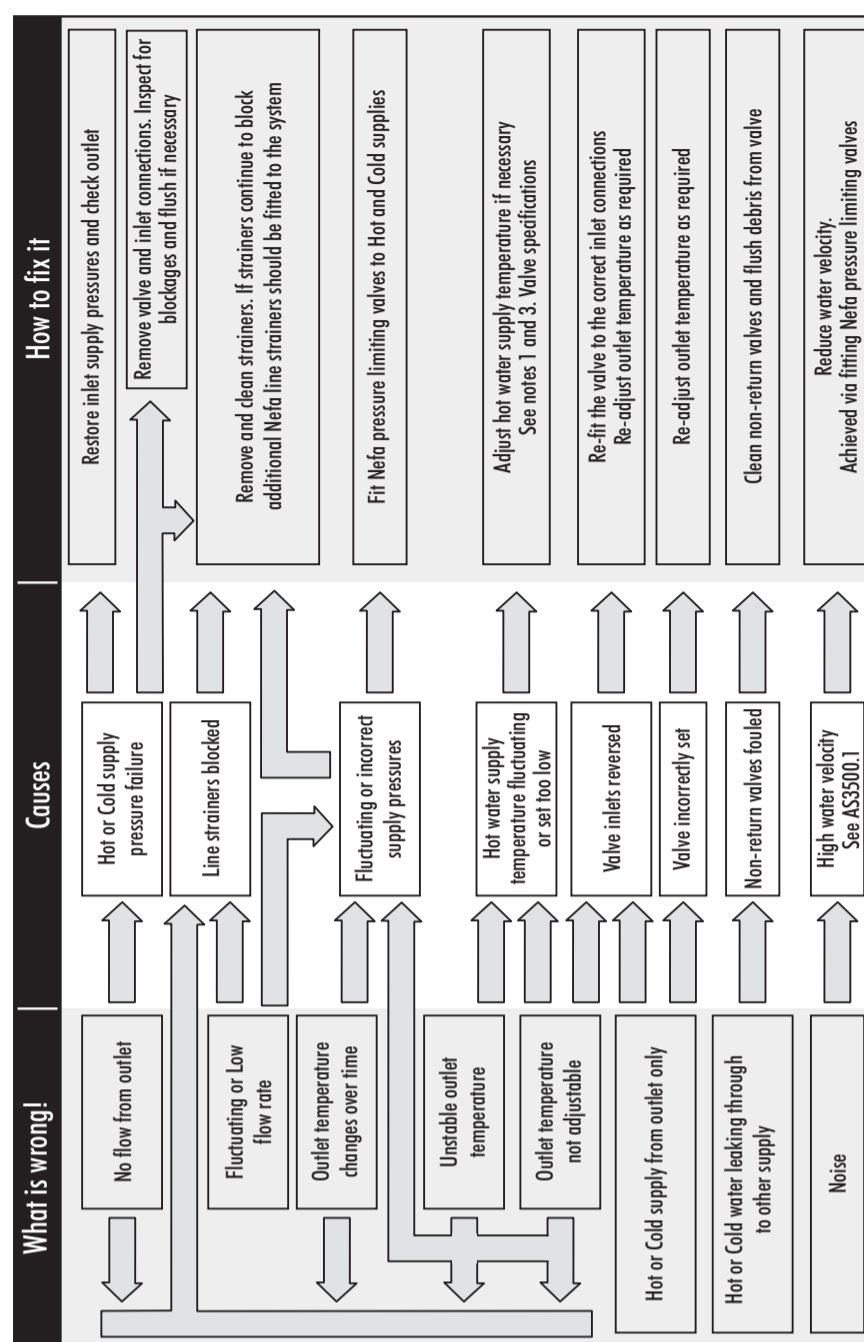
- The NEFA Tempering valve is designed to accurately provide safe controlled temperature water for outlets primarily used for personal hygiene. The Tempering valve will maintain the outlet mixed temperature to ± 3°C from set temperature in accordance with AS 4032.2.
 - The Tempering valve will effectively mix to 50°C when supplied with 55°C hot water.
- NB: AS/NZS 3500.4 requires hot water to be stored at 60°C minimum to inhibit legionella bacteria growth.
- If the cold water supply to the valve fails then the valve will automatically shut off the hot water supply preventing scalding. 15°C differential between the hot inlet water temperature and outlet set temperature is required to ensure effective hot water shut off in accordance with AS 4032.2.
 - For installations outside the requirements of AS 4032.2 and AS/NZS 3500.4, the valve can be set to 35°C - 58°C. This will depend on site conditions.
 - Strainers are integral to prevent debris entering the Tempering valve that could prevent it working effectively. Installations with poor quality water that could cause the strainers to continually block should have separate line strainers fitted.
 - Non return valves (NRV's) are integral to prevent cross feeding of unbalanced supply pressures. These NRV's are crucial for the complete hot water system to function effectively and MUST be fitted to both inlets.
 - All working components and critical shut-off faces of the Tempering valve are manufactured from high spec engineering polymers to resist scale build-up. Deposits to similar metal components would cause them to seize preventing effective and safe operation.

Systems supply pressures.

- Optimum performance of the valve is obtained when Hot and Cold dynamic (flowing) supply pressures are equal.
- Static supply pressures (non-flowing) will not give a true indication of dynamic pressures.
- In commercial installations it is recommended that separate Nefa pressure-limiting valves be fitted to both inlets of the Nefa tempering valve for optimum performance.
- In a domestic installation it is recommended that one Nefa pressure-limiting valve is used at the property boundary to limit pressure to the whole site.
- It is recommended that both Hot and Cold supplies to the valve should be controlled with their own pressure limiting valves.

TROUBLESHOOTING FOR

NEFA HOT WATER SYSTEM



Checks

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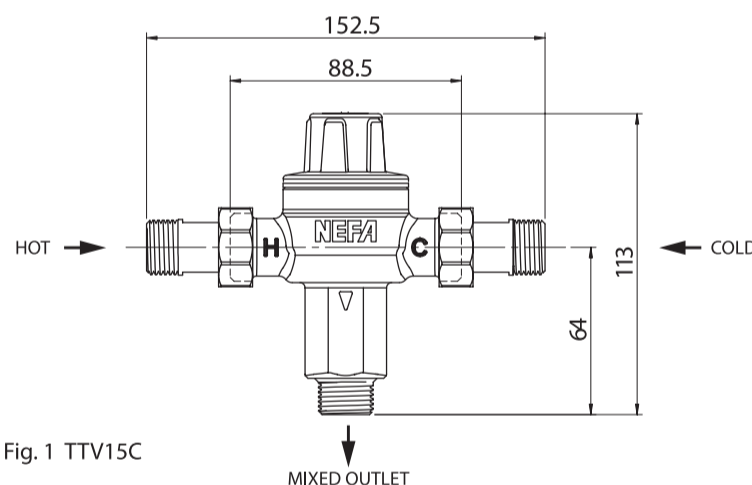


Fig. 1 TTV15C

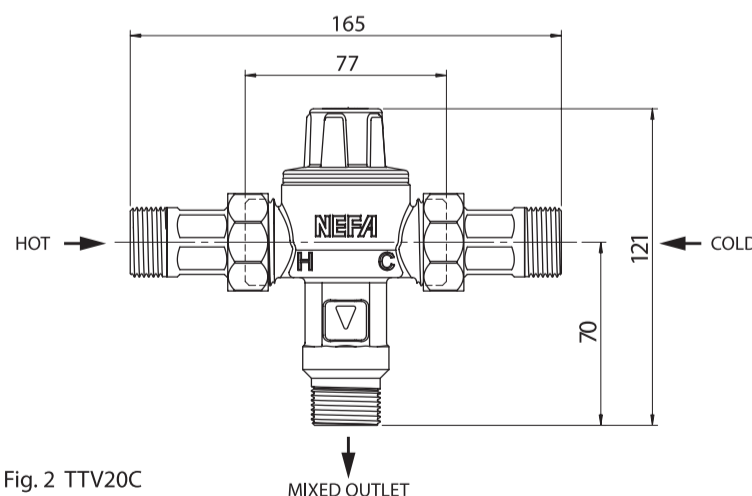


Fig. 2 TTV20C

Installation

- NEFA Valves shall always be installed by a licensed plumber, in accordance with the NEFA installation instructions, and the National Plumbing and Drainage Code AS/NZS 3500.4. The installation must also comply with any Local Authority requirements.
 - Before fitting a Tempering valve ensure all debris is thoroughly flushed from the pipe-work prior to installing. Contaminants and debris are the most common causes of system difficulties.
 - A separate un-tempered hot water line to the kitchen and laundry is recommended.
 - Do not install a Tempering valve directly onto a hot water cylinder. It is recommended that the valve be installed as close to the Hot water source as possible for optimum performance.
 - The Tempering valve shall be installed where it can be easily accessed for strainer checking and cleaning, or temperature adjustment.
 - The valve must be installed in accordance with the installation diagrams shown in (Figs.4-8).
 - If installed at an outlet fixture, 1m of pipe must be installed between the Tempering valve and the outlet.
 - Ensure both hot and cold water supplies are connected to the correct sides of the Tempering valve as marked on the valve body.
- Once, installed, **EVERY** valve must be commissioned by adjusting the valve and measuring the mixed water temperature at the outlet closest to the Tempering valve. A thermometer must be used.

Warranty Return Form

We would like to process your warranty quickly. Please assist us by taking a minute to check that the information is correctly filled out in the form below. Ensure this form is returned with the faulty product to your plumbing merchant or to NEFA Australia.

Product details

Product Code / Model Number Date of installation Date of manufacture (on valve)

Tell us the about the fault; refer to the back of this page.

How can we contact You?

Your Business' Name Installer's License Number

Contact Name
First Name Surname

Contact Details
Street Number & Name Phone Number

Suburb Fax Number

City / Town email

State Post Code

Where was the product installed?

Contact Name
First Name Surname

Site Details
Street Number & Name Phone Number

Suburb Fax Number

City / Town email

State Post Code

Valve Adjustment

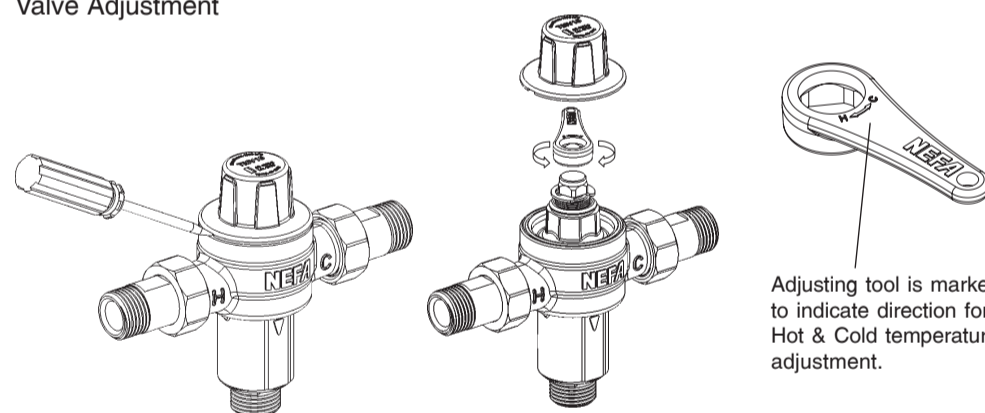


Fig. 3

- Before setting the valve ensure the hot water source is switched on and supplying water within the specified hot water temperature limits. It is recommended the water heater, if controlled by an adjustable thermostat should be set to the required 15° differential temperature necessary for thermal shut-off. (See Note.3 of valve specifications).
- Allow the water to flow 1-2 minutes to ensure the mixed water temperature has stabilized.
- A thermometer must be used to test the hot water at the nearest outlet to the installed valve to ensure the correct mixed water temperature is supplied. Test at a flow rate of not less than 4 litres/minute.
- To adjust the set temperature of the valve you must remove the cap allowing access to the adjusting spindle.
- Using the adjusting tool supplied, simply rotate the spindle shown in (fig.3) in the direction (H) hot or (C) Cold as indicated on the tool until the required set temperature is achieved.
- Once the set temperature has been reached and tested with a thermometer the cap must be snapped back onto the valve to protect the spindle from accidental adjustment, damage or debris.

Servicing and checking requirements:

- It is recommended the NEFA tempering valve be checked annually by a certified plumber to ensure correct functionality of valve. Space has been provided on the commissioning sticker to record the date & set temperature of the valve.
- Where the water supply is of poor quality or any other supply variations are likely, it maybe necessary to check the NEFA valve at more frequent intervals.
- Any temperature checks should be performed at the same outlet at which the valve was first commissioned. (See installation details sticker details). If the temperature varies more than 2°C from the commissioned temperature stated on the installation sticker or is outside of the requirements of AS3500.4, refer to the NEFA Trouble shooting guide.
- Line strainers and non-return valves are easily accessible through the union connectors for quick cleaning.
- Where the line strainers continue to block it may be necessary to fit an additional filter or line strainer into the system.
- This valve is a safety valve and cannot be serviced. If the valve fails to operate it is to be replaced. No attempt should be made to dismantle the valve. Any attempt to dismantle the valve (other than union connectors and adjustment cap) will void all warranties.