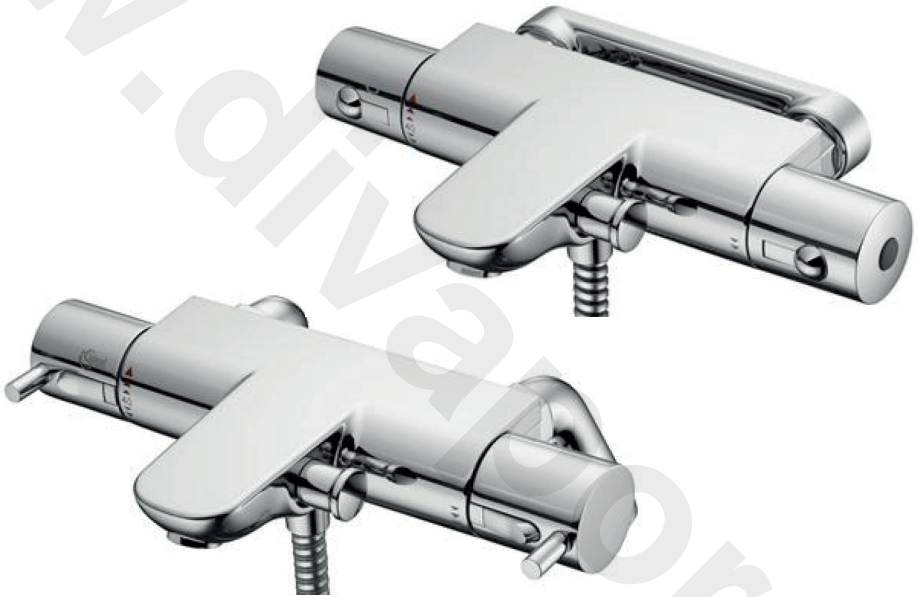




Installation Instructions

Thermostatic Bath Shower Mixers

ALTO ECOTHERM



Exposed two hole thermostatic bath shower mixers in this product range are:

- A5634AA Wall mount mixer with fast fix bracket
- A5635AA Mixer with rim mount legs
- A5636AA Mixer with rim mount legs and Idealrain S3 (3 function) Shower Kit Pack
- A5638AA Mixer with rim mount legs and lever handles
- A5639AA Wall mount mixer with fast fix bracket and lever handles

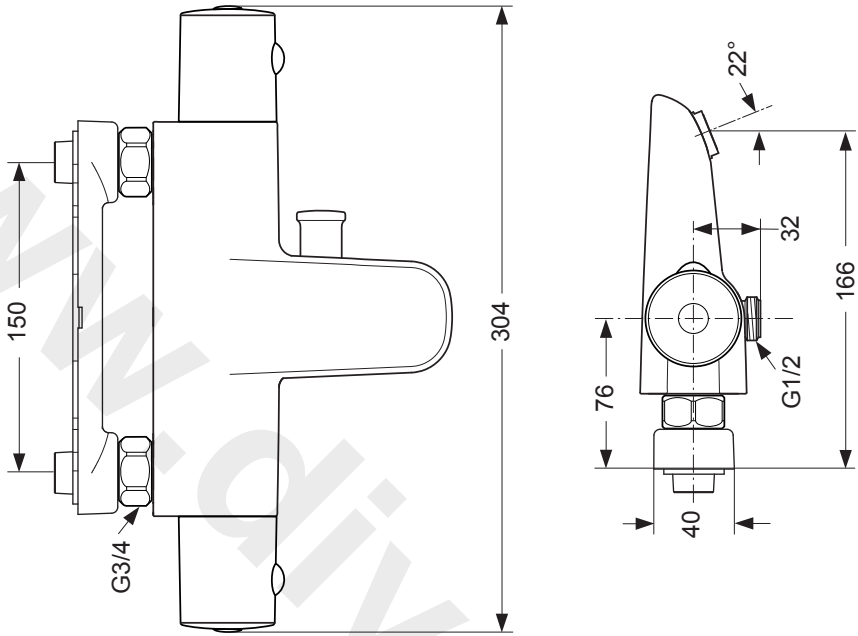
IMPORTANT
BEFORE CONNECTION, FLUSH WATER
THROUGH PIPEWORK TO REMOVE ALL
DEBRIS ETC. WHICH COULD
DAMAGE THE VALVE MECHANISM

INSTALLER
After installation please pass
this instruction sheet to user

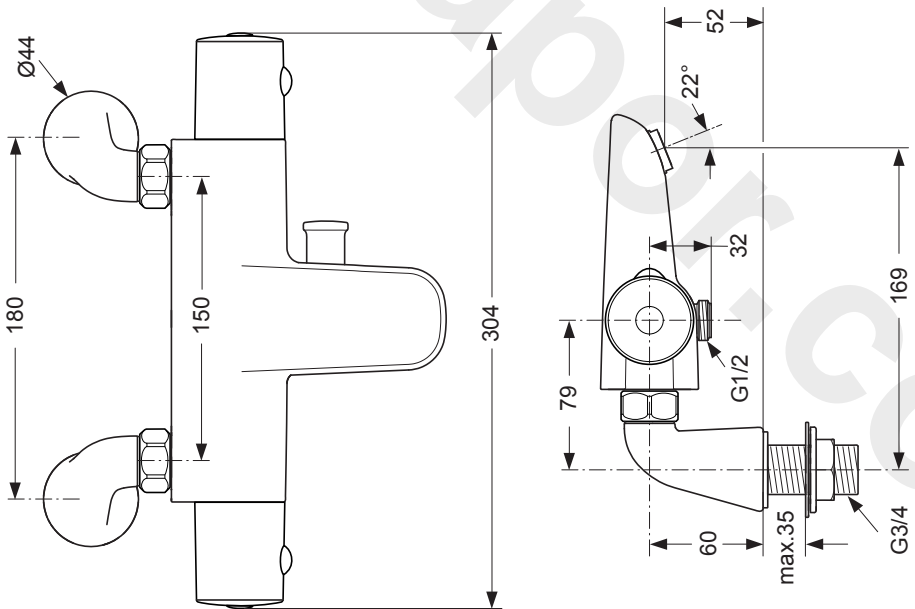
TABLE OF CONTENT

1	DIMENSIONS	3
2	INTRODUCTION	6
3	SUPPLY CONDITIONS	7
4	PRE-INSTALLATION NOTES	8
4.1	INSTALLING PANEL/WALL MOUNT PRODUCTS	9
4.2	INSTALLING RIM MOUNT PRODUCTS	12
5	OPERATION	13
6	MAXIMUM TEMPERATURE STOP	14
7	CALIBRATION OF THERMOSTAT	14
7.1	COMMISSIONING & PERIODIC CHECKS	15
7.2	FREQUENCY OF REGULAR SERVICING	15
8	THERMOSTATIC CARTRIDGE REPLACEMENT	16
9	FLOW CARTRIDGE REPLACEMENT	17
10	DIVERTER CARTRIDGE REPLACEMENT	18
11	CHECK-VALVE REPLACEMENT	19
12	ISOLATING VALVES	19
13	SPARE PARTS	20
14	CLEANING CHROME PLATED SURFACE	24

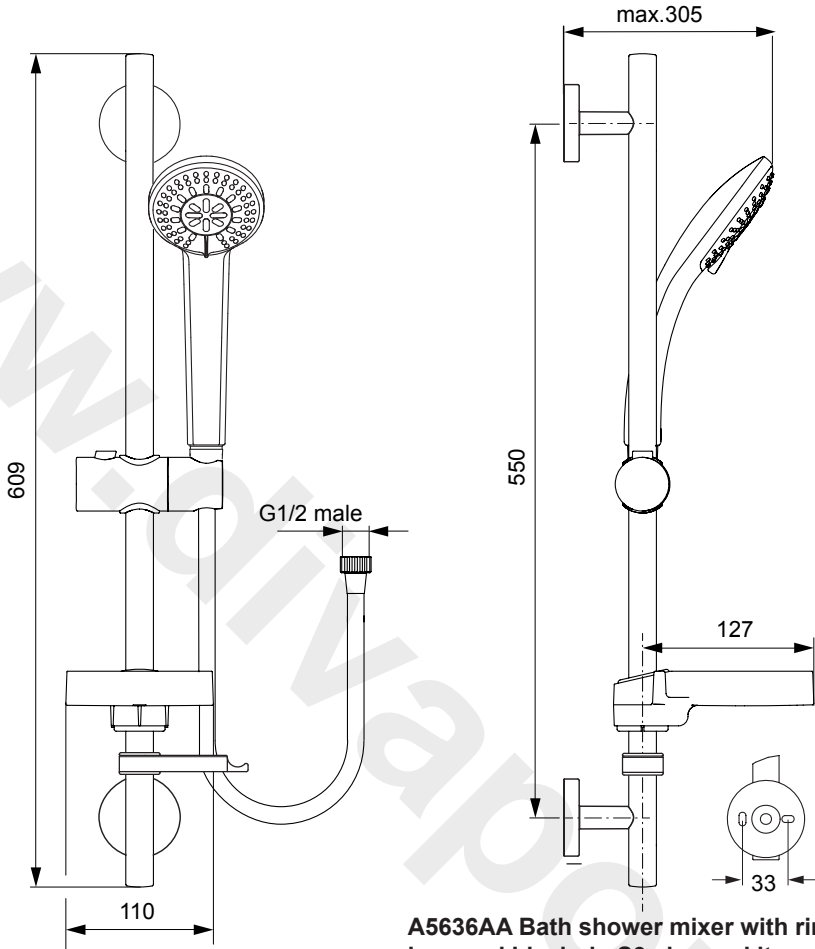
1 Dimensions



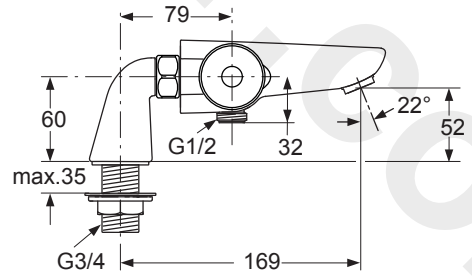
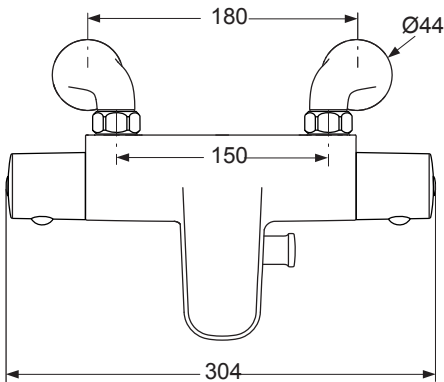
A5634AA Bath shower mixer with wall mount bracket



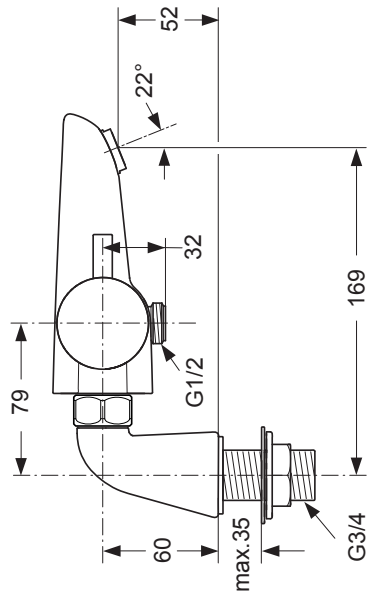
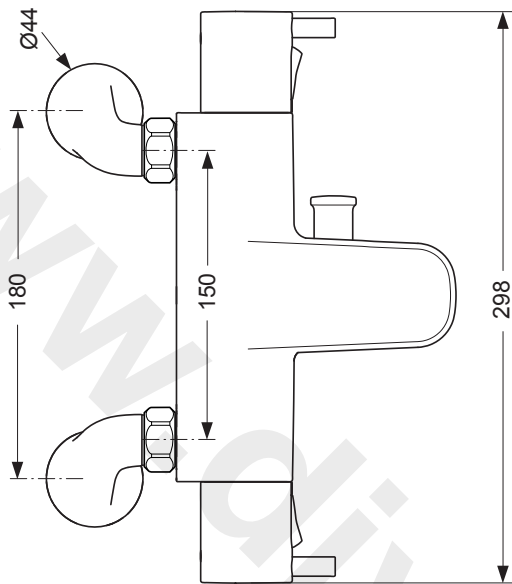
A5635AA Bath shower mixer with rim mount legs



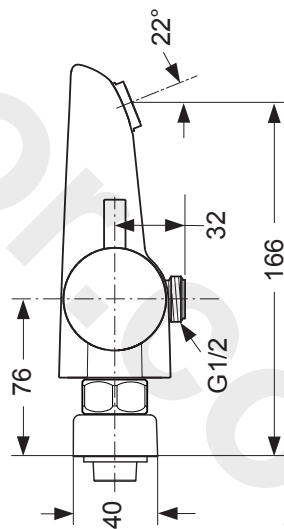
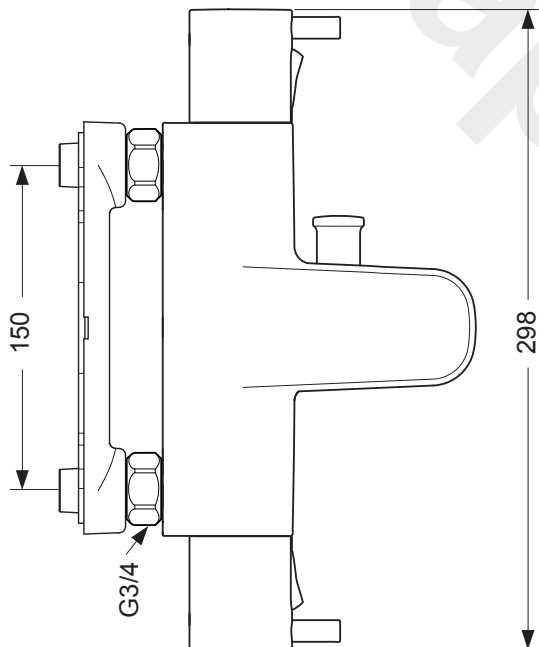
A5636AA Bath shower mixer with rim mount legs and Idealrain S3 shower kit pack



For guidance on how to install the shower kit, please refer to the separate instructions provided with the kit.



A5638AA Bath shower mixer with rim mount legs and lever handles



A5639AA Bath shower mixer with wall mount bracket and lever handles

2 INTRODUCTION

The fittings covered by these instructions should be installed in accordance with the Water Regulations published in 1999*.

Ideal Standard strongly recommends that these fittings are installed by a professional fitter.

*A guide to the Water Supply (Water Fittings) Regulations 1999 and the Water Byelaws 2000, Scotland is published by WRAS (Water Regulations Advisory Scheme) Unit 13, Willow Road, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 4EG. ISBN 0-9539708-0-9

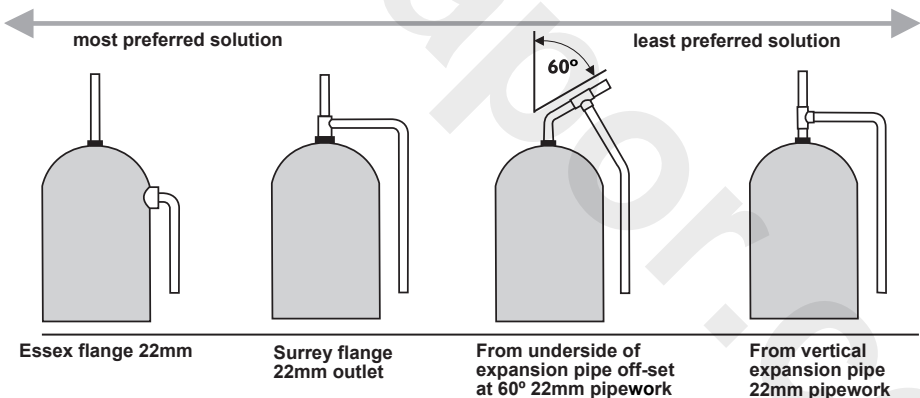
WATER REGULATIONS

Hot and cold water supply pressures must be reasonably balanced and from a common source - both from storage or both from a supply pipe. (IRN 101). The mixers will function within specification on unequal pressures up to a ratio of 5 : 1, but it is not recommended that the cold supply be connected to the rising main and hot to the tank fed supply as the pressure differential is likely to exceed the 5:1 ratio. (See table 1) The minimum pressure for correct operation is 0.5 bar. Pressure head is measured as the vertical distance between the bottom of the cold water storage tank which feeds the hot water system and the highest point on the shower spray plate. When installing with a shower pump the use of a secondary tapping from the cylinder is highly recommended.

The picture below shows the various methods of connecting the hot water pipe to the cylinder - the most preferred on the left and the least preferred on the right.

The fitting should be so installed as to be readily accessible for examination, repair, replacement or operation. (IRN 111).

The temperature of the hot water must not exceed 85°C but the installer's attention is drawn to code of practice BS 6700 which recommends that stored hot water should normally never exceed 65°C. For correct operation of the valve, a minimum of 55°C is required.



Preferred arrangements for cylinder tapping

Note: If water supply is fed by gravity then supply pressures should be verified to ensure the conditions of use are appropriate for the valve.

3 SUPPLY CONDITIONS

Table 1 Conditions of use for Type 2 valves

	BSEN1111
Operating pressure range:	High Pressure
Maximum static pressure	10 bar
Flow pressure hot and cold	0.5 to 5.0 bar
Hot supply temperature	55 to 65 °C
Cold supply temperature	5 to 20 °C
Temperature differential characteristic (TDC)	10 °C

MODULATING COMBI BOILER

This thermostatic shower valve is designed for use with modulating combination boilers.

When installing on a modulating combination boiler it is sometimes possible for the interaction of a thermostatic valve with the combi to cause the boiler to cut out and cut in again, with the result that the water will become alternatively cold and hot. To overcome this, a 4 L/min flow regulator should be fitted upstream of the thermostatic valve. It should be fitted in any 15mm compression fitting in the dedicated cold supply pipe.

It is important to choose a compression fitting located in a position which is accessible after installation and it must be fitted the correct way round for the direction of flow. The regulator can be fitted in either the inlet or outlet side of the compression fitting. If fitting in an outlet side, ensure the o-ring is seated fully in the visible rebate around the edge of the regulator. Use the tip of a small screwdriver or similar to achieve this. Ensure the tail of the pipe is not fouling the regulator (shorten if required) and do up the compression fitting as normal. In a minority of cases, where the boiler is of a type which stores a small quantity of very hot water, it may also be necessary to fit a 4 l/min flow regulator in the hot supply.



↑ flow direction through flow regulator



These regulators (code A962570NU) can be obtained by contacting fastpart:

For more information on spare parts why not visit our spare website
www.fastpart-spares.co.uk

Isolation valves MUST be fitted to permit future maintenance of these products.

See sect 12 for more details.

Check valves are included with this product inside the inlets see sect 11.

4 Pre-installation notes

This installation instruction covers two main products types: wall mount and rim mount. Products within this range can be installed either on a panel/wall over a bath or on the rim of a bath.

- **Panel/wall mount products are:** A5634AA & A5639AA.
- **Rim mount products:** A5635AA, A5636AA and A5638AA.

Panel/wall mount products are supplied with a fast-fix wall bracket kit, rim mount products are supplied with a pair of bath legs with fixings.

Both product types have dual control handles with integral diverter. The temperature and the flow rate of the water can be adjusted using the two control handles on the mixer.

The diverter knob is located on the right hand side of the spout and permits mixed water to be directed from the default bath fill to the shower outlet. A flexible shower hose can be connected to the shower outlet on the underside of the mixer.

Note: Idealrain S3 Shower Kit is only supplied with product A5636AA. For the other products the installer should purchase a suitable shower kit.

Water supply pipes

Water supply pipes can be from any direction. Where supplies are provided from above, this normally permits better drain down of pipe-work. Pipe-work should be secured to the wall or panel using suitable fixing clips.



DO NOT apply heat near this product. Heat generated by soldering could damage plastic parts and seals

Suitable pipe connectors

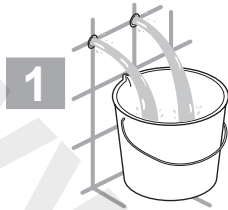
All the pipe connections needed for the panel/wall mount products are supplied. For the rim mount products, the installer will need a pair of tap connectors threaded G3/4" female.

Suitable pipe connectors can be obtained from all good plumbers merchants (not supplied).

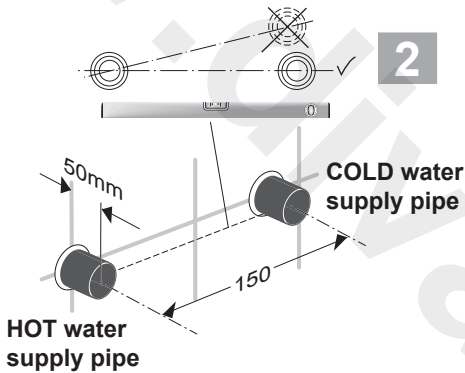
IMPORTANT: Ensure that any old / existing thermostatic mixing valves (TMVs) that may be fitted in the supply pipes are removed

4.1 Installing panel/wall mount products

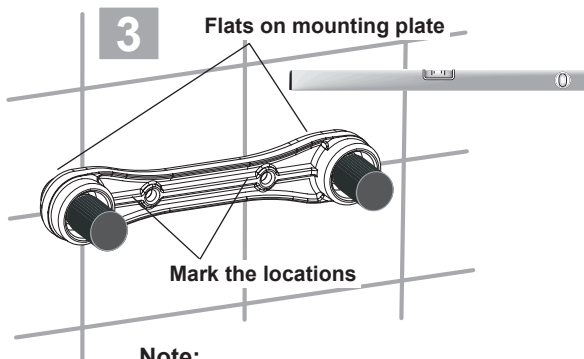
The thermostatic mixing valve must be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.



IMPORTANT
BEFORE CONNECTION, FLUSH WATER
THROUGH PIPEWORK TO REMOVE ALL
DEBRIS ETC. WHICH COULD DAMAGE
THE VALVE MECHANISM



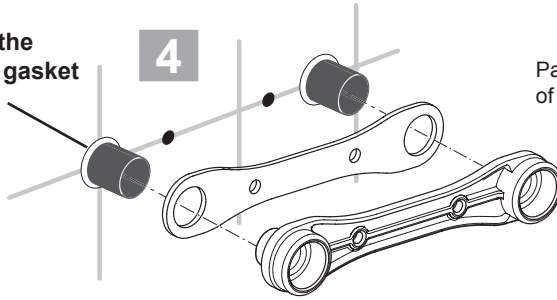
Two 15mm inlet pipes need to be run at 150mm centres which will have been identified as the location of the shower fitting and cut two holes of diameter 25-30mm in the wall board. We recommend leaving 50mm of pipe protruding at this stage.



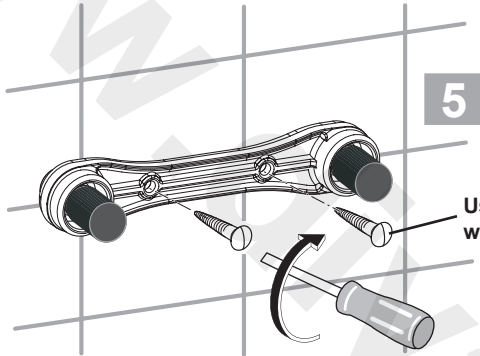
Place wall plate over pipework and onto the wall surface. A spirit level can be placed on the flats of the wall plate to ensure the level. Once at the correct position the two fixing holes can be marked. Drill two holes to suit appropriate wall fixings.

Note:
Fixing holes in
bracket are at 65mm
centres.

Note:
Tile closely to the pipe to ensure gasket effectiveness



Place gasket on the rear of wall mount plate



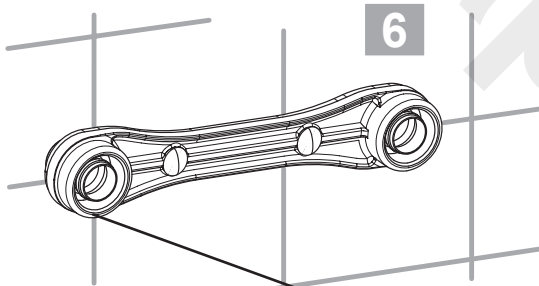
Tighten up the two screws until secure.

Note:
For plaster board duct it will be necessary to fit extra strong cavity anchor plasterboard fixings as shown.

Use suitable wall fixings



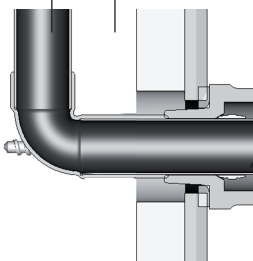
Cavity anchor plasterboard fixing



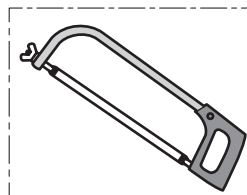
The pipes should be trimmed level to the wall bracket. If using a pipe cutter it will be necessary to mark the pipes and then remove the bracket before trimming to its correct length.

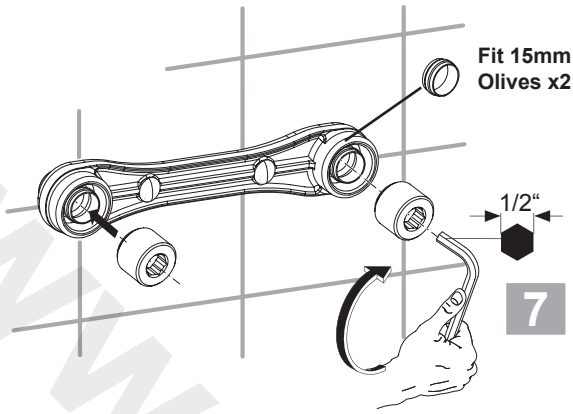
Note:
If the wall is to be subsequently tiled ensure there is sufficient movement in the duct pipework to allow the bracket to move forward by the thickness of the tiling.

Tiling movement allowance



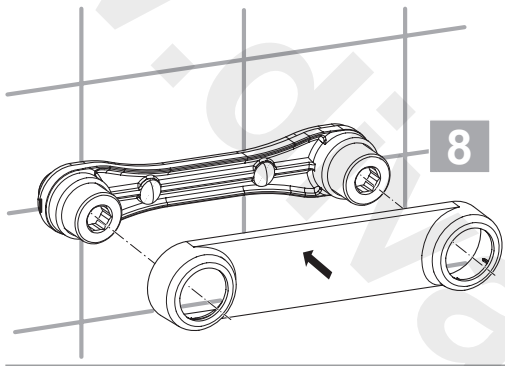
Pipe trimmed level with the wall bracket



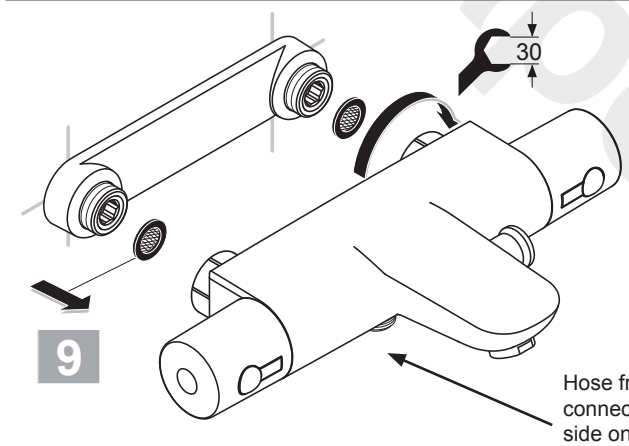


Fit the olives to the pipes prior to screwing the two 3/4" connectors into the wall mount plate using a 1/2" allen key. The connectors will have to be securely screwed in to form the necessary compression joint between the olive, wall plate and connector.

NOTE FOR IRELAND: 15mm olives are supplied with this product. Use 1/2" olives if 1/2" supply pipes are fitted.



Shroud can now be fitted to wall plate and should be positioned with the slot at the bottom



Use 30mm A/F spanner.
CAUTION: Take care not to damage chromed surfaces.

Hose from the shower kit should be connected to the outlet on the under side on the mixer

Ensure the sealing washers are within the captive nuts of the shower valve. Fit the shower valve to the wall bracket as shown. Turn on the water supplies & check for leaks.

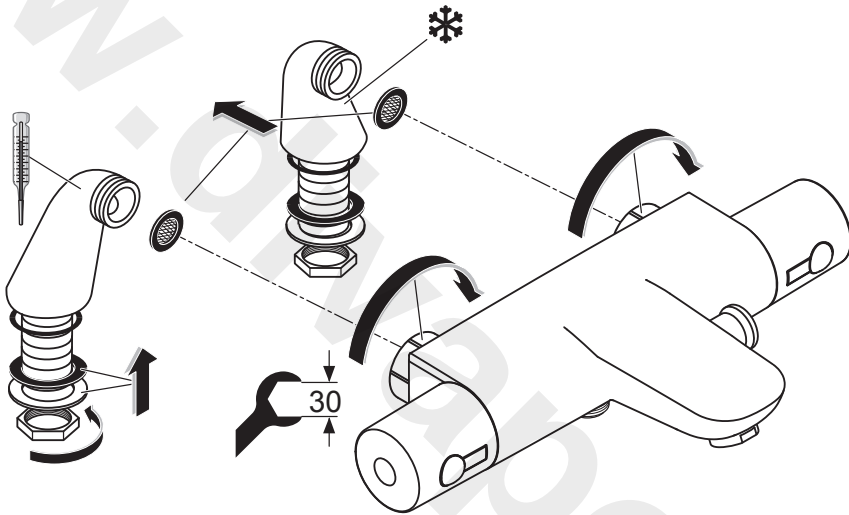
For guidance on how to install the shower kit, please refer to the separate instructions provided with the kit.

4.2 Installing rim mount products

The thermostatic mixing valve must 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.



IMPORTANT
BEFORE CONNECTION, FLUSH WATER
THROUGH PIPEWORK TO REMOVE ALL
DEBRIS ETC. WHICH COULD DAMAGE
THE VALVE MECHANISM



Loosely assemble both of the bath legs to the main body of the mixer, ensuring the seals shown are located within the captive nuts. Hand tighten both captive nuts sufficiently to hold the assembly securely together.

Make sure that seals are located in the bottom face of both bath legs. The back-nuts (and washers, if supplied) will be fitted from the underside of the bath. If they are already assembled to the legs, they should be removed.

Offer the tails of the legs into the two holes in the bath. Align the legs and gently lower the mixer onto the rim of the bath. **IMPORTANT:** make sure the seals are still correctly located in the grooves of the bath legs, otherwise splashed water may seep pass the legs and onto the floor under the bath.

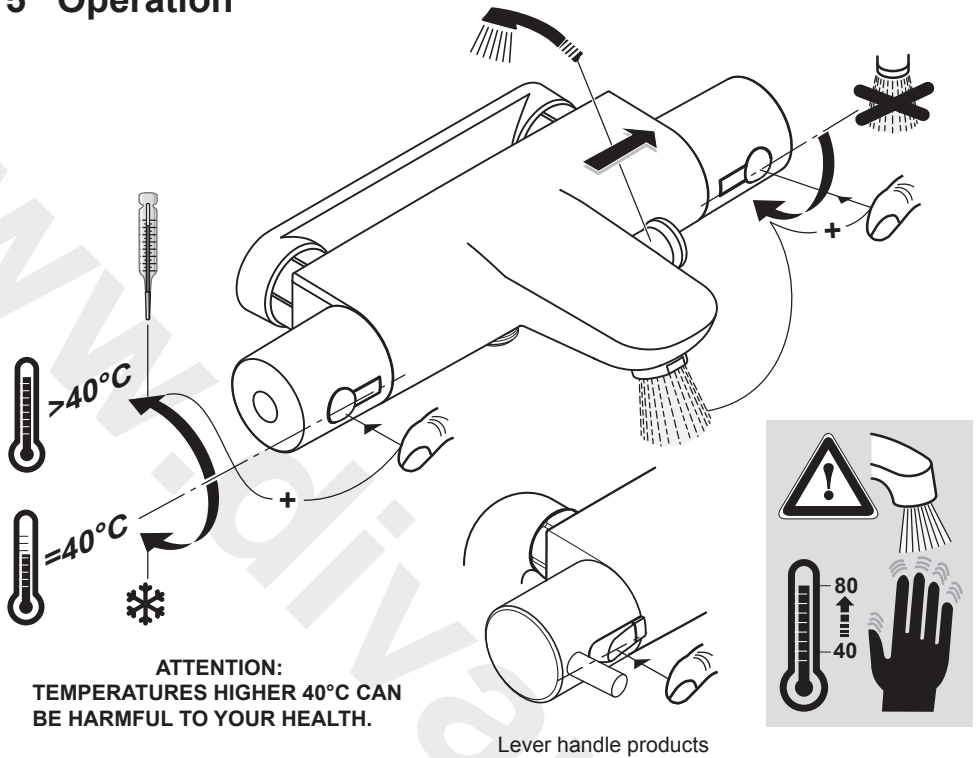
The back-nuts (and washers, if supplied) can be fitted to the tails from under the bath. Keeping the tails central in the bath holes, check that the mixer is still positioned correctly on the bath rim, and then tighten the back-nuts.

The captive nuts connecting the mixer to the legs can also be tightened, use a strap wrench or 30mm A/F spanner, taking care not to damage the chromed surfaces.

Connect the water supply pipes to the inlet tails of the mixer. **HOT** pipe to the left and **COLD** to the right. Tighten all joints, turn on the water supplies and check for leaks.

Hose from the shower kit should be connected to the outlet on the under side on the mixer.

5 Operation



ATTENTION:
TEMPERATURES HIGHER 40°C CAN
BE HARMFUL TO YOUR HEALTH.

Lever handle products

Right handle controls water flow rate

- This handle is shown above parked in the off position.
- Rotating this handle downwards commences water flow. By rotating the handle 90° from the off position the user will encounter economy flow “stop” delivering about 50% of the maximum flow rate achievable through this product.
- To obtain greater flow rate, press the right button and rotate this handle further downwards. The handle will rotate a further 90° from the economy stop to the maximum flow.

Left handle controls water temperature

- This handle is shown above parked in the 40°C temperature “stop” position.
- At this temperature “stop” position mixed water is delivered up-to about 40°C.
- To obtain cooler water rotate handle downwards.
- To obtain higher water temperature, press the left button and then rotate this handle upwards.

Diverter control knob

- The diverter control knob is located on the right side of the spout.
- By default, the mixed water will always flow to the bath outlet.
- To direct mixed water to the shower outlet, gently pull the diverter knob as shown (away from spout).

**DO NOT FORCE HANDLES BEYOND THE DESCRIBED MOVEMENT RANGES
OTHERWISE THIS MAY RESULT IN DAMAGE TO BOTH VALVES AND HANDLES.**

6 Maximum temperature stop

The water temperature up to the stop button on the handle is set at 40°C.

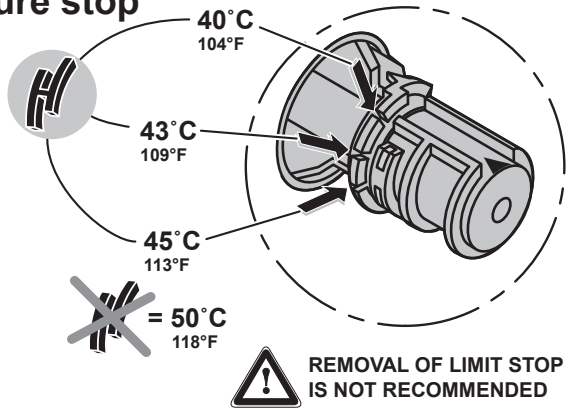
The maximum mixed water temperature (achieved by overriding the stop button on the handle) is factory set at 43°C.

To change this temperature, remove the temperature control handle, see 8.

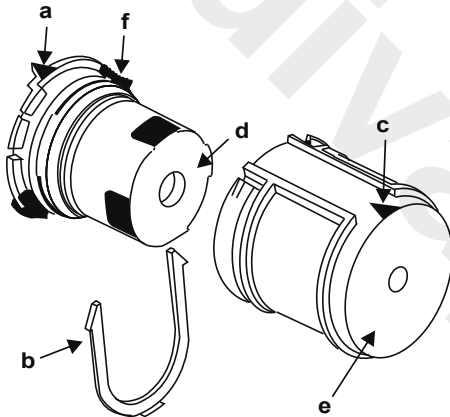
Remove the temperature limit stop (black H-shaped plastic part) and reinsert it in the appropriate recess on the handle carrier. Four different settings are possible:

40°C, 43°C, 45°C & 50°C

At last refit the temperature handle again.



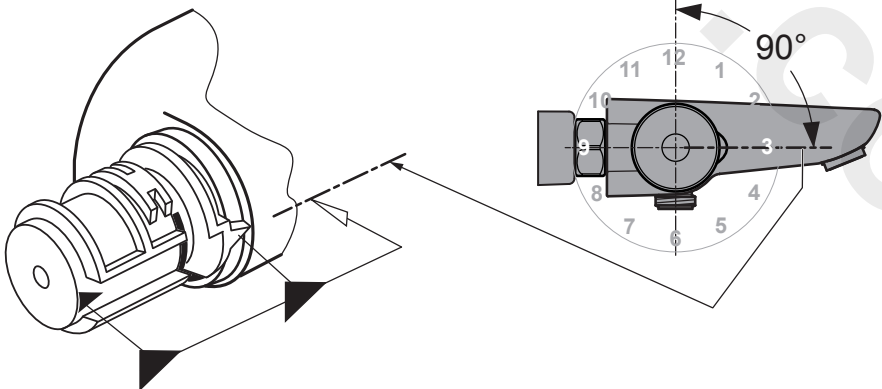
IMPORTANT NOTE: Settings of 45°C & 50°C are not recommended for showering. See section for safe & comfortable bathing temperatures.



7 Calibration of thermostat

In the event of the thermostatic cartridge requiring re-calibration the following procedure should undertaken:

1. Remove temperature control handle, see 8.
2. Slide out the red "U" piece (b) exposing temperature control mechanism (d).
3. Turn on the shower, position a thermometer in the running water and when the temperature settles rotate the temperature control mechanism until 40°C is achieved.
4. Reconnect the handle carrier (e) ensuring the arrow guide (c) is at 3 o'clock position and aligned to marker (a) see below for details.
5. Refit the red "U" piece (b).
6. Reconnect the handle to the carrier.



7.1 Commissioning & periodic checks.

The following procedures should be carried out after installation and every 12 months after to ensure that the valve is functioning correctly.

Check that:

1. The application of the thermostatic valve matches the approved designation.
2. The supply pressures are within the recommended range for the application.
3. The supply temperatures are within the permitted range for the application and comply with the guidance for prevention of Legionella.
4. The mixed temperature is as required for the application.

Record:

5. Each hot and cold supply. (Make a note of the measuring device used).
6. The mixed water temperature at the outlet device.

Isolate:

7. The cold supply to the mixing valve and record the mixed water temperature after about 5 seconds. The temperature should not exceed the value given in table (2) below.

Table 2 A guide to maximum temperature sets

Application	Mixed water temperature	Permitted maximum temperature rise during site testing
Shower	41°C	43°C
Bath (tub fill)	43°C	45°C

The mixed water temperature at terminal fitting should never exceed 46°C.

Note: 46°C is the maximum mixed water temperature from a bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent thermostatic mixing valves and temperature loss in metal baths. **It is not a safe bathing temperature for adults and children.**

The British Burns Association recommends 37°C-37.5°C as a comfortable bathing temperature for adults as well as children.

In premises covered by the Care Standards Act 2000, the maximum mixed water temperature is 43°C

7.2 Frequency of regular servicing

The purpose of servicing regularly is to monitor the performance of changes in system and valve set up. This may require the need to adjust either the supply system or the valve. The product should be checked and tested 12 months after commissioning.

Firstly measure the water temperature at the shower outlet.

Carry out the cold water supply isolation test by isolating the cold water supply to the TMV, wait for 5 seconds if water is still flowing check that the temperature is below 45°C. 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.

Notes:

A residual flow is permitted during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the water temperature is no more than 2°C above the designated outlet temperature.

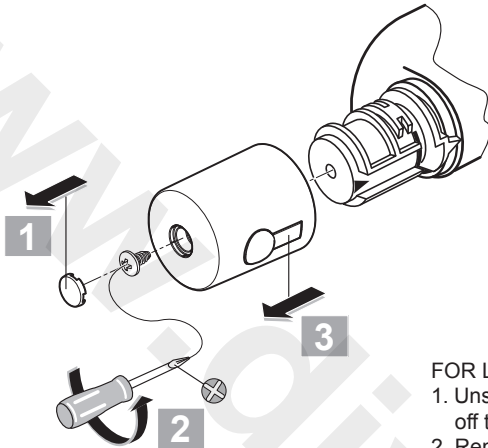
Temperature readings should be taken at the normal flow rate after allowing for the system to stabilize.

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 retested in accordance with the instructions detailed above.

8 Thermostatic cartridge replacement

The thermostatic cartridge seldom fails and the possibility of blocked filters should be investigated before contemplating replacing it. Small particles of water borne debris may still find their way onto the filter screens on the thermostatic cartridge. These should be cleaned and re-fitted.

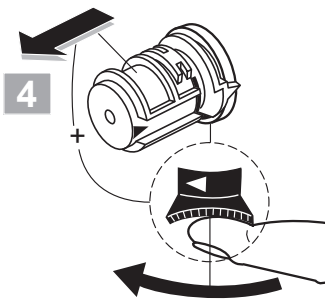
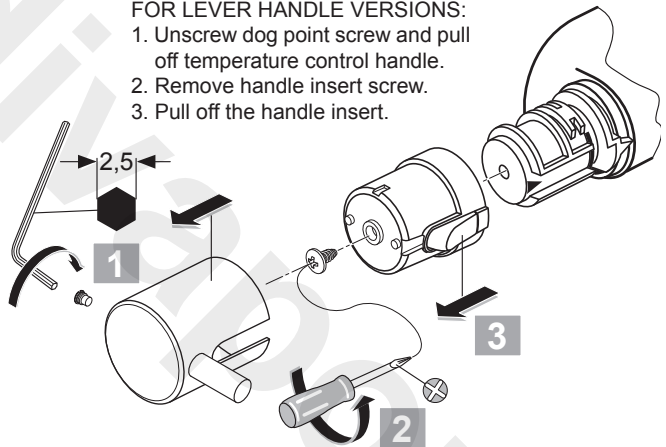


To replace the thermostatic cartridge:

1. Prise out the index button.
2. Remove handle screw.
3. Pull off the temperature control handle.

FOR LEVER HANDLE VERSIONS:

1. Unscrew dog point screw and pull off temperature control handle.
2. Remove handle insert screw.
3. Pull off the handle insert.



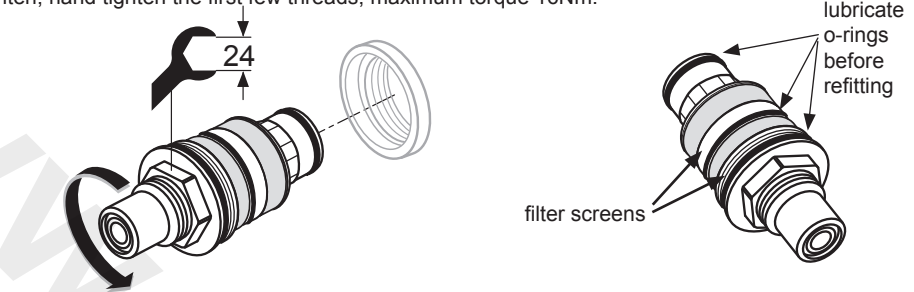
4. To remove the temperature handle carrier (grey plastic moulding), slide the black serrated lever clockwise and pull off. This will expose the thermostatic cartridge.

GENERAL MAINTENANCE TIPS:

- Isolate both water supplies first.
- Drain down the pipe work & product as much as possible: fully open flow handle & unscrew shower hose.
- Use the correct size tools.
- Expect some trapped water to escape from the mixer.
- Ensure parts are re-assembled in the correct 'reverse' sequence.
- Observe torque settings - where specified.
- Restore both water supplies.
- Check all joints for leaks upon completion.

8 Thermostatic cartridge replacement cont'

5. Unscrew cartridge with a 24mm A/F deep socket, expect some trapped water to escape. Replace the cartridge if necessary. When refitting cartridge, do not over tighten, hand tighten the first few threads, maximum torque 16Nm.



max.
16 Nm

To clean the screens remove the o-rings shown. The screens will then slide off. When clean replace the screens then the o-rings which should be lightly greased with a WRAS approved silicone grease (eg Kluber Unisilikon GBU2)

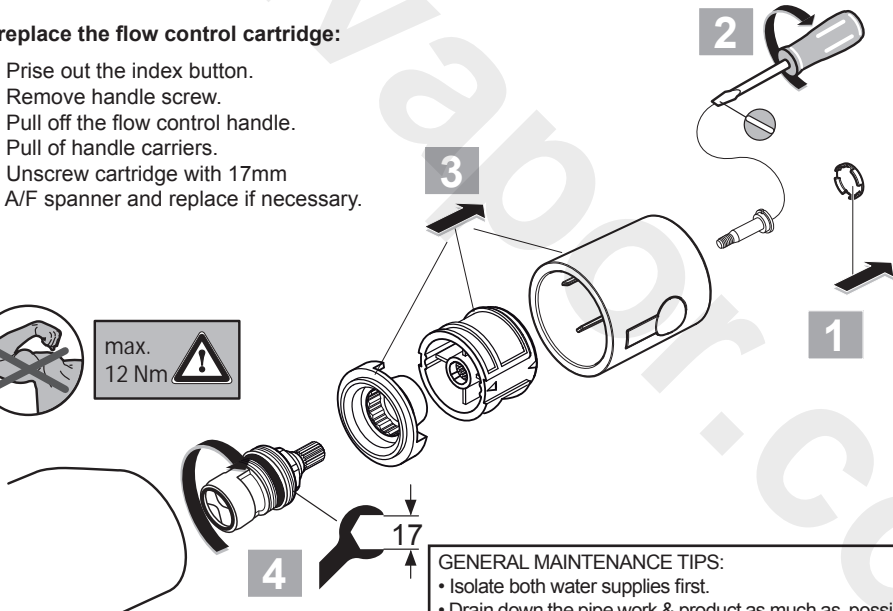
9 Flow cartridge replacement

To replace the flow control cartridge:

1. Prise out the index button.
2. Remove handle screw.
3. Pull off the flow control handle.
4. Pull off handle carriers.
5. Unscrew cartridge with 17mm A/F spanner and replace if necessary.



max.
12 Nm



GENERAL MAINTENANCE TIPS:

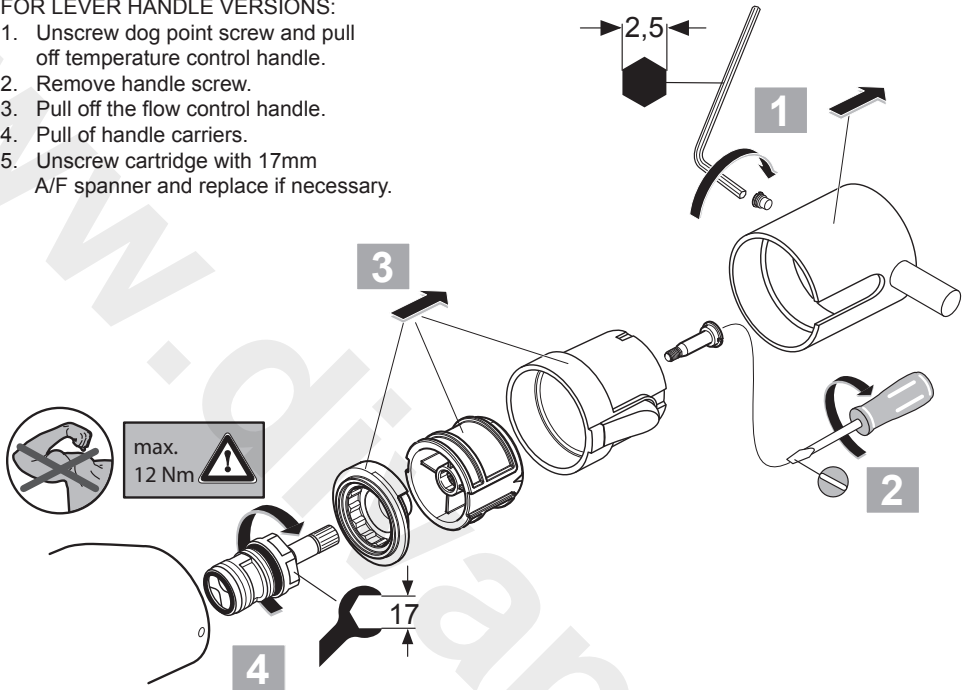
- Isolate both water supplies first.
- Drain down the pipe work & product as much as possible: fully open flow handle & unscrew shower hose.
- Use the correct size tools.
- Expect some trapped water to escape from the mixer.
- Ensure parts are re-assembled in the correct 'reverse' sequence.
- Observe torque settings - where specified.
- Restore both water supplies.
- Check all joints for leaks upon completion.

9 Flow cartridge replacement cont

When refitting cartridge, do not over tighten, hand tighten the first few threads, maximum torque 12Nm.

FOR LEVER HANDLE VERSIONS:

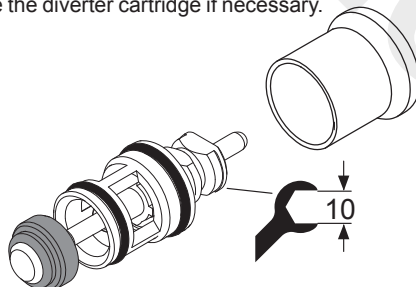
1. Unscrew dog point screw and pull off temperature control handle.
2. Remove handle screw.
3. Pull off the flow control handle.
4. Pull off handle carriers.
5. Unscrew cartridge with 17mm A/F spanner and replace if necessary.



10 Diverter cartridge replacement

To replace the diverter cartridge:

1. Pull the diverter knob away from the spout to expose the diverter cartridge.
2. Use a 10mm A/F open spanner on the flats to undo the diverter cartridge whilst holding the diverter knob away.
3. Slide out the diverter cartridge. Replace the diverter cartridge if necessary.

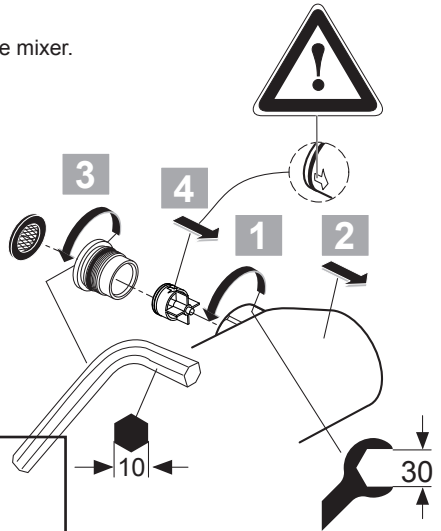


11 Check-valve replacement

Check valves are located in both (hot & cold) inlets to the mixer.

To replace the check valves:

1. Separate the shower valve from the wall bracket by undoing the captive nuts. See sect. 4.1 step 9. Use 30mm A/F spanner.
2. Remove shower valve, and keep sealing washers safe.
3. Using 10mm Allen key undo the retaining inserts. NOTE: THREADS ARE LEFT HAND. The captive nuts will also be released.
4. The check valves are housed inside the retaining inserts and can be pulled out gently and replaced if necessary. Note flow directional arrow marked on check valve body.



GENERAL MAINTENANCE TIPS:

- Isolate both water supplies first.
- Drain down the pipe work & product as much as possible: fully open flow handle & unscrew shower hose.
- Use the correct size tools.
- Expect some trapped water to escape from the mixer.
- Ensure parts are re-assembled in the correct 'reverse' sequence.
- Observe torque settings - where specified.
- Restore both water supplies.
- Check all joints for leaks upon completion.

12 Isolating valves

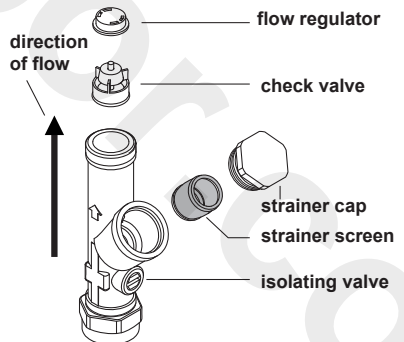
Isolation valves (not supplied with this product) MUST be fitted to permit future maintenance. Fitting of strainers (filters) is also recommended.

These should be fitted as close as is practicable to the watersupply inlets of the thermostatic shower mixer.

Both isolation valves & strainers should be installed in an easily accessible location

An in-line combined isolating and filter valve (shown here) can be purchased by contacting Fastpart. Spares code E960613NU contains a pair of these valves.

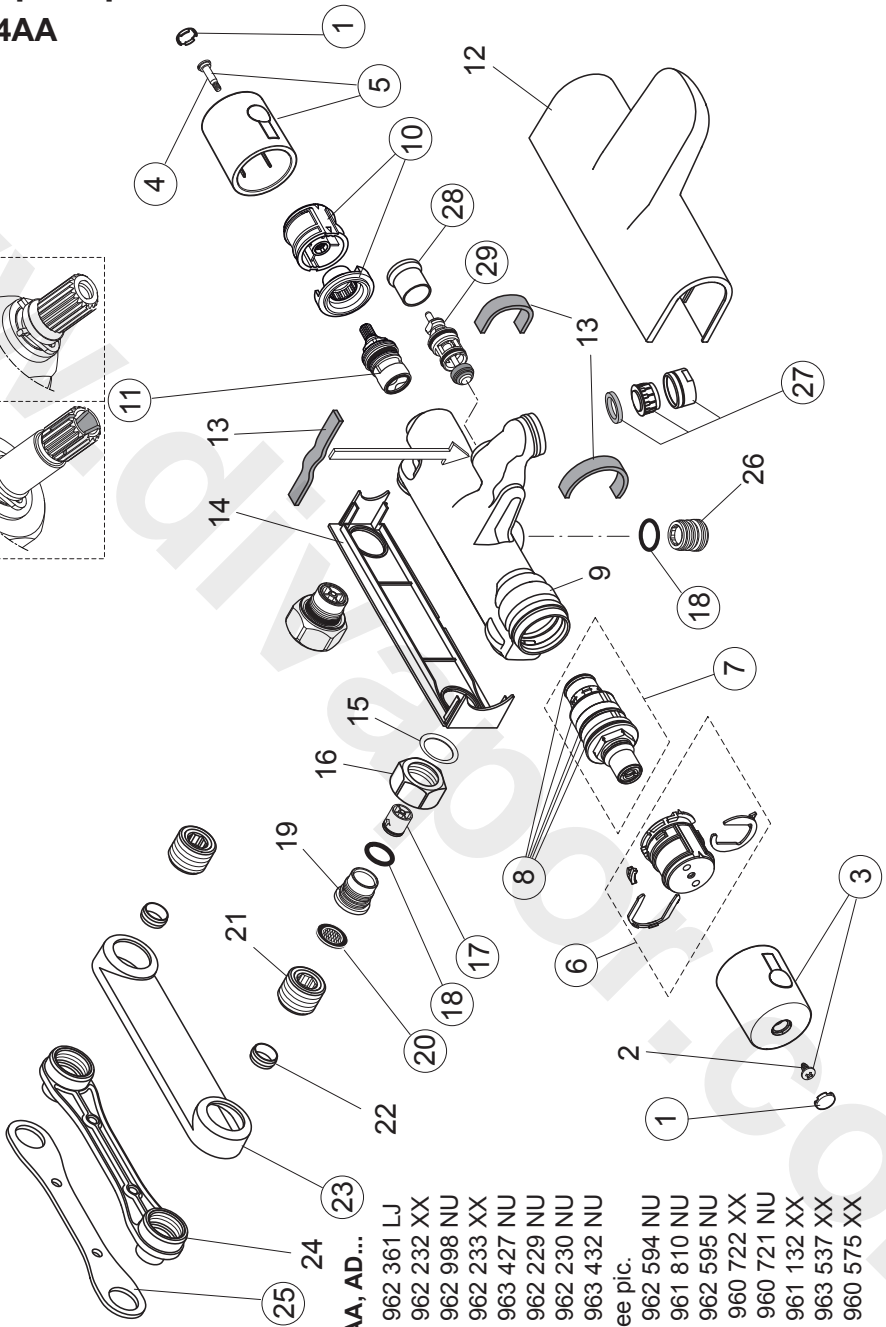
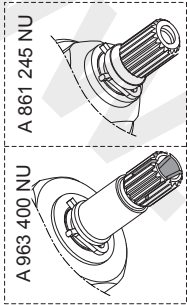
This valve also contains a flow regulator and check valve (which can be removed if not required).



For more information on spare parts why not visit our spare website
www.fastpart-spares.co.uk

13 Spare parts

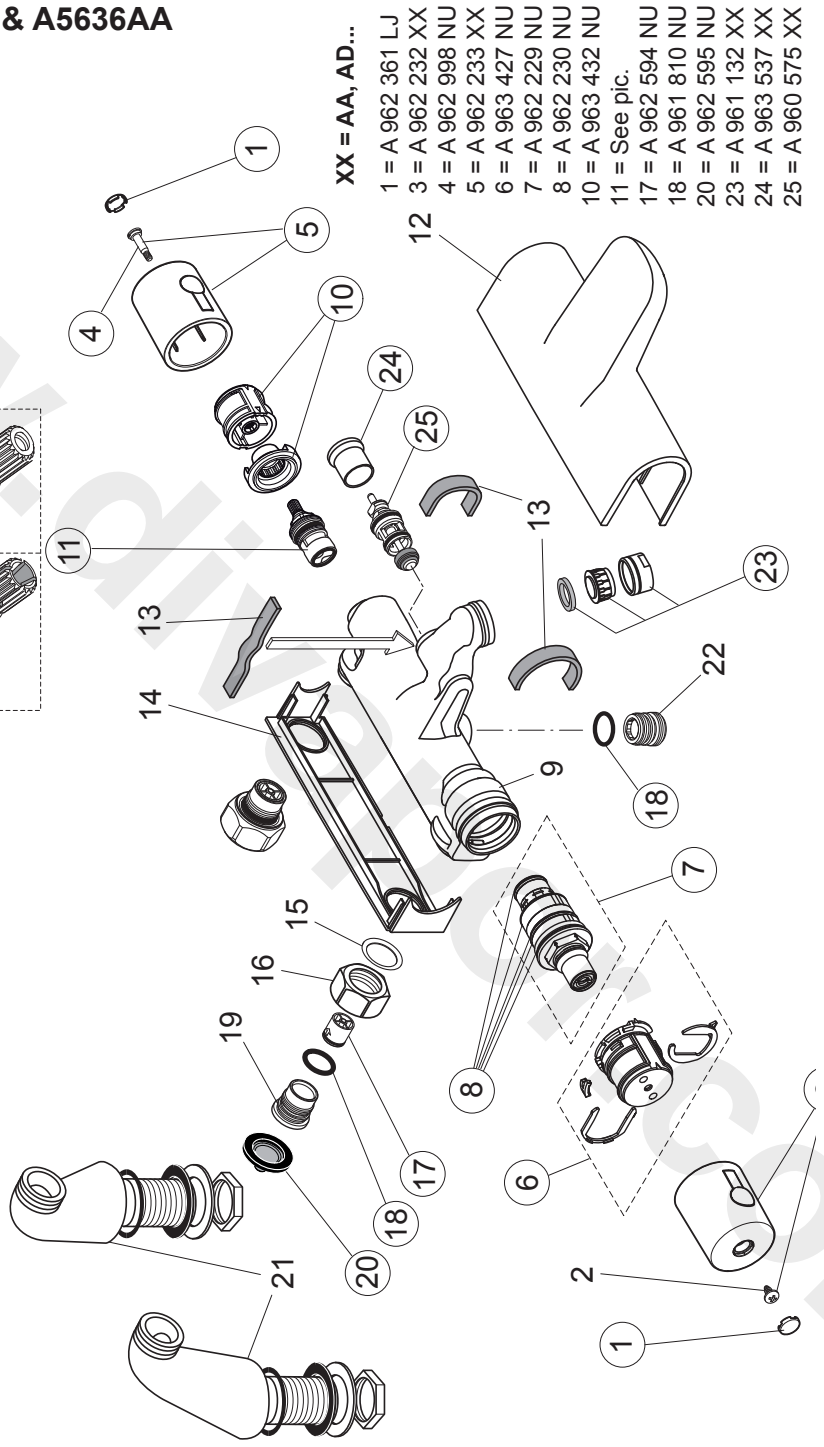
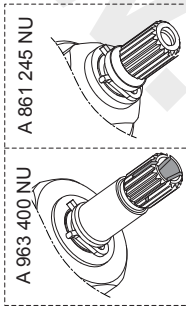
A5634AA



XX = AA, AD...

- 1 = A 962 361 LJ
- 3 = A 962 232 XX
- 4 = A 962 998 NU
- 5 = A 962 233 XX
- 6 = A 963 427 NU
- 7 = A 962 229 NU
- 8 = A 962 230 NU
- 10 = A 963 432 NU
- 11 = See pic.
- 17 = A 962 594 NU
- 18 = A 961 810 NU
- 20 = A 962 595 NU
- 23 = B 960 722 XX
- 25 = B 960 721 NU
- 27 = A 961 132 XX
- 28 = A 963 537 XX
- 29 = A 960 575 XX

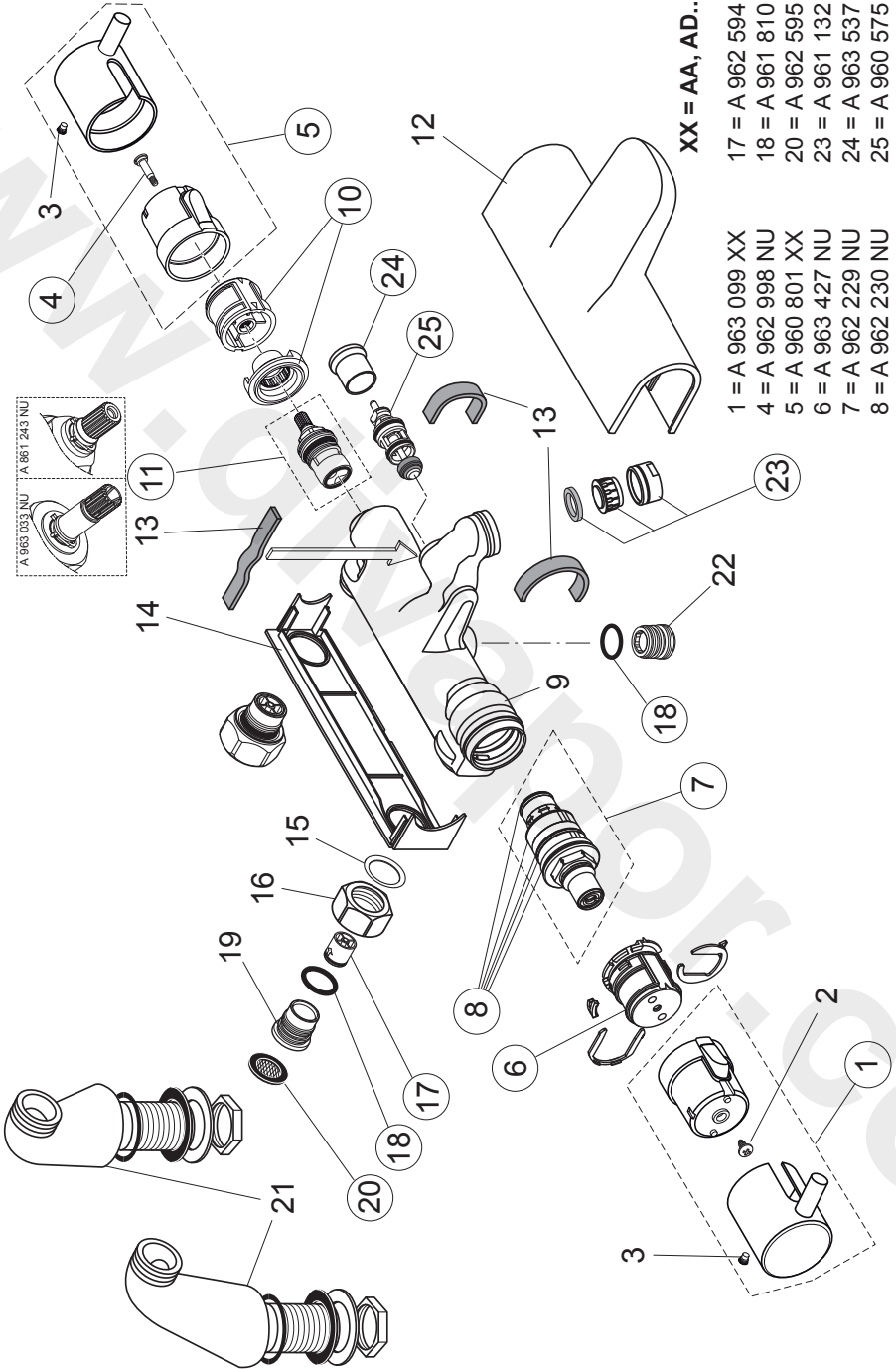
A5635AA & A5636AA



XX = AA, AD...

- 1 = A 962 361 LJ
- 3 = A 962 232 XX
- 4 = A 962 998 NU
- 5 = A 962 233 XX
- 6 = A 963 427 NU
- 7 = A 962 229 NU
- 8 = A 962 230 NU
- 10 = A 963 432 NU
- 11 = See pic.
- 17 = A 962 594 NU
- 18 = A 961 810 NU
- 20 = A 962 595 NU
- 23 = A 961 132 XX
- 24 = A 963 537 XX
- 25 = A 960 575 XX

A5638AA

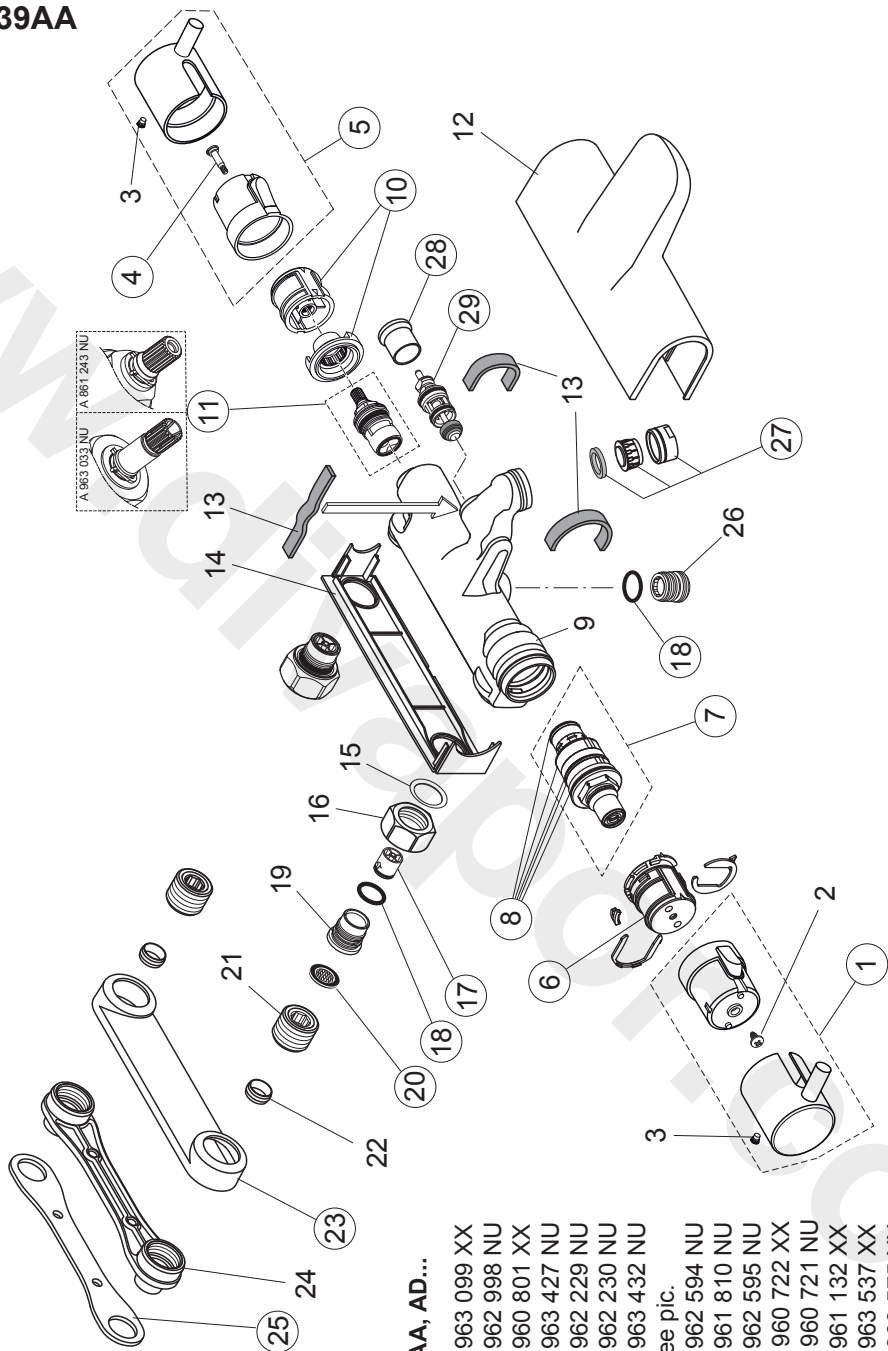


XX = AA, AD...

- 17 = A 962 594 NU
- 18 = A 961 810 NU
- 20 = A 962 595 NU
- 23 = A 961 132 XX
- 24 = A 963 537 XX
- 25 = A 960 575 XX

- 1 = A 963 099 XX
- 4 = A 962 998 NU
- 5 = A 960 801 XX
- 6 = A 963 427 NU
- 7 = A 962 229 NU
- 8 = A 962 230 NU
- 10 = A 963 432 NU
- 11 = See pic.

A5639AA



XX = AA, AD...

- 1 = A 963 099 XX
- 4 = A 962 998 NU
- 5 = A 960 801 XX
- 6 = A 963 427 NU
- 7 = A 962 229 NU
- 8 = A 962 230 NU
- 10 = A 963 432 NU
- 11 = See pic.
- 17 = A 962 594 NU
- 18 = A 961 810 NU
- 20 = A 962 595 NU
- 23 = B 960 722 XX
- 25 = B 960 721 NU
- 27 = A 961 132 XX
- 28 = A 963 537 XX
- 29 = A 960 575 XX

For spare parts for the shower kits, please refer to the separate instructions provided with the shower kit.



For more information on spare parts why not visit our spare website
www.fastpart-spare.co.uk

14 Cleaning chrome plated surface

When cleaning the shower valve always use soap based cleaners. Never use abrasive or scouring powders and never use cleaners containing alcohol, ammonia, nitric acid, phosphoric acid, organic solvents or disinfectants.



CUSTOMER CARE HELP LINE
0870 129 6085

CUSTOMER CARE FAX
01482 499611

E-MAIL
UKcustcare@idealstandard.com

Ideal Standard International NV
Corporate Village - Gent Building
Da Vincilaan 2
1935 Zaventem
Belgium

www.idealstandardinternational.com

Ideal Standard pursues a policy of continuing improvement in design and performance of its products. This right is therefore reserved to vary specification without notice.

Ideal Standard is a division of
Ideal Standard (UK) Ltd

Ideal Standard,
The Bathroom Works, National Avenue
Kingston-upon-Hull, HU 4HS, England

1018 / A 866 620
Made in Germany