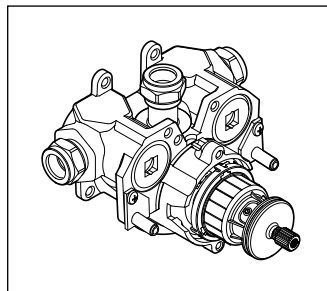
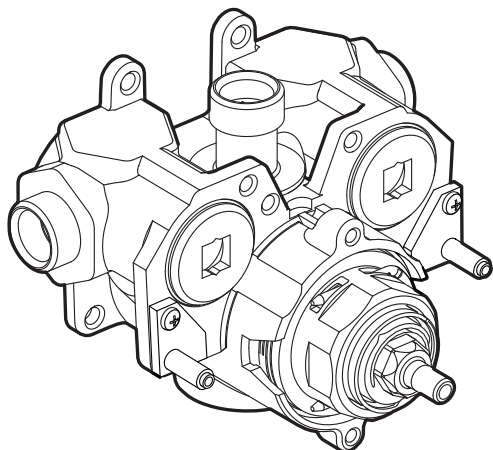


KOHLER®



Single Sequential

Temperature Only

Built-In Shower Valve Installation and User Guide

MODEL NUMBERS

1190330-NA, 998W-K-NA

Important! Please quote the above model number(s) when ordering spares

IMPORTANT

INSTALLER: THIS MANUAL IS THE PROPERTY OF THE CUSTOMER AND MUST BE RETAINED WITH THE PRODUCT FOR MAINTENANCE AND OPERATIONAL PURPOSES.

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SAFETY WARNINGS

WARNING - This product can deliver scalding temperatures if not installed, operated or maintained in accordance with the instructions, warnings and cautions contained in this guide.

The function of a thermostatic mixing valve is to deliver water consistently at a safe temperature. In keeping with every other mechanism, it cannot be considered as functionally infallible and as such, cannot totally replace a supervisors vigilance where that is necessary. Provided it is installed, commissioned and maintained within manufacturers recommendations, the risk of failure, if not eliminated, is reduced to the minimum achievable.

Kohler thermostatic mixers are precision engineered and should give continued safe and controlled performance, provided:

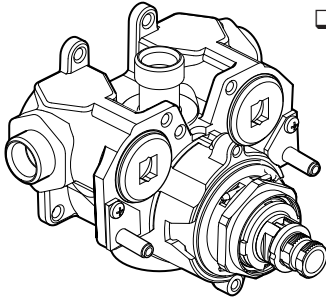
1. They are installed, commissioned, operated and maintained in accordance with the manufacturer's recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

Caution!

1. DO NOT install the product in a position in which service access is restricted.
2. Read all of these instructions. Retain this guide for later use.
3. Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.
4. Pass on this guide in the event of change of ownership of the installation site.
5. Follow all warnings, cautions and instructions contained in this guide.
6. Make sure that you fully understand how to operate this shower before use, read all operating instructions and retain this guide for future reference.
7. This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the product by a person responsible for their safety.
8. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
9. Children should be supervised to ensure that they do not play with the product.
10. DO NOT perform any unspecified modifications to the shower or its accessories. When servicing only use genuine Kohler replacement parts.
11. Only Kohler recommended outlet fittings should be used.
12. DO NOT operate the temperature control rapidly, allow 10 – 15 seconds for the temperature to stabilise before use.

13. Care is required when adjusting flow or temperature, make sure that the temperature has stabilised.
14. Care is required if the product is turned off and back on during showering as this may result in unstable temperature. Ensure temperature has stabilised before re-using product.
15. Sunburn or skin conditions can increase your sensitivity to hot water. Make sure that you set the shower to a cooler temperature.
16. DO NOT fit the product where it may be exposed to freezing conditions. DO NOT operate if the appliance is frozen, allow the appliance to thaw and check for leaks before using.
17. Insulate any pipework that could be exposed to freezing conditions.
18. The water supplies to this product must be isolated if the product is not to be used for a long period of time. If the product or pipework is at risk of freezing during this period they should also be drained of water.
19. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.
20. If you experience any difficulty with the installation of your new shower, then please refer to “**Fault Diagnosis**”, before contacting Kohler Mira Limited. Our telephone and fax numbers can be found on the back cover of this guide.

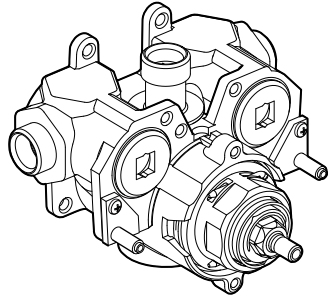
PACK CONTENTS



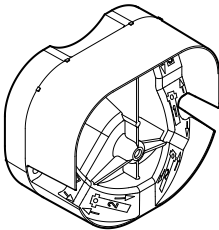
☐ 1 x Mixer Valve

Single Sequential

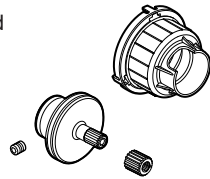
Or



Temperature Only



☐ 1 x Building in Shroud



☐ 1 x Adapter Pack



☐ 3 x Screws



☐ 3 x Wall Plugs

SPECIFICATIONS

Pressures and Flow Rates

Note! For optimum performance, dynamic supply pressures should be nominally equal.

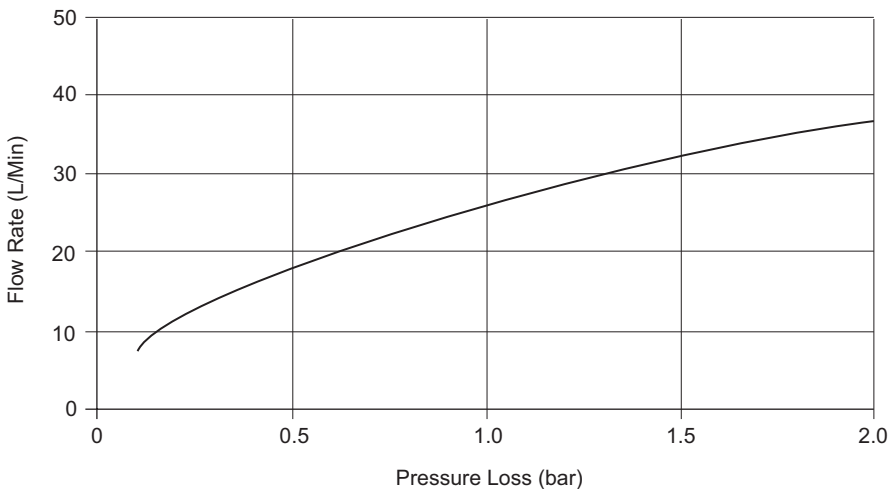
Recommended Minimum Dynamic Supply Pressure: 0.15 bar.

Recommended Maximum Dynamic Supply Pressure: 5 bar.

Maximum Static Pressure: 10 bar.

Recommended Minimum Flow Rate: 3 L/min at mid-blend with equal dynamic supply pressures.

Recommended Maximum Flow Rate: 35 L/min at mid-blend (which equates to maximum pressure loss of 1.8 bar).



Temperatures

Optimum performance is obtained when temperature differentials of 20°C or more exist between blend and either supply. Blend control accuracy will begin to diminish at temperature differentials below 12°C.

Blend Temperature Range: between ambient cold and approximately 60°C, according to hot water supply temperature.

Thermostatic Control Range: approximately 25-60°C.

Optimum Thermostatic Control Range: 30-50°C.

Recommended Minimum Cold Water Temperature: 1°C.

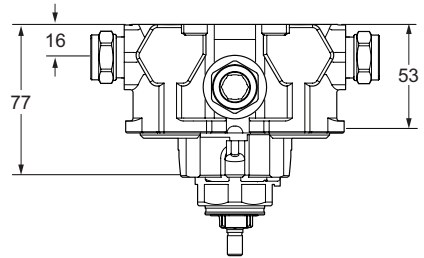
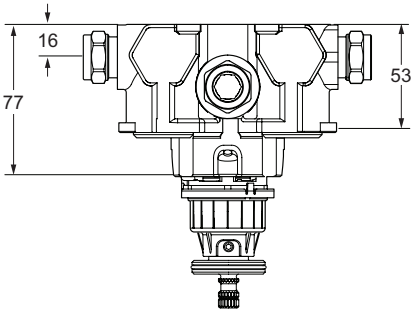
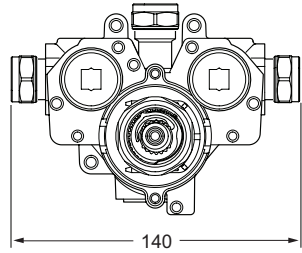
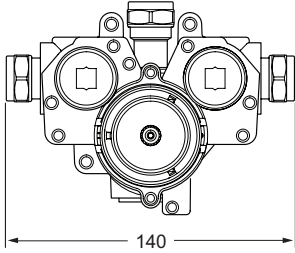
Recommended Maximum Hot Water Supply Temperature: 85°C.

Connections

Inlets and Outlet: 1/2" BSP external union or 15 mm compression.

DIMENSIONS

All dimensions are nominal and in mm.



Single Sequential

Temperature Only

INSTALLATION

Suitable Plumbing Systems

Gravity Fed:

The thermostatic mixer must be fed from a cold water cistern (usually fitted in the loft space) and a hot water cylinder (usually fitted in the airing cupboard) providing nominally equal pressures.

Gas Heated System:

The thermostatic mixer can be installed with a combination boiler.

Unvented Mains Pressure System:

The thermostatic mixer can be installed with an unvented, stored hot water system.

Mains Pressurised Instantaneous Hot Water System:

The thermostatic mixer can be installed with systems of this type with balanced pressures.

Pumped System:

The thermostatic mixer can be installed with an inlet pump (twin impeller). The pump must be installed on the floor next to the hot water cylinder.

General

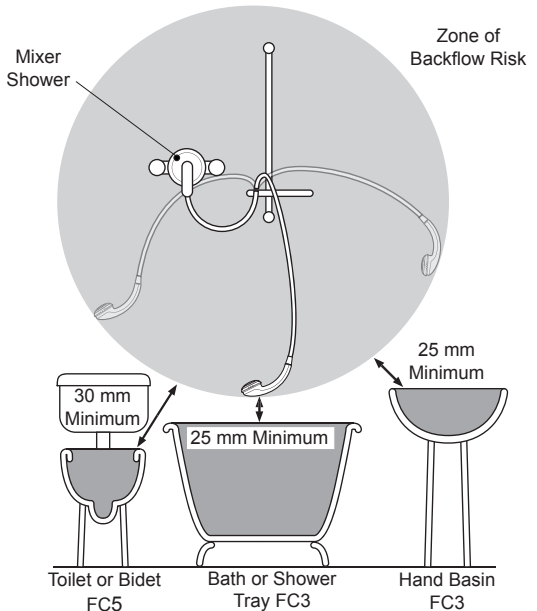
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the “Water Supply Regulations 1999 (Water Fittings)” or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: ‘**Specifications**’.

1. The product must not be installed in an area where it may freeze. Pipework to the product that could become frozen must be properly insulated.
2. Do not install the product in a position in which service access is restricted.
3. For stud partitions alternative fixings may be required.
4. Isolating valves must be installed close to the product for ease of maintenance.
5. Pipework must be rigidly supported and avoid any strain on the connections.
6. Pipework dead-legs should be kept to a minimum.
7. If pipework enters the product from the rear through a hole in the wall, provision must be made to prevent water ingress back into the wall structure.

8. The position of the shower and shower fittings must provide a minimum gap of 25 mm between the showerhead and the spill over level of any bath, shower tray or basin and a minimum gap of 30 mm between the showerhead and the spill over level of any toilet, bidet or other appliance with a Fluid Category 5 backflow risk (see diagram).

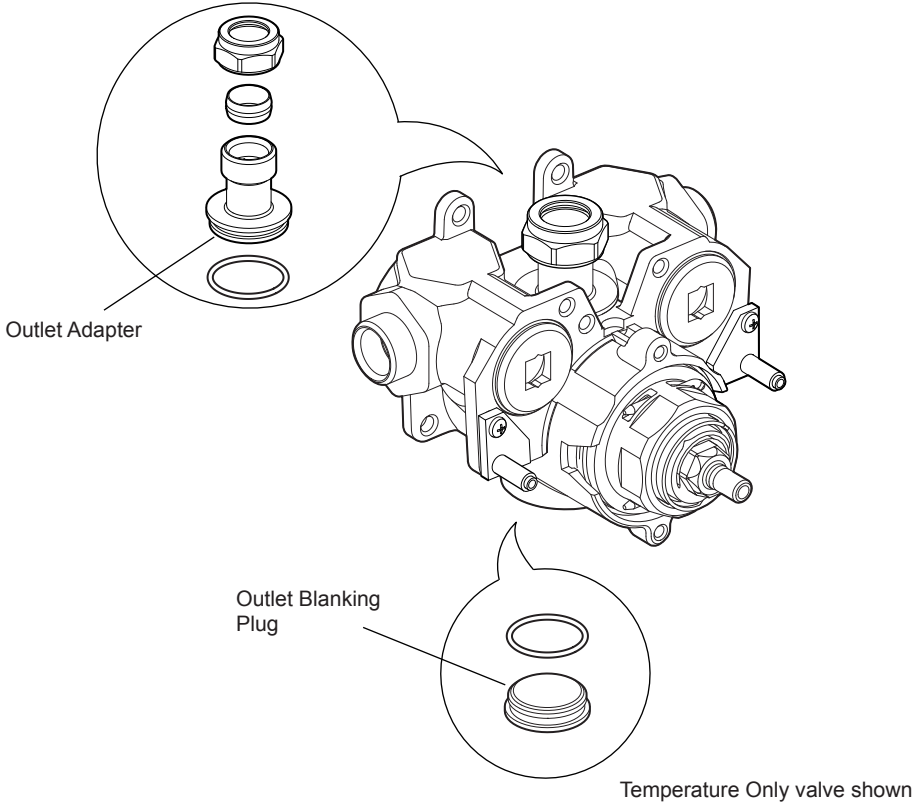


Note! There will be occasions when the hose retaining ring will not provide a suitable solution for Fluid Category 3 installations, in these instances an outlet double checkvalve must be fitted, this will increase the required supply pressure typically by 10kPa (0.1 bar). Double checkvalves fitted in the inlet supply to the appliance cause a pressure build up, which affect the maximum static inlet pressure for the appliance and must not be fitted. For Fluid category 5 double checkvalves are not suitable.

9. The showerhead should be positioned so that it discharges down the centre line of the bath or across the opening of a shower cubicle.
10. Only use the inlet connections supplied with the product. **DO NOT** use any other type of fittings.
11. All pipework must be checked for leaks before the product installation is completed. The product should be pressurised and the inlet & outlet connections inspected.
12. **DO NOT** overtighten connections, screws or grubscrews as product damage may occur.
13. Upon completion of installation, or if the product is dismantled during installation or servicing, then the product must be inspected to ensure that there are no leaks.
14. Having completed the installation, make sure that the user is familiar with the operation of the product.

Reversing the Outlet Position

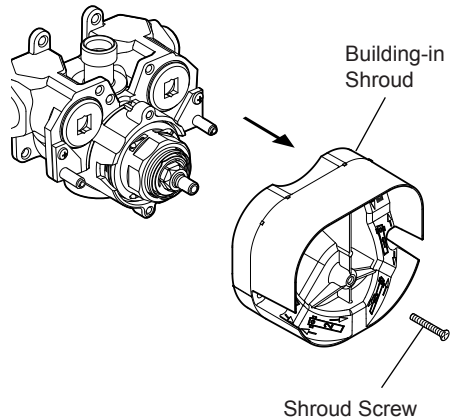
1. Remove the outlet adapter using a 12 mm hexagonal wrench (not supplied).
2. Remove the outlet blanking plug using a 12 mm hexagonal wrench.
3. Screw the outlet adapter, complete with 'O' seal into the bottom hole previously blanked and tighten.
4. Screw the outlet blanking plug, complete with 'O' seal, into the top hole and tighten.



INSTALLATION PROCEDURE

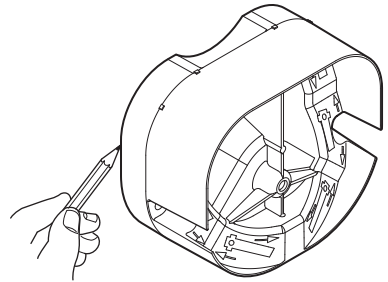
Solid Wall or Stud Partition

1. Determine the route for the hot and cold supply pipework and for the outlet pipework. When connecting to BIV shower fittings it is recommended that the outlet be positioned above and to one side of the mixer. This is to prevent the flexible hose from obstructing the shower controls.



2. Remove the shroud screw (retain for later use) and remove the mixer from the building-in shroud.

3. Determine the position of the mixer and draw around the building-in shroud.

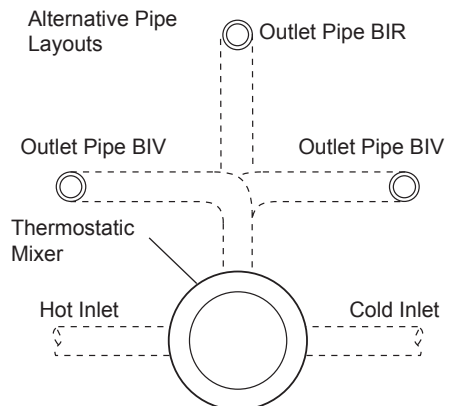


4. Mark the routes for the hot and cold supply pipework:

Hot - Left

Cold - Right

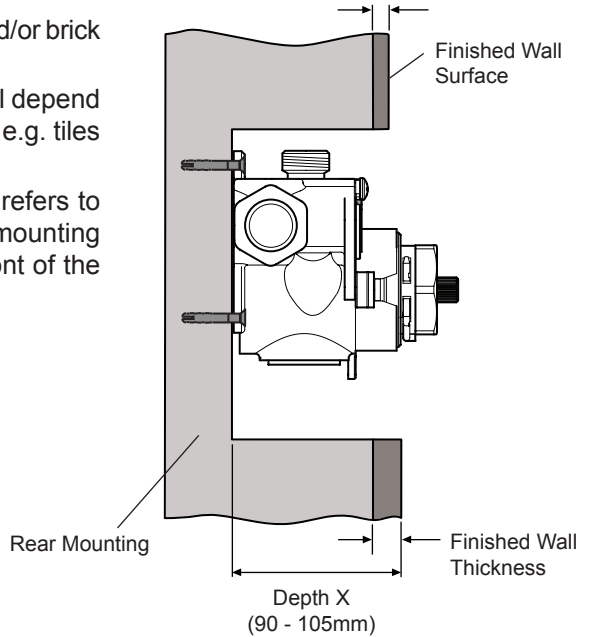
5. Mark the route for the outlet pipework.
Note! (if applicable) The outlet elbow should be sited above the mixer and on the right or left, as site dictates.



6. Cut away the plasterboard and/or brick work to the required depth.

Important! This depth 'X' will depend on the finished wall thickness e.g. tiles or facia board.

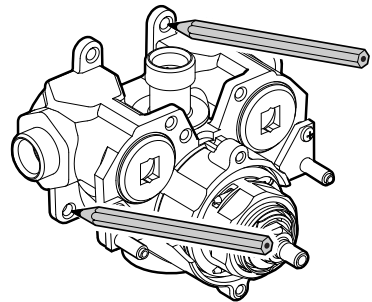
For stud partitions depth 'X' refers to the distance from the rear mounting e.g. timber noggin, to the front of the wall (before tiling).



7. Make sure that the mixer is level, central in the hole and square to the finished wall surface (or the control components will not fit correctly), then use two of the three fixing holes to mark the positions for the fixing screws on the wall.

8. For solid walls drill two 6 mm holes for the wall plugs.

Note! For stud partition installations alternative fixings may be required (not supplied) to fix the mixer to the rear face of the wall cavity or to a timber noggin.

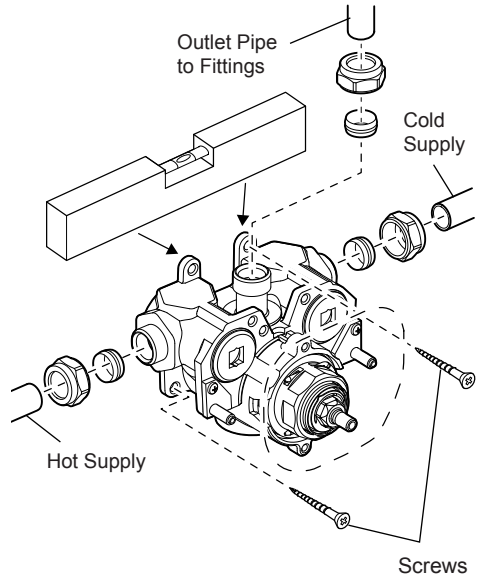


9. Fit the hot and cold supply pipework (Hot - Left, Cold - Right).

Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixer. Failure to do so may result in product malfunction and will not be covered under the guarantee.

10. Insert the wall plugs (supplied) and attach the mixer to the wall with the screws provided.

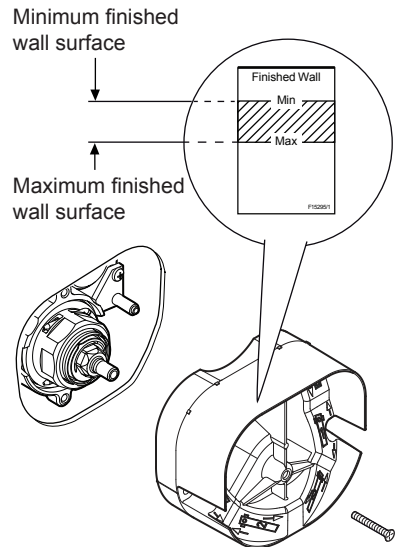
Note! For stud partition installations alternative fixings may be required (not supplied) to fix the mixer to the rear face of the wall cavity or to a timber noggin.



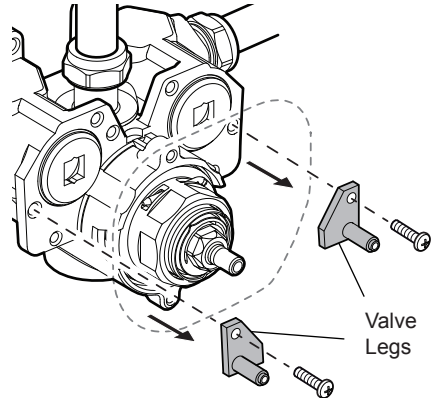
11. Make sure that the olives are fitted, connect the hot and cold supply pipes and tighten the compression nuts.
12. Connect the outlet pipework, leaving enough pipe through the wall to temporarily cap off.
13. Turn on the water supplies and check for leaks.
14. Attach the building-in shroud to the mixer using the shroud screw removed earlier.

15. Using the 'Finished Wall' indicator on the building-in shroud as a guide, finish the wall, e.g. tiles.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.



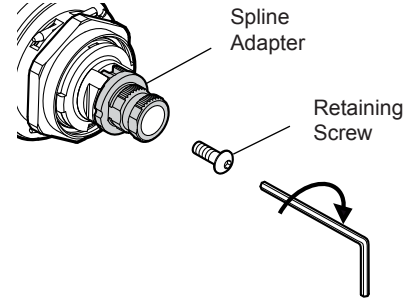
- 16. Remove the shroud screw (retain for later use) and remove the building-in shroud.
- 17. Unscrew the 2 screws securing the Valve Legs. Remove the valve legs from the mixer.
- 18. Fit the trim kit, refer to the Installation and User Guide packed with the trim kit.



19. Single Sequential Valve Only

The Temperature Adapter **must** be fitted before the trim kit.

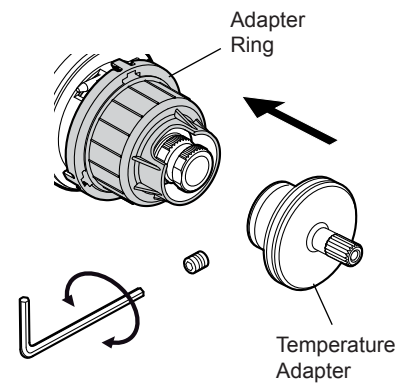
19.1 Fit the Spline Adapter to the cartridge.



19.2. Fit the retaining screw into the centre of the spline adapter. Tighten the screw.

19.3. Fit the Adapter Ring onto the head nut.

19.4. Align the grubscrew hole with the cutout then push the Temperature Adapter onto the spline adapter.



19.5. Tighten the grubscrew.

20. The installation of the mixer valve is now complete

OPERATION

Single Sequential

Turning the control knob anti-clockwise will increase the flow and temperature from off, **through** cold to the preset maximum.

Temperature Only

Turning the control knob anti-clockwise will increase the temperature from cold to the preset maximum.

COMMISSIONING

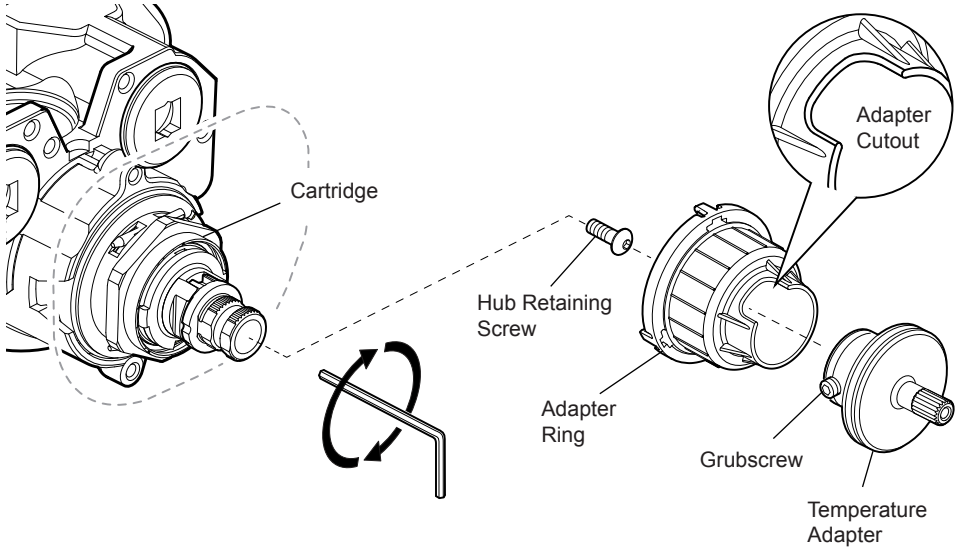
Maximum Temperature Setting

Before using the shower the maximum temperature must be checked to make sure that it is at a safe level. It has been preset to approximately 43°C at the factory but due to variations in site conditions the maximum temperature may need adjustment.

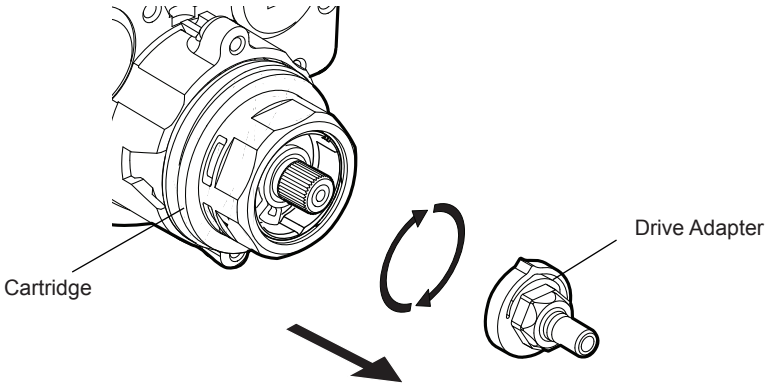
Note! Make sure that the hot water temperature is at least 55°C and that there is sufficient supply.

1. Turn on the mixer to the maximum temperature (i.e. fully anticlockwise) and allow the temperature to stabilise.
If the temperature is too hot or too cold adjust as follows:
2. Carefully remove the handle assembly (refer to the Installation and User guide packed with the trim kit).
3. **Single Sequential Valves:**
 - 3.1 Turn the Temperature Adapter until the grub screw can be seen in the cutout, then unscrew the grub screw approx 2 turns.
 - 3.2 Remove the temperature adapter and the adapter ring.
 - 3.3 Unscrew and remove the Hub Retaining Screw with a 2.5 mm hexagon key.
 - 3.4 Insert the 2.5 mm hexagon key into the centre of the spindle and engage with the recessed temperature adjusting screw.
 - 3.5 Turn the hexagon key until the required maximum temperature is obtained at the shower. Anticlockwise to increase the temperature, or clockwise to decrease the temperature.
¼ turn = approximately 1°C
 - 3.6 Proceed to step 5.
4. **Temperature Only Valves:**
 - 4.1 Carefully pull the Drive Adapter from the cartridge and reposition on the cartridge one increment to the left or right as required.
One increment = approximately 1°C
5. Once the desired maximum blend temperature has been achieved turn off the mixer.
6. Refit the components in reverse order.
7. Check that the shower temperature is correct.

Maximum Temperature Setting



Single Sequential



Temperature Only

FAULT DIAGNOSIS

Read the section: **Important Safety Information** first.

Provided that the Thermostatic Mixing Valve has been correctly installed and is operated in accordance with the instructions contained in this guide, difficulties should not arise. If any maintenance is required then it must be carried out by a competent tradesperson for whom the fault diagnosis chart and maintenance instructions are provided. Before replacing any parts make sure that the underlying cause of the malfunction has been identified.

| Symptom | Cause / Rectification |
|---|--|
| 1. Only hot or cold water from the outlet. | <ul style="list-style-type: none"> a. Inlet supplies reversed (i.e. hot supply to cold inlet). Check. b. No hot water reaching mixing valve. Check. c. Check strainers and inlet/outlet fittings for blockage. d. Refer to symptom 5, below. e. Installation conditions continuously outside operating parameters: refer to symptom 2e and section: 'Specifications'. |
| 2. Fluctuating or reduced flow rate. | <p>Normal function of mixing valve when operating conditions are unsatisfactory.</p> <ul style="list-style-type: none"> a. Check strainers and inlet/outlet fittings for flow restriction. b. Make sure that the minimum flow rate is sufficient for the supply conditions. c. Make sure that the dynamic inlet pressures are nominally balanced. d. Make sure that the inlet temperature differentials are sufficient. e. Check thermostatic performance; renew thermostatic cartridge if necessary. |
| 3. No flow from mixing valve outlet. | <ul style="list-style-type: none"> a. Check strainers and inlet/outlet fittings for blockage. b. Hot or cold supply failure; thermostat holding correct shutdown function: rectify, and return to 2e above. |
| 4. Blend temperature drift. | <p>Indicates operating conditions changed.</p> <ul style="list-style-type: none"> a. Refer to symptom 2 above. b. Hot supply temperature fluctuation. c. Supply pressure fluctuation. |
| 5. Hot water in cold supply or vice versa. | <p>Indicates checkvalves require maintenance, refer to section: 'Maintenance'.</p> |
| 6. Maximum blend temperature setting too hot or too cool. | <ul style="list-style-type: none"> a. Indicates incorrect maximum temperature setting; refer to section: 'Commissioning' b. As symptom 4. c. As symptom 5. |
| 7. Water leaking from valve body. | <ul style="list-style-type: none"> a. Seal(s) worn or damaged, obtain service pack, and renew all seals. If leak persists from around the temperature spindle, renew the thermostatic cartridge. |

MAINTENANCE

General

This Product is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

The Kohler range of Thermostatic Mixing Valves are designed for the minimum of maintenance in normal use. The only serviceable parts are the inlet filters which should be checked and cleaned every 12 months. If a malfunction occurs with the Thermostatic Cartridge then this will necessitate a complete cartridge replacement.

Note! The cartridge contains no internally serviceable parts.

Lubricants

Silicone based lubricants must only be used on the rubber seals.

Caution! Oil based or other lubricant types may cause rapid deterioration of seals.

Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings.

Do not use descalents on this product.

Checkvalve Cartridges / Inlet Strainers

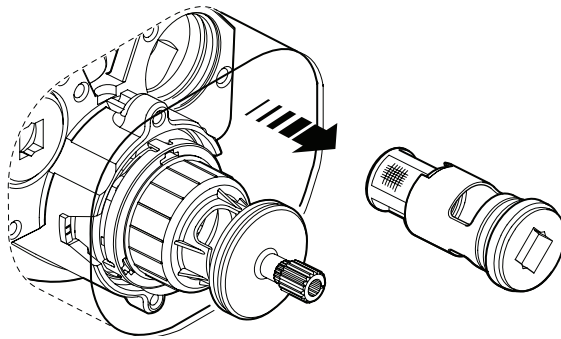
General

Hot water entering the cold supply, or vice versa, indicates that immediate attention of the checkvalve cartridges is necessary.

The checkvalve cartridges may be cleaned by removal of the inlet strainers, and flushing through under a jet of water to remove lodged particles.

Checkvalve cartridges are not serviceable items, so any apparent wear or damage will require renewal.

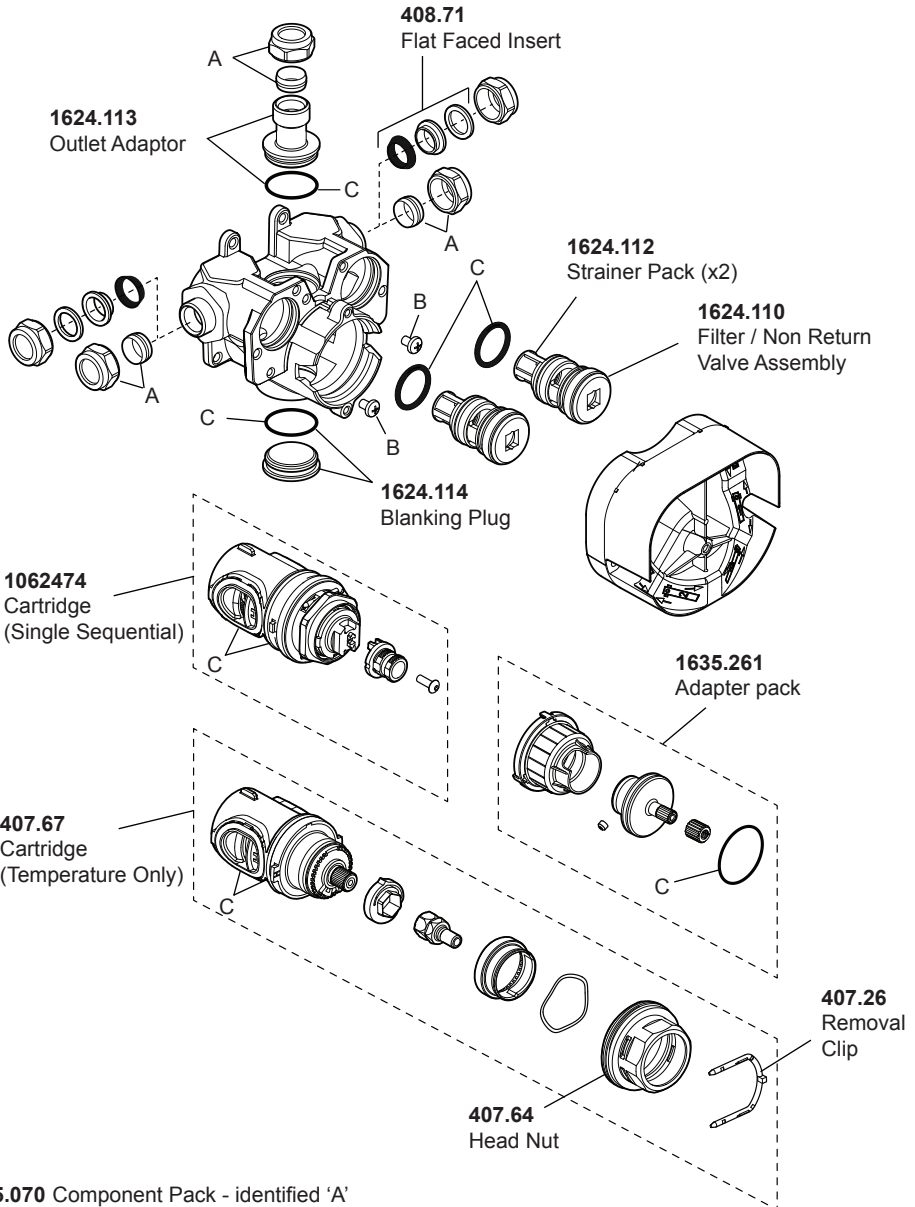
Blockage of the inlet strainer screens can lead to poor flow performance and reduced temperature control. It is essential that the inlet strainer screens are cleaned or, if necessary, renewed as part of the six-monthly maintenance operations.



1. Remove the trim kit, refer to the Installation and User guide packed with the trim kit.
2. Using a 10 mm hexagonal key turn the integral isolators 90° anti-clockwise to shut off the hot and cold water supplies.
Important! You **MUST** isolate both the hot and cold isolators.
3. Open an outlet fitting to release pressure and to assist the draining of residual water.
4. Continue to unscrew and remove the non return valve assembly.
Caution! Some residual water may be released.
5. The non return valve assembly and/or strainer screens can be cleaned or replaced as necessary.
8. Re assemble the non return valve assembly and screw into the integral isolator. Continue to tighten until resistance is felt and the integral isolator tries to turn.
9. Turn the integral isolators 90° clockwise to turn on the hot and cold water supplies.
10. Refit the trim kit and concealing plate assemblies and check for leaks.

SPARE PARTS

All spare parts listed are supplied individually (unless stated). Kohler have a policy of continual product development and parts illustrated may not be identical to those supplied.



1595.070 Component Pack - identified 'A'

1624.102 Screw Pack - identified 'B'

1624.109 Seal Pack - identified 'C'

NOTES

NOTES

CUSTOMER SERVICE

Guarantee of Quality

Kohler UK guarantee products against any defects of materials or workmanship for the following periods:

25 Years

Ceramic Ware and Cast Products

10 Years

Stainless Steel Products and, Acrylic Baths

5 Years

Shower Valves, Taps, Cistern Fittings, Toilet Seats and Bath Panels

2 Years

Bathroom Furniture and Accessories

1 Year

Whirlpool / Spa Baths

Our confidence in the quality and reliability of our superior products enables us to offer a comprehensive guarantee for all products.

To register and fully benefit from this guarantee you must return the enclosed product registration card indicating the Kohler items you have purchased.

Within the guarantee period we will undertake to resolve any material defects by providing replacement parts, modules or complete product, as we deem appropriate.

To be free of charge, work must be undertaken by Kohler approved personnel.

To ensure that any problems can be promptly resolved you must contact Kohler UK directly.

Proof of purchase must be provided with any claims.

This guarantee covers products in domestic use, installed and maintained in accordance with the instructions. It covers the purchaser only and it not transferable

Commercial/Business Use

Any Kohler Bathroom product used within a commercial/business premise is guaranteed for **1 Year** against any defect of materials or workmanship

Not Covered by this Guarantee

Damage or defects arising from incorrect installation, improper use or lack of maintenance.

Installed product damaged in transit, consequential loss, damage or product removal and installation costs.

General wear and tear.

This guarantee is in addition to your statutory and other legal rights.

To Contact Us: UK

Kohler UK Customer Services



0844 571 0048



Fax: 0844 571 1001



E-mail: info@kohleruk.com



Website: www.kohler.co.uk

The company reserves the right to alter product specifications without notice.

KOHLER®