

- 3 Remove concealing plate
- 4 Undo nuts (19) on both hot and cold inlets and remove filter washer (6)
- 5 Rinse filter washers (6) clean and refit into hot and cold inlets
- 6 Refit Nuts (19) and tighten.

Your product has a high quality finish and should be treated with care to preserve the visible surfaces.

Never use abrasives or abrasive cleaning agents to clean this product. Clean regularly with contamination free warm soapy water and a damp soft cloth. Do not use products containing chlorine bleach or hydrochloric acid as these can damage the product. Always rinse the product thoroughly after cleaning to remove cleaning products that can damage the shower.

We have a policy of continuous improvement and reserve the right to change specifications without notice.

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KAHA Concealed Mixer Valve ABS KAHA 1VA

Installation Instructions & Maintenance Guide

Technical Specifications:

Supply:

Suitable For All Pressure Systems

Working Pressure:

0.2 - 5.0bar

Operating Temperature:

Hot: Max 65°C

Cold: Min 5°C

Inlet Connections:

15mm Compression

Cartridge/Valve Type:

Thermostatic



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PLEASE RETAIN THIS DOCUMENT FOR FUTURE REFERENCE
IMPORTANT: Please read all of the instructions before installation.

GENERAL CHARACTERISTICS

This valve is suitable for All Pressure heating systems.

Prior to installing your Thermostatic mixing valve it is important to fully understand the site installation conditions and the location where you intend to install your product. This Thermostatic mixing valve is designed to be used within the following systems:-

Gravity Fed Hot and Cold

Wherever possible for the best performance of the product, it is always best practice to have equal pressures supplied to both hot and cold inlets. However this product will only work up to a maximum 5 to 1 pressure differential.

Unvented Systems

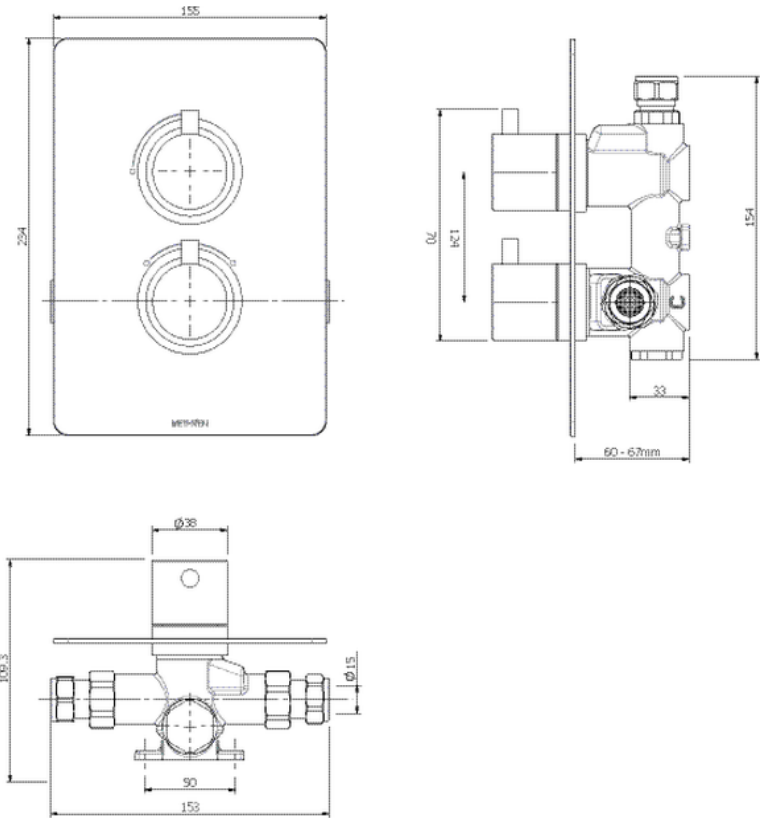
Pumped Systems

Gas Combination Boiler

Your product should be fitted in compliance with the Water Authority Regulations. If you are unsure as to what the regulations require, You can contact your Local Water Authority or the Institute of Plumbers for further details.

Box Contents

Item	Quantity
Thermostatic Shower Valve	1
Concealing Plate	1
Screws	4
Wall Plugs	4
Flow Regulators	4
Hexagonal Allen Key	1



CARE & CLEANING

Filter Seal Cleaning

Over a period of time the filter washers located in both the Hot and Cold inlet housings of the thermostatic mixing valve may become blocked with dirt and debris from your system which could result in poor performance of your thermostatic mixing valve. Therefore these filters will periodically require cleaning.

- 1 Isolate both hot and cold mains supplies
- 2 Take note of the knob positions, remove both the flow control knob and thermostatic mixing valve knob

- 11 To ensure the joints are watertight and the valve is re-commissioned correctly, please refer to the section 'Installing the product' and follow the sequence through.

If there is no significant change to the set outlet temperature (**$\pm 2^{\circ}\text{C}$ 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.

Note:

If there is a residual flow during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise.

The sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the instructions.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

OPERATING SPECIFICATIONS

	High Pressure	Low Pressure
Maximum Static Pressure - Bar	10 bar	10 bar
Flow Pressure, Hot & Cold - Bar	0.2 to 5	0.2 to 1
Hot Supply Temperature - $^{\circ}\text{C}$	55°C to 65°C	55°C to 65°C
Cold Supply Temperature - $^{\circ}\text{C}$	$< 25^{\circ}\text{C}$	$< 25^{\circ}\text{C}$

NOTE: Valves operating outside these conditions cannot be guaranteed by the scheme to operate as Type 2 valves.

The valves designation of use is for LP & HP (HP-S) (HP-T) BS EN1111 and (LP-S) (LP-T) BS EN1287 the recommended mixed water outlet for showers at point of discharge is 41°C

For gravity systems a minimum distance of 5 meters is required between the bottom of the storage tank and the showerhead. Failure to ensure this criteria is met may cause the Thermostatic mixing valve to work incorrectly. If a water supply is fed by gravity then the supply pressure should be verified to ensure the conditions of use are appropriate for the valve. The check valves with strainers are inserted in the inlet connections in order to prevent backflow.

RECOMMENDED OUTLET TEMPERATURES

The BuildCert TMV Scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

44°C for bath fill but see notes below;

41°C for showers

41°C for washbasins

38°C for bidets

The mixed water temperature must never exceed 46°C

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

NOTE:

46°C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent in the thermostatic mixing valves and temperature losses in metal baths.

It is not a safe bathing temperature for adults or children.

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

The thermostatic mixing valve should be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

The fitting of isolation valves is required as close as is practicable to the water supply inlets of the thermostatic mixing valve.

FITTING FLOW REGULATORS

System Configuration		Fit Flow Regulator	
Cold Supply Pressure (bar)	Hot Supply Pressure (bar)	Cold Inlet Port	Hot Inlet Port
0.5 to 1bar	0.5 to 1bar	No	No
1 to 5 bar (or pumped)	1 to 5 bar (or pumped)	Yes	Yes
Mains 1 to 5 bar	0.5 to 1bar	Yes	No
Mains 1 to 5 bar	Unvented Mains / Mains Pressurised	Yes	Yes
Mains 1 to 5 bar	Instantaneous Gas Water Heater	Yes	Yes
Mains 1 to 5 bar	Instantaneous Electric Water	Yes	No

Important points to note before commencing installation of your concealed shower mixer. You should have:-

- 1 Check the contents of the box and all parts are present and correct.
- 2 Check to ensure the minimum operating conditions can be met.
- 3 The correct tools to perform a trouble free installation
- 4 Considered the surrounding environment where the installation is to take place and any potential hidden dangers.
- 5 Isolate both the hot and cold water supplies

MAINTENANCE

The first step in commissioning a thermostatic mixing valve is to check the following:

- 1 The designation of the thermostatic mixing valve matches the application
- 2 The supply pressures are within the valves operating range
- 3 The supply temperatures are within the valves operating range.

If all these conditions are met, proceed to set the temperature as stipulated in the installation instructions.

The mixed water temperature at the terminal fitting must never exceed 46°C. It is a requirement that all TMV2 approved valves shall be verified against the original set temperature results once a year to ensure continued good performance, failure to regularly maintain the Thermostatic mixing valve may lead to poor flow, fluctuations in temperature and in some cases complete failure.

To maintain the Thermostatic Mixing Valve:-

- 1 Isolate both hot and cold water supplies.
Taking note of the knob positions, remove both the flow control knob and thermostatic mixing valve knob
- 2
- 3 Remove the Concealing plate
Remove the plastic temperature stop ring (13) ensuring to note the position of the spindle, this will be required to be refitted in this position when re-assembling the valve assembly.
- 4
- 5 Remove shroud (14)
- 6 Unscrew the Thermostatic mixing valve cartridge anti-clockwise and remove from the valve assembly.
- 7 Taking care not to alter or damage the cartridge, soak the cartridge in suitable descalant and rinse with warm water.
- 8 Re-grease any visible seals and refit the Thermostatic mixing valve cartridge to the valve assembly.
- 9 Refit Shroud (14)
- 10 Refit plastic temperature stop ring (13) onto the thermostatic mixing valve cartridge spindle in the position noted in step 4.

- 13 Refit and secure the diverter control knob to the position it was removed in point 11 above
- 14 To refit the thermostatic mixing valve temperature knob, please refer to '**Maximum temperature setting and adjustment**'.

Maximum Temperature Setting and Adjustment

Whilst the temperature of your Thermostatic mixing valve has been factory tested and calibrated, you will need to perform a slight initial adjustment to suit your system operating setup. To do so:-

- 1 Loosely fit the temperature control knob (7) to the Thermostatic mixing valve. Note, whilst fitting the knob, there is a temperature stop pin (9) inside the knob which is required to line up with the temperature stop ring (13).
- 2 Taking extreme care, slowly turn on the thermostatic mixing valve and gently rotate the control knob to the maximum temperature position. Let the shower run for several minutes to ensure the correct blend of hot and cold water and the maximum outlet hot water temperature has been achieved.

It is important to note at this stage, very hot water MAY flow through either outlet depending on where the diverter is set too and can cause serious burns if care is not taken!

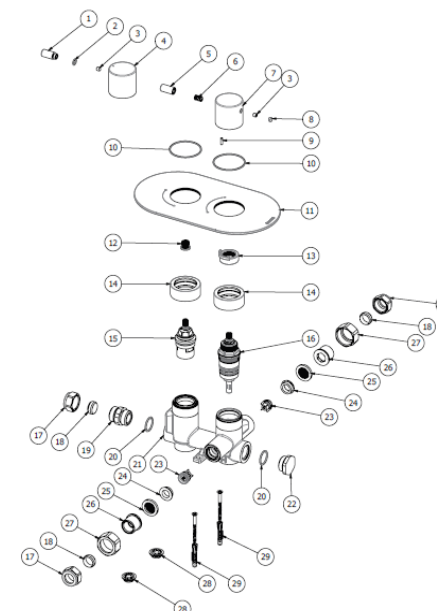
- 3 Take note of the outlet temperature of the shower using a suitable testing equipment.
- 4 If the maximum temperature requires adjusting, remove the temperature control knob and adjust the thermostatic mixing valve spindle.

To increase the outlet temperature, slowly turn the spindle anti-clockwise

To decrease the outlet temperature, slowly turn the spindle clockwise

- 5 When the desired temperature is achieved, refit and secure the thermostatic mixing valve control knob (7) lining up the pin in the knob with the temperature stop ring (9)
- 6 Turn off the shower valve.

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PARTS REFERENCE DRAWING/INFORMATION

Part	Description	Part	Description
1	Peg for Flow Control Knob	17	Nut
2	O-Ring	18	Olive
3	Grub Screw	19	Connector
4	Flow Control Knob	20	O-Ring
5	Temperature Override Button	21	Valve Body
6	Spring	22	Blanking Plug
7	Temperature Control Knob	23	Check Valve
8	Handle Cap	24	Plastic Spacer
9	Temperature Stop Pin	25	Filter Washer
10	O-Ring	26	Connector
11	Concealing Plate	27	Nut
12	Spline Adaptor	28	Flow Regulator 7l/min
13	Temperature Stop Ring	29	Fixing Screw & Plug
14	Shroud		
15	Flow Valve		
16	Thermostatic Cartridge		P5

INSTALLATION

Before securing the Thermostatic valve assembly into the wall cavity.

You will need to :-

- 1 Ensure that both Hot and Cold Supply pipes have been flushed to ensure there is no residual debris within the supply pipes that may effect the performance of your product. Extreme care should be taken when carrying out this procedure.
- 2 Ensure that the filter washers (25) have been fitted in both inlet ports of the thermostatic mixing valve. Filter washers are used to protect the delicate thermostatic valve mechanism. Failure to use the Filter washers (25) provided could damage your thermostatic valve mechanism and will invalidate your warranty.
- 3 Decide whether you need to fit the flow regulators (28) provided into the inlet assembly as shown in the exploded assembly diagram. In cases where you do need to fit the flow regulators (28) please ensure they are fitted the correct way round as per the diagram.
DO NOT INSTALL THESE IF NOT REQUIRED.

When installing the assembly into the wall cavity, for ease of installation and maintenance you should aim to keep the access hole as large as possible whilst ensuring there will still be enough room to be able to create a suitable contact between the wall and concealing plate using a suitable silicon sealant to create a water tight joint between the wall and concealing plate.

This product has been designed to fit in a cavity with a minimum depth of 60mm. For deeper cavities you may need to create a suitable mounting bracket in the cavity to securely mount the valve assembly.

We recommend a mounting depth of between 60/67mm from the front face of the tiles. Failure to take this into account will mean that the concealing plate will not be able to be fixed onto the valve assembly.

- 1 Ensure that both the Hot and Cold mains water supplies are isolated.
- 2 Fix the shower valve assembly into the wall cavity ensuring the thermostatic mixing valve is at the bottom and the diverter assembly is at the top. If done correctly the 'Hot' inlet port to the Thermostatic mixing valve will be at the bottom of the valve assembly to the left hand side.

- 3 Connect the respective Hot and Cold water supplies to the Hot and Cold inlet ports of the Thermostatic mixing valve making sure that all seals, filters, olives are fitted and joints sufficiently tightened.
- 4 Connect the pipework for the shower fitting to the outlet.

Important: Before fitting the concealing plate it is essential that all joints are checked for leaks. Failure to do so could result in flooding or water damage within the cavity over a long period of time that may not be immediately evident. Therefore:-

- 5 Secure the flow control knob (4) to the flow control valve (15)
- 6 Secure the temperature control knob to the thermostatic mixing valve (16), to secure the temperature knob in the correct position, Please refer to 'Maximum temperature setting and adjustment'
- 7 Ensuring all joints have been secured and tightened, turn on both Hot and Cold water supplies.
- 8 Turn the flow control knob
- 9 Taking care, turn the thermostatic mixing valve on, whilst water should now be flowing through the outlet, check all joints for signs of leaks. Turn off the thermostatic mixing valve and repeat the process for the remaining connected outlet. Any leaking joints should be immediately rectified. It may be a good idea to leave the shower running for several minutes to ensure the joints are water tight and no leaks appear.
- 10 When you are confident that all joints are watertight. Turn off the thermostatic mixing valve.
- 11 Remove both the Thermostatic mixing valve and flow control knobs (take note which position the control was set too, as this is the position the control knob will need to be fitted after fitting the concealing plate)
- 12 Ensuring correct orientation, Fit the concealing plate (11) to the valve assembly. When fitting the concealing plate, a suitable sealant should be used to create a waterproof joint between the concealing plate and wall.