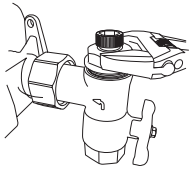
5. Leaving the inlet Isolators closed, open a hot outlet that is supplied by the Masterguard and is elevated above the Masterguard. Slowly open the outlet isolator. No water should flow out of either of the fittings. If water does flow from one or both of the fittings the non-returns have become fouled and the 4in1 fittings will have to be replaced.

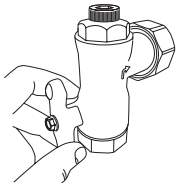
6. Close the hot outlet and the outlet isolator.

7. Reposition the strainer in the fitting, again being careful not to deform the strainer in any way.

8. Replace and tighten the strainer cover and test point plug.

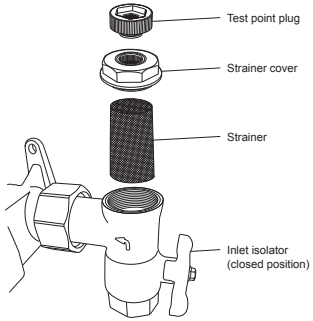


9. Open the hot and cold isolators and the outlet isolator (if fitted).



The temperature should be checked at the same outlet as was used for commissioning, and should be no more than 2°C from the commissioning temperature.

Note that this tempering valve is a safety valve. We recommend that it is replaced at intervals not exceeding five (5) years.



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Installation and Maintenance Instructions

Reliance® VALVES

Masterguard 830, 840, 850 & 860 Thermostatic Blending Valve

WRAS APPROVED PRODUCT

Designed for large installations, with extremely stable outlet temperatures.

Contents

One family of brands, one complete solution

RWC and its family of brands develop safe, sustainable and efficient solutions to help shape a better world. We engineer and innovate products to integrate seamlessly within the modern built environment. We make our customers' lives easier with a range of solutions to help them deliver, control, optimise and solve in simple, more efficient and safer ways every day.

From improving plumbing and heating performance to syncing smart homes and transforming the delivery of liquid, air and data, RWC shapes a better world for millions of people around the globe.

Incorporating our industry-leading brands, Reliance Valves give you precise control over the delivery of water through a robust range of potable and non-potable plumbing products. We specialise in water pressure, temperature and thermostatic mixing valves that protect and safeguard hot and cold water systems, while creating safe and comfortable homes and workspaces.

Supply Pressures

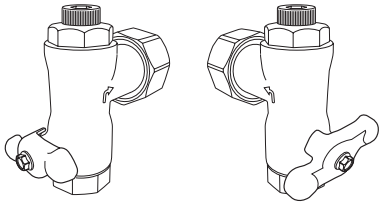
Tempering valves provide optimum performance when installed with hot and cold supplies of equal dynamic pressure, i.e. pressure under flow conditions. It is recommended that the hot and cold supplies to each tempering valve be delivered via pressure control valves.

Maintenance

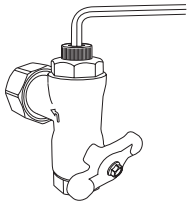
It is recommended to check the valve annually, or more frequently on installations with poor or unknown water quality.

It is recommended to service the 4 in 1 combination fittings, according to the following procedure:

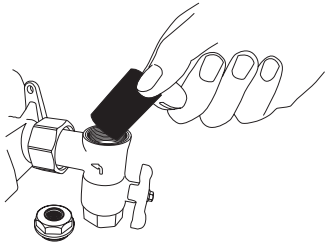
1. Shut off the hot and cold inlet isolators and the outlet isolator (if fitted). It is recommended that the valve should be allowed to cool before continuing to prevent scalding from the hot water and any hot parts.



2. Using a suitable sized allen key undo the test point plug followed by the strainer cover.



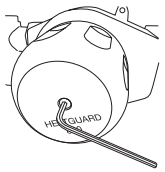
3. Carefully remove the strainer taking care not to deform it in any way.



4. Using either compressed air or water, remove all foreign material from the strainer. If the strainer is heavily blocked it may be necessary to increase service frequency or install a separate line strainer upstream of the valve. If calcium build-up is visible, soak the strainers in an acceptable de-liming agent. Rinse strainer thoroughly in water after soaking.

Locked pre-set temperature

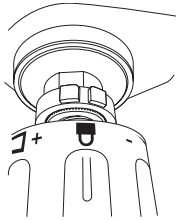
1. Using an allen key remove the securing screw.



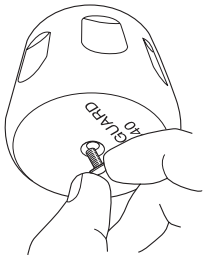
2. If adjusting knob is currently in the locked position, remove the adjusting knob and replace it in a new position that allows it to rotate freely.

3. Set the outlet temperature as desired.

4. Reposition the adjusting knob so that the locking ring tab and the adjusting knob are engaged.



5. Replace the securing screw.

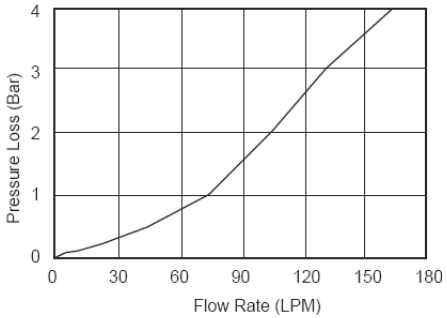


Specification

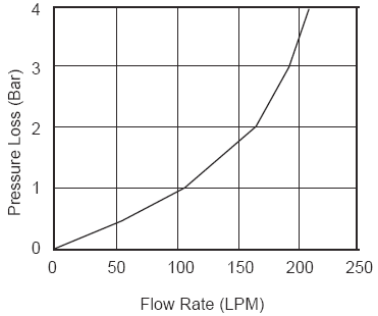
	MIX83004	MIX84004	MIX85004	MIX86004
Factory temperature setting:	43°C	43°C	43°C	43°C
Outlet temperature setting range:	35-65°C	35-65°C	35-65°C	35-65°C
Temperature, hot supply:	90°C max	90°C max	90°C max	90°C max
Temperature, cold supply:	5-25°C	5-25°C	5-25°C	5-25°C
Minimum hot to mix differential temperature:	10°C	10°C	10°C	10°C
Temperature stability (nominal):	± 2.5°C	± 2.5°C	± 2.5°C	± 2.5°C
Working pressure, static:	10 Bar	10 Bar	10 Bar	10 Bar
Working pressure, dynamic:	0.2-6 Bar	0.2-6 Bar	0.2-6 Bar	0.2-6 Bar
Maximum pressure loss ratio:	10:1	10:1	10:1	10:1
Flow rate, minimum:	15 lpm	15 lpm	50 lpm	70 lpm
Flow at 2.5 bar:	120 lpm	170 lpm	260 lpm	360 lpm

Flow Characteristics

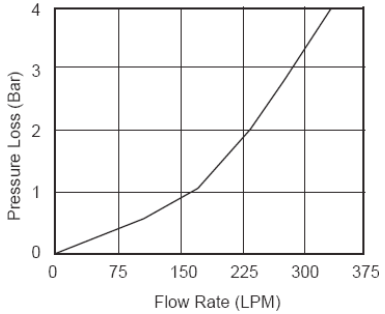
MIX830004



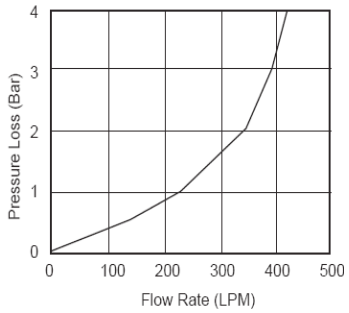
MIX840004



MIX850004



MIX860004



Installation

Before installing the Masterguard tempering valve, ensure that the valve selected matches the application, with flow rates, dynamic pressures and temperatures within the limits of the product specification.

Flush the system thoroughly before fitting the valve to remove all debris from the pipe work.

Fitting the Valve

The 4 in1 combination fittings supplied (including strainers and non-returns) must be installed with the valve to ensure correct operation.

The valve must be installed with the hot and cold supplies connected to the appropriate indicated inlets (red dot or hot for the hot inlet, blue dot or cold for cold inlet, mix for mixed water outlet).

It is important that the valve be located such that it can be easily replaced if necessary and that it can be accessed to clean the strainers or adjust the temperature.

The Masterguard can be secured to the wall if desired using mounting feet. The valve can be mounted in any orientation.

Commissioning

It is recommended to adjust every valve on-site to ensure correct delivery of the desired mixed water temperature, as installation conditions can vary from site to site.

- The valve must not be subjected to heat during installation as this will damage the valve internals.
- The valve must not be fitted on steam supplied systems. It should be fitted to water systems only.
- The valve must not be frozen. If the valve is installed in a situation where freezing is a possibility then suitable insulation must be fitted to prevent damage to the valve.

Do not use excess thread sealant as this may cause the valve to fail.

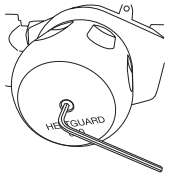
Temperature Adjustment

Prior to setting the valve it is necessary for the hot water source to be switched on and delivering hot water at normal operating temperature.

Open the nearest hot water outlet supplied by the Masterguard to a flow of 8 to 12 lpm. Allow the water to reach a stable temperature before recording. The temperature must be tested at the nearest outlet to ensure that the water delivered to any outlet is not greater than the desired maximum.

If the temperature is outside the desired operating limits it will be necessary to adjust the valve. The valve has two modes of temperature adjustment: adjustable to a pre-set maximum and locked temperature operation.

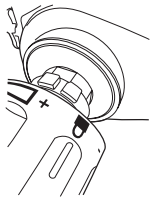
1. Use an allen key to remove the securing screw.



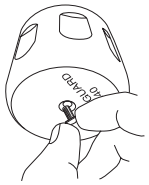
2. If the adjusting knob is currently in the locked position, remove the adjusting knob and replace it in a new position that allows it to rotate freely.

3. Set the outlet temperature to the maximum required temperature.

4. Replace the adjusting knob with the ‘lock’ label to the right of the locking tab but not in the locked position. This represents the maximum position of the knob. From this point the temperature can be adjusted lower, but not higher. To adjust lower, turn the adjusting knob clockwise. If it is possible to turn the knob anti-clockwise (i.e. to a higher temperature) then step 3 needs to be repeated to set the knob in the correct position.



5. Replace the securing screw.



6. If desired, use the adjusting knob to set the temperature lower than the maximum.