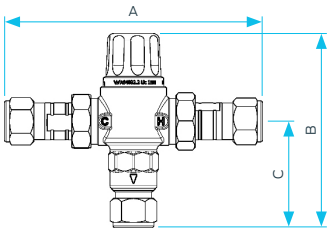


Dimensions

Size	A	B	C
15mm (1/2")	149	112	60



Troubleshooting

If desired mixed water temperature cannot be obtained or valve is difficult to set:

Possible Cause	Solution
Inlet temperatures are not within specified limits.	Ensure inlet temperatures are within the specified limits for the valve.
Valve contains debris.	Flush water through valve and clean non-returns and strainers.
Strainers contain debris.	Clean strainers, ensuring debris is removed.

If the mix temperature is unstable or changing over time:

Possible Cause	Solution
Fluctuating supply pressures.	Install pressure reducing valves.
Strainers contain debris.	Clean strainers, ensuring debris is removed.
Inlet temperatures may have altered due to seasonal temperature variations.	Reset valve.

If either full hot or full cold water is flowing from outlet fixture:

Possible Cause	Solution
Hot/Cold water has migrated to other inlet. Refer also to point 1.	Check non-return valve is not fouled. Clean if necessary.

If there is no flow from the valve outlet:

Possible Cause	Solution
Hot or cold water supply failure.	Restore inlet supplies and check mix temperature.
Strainers are blocked by debris.	Clean strainers and non-returns, ensuring all debris is removed. Flush valve.

If the flow rate is reduced or fluctuating:

Possible Cause	Solution
Inlets fouled by debris.	Check valve and inlet fittings for blockages. Clean or flush as necessary.
Fluctuating supply pressures.	Install pressure reducing valves.

If hot water flows into the cold water system or vice versa:

Possible Cause	Solution
Non-return valves fouled by debris.	Clean non-returns and strainers, ensuring all debris is removed. Flush valve.

If the valve is noisy:

Possible Cause	Solution
Water velocity above velocity requirements of AS/NZS 3500.1.	Reduce water velocity (best achieved by fitting a pressure reducing valve).

Valve Specifications

Cold water supply temperature	5°C – 30°C
Hot water supply temperature	60°C – 90°C ⁴
Optimum outlet temperature range	40°C – 50°C ⁵
Set temperature	Must be commissioned on site to achieve desired outlet temperature
Accuracy of outlet temperature	±3°C – tested to AS 4032.2 between 40°C and 50°C
Minimum temperature differential (between hot supply and outlet temperature)	15°C ⁶
Static supply pressure	1600kPa maximum
Maximum permitted pressure variation in either supply, in order to control outlet temperature to ±3°C (from supply pressure at commissioning)	±10% maximum ^{2,3}
Minimum flow rate	4 L/min

Notes:

- The maximum permitted ratio of supply pressures, under dynamic (flow) conditions. For optimum performance it is recommended that the hot and cold pressures at commissioning are as close as possible to equal.
- The maximum permitted variation in either supply pressure from the pressure at commissioning in order to control the outlet temperature to ±3°C.
- Note that rapid changes in supply pressure can result in a spike in the outlet temperature beyond ±3°C. It may take a few seconds following a rapid supply pressure change for the temperature to return to within a ±3°C limit. Steps should be taken on site to eliminate any cause of rapid supply pressure variation. (Note that Tempering Valves provide optimum performance when installed with hot and cold supplies of equal dynamic pressure ie: pressure under flow conditions. Static supply pressures often give NO indication of the dynamic supply pressure. Fitment of pressure reducing valves to the Tempering Valve is recommended).
- AS/NZS 3500.4 Clause 1.9.1 requires the minimum hot water storage temperature to be 60°C.
- For applications outside of the requirements of AS 4032.2 and AS/NZS 3500 it is possible to set the valve as low as 35°C or as high as 55°C, depending on site conditions.
- This is the minimum difference required to ensure shut-off of outlet flow in the event of cold supply failure in accordance with AS 4032.2, providing the valve is set between 40° – 50°C.

Warranty

Reliance Worldwide Corporation reserves the right to modify designs and specifications and to withdraw and introduce products at any time without notice.

Installation is subject to the requirements of the applicable regulatory authority, the National Construction Code Volume Three – Plumbing Code of Australia, associated reference standards as applicable at the time and AS/NZS 3500. This product is compliant to the Lead Free requirements of the National Construction Code Volume Three. For further Scope of Use, please visit www.rmc.com.au/resources.

Reliance Worldwide Corporation (Aust.) Pty. Ltd. (RWC) will either replace or repair any defective goods where the defect arose as a result of manufacture for two (2) years (see website for more details). You may contact RWC at the phone number, address or e-mail shown and will be required to return the goods for evaluation. Should the defect be found to be one of our manufacture we will send you a replacement product to your stated address at our expense. Our goods come with guarantees that cannot be excluded under Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and failure does not amount to a major failure.

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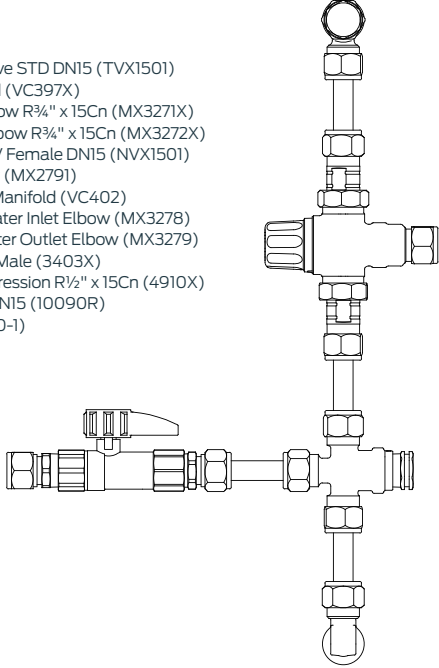
Installation Instructions

HKX1501 – Swift Kit

Valve Connection Kit

Content List

- 1 x RMC Tempering Valve STD DN15 (TVX1501)
- 1 x Inlet 4 Way Manifold (VC397X)
- 1 x Cold Water Inlet Elbow R¾" x 15Cn (MX3271X)
- 1 x Hot Water Outlet Elbow R¾" x 15Cn (MX3272X)
- 1 x RMC Non-Return BV Female DN15 (NVX1501)
- 1 x Insulation – HTV15R (MX2791)
- 1 x Insulation – 4 Way Manifold (VC402)
- 1 x Insulation – Cold Water Inlet Elbow (MX3278)
- 1 x Insulation – Hot Water Outlet Elbow (MX3279)
- 2 x Plug Screwed R½" Male (3403X)
- 2 x Union Male / Compression R½" x 15Cn (4910X)
- 5 x Compression Nut DN15 (10090R)
- 5 x Copper Olive (O800-1)



Visit rwc.com.au for full instructions in our HeatGuard® Installation Manual.

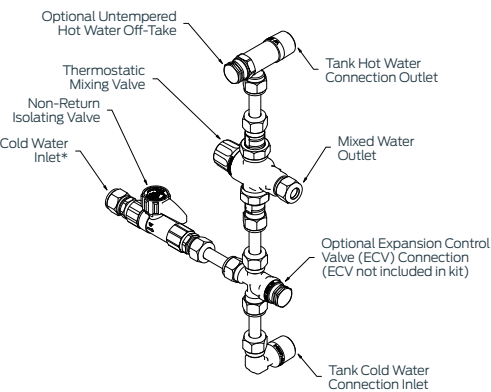
Do not use on steam-supplied systems.

Failure to comply with all aspects of these instructions may result in unsafe performance. All installations must comply with AS/NZS 3500 and any State or Local Authority requirements.

Installing the HKX1501 Valve Connection kit

- Install the supplied non-return isolating valve (BVNI501R) to the cold water feed.
- Install the 4 way inlet manifold (VC397) at the required height, install a cold water expansion valve (not supplied) with a pressure rating appropriate to the hot water system into the 4 way inlet manifold. If a cold water expansion valve is not required this side can be capped off with provided plug.
- Install the provided inlet and outlet elbows to the hot water tank. The hot water outlet elbow has the option of directing hot water to areas not intended for personal hygiene, if not required use the supplied plug to cap off the outlet.
- Install the supplied tempering valve (refer to section on tempering valve for installation).

Diagram 1 – Composition



Insulation

To ensure conformance with AS 1357.1, any insulation used on this valve must conform to the following:

1. Cover the maximum surface area of the valve without impeding the operation of the easing gear, connection to the valve inlet or outlet or obstruct the operation of, or discharge from the auxiliary pressure relief device.
2. Have an R-value of 0.2. Typically this can be achieved using 9mm of closed cell polymer foam (ref AS/NZS 3500.4 AMDT No 1. Nov 2005, Section 8.2.2). This R-value corresponds to insulation covering approximately 70% of the valve body (excluding inlet and outlet connections).
3. In exposed areas, insulation shall be of weather-resistant type or surrounded by a weather resistant enclosure that adheres to point 1 above.
4. Be attached to the valve such that it will not be readily removed due to environmental considerations.

Diagram 2 – MIXKIT15 without insulation

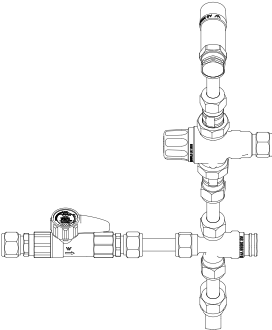
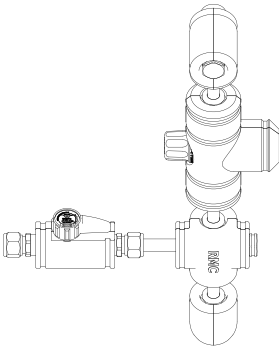


Diagram 3 – MIXKIT15 with insulation



Standard Tempering Valve Installation and Commissioning

It is CRITICAL that all debris is flushed from the pipework prior to installing the valve. Not flushing the system properly is the most common cause of system difficulties.

Every valve is factory set to a nominal temperature of 47.5°C. Every valve must be adjusted on site to ensure correct delivery of the desired mixed water temperature, as installation conditions can vary from site to site.

Measure and note all site parameters (pressure, temperature etc.) and check against the specifications of the chosen valve. Site conditions must be rectified prior to installing the valve.

- Valve must not be subjected to heat during installation as this may damage the valve internals.
- Valve must not be fitted on steam-supplied systems, but to water systems.
- Valve must not be used on low pressure heating systems.
- Valve must not be frozen. Insulation is provided to reduce the chance of the valve freezing.
- Do not use excess thread sealant (in liquid, tape or other form) as this may cause the valve to fail.

Fill in the details on the sticker provided and attach it to water heater (or other suitable position or as specified by Local Authority requirements). Recommend to the customer that the valve is checked annually to ensure its continued function.

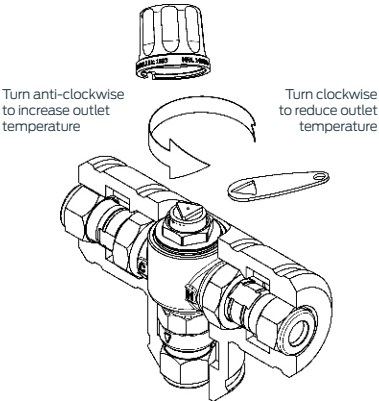
How to Set the Desired Temperature

Prior to setting the valve it is necessary for the hot water source to be switched on and delivering hot water at the desired temperature. If the water heater has an adjustable thermostat it is recommended that it be at its maximum point prior to commissioning the valve. Test the mixed water temperature at the nearest outlet being supplied by the valve. This should be opened to allow a flow rate of at least four (4) litres/minute.

A thermometer must be used at the nearest outlet to the valve to ensure the correct mixed water temperature is achieved. Allow the water to run for at least one minute to ensure the mixed water temperature has settled.

To adjust the mixed outlet temperature of the valve the cap should be removed to gain access to the adjusting spindle. The spindle should be rotated with the supplied tool – clockwise to reduce the temperature, anti-clockwise to increase the temperature – until the desired set point is reached. Once the set temperature is achieved, the cap should be snapped onto the valve to cover the spindle.

Diagram 4 – Temperature Adjustment



About Supply Pressures

Tempering valves provide optimum performance when installed with hot and cold supplies of equal dynamic pressure, i.e. pressure under flow conditions. (The static supply pressures often give NO indication of the dynamic supply pressures). It is recommended that the hot and cold supplies to each tempering valve be delivered via pressure control valves. In most domestic installations it should be possible to fit one control valve at the property boundary to control pressure to the whole site.

Checking / Servicing

The strainers can be cleaned by removing them from the tails. They are retained by a circlip in the end of the tail. Remove the tail from the valve by unscrewing the union nut. Remove the circlip and carefully push the strainer and check valve through from the other end. Clean the strainer and carefully reassemble the fitting. The strainer may require more frequent servicing in areas of poor water quality.

We recommend that the valve is checked at least once per year to ensure its continued function. The temperature should be checked at the same outlet as was used for commissioning. For temperatures more than 2°C from the commissioning temperature or outside AS 4032.2, refer to the troubleshooting guide. There may be some variation in the outlet temperature due to seasonal variation of cold supply temperatures.

The valve itself cannot be serviced. If the valve fails it must be replaced. Do not attempt to disassemble the valve except to adjust the temperature or service the strainers. Note that this tempering valve is a SAFETY VALVE. We recommend that it is replaced at intervals of not less than 5 years.

Diagram 5 – Servicing

