

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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INST VARIETY 3D
Valves 01.07.2020

Three Direction Concealed Thermostatic Shower

KAHA3D, KAHA 3DA, KAHA3DBK,

KIRI3D, KIRI 3DA

Installation Instructions & Maintenance Guide

Technical Specifications:

Supply:

Suitable For All Pressure System

Working Pressure:

0.2 - 5.0 bar

Operating Temperature:

Hot: Max 65°C

Cold: Min 5°C

Inlet Connections:

1/2" BSP

Cartridge/Valve Type:

Thermostatic



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IMPORTANT: Please read all of the instructions before installation.

Purchase Options

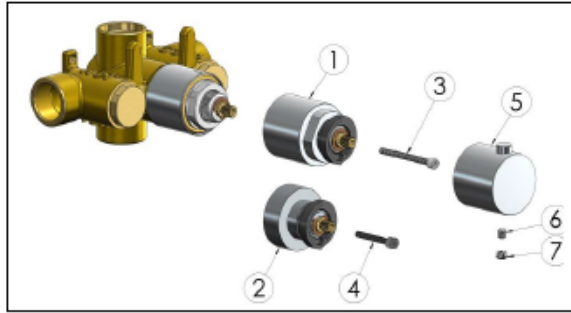
Product Code	Concealing Plate	Trims	Valve
KAHA 3D	✓	✓	✓
KAHA 3DA	✓	✓	✓
KAHA 3DBK	✓	✓	✓
KIRI 3D	✓	✓	✓
KIRI 3DA	✓	✓	✓
TR KAHA 3D	✓	✓	
TR KAHA 3DA	✓	✓	
TR KAHA 2DBK	✓	✓	
TR KIRI 3D	✓	✓	
TR KIRI 3DA	✓	✓	
VALVE 3D			✓

Problem	Cause	Solution
1. Reduced or missing flow	<ul style="list-style-type: none"> a) Closed water inlets. b) Blocked mixer. c) Blocked connecting pipes. d) Blocked hand shower. e) Water flow reduction when other shut off valves are in function. 	<ul style="list-style-type: none"> a) Control the check valves. b) Check if the inlet filters are cleaned. c) Check if the connecting pipes are cleaned. d) Clean or replace the hand shower. e) Control if the check valves are fully open. Reduce the water flow of all open outlets.
2. The mixer does not shut off.	<ul style="list-style-type: none"> a) The gaskets are dirty. b) The gaskets are damaged. 	<ul style="list-style-type: none"> a) Clean/replace the gaskets. b) Replace the headwork.
3. Water too cold.	<ul style="list-style-type: none"> a) There is not enough hot water flowing through the mixer. b) The boiler system does not give enough hot water. c) The hot water inlet is restricted. 	<ul style="list-style-type: none"> a) Set the regulation handle towards the hot water side. b) Increase the temperature of the water fed from the boiler. c) Check for any restriction on the pipeline.
4. Water too hot.	<ul style="list-style-type: none"> a) There is not enough cold water flowing through the mixer. b) The cold water inlet is restricted. 	<ul style="list-style-type: none"> a) Set the regulation handle towards the cold water side. b) Check for any restriction on the pipeline.
5. Temperature varies during use.	<ul style="list-style-type: none"> a) Temperature has decreased below the minimum required. 	<ul style="list-style-type: none"> a) Wait for the hot water to be restored.
6. Fluctuation of temperature of the mixer water	<ul style="list-style-type: none"> a) Inverted connections. b) Inverted mixer. 	<ul style="list-style-type: none"> a) Use a "reverse" cartridge. b) Invert the mixer
7. Increasing of the temperature by turning clockwise. Decreasing of the temperature by turning anti-clockwise	<ul style="list-style-type: none"> a) Inverted connections. b) Inverted mixer. 	<ul style="list-style-type: none"> a) Use a "reverse" cartridge. b) Invert the mixer.

EXTENSION KITS

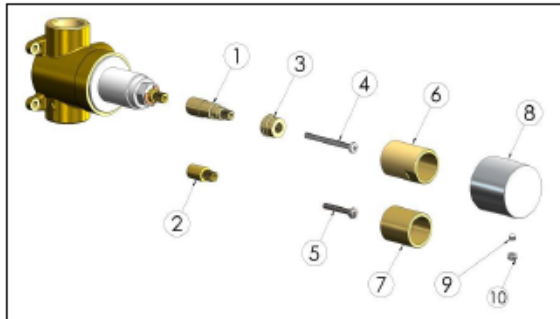
Thermostatic Mixer

1. Insert the extension (1)/(2) on the broach of the cartridge in order to have the reference line in vertical position.
2. To position the stop ring, see section "Position of the stop ring"
3. Fix the screw (3)/(4) with a 3mm Allen key.
4. Fix the regulation handle (5) screwing the grub screw(6) with a 2,5mm Allen key.
5. Fix the small cap (7).



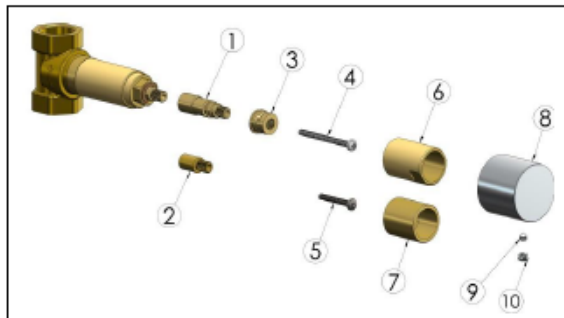
Diverter

1. Insert the broached extension(1)/(2) and the centering insert (3).
2. Fix the screw (4)/(5) with a Philips screwdriver.
3. Screw the threaded rod(6)/(7).
4. Fix the diverter handle(8) screwing the grub screw(9) with a 2,5mm Allen key.
5. Fix the small cap(10).



Shut Off Valve

1. Insert the broached extension(1)/(2) and the centering insert(3).
2. Fix the screw(4)/(5) with a Philips screwdriver.
3. Screw the threaded rod(6)/(7).
4. Fix the closure handle(8) screwing the grub screw(9) with a 2,5mm Allen key.
5. Fix the small cap(10).



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 the regulations require, You can contact your Local Water Authority or the Insittute of Plumbers for further details.

OPERATING SPECIFICATIONS

	High Pressure	Low Pressure
Maximum Static Pressure - Bar	10 bar	10 bar
Flow Pressure, Hot & Cold - Bar	0.5 to 5	0.1 to 1
Hot Supply Temperature - °C	55°C to 65°C	55°C to 65°C
Cold Supply Temperature - °C	< 25°C	< 25°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 shower head. 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 back flow.

RECOMMENDED OUTLET TEMPERATURES

The NSF 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.

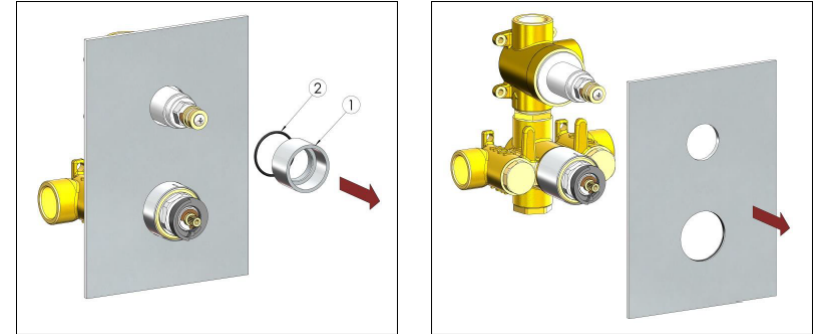
Important points to note before commencing installation of your concealed shower mixer. You should have:-

- 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

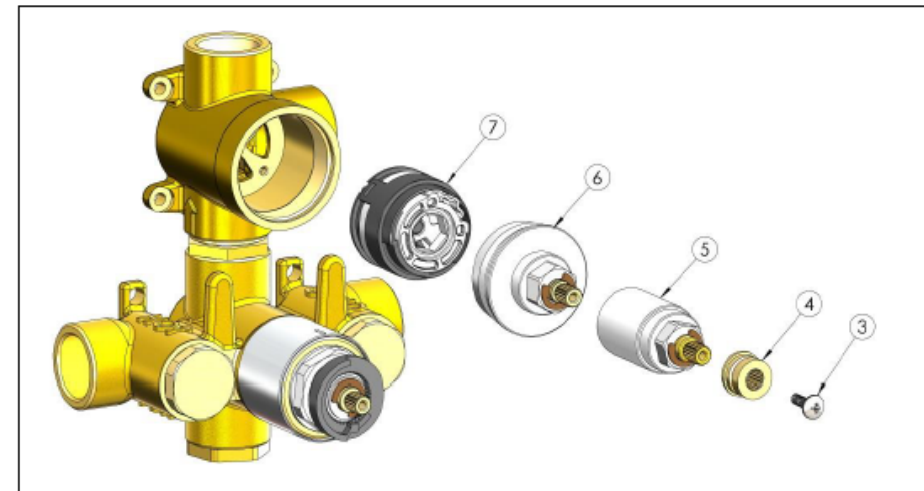
MAINTENANCE-REPLACEMENT OF THE DIVERTING CARTRIDGE

Before proceeding with the maintenance of the diverter cartridge, remove the regulation handle. Follow the instructions shown in section "HANDLES REMOVAL"

1. Unscrew the chromed adapter (1) anti-clockwise, paying attention not to lose the O-ring (2).
2. Remove the cover plate.

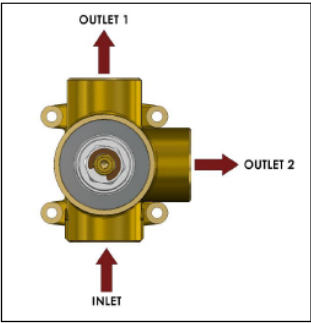


3. Close the water inlets.
Remove the screw (3), remove the brass insert (4) and unscrew the threaded rod (5).
Unscrew the flange (6) anti-clockwise, with a 17 wrench.
Remove the diverting cartridge (7).
4. Before replacing the cartridge, clean thoroughly and grease the inner seat of the body.
5. Replace the cartridge. Place the two pivots in their seats.
6. Reassemble all parts. (Exerting a max torque of 8 Nm or 70 lbf.in)

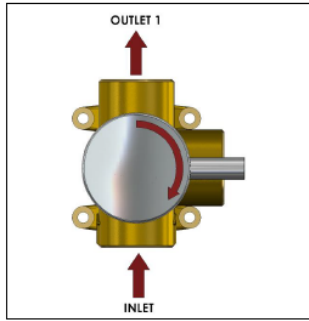


DIVERTER

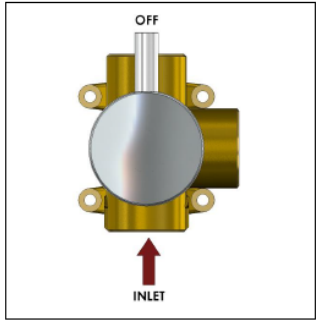
TWO WAY



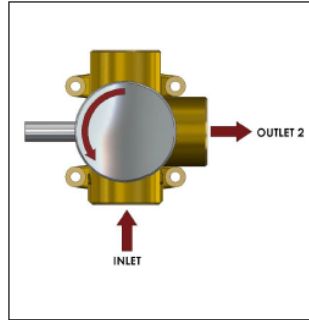
OUTLET 1



OFF POSITION



OUTLET 2



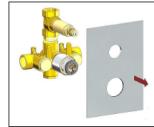
SHUT OFF

Before proceeding with the maintenance of the headwork, remove the handles. Follow the instructions shown in section "HANDLES REMOVAL"

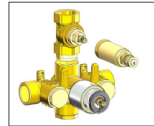
1. Unscrew the chromed adapter (1), being careful not to lose the O-ring (2).



2. Remove the cover plate.



3. Unscrew the threaded rod with a 17mm wrench.



4. Before unscrewing the headwork, make sure that water inlets are closed.

Unscrew the headwork with a 17mm Wrench.



Images for illustration purposes only, in the case of the three outlet valve the shut off is placed at the base of the product.

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.

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 depth from 65mm to 85mm.

The temperature control knob is pre-set with stop at 38°C to avoid scalding.

Consider the thickness of the final coating (tiles, marble etc.)



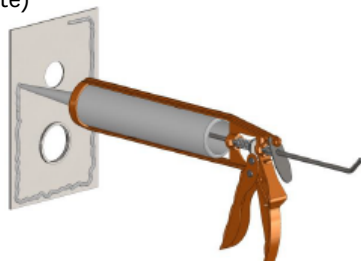
1. Ensure that both the Hot and Cold mains water supplies are isolated.
2. Fix the shower valve assembly into the wall cavity ensuring the thermostatic mixing valve is at the bottom and the diverter assembly is at the top. If done correctly the 'Hot' inlet port to the Thermostatic mixing valve will be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

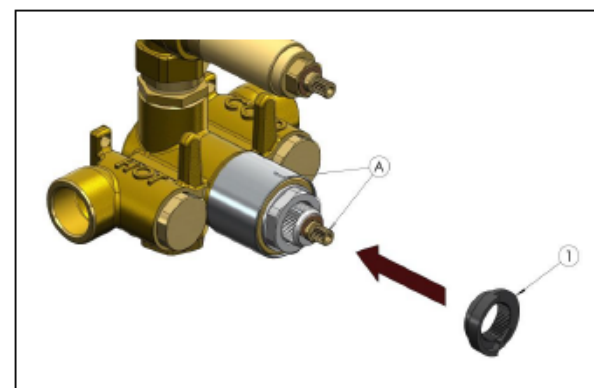
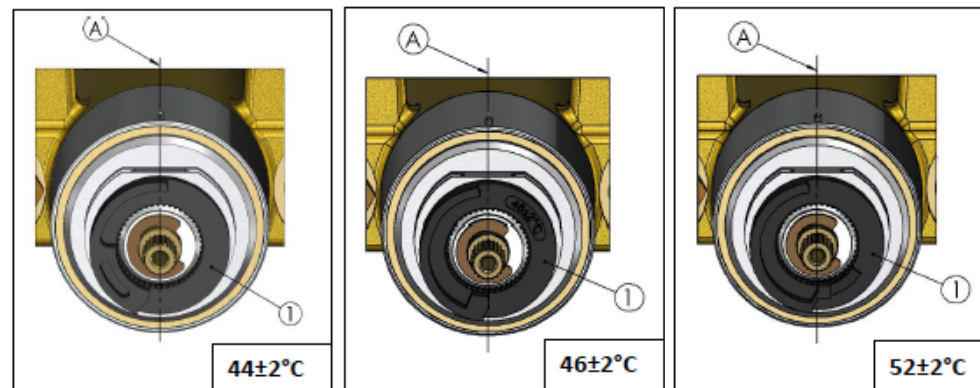
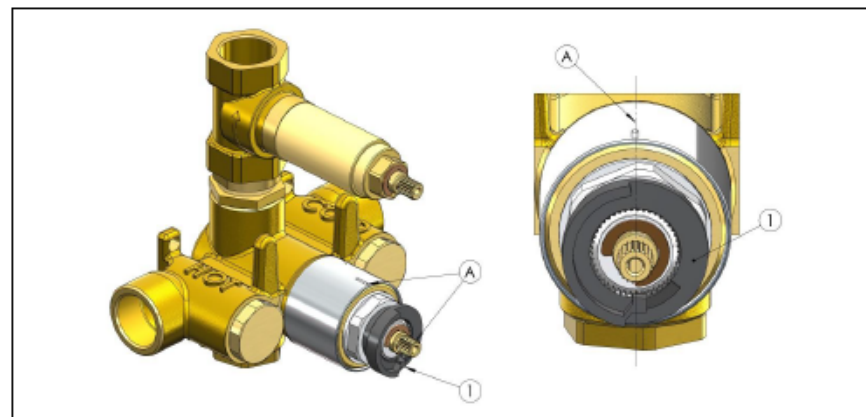
5. Secure the flow control knob to the flow control valve
6. Secure the diverter knob to the diverter cartridge
7. Secure the temperature control knob to the thermostatic mixing valve, to secure the temperature knob in the correct position, Please refer to 'Maximum temperature setting and adjustment'
8. Ensuring all joints have been secured and tightened, turn on both Hot and Cold water supplies.
9. Turn the flow control knobs
10. 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 outlets. 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.
11. When you are confident that all joints are watertight. Turn off the thermostatic mixing valve.
12. 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)

13. Ensuring correct orientation, Fit the concealing plate to the valve assembly. When fitting the concealing plate, a suitable sealant should be used behind the concealing plate to create a waterproof joint between the concealing plate and wall.



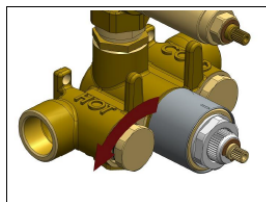
POSITION OF THE STOP RING

According to the mixer model, place the stop ring as shown in the image below. Using the handle, rotate the broached rod to reach the set temperature of 38°C (check the temperature with a thermometer). Turn clockwise for cold or anticlockwise for hot water.

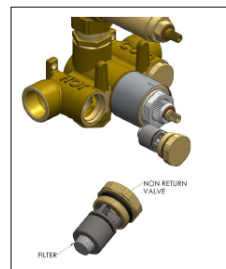


MAINTENANCE-REPLACEMENT OF THE VALVE HOLDERS

1. Unscrew the valve holders anticlockwise with a 27mm wrench.
Exerting a max torque of 8-10 Nm or 70-80 lbf.in



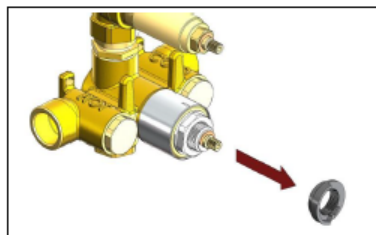
2. Remove the valve holders and clean the filters under running water or leave them soak in vinegar in presence of limescale



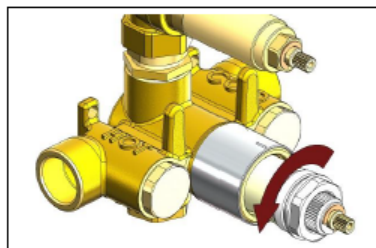
MAINTENANCE-REPLACEMENT OF THE THERMOSTATIC CARTRIDGE

Before proceeding with the maintenance of the cartridge, remove the regulation handle. Follow the instructions shown in section “HANDLES REMOVAL”

1. Remove the stop ring.

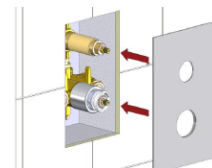
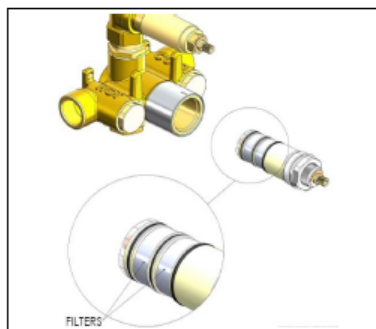


2. Unscrew the thermostatic cartridge anticlockwise with a 30mm wrench.



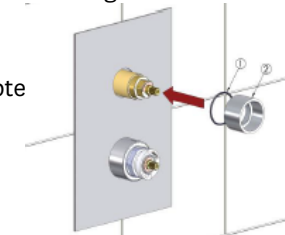
3. Remove the thermostatic cartridge and clean its filters under running water or leave to soak in vinegar in presence of limescale. Grease the O-rings and, if damaged, replace them with new ones.

2x OR 2100 mm 25,12 x 1,78
1x OR 2106 mm 26,7 x 1,78



13. Fix the concealing plate on the chromed ring and on the threaded rod.

14. Screw the adapter (2), or the adapte with their O-ring (1), until the plate is against the wall.



15. Refit and secure the diverter control knob and temperature knob to the position it was removed in point 11

Maximum Temperature Setting, Adjustment and Valve Commissioning

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

1. Loosely fit the temperature control knob to the Thermostatic mixing valve.
Note, whilst fitting the knob, there is a temperature stop pin inside the knob which is required to line up with the temperature stop ring.
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!

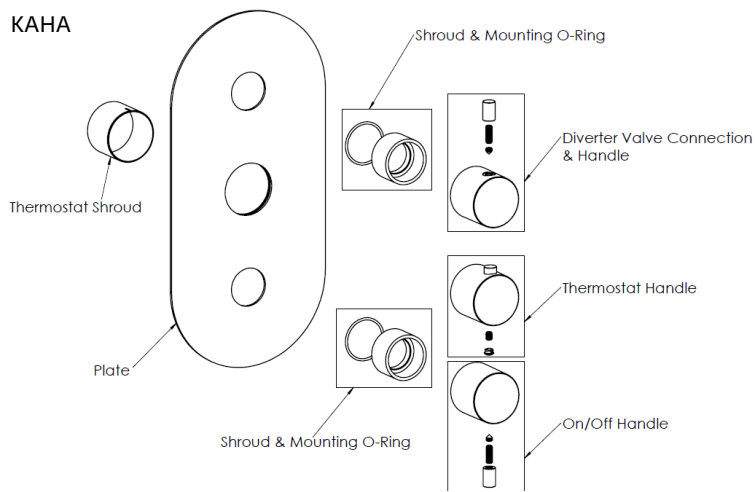
3. Take note of the outlet temperature of the shower using a suitable testing equipment.
4. If the maximum temperature requires adjusting, remove the temperature control knob and adjust the thermostatic mixing valve spindle.

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

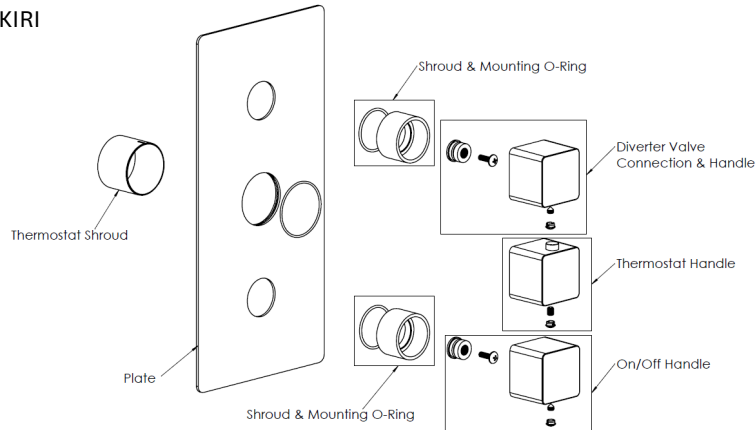
To decrease the outlet temperature, slowly turn the spindle clockwise

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

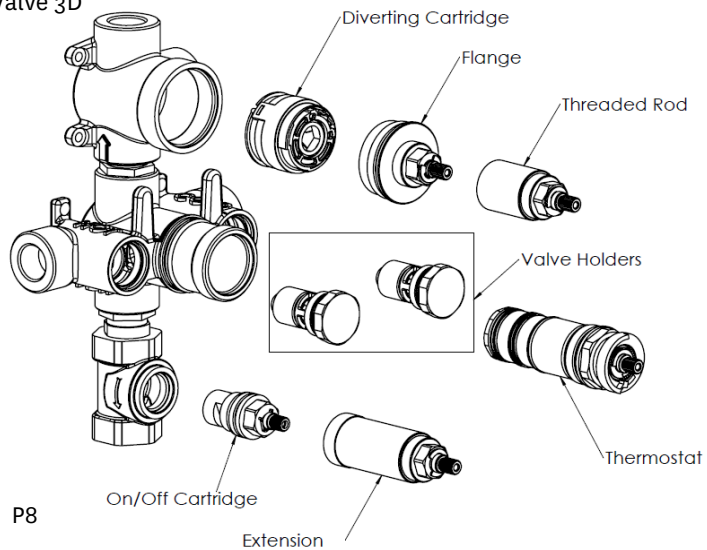
KAHA



KIRI



Valve 3D



P8

MAINTENANCE

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

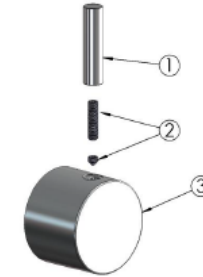
1. The designation of the thermostatic mixing valve matches the application
2. The supply pressures are within the valves operating range
3. The supply temperatures are within the valves operating range.

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.

INSTALLATION AND REMOVAL OF THE HANDLES

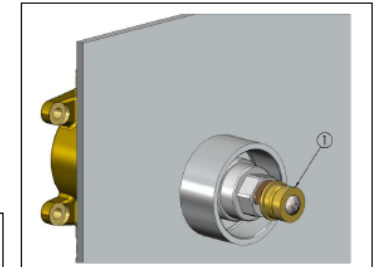
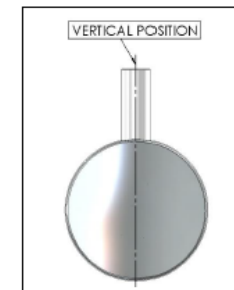
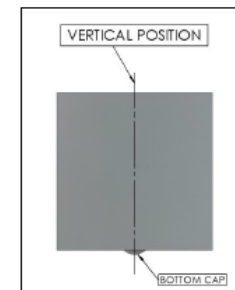
1. Unscrew the lever (1)
2. Remove the two grub screw (2) with a 2.5mm Allen Key
3. Remove the handle (3)



VERTICAL REGULATION OF THE DIVERTING HANDLE

Remove the closure handle. Follow the instructions shown in section "HANDLES REMOVAL Above"

1. Position the handle on the insert (1) and rotate until the vertical position is reached. (REFER TO IMAGE BELOW)



P9