

## Working Parameters and Specifications

Factory temperature setting:	38°C
Temperature setting range:	38-41°C
Temperature, hot supply:	55-65°C
Temperature, cold supply:	5-20°C
Minimum hot to mix differential temperature:	10°C
Temperature stability:	± 2°C
Working pressure, static:	16 bar max
Working pressure, dynamic:	Low pressure 0.2 - 1 bar High pressure 1 - 5 bar

Maximum pressure loss ratio between hot & cold supplies:	5:1
Flow rate, minimum:	2 L/min
Flow rate @ 1 bar pressure loss:	8 L/min

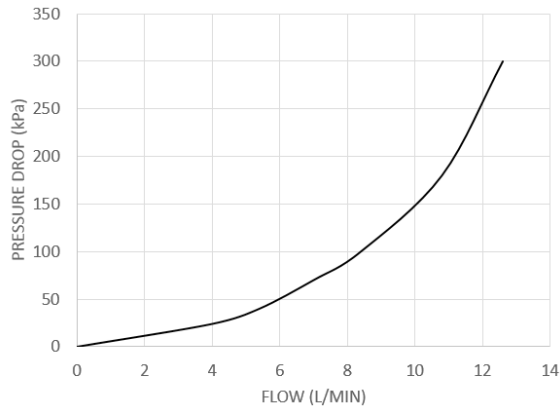
## Approved Specification

Thermostatic mixing valve - DH Performance specification D08

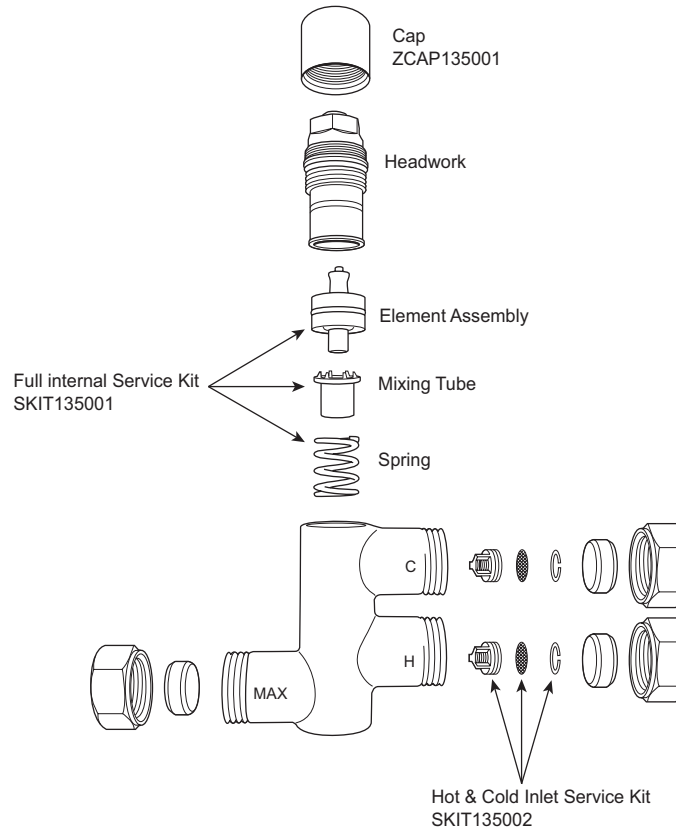
Code	Operating Pressure	Application
HP-SE	High Pressure	Shower - Max temp 41°C
HP-WE	High Pressure	Washbasin - Max temp 41°C
LP-SE	Low Pressure	Shower - Max temp 41°C
LP-WE	Low Pressure	Washbasin - Max temp 41°C

**Note:** The British Burns Association recommends 37-37.5°C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum water outlet temperature is 43°C

## Flow Rate



## Exploded Diagram



**NOTE**  
When re-assembling the mixing valve, ensure that the components are replaced in the correct order (as illustrated).  
Use only WRAS Approved silicon based waterproof grease.

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## Installation and Maintenance Instructions

# RELIANCE

## Heatguard® Style Thermostatic Mixing Valve



The Heatguard Style is a type 3 thermostatic mixing valve which has been manufactured to NHS model engineering specification D08 and is approved under the Kiwa Type 3 scheme.



# Reliance Worldwide Corporation (UK) Ltd

Reliance Worldwide Corporation (UK) Ltd is part of the Australian based group of companies collectively known as Reliance Worldwide Corporation, with the UK brand known as Reliance Water Controls. Reliance Worldwide Corporation (UK) Ltd is a specialist in the design, distribution and technical support for temperature and flow controls.

With group offices and manufacturing plants throughout the world, RWC offers a wealth of knowledge and expertise which is reflected throughout our products. Part of many specialised trade associations and with our own NATA accredited laboratory, RWC is positioned at the forefront when new regulations or changes are brought about which impact the industry, and has the capacity for continuous product development and innovation in our specialist area.

## Installation

Before installing the Heatguard Style valve, ensure that the designation of the valve matches the application, flow rates, dynamic pressures, and temperatures must be within the limits stated, as valves operating outside of these conditions cannot be guaranteed to operate as a Type 3 valve.

The Heatguard Style valve can be installed in any orientation provided that the hot and cold supplies are connected to the appropriate indicated inlets. Isolation valves should be fitted on the supplies to allow for easy servicing and maintenance. At all times the install should comply with Water Supply (Water Fittings) Regulations 1999.

The valve should not be installed until the system has been flushed until free of all debris.

The Heatguard Style thermostatic mixing valve contains temperature sensitive components. Soldering near the inlet fittings or main valve body must be avoided.

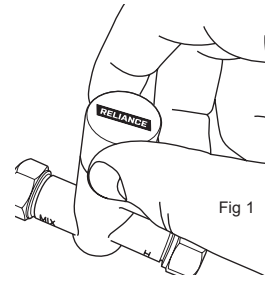
## Commissioning

Please ensure that the commissioning of the valve is done under normal operating conditions. The Heatguard Style thermostatic mixing valve is supplied factory set at 38°C.

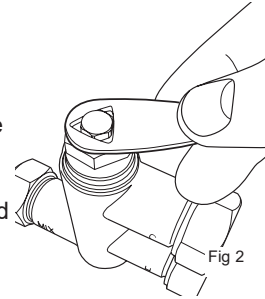
The maximum temperature the Heatguard Style should be set to is 41°C.

To alter this setting proceed as follows:

1. Remove the cover cap (Fig 1).
2. With both the hot and cold supplies turned fully on and the terminal fitting open, adjust the temperature to the required setting using the adjuster tool supplied. Turn the adjuster clockwise to decrease or anti-clockwise to increase the temperature (Fig 2). A digital hand-held thermometer should be used to measure the outlet temperature correctly.



3. Once the correct outlet temperature has been achieved the valve's internal mechanism should be exercised at least 3 times by alternately isolating the hot and cold supplies.



This will cause the piston to travel its full stroke and will ensure that the valve is operating correctly. If the set temperature has drifted after this operation then the commissioning operation should be repeated.

Once the valve has been commissioned a fail-safe shut off test should be performed:

1. Isolate the cold supply. The flow should reduce to a trickle or no flow after 5 seconds.
2. Restore the cold supply and check that the set temperature has not altered.
3. Repeat the test for the hot supply.

If either fail-safe function does not operate, ensure that supply pressures and temperatures are within the valve's normal operating parameters. In addition, check that the hot supply temperature is at least 10°C above the valve's set mixed outlet temperature i.e. hot to mix differential temperature. If this is not the case then the valve will be slow to shut down on cold water failure.

**Please note:** If there is a residual flow on cold shut off, then this is acceptable providing the volume of water collected between 5-65 seconds is no more than 120 mL.

For optimum performance it is recommended that the dynamic pressures be as close to equal as possible. If the dynamic pressures are outside a 5:1 ratio then a pressure reducing valve should be fitted to the higher supply pressure or, if preferred, the lower supply pressure boosted.

When the Heatguard Style valve has been set and tested, re-fit the cap. A record of the commissioning settings should be made for comparison with future performance checks.

## Maintenance

To comply with current NHS guidelines the Heatguard Style valve should be tested against the original performance results 6-8 weeks after installation. If the temperatures have remained set to within 2°C and the fail-safe function is operating correctly, then a six monthly cycle of performance testing can be implemented.

## Performance Checks

Performance checks that should be carried out at routine maintenance times are:

1. Check the set temperature using a hand-held digital thermometer.
2. Carry out the cold water fail-safe shut off test.
3. If there is no significant change to the set outlet temperature (2°C or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

## Cleaning the Valve

1. Isolate the hot and cold supplies and remove the valve body from the installation by undoing the 15mm compression nuts.
2. Remove the check valves and strainers fitted in the inlet connections by removing the circlips. Check for damage and then rinse in clean potable water.
3. To clean the internals of the main valve body, first remove the cap, and then carefully remove the valve headwork by unscrewing the large hex nut.
4. Slide the piston assembly out of the valve body and clean all internal surfaces in clean running water. Make note of the orientation of the parts as they are removed so that they can be reassembled in the correct manner. Exploded diagram overleaf.
5. Using a WRAS approved silicone based waterproof grease, very lightly lubricate the 'O' ring on the external surface of the piston assembly.
6. After cleaning, re-assemble the Heatguard Style valve. Exercise, re-set and test the valve as laid out in the commissioning section.