

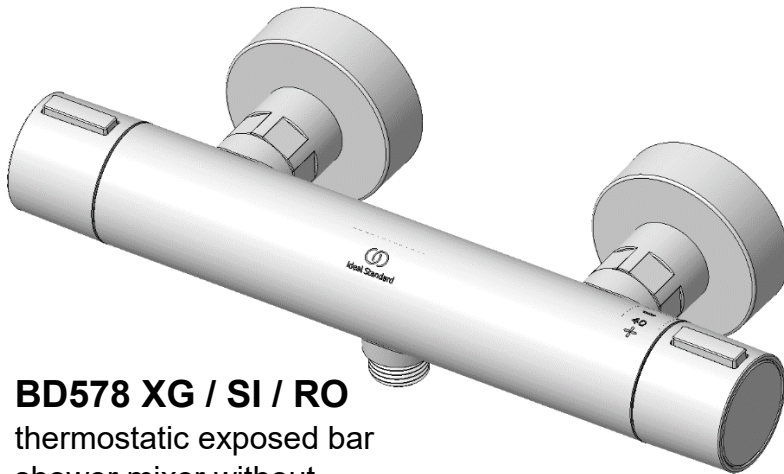
Thermostatic, exposed, two hole wall mounted showers



Ideal Standard

**INSTALLATION
INSTRUCTIONS**

Ceratherm Alu+



BD578 XG / SI / RO
thermostatic exposed bar
shower mixer without
shower kit



BD579 XG / SI / RO
thermostatic exposed bar
shower system with overhead
shower & hand spray

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

INSTALLER: After installation, please pass this instruction booklet to user

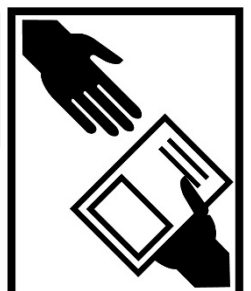
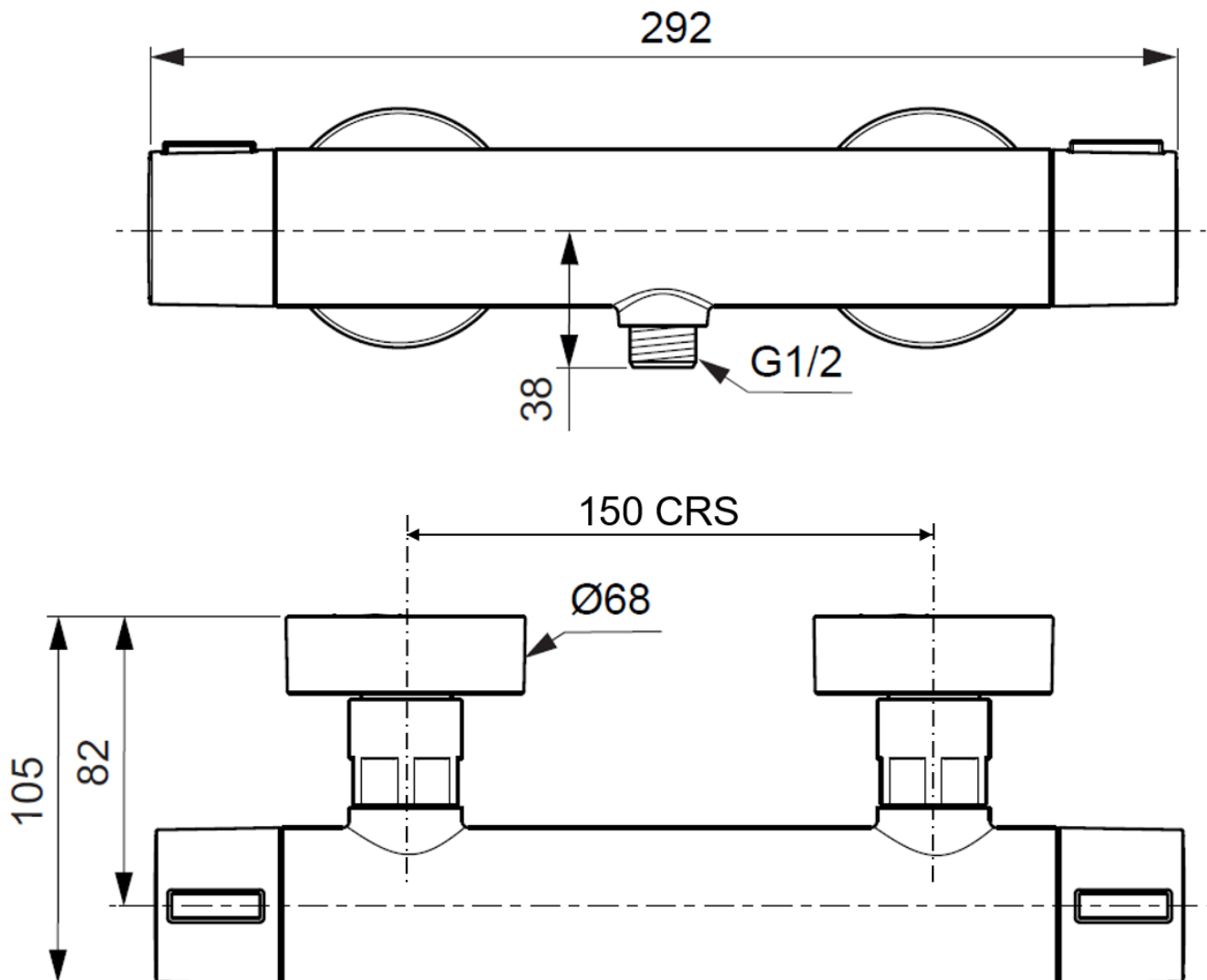


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1. PRODUCT DIMENSIONS

Dimensions are in millimetres & may vary within permitted tolerances



Shown above, **BD578 XG / SI / RO**
bar shower mixer supplied without
shower kit.

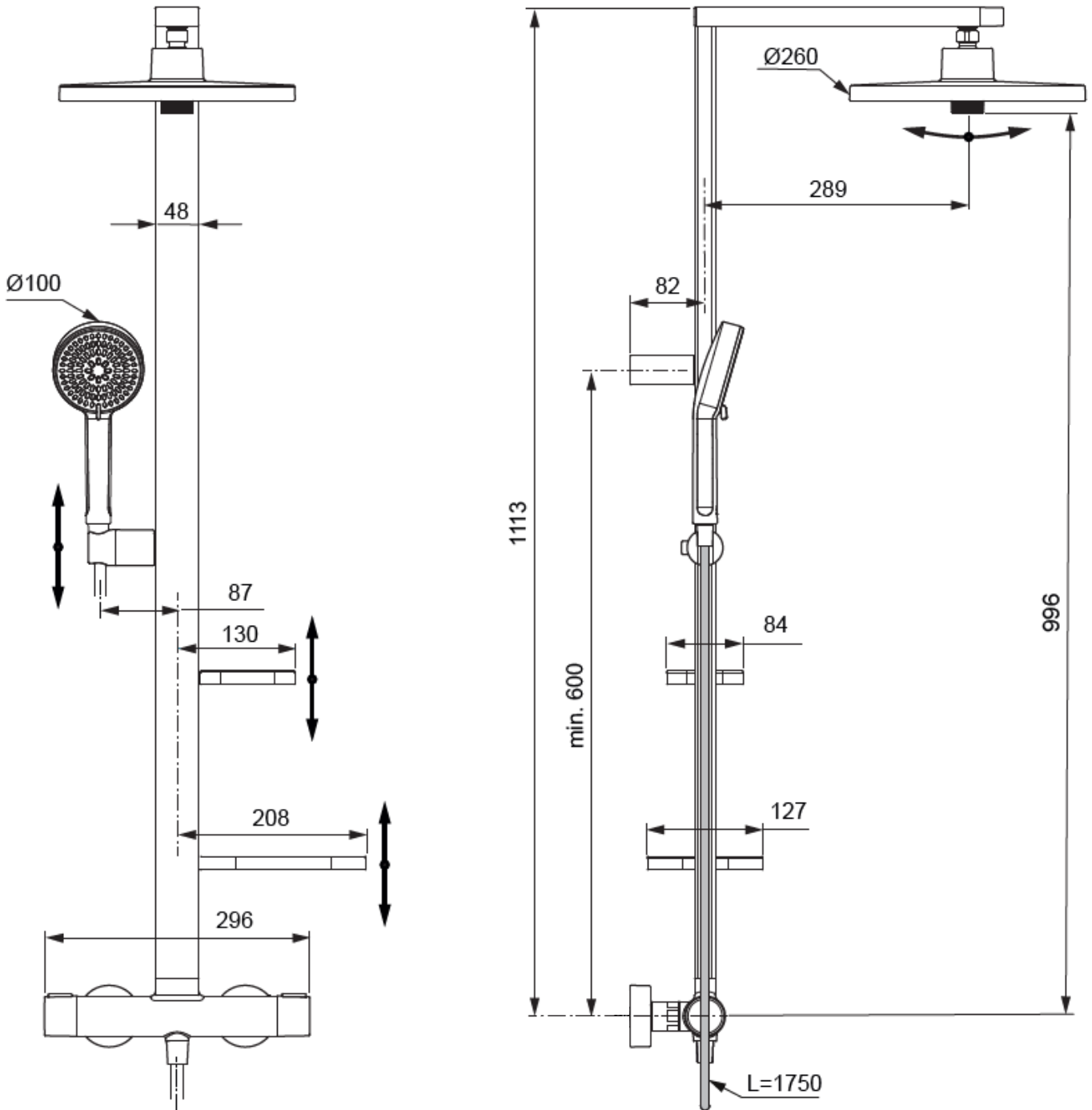
Basic bar shower mixer
dimensions shown with wall
mounting brackets assembled.

BD578xx bar shower mixer dimensions shown above also apply to **BD579xx**.
Where **xx** refers to the colour finish of the product: **XG** = Silk black, **SI** = Silver & **RO** = Rose

NOTE: This shower mixer product is supplied without a shower kit, the end user should select & purchase a suitable kit.

PRODUCT DIMENSIONS

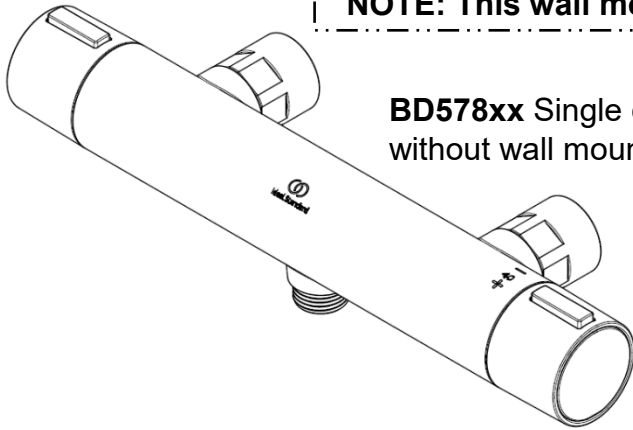
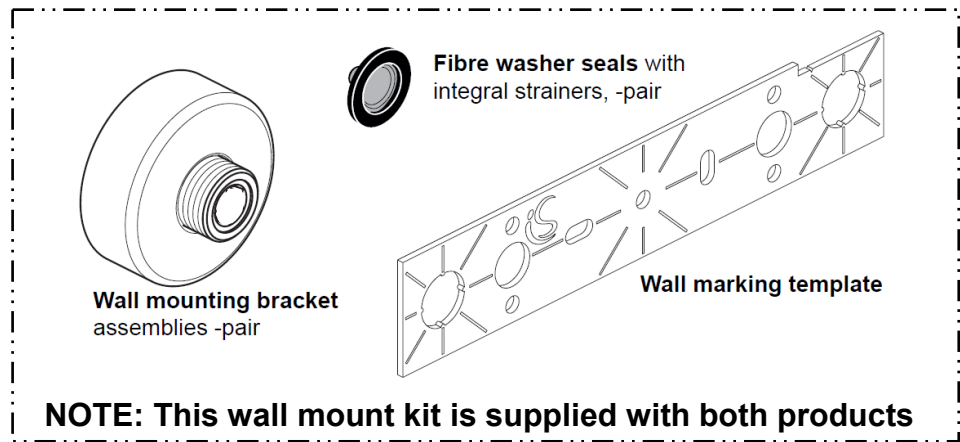
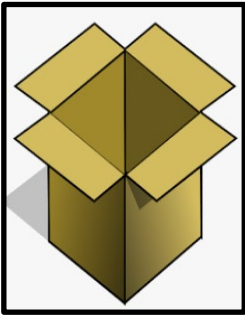
Dimensions are in millimetres & may vary within permitted tolerances



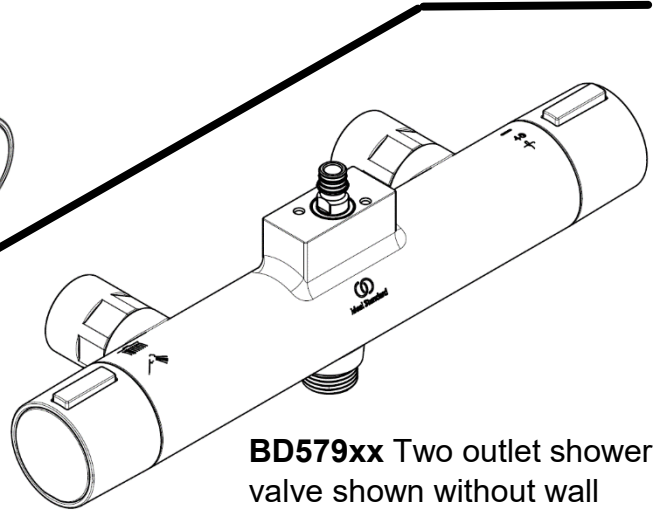
Dimensions for BD579xx bar shower mixer & shower system with overhead rain shower & hand spray

NOTES: The shower system shown above is supplied with its own fitting instructions. For an overview of shower kit, see end of section 7.

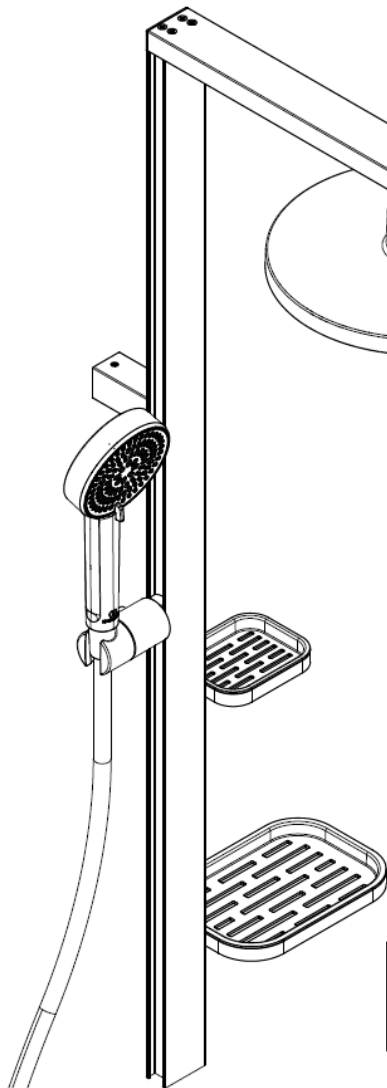
2. PRODUCT BOX CONTENTS



BD578xx Single outlet shower valve shown without wall mounting brackets assembled.



BD579xx Two outlet shower valve shown without wall mounting brackets assembled.



BD579xx Shower system includes:

- Ø260 2F overhead shower plate
- Horizontal overhead mounting bar
- Ø100 2F shower hand set
- 1750 flexible shower hose
- Sliding bracket for rail (for handset)
- 1113 vertical riser rail
- Mounting bracket for vertical riser rail
- Shelf – large
- Shelf - small

NOTE: Shower kits have to be carefully assembled during installation, parts are packaged individually to prevent damage.

3. 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

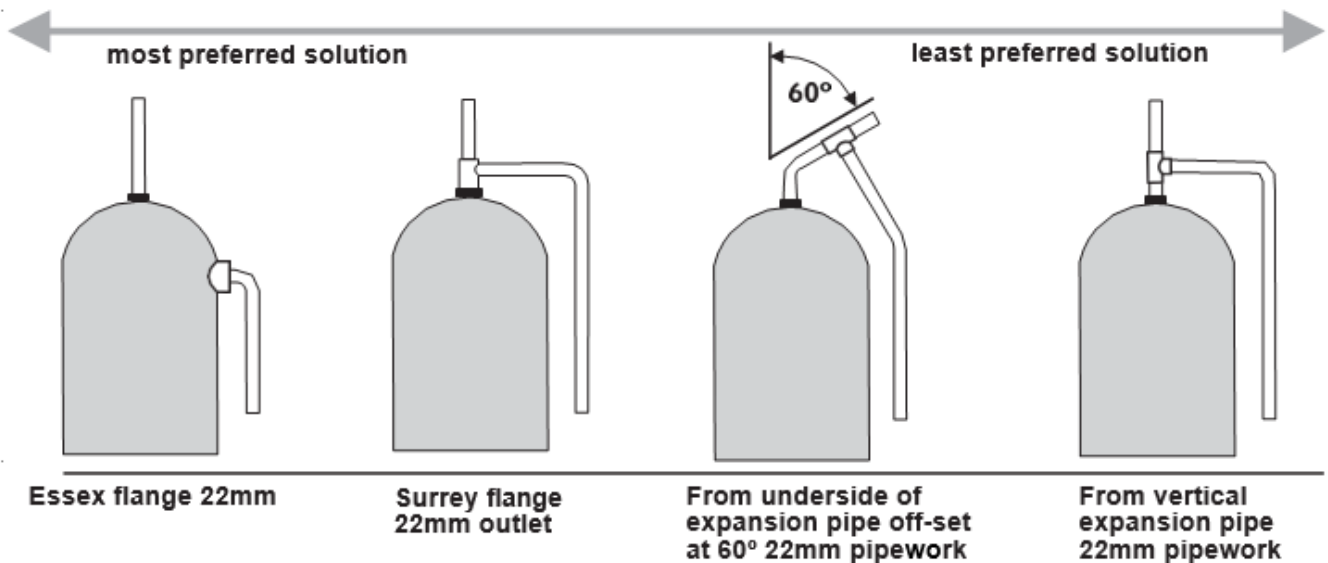
WATER REGULATIONS

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 1.0 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).

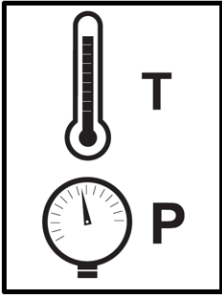
The temperature of the hot water must not exceed 85°C but the installer's attention is drawn to code of practice BS 6700 which recommends that stored hot water should normally never exceed 65°C. For correct operation of the valve, a minimum of 55°C is required



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.

4. WATER SUPPLY CONDITIONS



INTRODUCTION

These thermostatic shower mixers are manufactured to the highest standards. The mixer is intended to be installed on high pressure systems (1.0 bar or greater). The mixer has safety features such as cool body technology and temperature limit stop. To make wall installation easier, fast fix wall mounts are supplied. Ø15mm water supply pipes should be installed at 150mm horizontal centres in the wall, behind a shower panel or tiled duct wall.

Table.1 Conditions of use

Operating pressure range:	High Pressure
Maximum static pressure	10 bar
Flow pressure hot and cold	1 to 5.0 bar
Hot supply temperature	55 to 65 °C
Cold supply temperature	5 to 20 °C

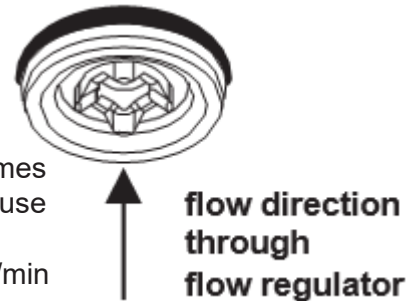
MODULATING COMBI BOILER

These thermostatic mixers are 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.



**These regulators, spares code A962570NU, can be obtained by contacting
Ideal Standard Customer Care or www.idealstandard.co.uk**

EXCESSIVE FLOWRATE

To remedy an excessive flowrate issue (BD578xx), where the above inlet regulators have not been fitted, we recommend the use of a “shower outlet flow regulator”. This is suitable for installations which exceed 2 bar dynamic pressure.

A 9 litres per minute outlet regulator is available, quote spares code **L6749AA**.

This regulator can be easily fitted between the shower valve outlet and the shower hose.

A pair of service valves (for isolating both water supplies) **MUST** be fitted to permit future maintenance of this product, **see section 21**. These should be fitted as close as practicable to the water supply inlets of the mixer & in an easily accessible location.

The mixers include mesh filters (strainer-washers) and check valves are fitted inside the inlets of these products, **see section 20**.

NOTE: Product **BD579xx** (supplied with the shower system) has flow regulators fitted, **see section 6**.

5. WATER REGULATIONS

CATEGORIES OF RISK

The water regulations published in 1999* take a new approach to backflow in that they look at different categories of risk. The installer must assess the risk from the various categories of fluid in adjacent appliances before determining the level of backflow protection required for a particular installation. **Figures 3 & 4** describe the protection required in various installations.

CATEGORY 3 RISK

Water in a shower tray, basin or bathtub is considered to be a fluid category 3 risk which is a fluid which represents a slight health hazard if it were to find its way back into the supply pipe. For this reason it must not be possible for any flexible shower head to be able to enter any adjacent washbasin, bath or shower tray unless appropriate protection is employed. **(See Figure 3)**. If it is desired to allow the hand spray to be used inside say a bathtub or a basin it is essential that double check valves be fitted to the inlet on both hot and cold supplies to the shower valve. Alternatively single check valves can be fitted at the inlets and an additional check valve should be fitted in the valve outlet.

No check valves need be fitted if the hand spray is prevented from reaching closer than 25mm of the spill over level of any such fixture.

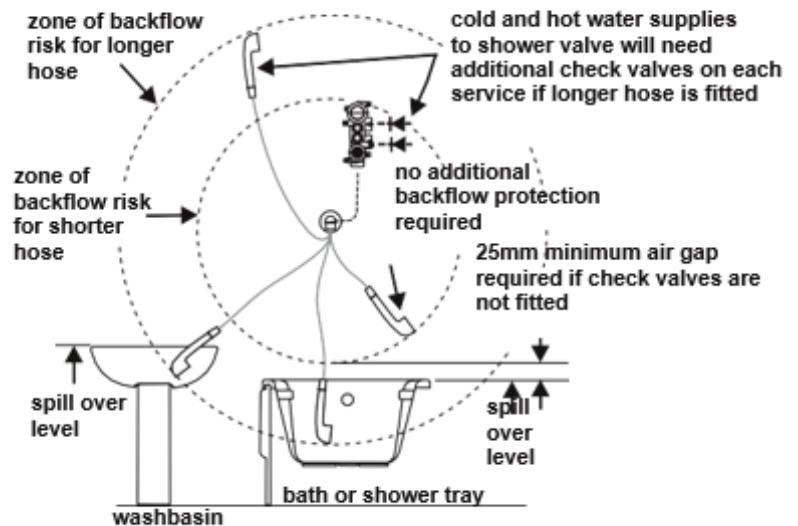


Fig. 3 Backflow risk from a fluid category 3

CATEGORY 5 RISK

Water in a Sink, WC or Bidet is considered to be a fluid category 5 risk which is a fluid which represents a serious health hazard if it were to find its way back into the supply pipe. For this reason it must not be possible for any flexible shower head to be able to enter any adjacent Sink, WC or Bidet. If the flexible hose to be fitted could reach into any such vessel, the requirements to the system design are so onerous it is better not to fit a flexible. Rather, a fixed overhead showerhead should be considered. **(See Figure 4)**.

It will also be seen that this risk could change should the hose be taken out of the restraining device or should a longer replacement hose be fitted at a later date. Installers and householders are advised to take account of these factors when fitting replacement hoses.

For pumped applications the pipe supplying the pump must not in addition supply an ascending spray bidet.

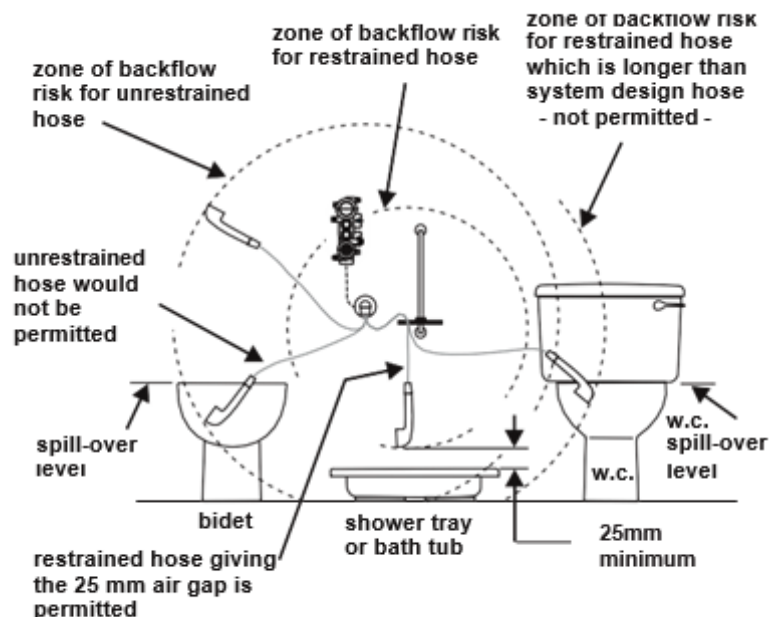


Fig. 4 Backflow risk from a fluid category 5

6. PRE-INSTALLATION NOTES



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

Ceratherm Alu+ is a range of exposed two hole thermostatically controlled shower mixers. These products are designed to provide water from ambient cold up to a safe maximum temperature for showering.

Mounting. Products are supplied with a pair of wall mount escutcheons. Mixer is intended to be installed on a wall, or panel arrangement.

Flow regulation. In product BD579xx only: Flow regulators are fitted inside the shower hand set (8 l/min) & inside the overhead shower plate (12 l/min). **BD578xx** has no flow regulators fitted.

Mesh filters (strainers) integral to the inlet seals are intended to protect the check valves from water borne debris. These are fitted inside the inlets of the product, **see section 20.**

Thermostatic cartridge. Additional mesh filters (strainers) are fitted to the thermostatic cartridge to protect it from water borne debris, **see section 17.**

Product dimensions. Check the dimensions shown in **section 1**, ensuring the mixer will fit on the intended wall. Plan position of proposed shower kit.

Product box contents. Ensure you have all the parts shown in **section 2.**

Service Valves. A pair of service valves (for isolating both water supplies) **MUST** be fitted to permit future maintenance of this product. These should be fitted as close as practicable to the water supply inlets of the mixer & in an easily accessible location. NOTE: service valves are not supplied with these products, **see section 21.**

Shower Kit. The flexible shower hose from the shower kit can be screwed onto the G1/2" shower outlet nipple located on the underside of the mixer body. Ensure adequate steps are taken to secure the shower hand set and the arrangements comply with water regulations.

Double check valves. The shower mixer bodies are fitted with single check valves on both inlets. To prevent back syphonage of water via the shower hand set an additional single check valve may be required in the upstream pipework to be compliant with the water regulations (unless shower hose is properly retained).

Mixer Controls. The mixers have dual control handles, the right handle allows temperature adjustment of the water. The left handle permits flow control of the mixed water. For BD579xx, the left handle also divertes water between the overhead shower & the shower hand set, **see section 8.**

Water Supply Pipes. Both hot & cold water supply pipes should be securely attached to the wall using suitable fixing clips. Supply pipes must Ø15 to fit in the wall mount brackets. Note: Hot water supply should be connected to the left inlet of the mixer (viewed from the front).

PRECAUTIONS

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

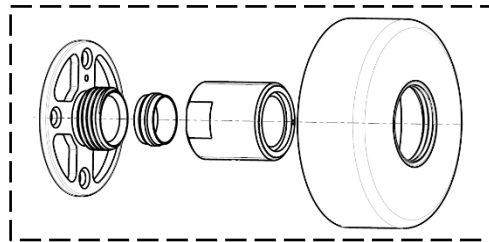


IMPORTANT: Ensure that any old / existing thermostatic mixing valves (TMVs) that may be fitted in the supply pipes are removed.

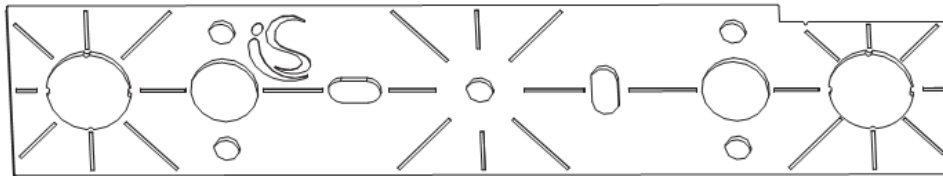
7. INSTALLATION: WALL MOUNT MIXERS



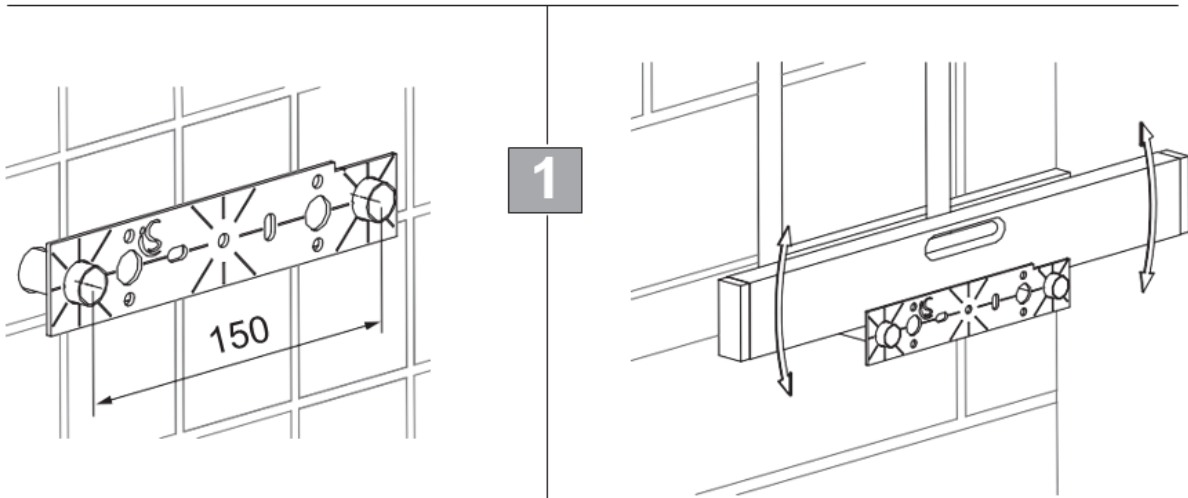
IMPORTANT
BEFORE CONNECTION, FLUSH WATER
THROUGH PIPEWORK TO REMOVE ALL
DEBRIS ETC. WHICH COULD DAMAGE
THE VALVE MECHANISM



Pair of wall brackets with
connectors & escutcheons

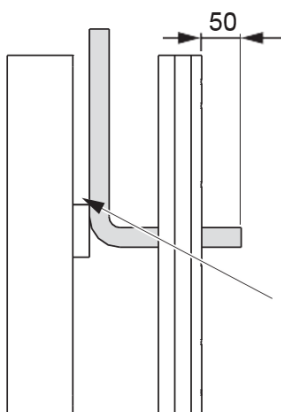


Template x1



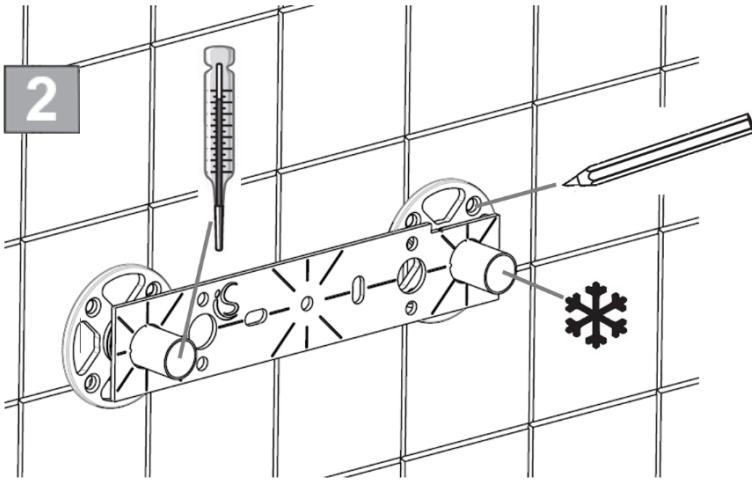
Ø15mm copper supply pipes should be run within the wall cavity.
Hot supply pipe should be on the left hand side and the cold on the right.

Ensure that the hot and cold pipes are positioned 150mm apart and are level.
Use the template provided to obtain the correct spacing.



We recommend leaving 50mm of pipe protruding at this stage.

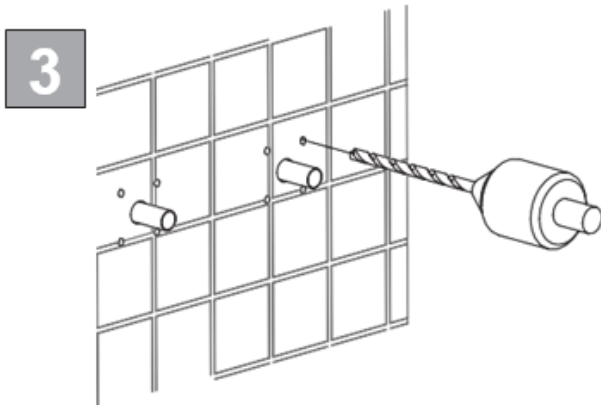
Pipework should be supported in the cavity



Place the brackets over the exposed pipes and use the template provided to position them 150mm apart.

Mark the hole positions for the fixings onto the mounting surface.

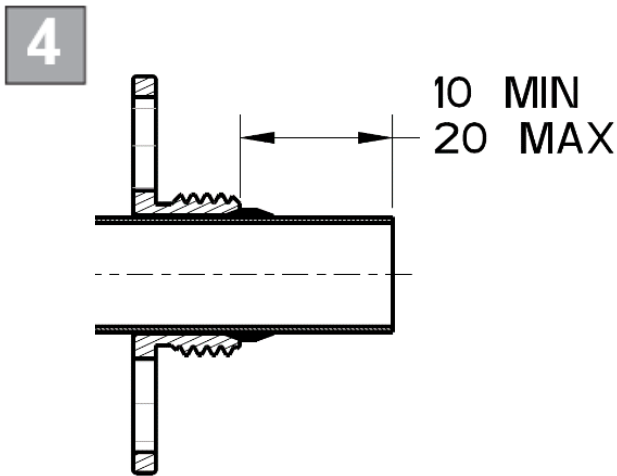
Ensure that the positions of the holes will not result in damage to the pipework inside the wall cavity during drilling.



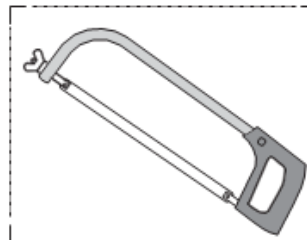
Drill holes appropriate for your choice of fixings into the wall.

We recommend a minimum of two fixings per bracket diametrically opposed.

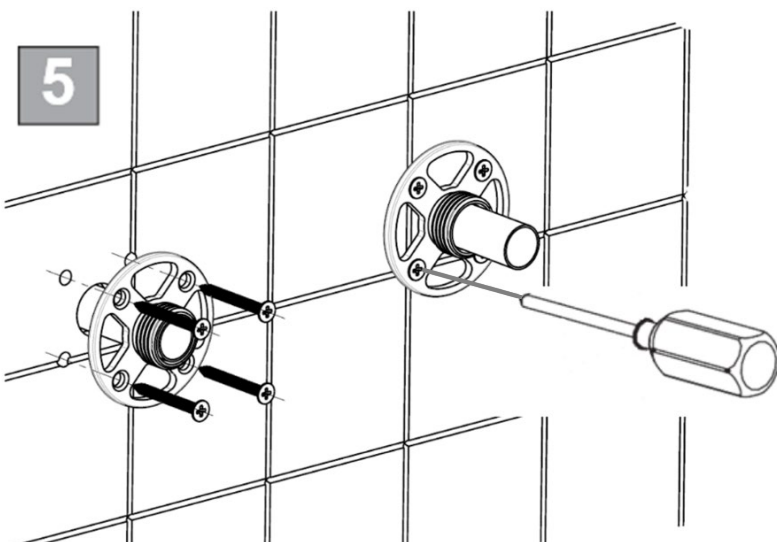
Drill carefully to avoid damaging concealed pipework.



With the wall brackets in position, the supply pipes should be trimmed as shown. The pipes should project from the front face of the brackets by between 10 to 20mm.



If using a pipe cutter, it may be necessary to mark the pipes & then remove the brackets before trimming the pipes to their correct length.

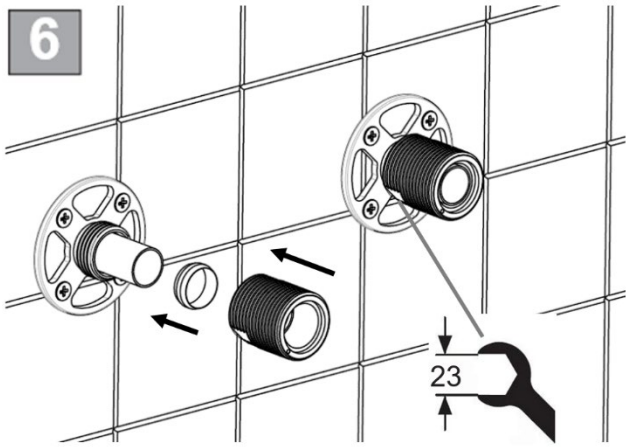


Apply a smear of silicone sealant to the rear of the assembled brackets and push them over the pipework.

Screw both brackets to the wall.

The template can be used to check that the correct pipe spacing of 150mm has been maintained.

Clean off excess sealant and flush the pipes to remove any trapped debris.

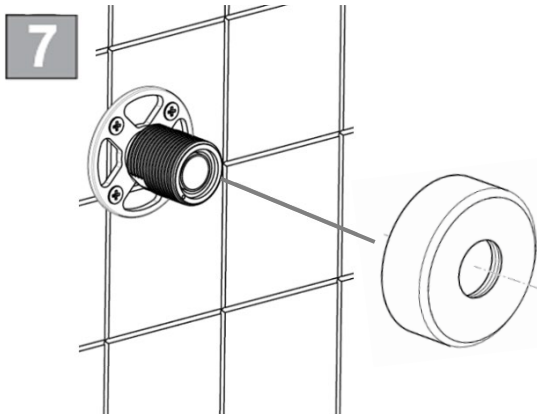


Slide the olives onto the pipes. Screw the two connectors onto the wall brackets by hand until they stop against the olives.

Use a 23mm A/F spanner (or adjustable) on the connectors to tighten.

The connectors will have to be securely tightened to form the necessary compression joint between the olive, wall bracket & connector.

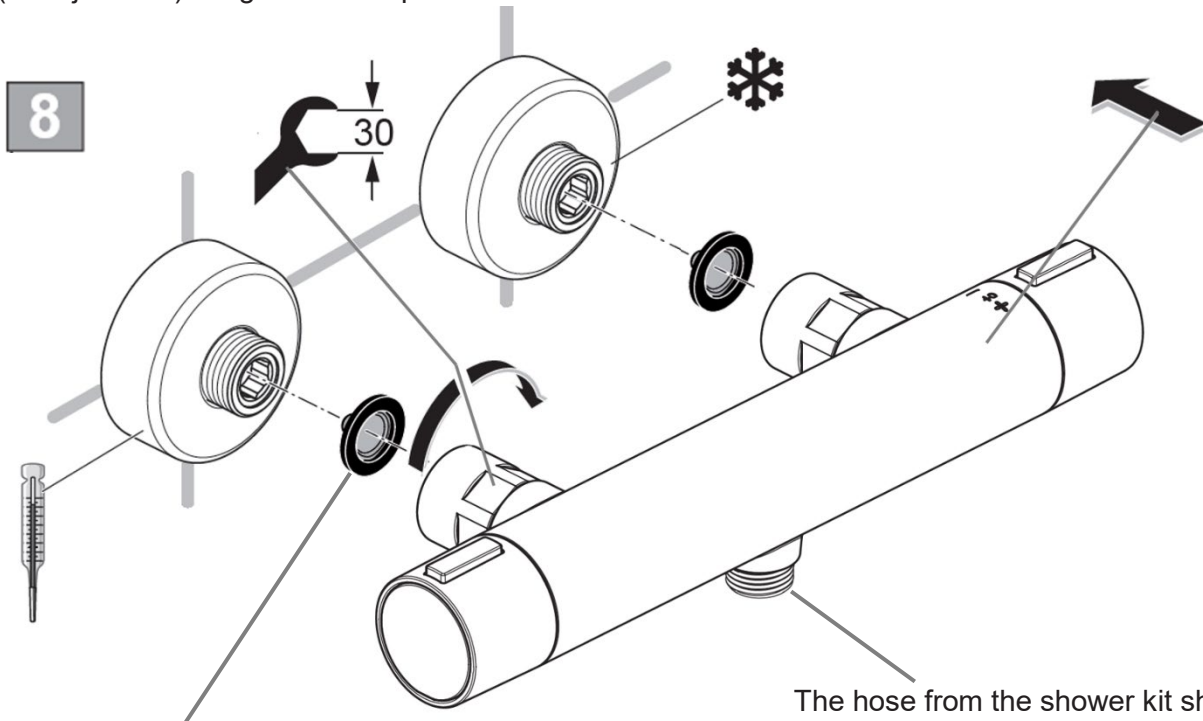
NOTE FOR IRELAND: 15mm olives are supplied with this product. Use 1/2" olives if 1/2" supply pipes are fitted.



When the sealant has set, fit the covers by screwing them onto the adaptors until they are flush with the wall.

The covers only need to be hand tight.

Assemble the shower valve to the adaptors remembering to ensure that the sealing washers or filters are inserted between the adaptors and the shower valve inlets. Use a 30mm A/F spanner (or adjustable) to tighten the captive nuts.



Ensuring the domed area of the strainer is pointing outwards (not into the mixer).

The hose from the shower kit should be connected to the shower outlet located on the underside mixer body. Ensure hose seal is in place.

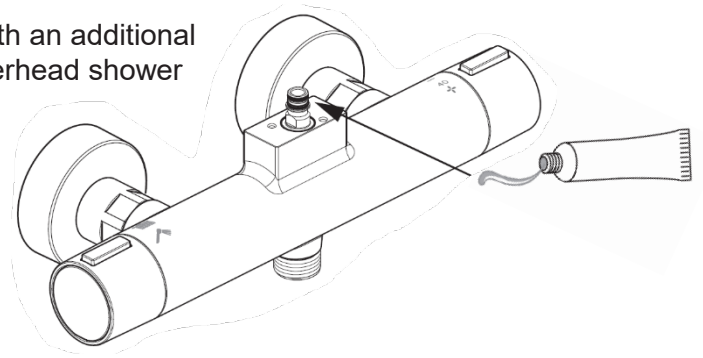
Turn on the water supplies, ensure that there are no leaks. The mixer installation is complete.

The shower kits are supplied with their own fitting instructions, next step is to position & install the appropriate shower kit.

Note: the mixer supplied with BD579xx is fitted with an additional outlet nipple on the top surface to connect the overhead shower plate.

Smear a small amount of approved silicone grease onto the O-ring fitted on the nipple. This will help to prevent damage to the O-ring during assembly.

Use a WRAS approved silicone grease (eg: Klueber Unisilikon L250L).

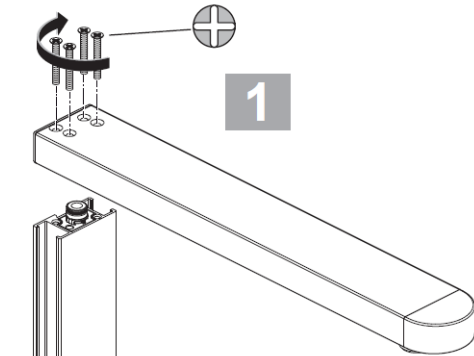


7 OVERHEAD SHOWER SYSTEM INSTALLATION

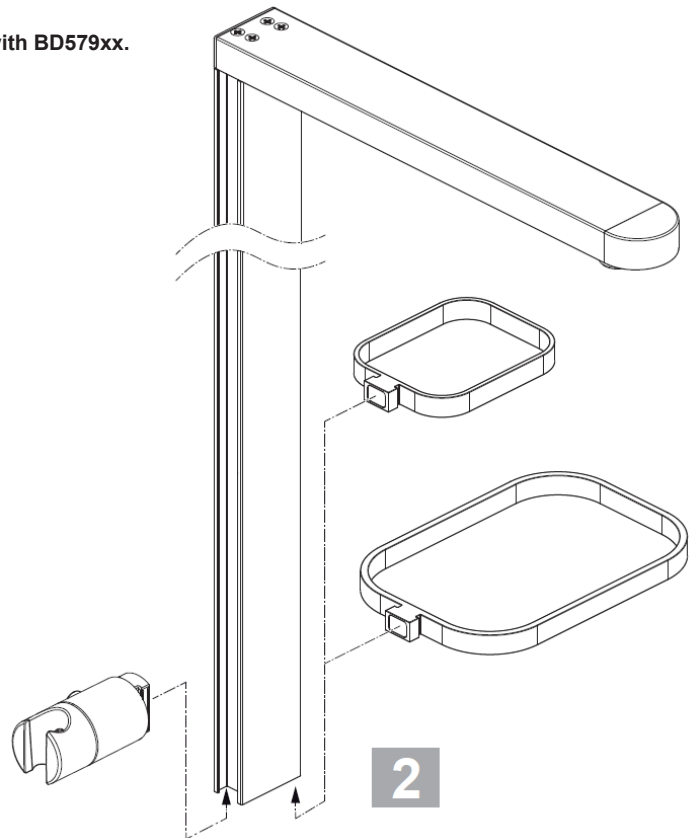


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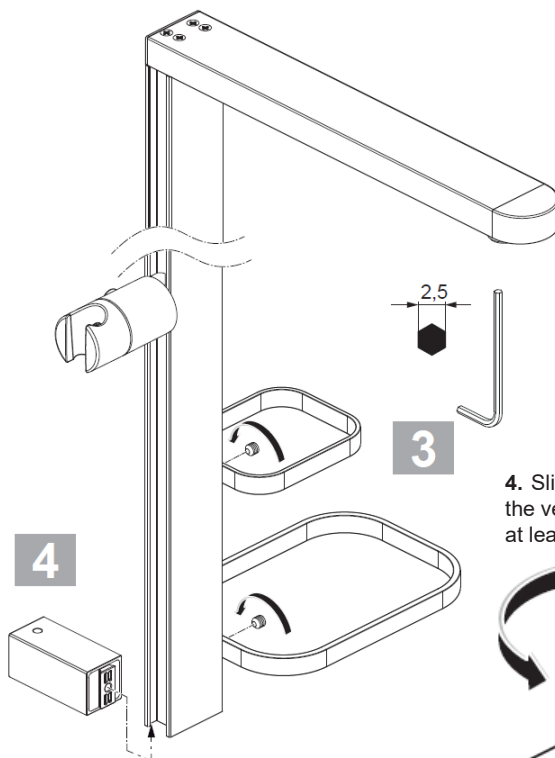
This shower system is supplied only with BD579xx.



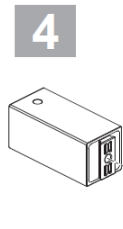
1. Smear a small amount of approved grease onto the o-ring of the vertical riser bar, align & attach the horizontal shower bar to the vertical riser bar. Secure the parts together using the four screws shown.



2. Slide the small shelf frame into the groove at the bottom of the vertical riser bar, as shown. Repeat this with the larger shelf frame. These shelf frames can be repositioned & secured in the next step. Similarly, the bracket for the hand shower can be slotted into the groove on the opposite side.



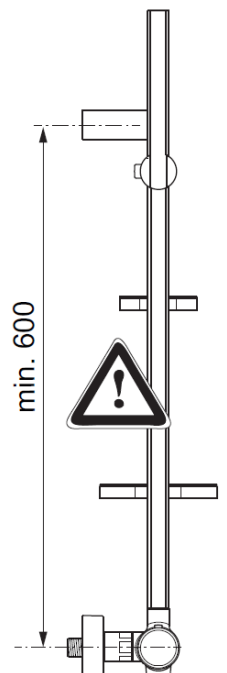
3. Fit grub screws provided into the shelf frames as shown. Locate the shelf frames into the desired positions & secure using a 2.5mm hexagonal key.

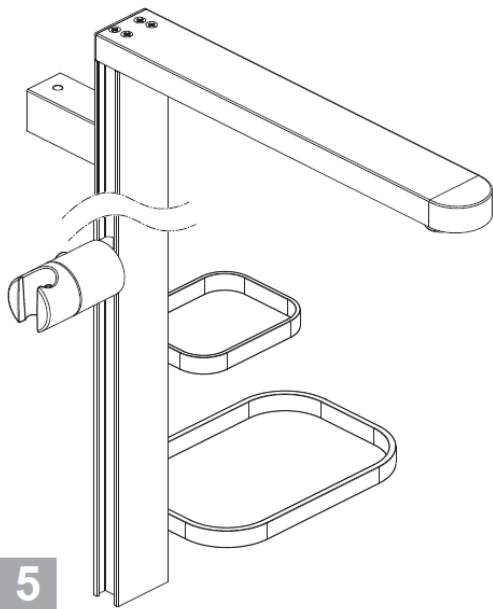


4. Slide the wall fixing bracket into the rear slot of the vertical riser bar as shown. Position this bracket at least 600mm above the shower valve centre line.



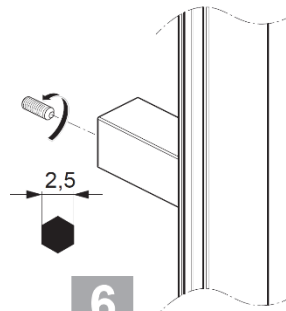
Loosen the grub screw at the top of the wall bracket, use a 2.5mm hexagonal key. Slide out the wall connector from within the wall bracket.





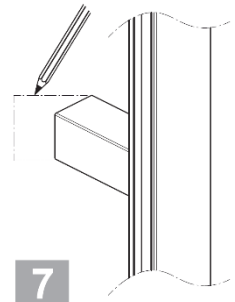
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5. Apply approved grease to the o-ring as mentioned previously. Align & slide the shower riser assembly onto the shower valve (spring loaded).



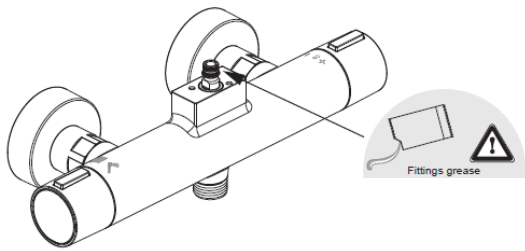
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6. With the wall connector removed, tighten the axial grub screw inside the wall bracket, use a 2.5mm hexagonal key. This will secure the wall bracket to the riser rail at the desired height.

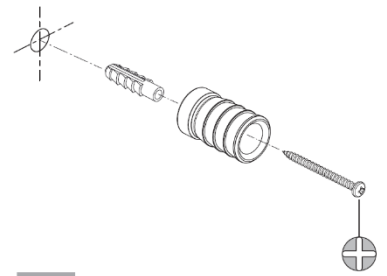


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7. Press the bracket against the wall & draw around it's perimeter.

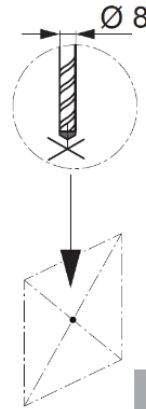


Fittings grease



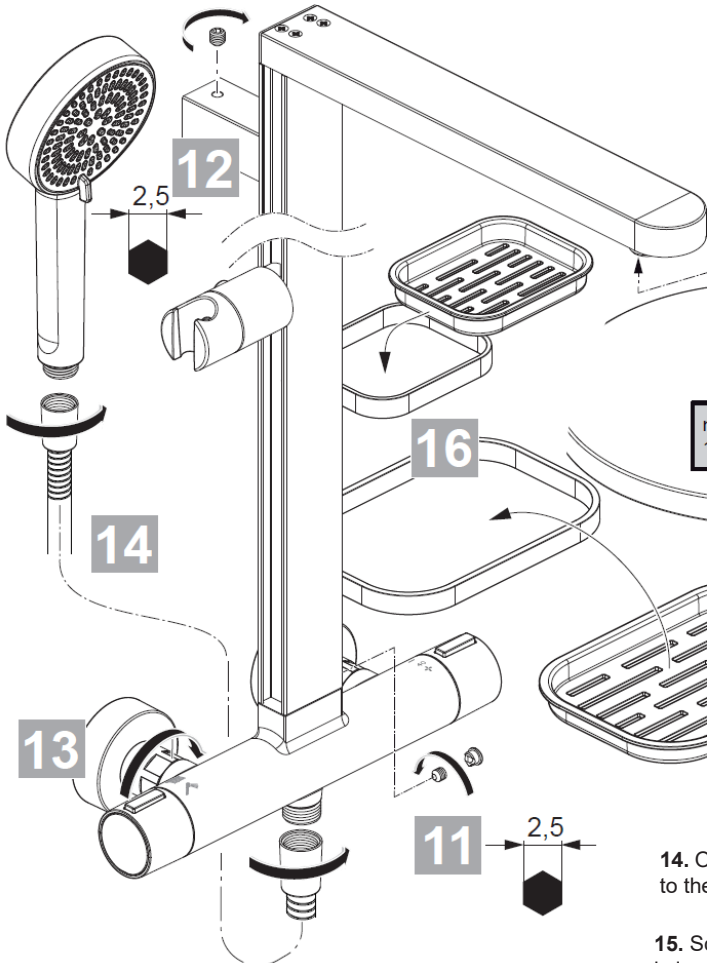
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9. Tap the wall plug into the hole. Secure the wall connector into position with the screw supplied. Engage the wall bracket & riser rail assembly onto the wall connector.



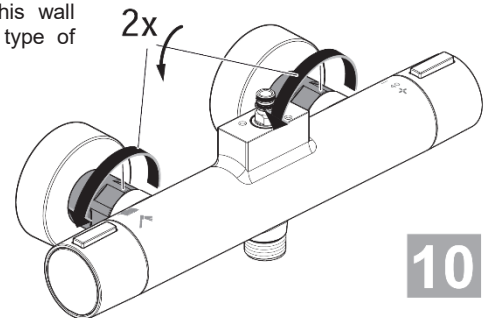
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8. Determine the centre point of the bracket. Drill an Ø8mm hole at this point, suitable for the wall plug supplied. Ensure this wall plug is suitable for the type of mounting wall.



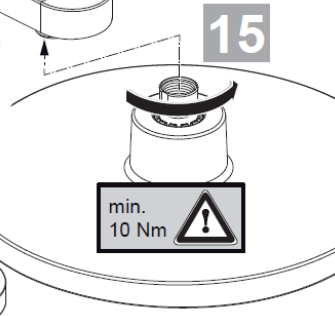
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13. Use a 30mm A/F spanner (or adjustable) to tighten the captive nuts at the mixer's inlets. Switch on the water supplies & ensure there are no leaks.



10

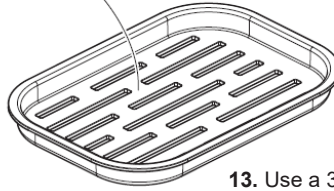
10. Before commencing the installation of the overhead shower, turn off the water supplies & open the flow handle to release the water pressure. Undo the captive nuts by two turns. This will provide some freedom to manoeuvre the shower bar during final assembly.



15

min. 10 Nm

14. One side of the shower hose can be screwed onto the shower handset, the other to the underside of the shower valve. Ensure integral hose seals are in place.

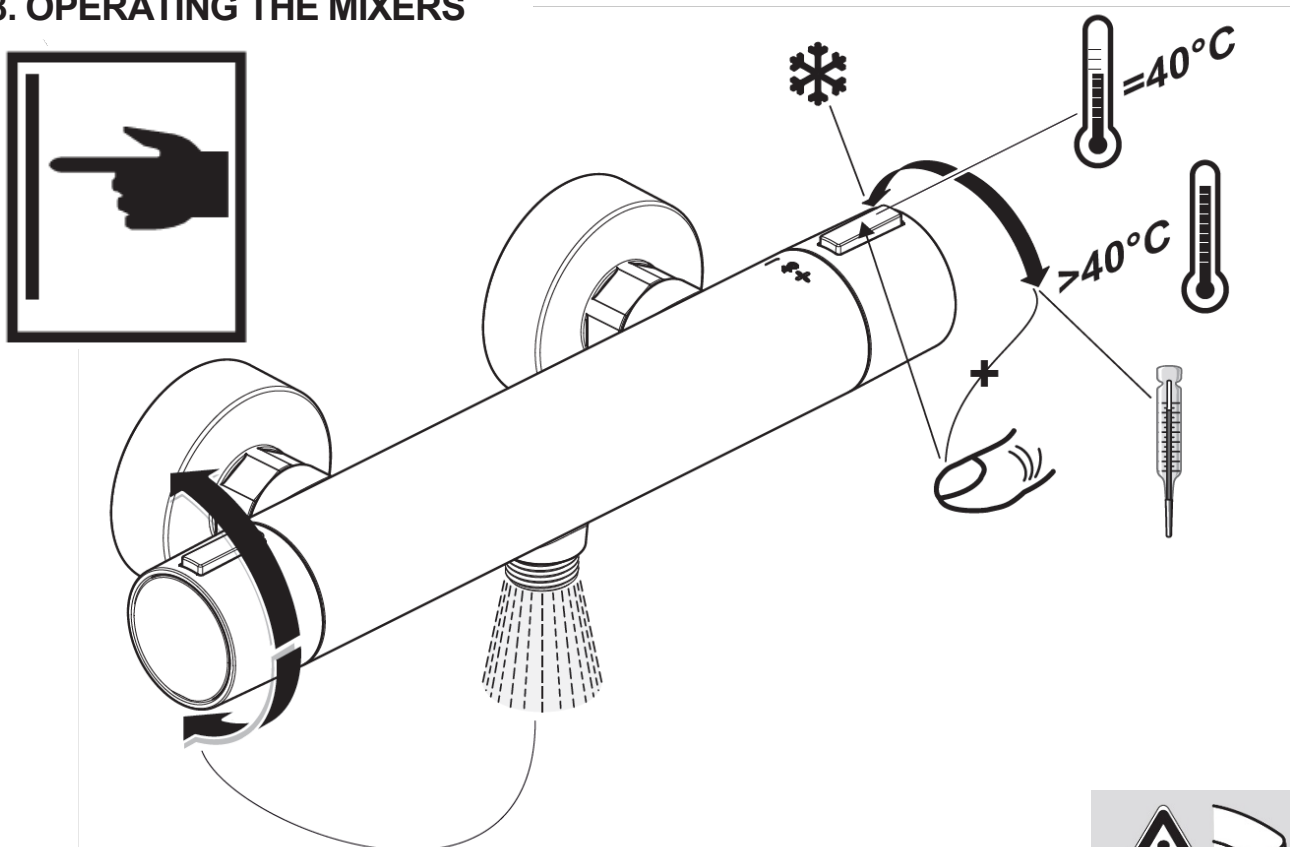


12. Press the riser rail assembly against the wall. Tighten the grub screw on the top of the wall bracket, using a 2.5mm hexagonal key.

15. Screw the shower plate onto the horizontal shower bar. Ensuring sealing washer is in place. Tighten to at least 10Nm.

16. The two shelves can be placed inside the shelf frames.

8. OPERATING THE MIXERS



NOTE: the functionality of the temperature control handle (right side) is the same for both products in the Alu+ range. BD578xx has flow control handle on the left side, whereas BD579xx has an integral flow control & diverter (for dual shower outlets).

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



Left handle controls water flow rate (for diverter version, see next page):

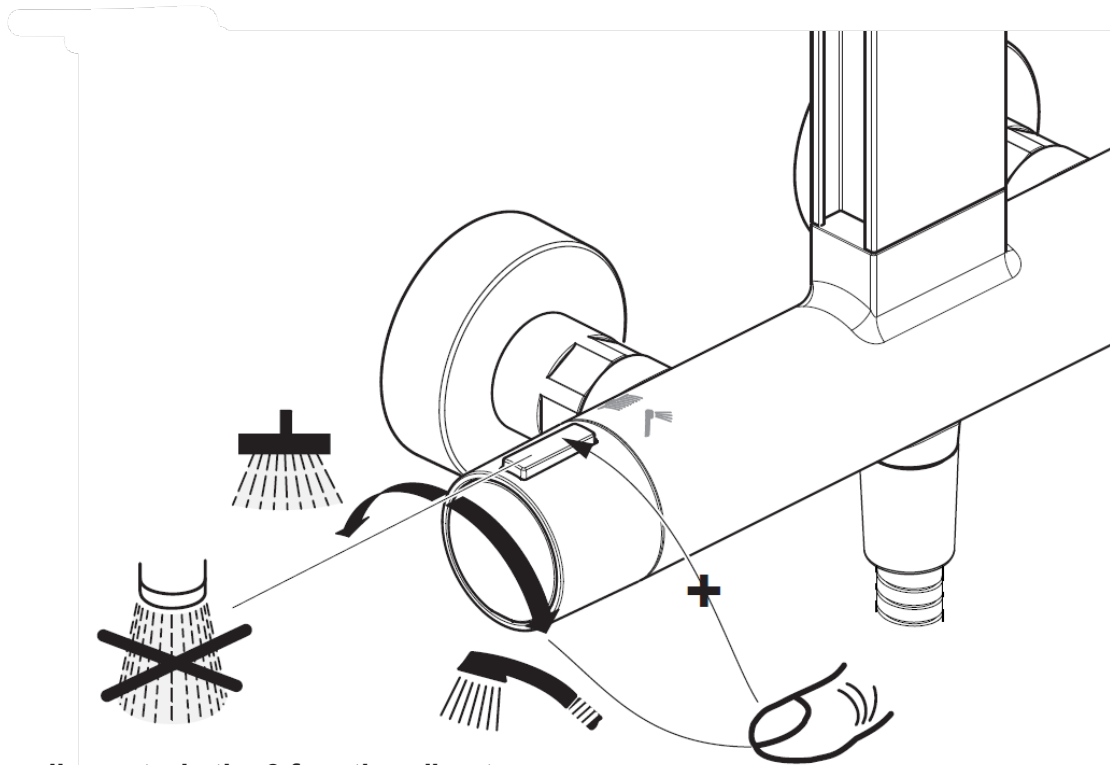
- This handle is shown above parked in the off position (giving no flow at this position).
- Rotating this handle downwards from the parked position commences water flow. By rotating the handle 45° from the off position the user will encounter economy flow “stop” delivering about 50% of the maximum flow rate achievable through this product.
- To obtain greater flow rate, press (& hold) the left button & rotate this handle further downwards. The handle will rotate a further 45° from the economy stop to the maximum flow.
- In this case, water will be discharged to the valve’s bottom outlet (to shower handset).

Right handle controls water temperature (both products):

- This handle is shown above parked in the nominal 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 upwards from the parked position.
- To obtain higher water temperature, press the right button (& hold) & then rotate this handle downwards from the parked position.

REMEMBER, BE CAREFUL: TEMPERATURES HIGHER THAN 40°C CAN BE HARMFUL.

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

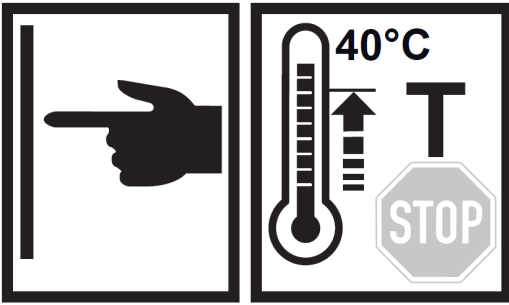


Left handle controls the 3 function diverter

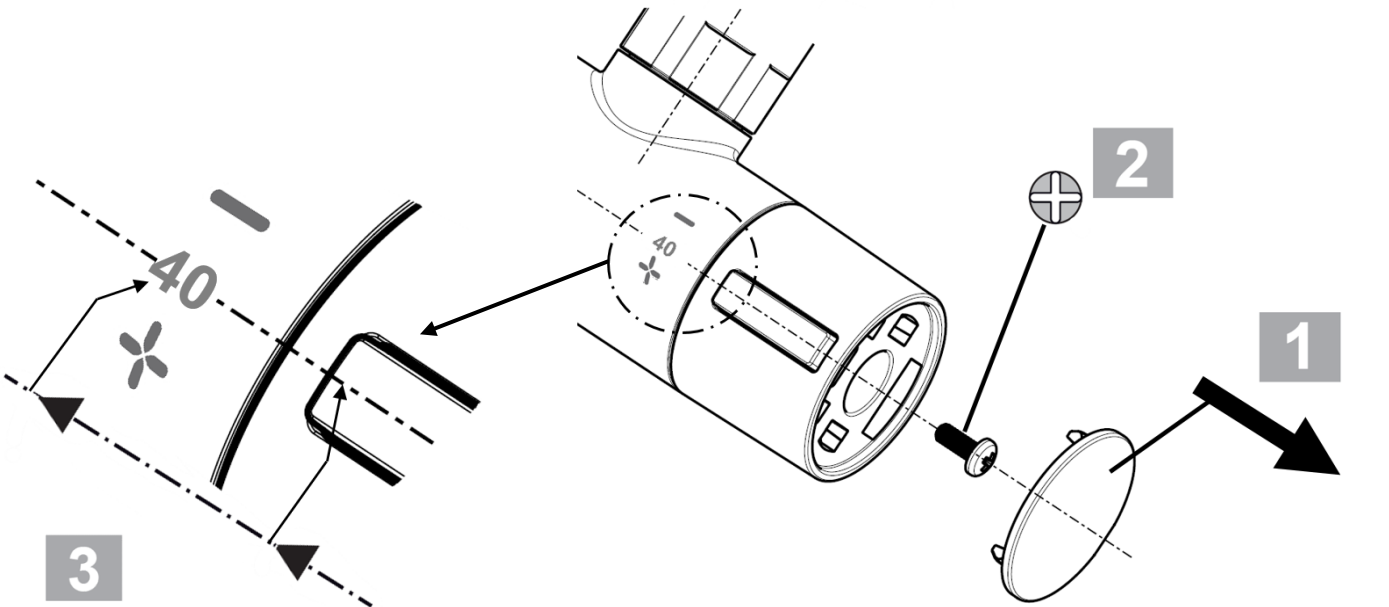
- This handle is shown above parked in the off position (giving no flow at this position).
- Rotating this handle downwards from the parked position, commences water flow & will direct water to the bottom outlet of the mixer. Thus activating the shower hand set only.
- By rotating the handle 45° downwards 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 (& hold) the left button & rotate this handle further downwards. The handle will rotate further to the maximum flow stop.
- Rotating this handle upwards from the parked position, commences water flow & will direct water to the top outlet. This will activate the large overhead shower plate.
- At each position the user can feel a soft click to indicate position. Total handle rotation is about 180°.
- The diverter permits one outlet to be opened at any one time, simultaneously closing the second outlet.

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

9. TEMPERATURE ADJUSTMENT



If the mixer is not discharging 40°C water when the temperature handle is parked & aligned with the body, then (if desired) this can be adjusted as follows:



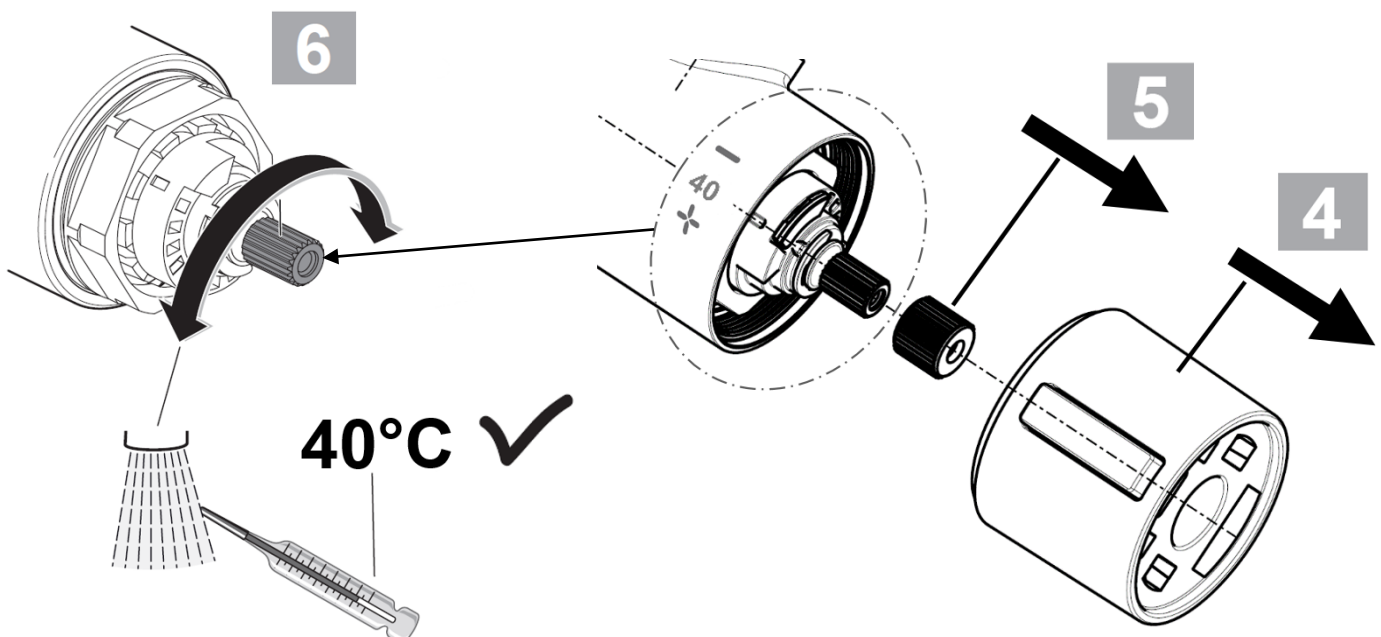
1-2. First undo the temperature control handle (right side) as detailed in **section 16, steps 1 to 3.**

3. Before sliding the handle off, ensure the handle button is in line with the 40 marker on the mixer.

4. Slide the handle off the spindle. 5. Slide off the plastic bush from the drive spindle.

6. Turn on the mixer, position a thermometer in the running water. When the temperature settles, rotate the drive spindle of the thermostat until 40°C is achieved.

Without disturbing the drive spindle position, refit the bush & handle. Ensure handle button is aligned to the 40 marker.



10. 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

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 Children.

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

11. 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 46C. 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.

12. COLD WATER ISOLATION (CWI) TEST

CWI test is a guide to showing the performance of the thermostat.

Prior to CWI test:

- Make sure that the temperature handle is aligned in the 40°C position
- Make sure the supply temperatures are within the ranges 55 to 65°C for hot, & 5 to 20°C for cold.
- Unscrew the shower hand set from the flexible hose, & direct the water to be discharged into a suitable vessel.

To perform a CWI test:

- Turn the product on using the flow handle (or diverter), override the 50% economy flow stop on the handle & rotate handle to max, giving 100% flow.
 - The temperature handle button should be positioned at the 40°C nominal stop (parked).
1. Record the steady state temperature of both hot and cold water supplies. Note the Δt .
 2. Record the temperature of the mixed water at the outlet, should be within range $40 \pm 1^\circ\text{C}$.
 3. Isolate the cold water supply. If the flow ceases, CWI test passed. An ongoing reduced fine flow of water (pencil stream) from the mixed water outlet is also acceptable as a pass.

Restore the cold supply & recheck the temperature at the mixed water outlet once stabilised.

If the flow has not reduced, the product has failed the CWI test. Product requires maintenance, cartridge should be removed, cleaned & retested. See guidance below.

Additionally, clean all filters, ensure check valves are working, and make sure all isolating valves are fully open. Refit the shower handset to the flexible hose upon completion of the test.

NOTE: In order to isolate the cold water & to perform the CWI test, service valves must be fitted (as close as practicable to the mixer's inlets).

Volumetric guidance in the case of "ongoing reduced discharge of water" during CWI test

Acceptance criteria is as follows, isolate the cold water supply then:

- 1) Collect the water discharged from the shower outlet for 5 seconds.
- 2) Continue to collect the water discharged from the shower outlet in a second vessel for a further period of 30 seconds.

The volume collected in the first period of 5 s shall not exceed 200 ml.

The volume collected in the second period of 30 s shall not exceed an additional 300 ml.

After restoration of the cold water supply (30 s) the mixed water outlet temperature shall not differ by more than 2°C from the initial set mixed water temperature.

13. MAINTENANCE NOTES

The fitting of isolation valves and strainers is required as close as is practicable to the water supply inlets of the thermostatic mixing valve. The thermostatic cartridge seldom fails and the possibility of blocked filters should be investigated before contemplating replacing it. Small particles of debris may still find their way past the strainers and onto the filter screens on the thermostatic cartridge. These should be cleaned and re-fitted. See section on cartridge replacement.

THERMOSTATIC CARTRIDGE AGEING

Following many years of normal service you may notice the following:

1. The need to carry out more frequent adjustment of mixed temperature.
2. The thermostatic element may not pass the CWI test.

These issues could be due to the ageing of the thermostat which loses some expansion capability over time.

These are the principle objectives of testing, as they serve to indicate to maintenance staff the declining performance capability of the thermostatic cartridge.

For this reason the audit testing flow chart highlights that 2nd Instance CWI test failure or 2nd instance mixed deviation even with stable 'as commissioned' supply conditions and correct inlet supply Δt 's, is potentially the first indication of the need to replace the cartridge.

14. DISASSEMBLY SEQUENCE FOR MAINTENANCE



Disassembling sequence to access cartridges & demount the mixer:

1. Isolate both HOT & COLD water supplies first. Use inline service valves if fitted.
2. Fully open the flow or diverter handle, to confirm water is switched off. Unscrew the shower hose from the underside of the mixer. This will permit some of the trapped water to drain down & release water pressure from the outlet.
3. To access cartridges, it will be necessary to remove handles first.
See section 16.
4. Ensure parts are re-assembled in the correct 'reverse' sequence.
5. Restore both water supplies. Refit the shower hose.
6. Check all joints for leaks upon completion.
7. Run water through the mixer for a few seconds to purge-out any trapped air.

General advice:

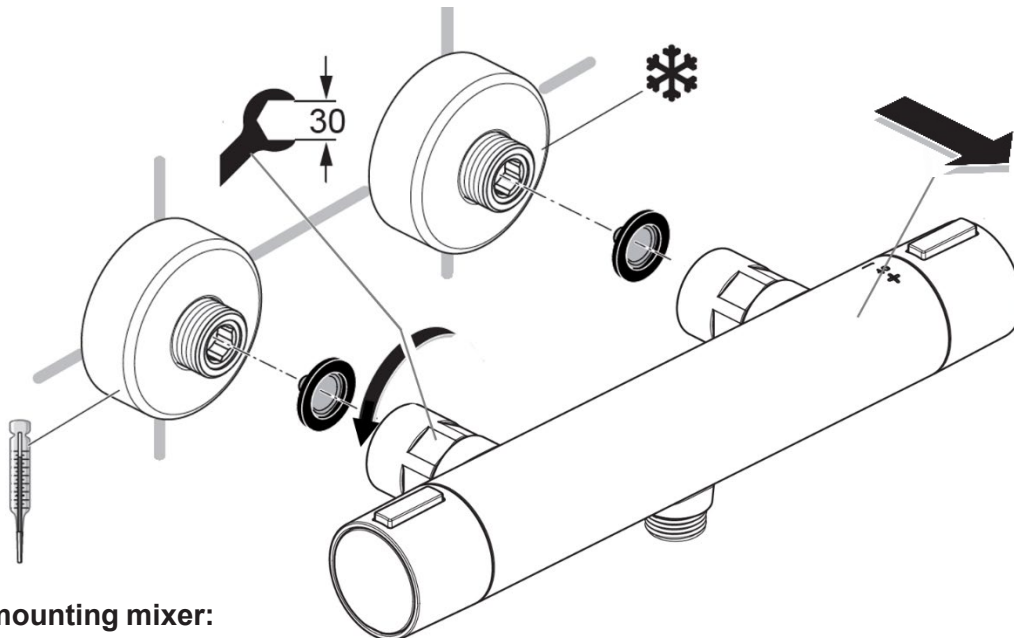
1. Use correct size tools. Avoid damaging surfaces, use a strap wrench if possible.
2. When unscrewing cartridges or demounting the mixer, expect some trapped water to escape from within the mixer body.
3. Wash all parts (strainer meshes etc....) in clean water before re-assembly.
4. Observe torque settings, where specified.

15. DEMOUNTING THE MIXER FOR DISINFECTION



In response to the new requirements of HTM 04-01 Addendum, the design of this product permits easy demounting of the mixer from the inlets.

This design permits quick & easy removal of the mixer for cleaning, disinfection and maintenance purposes.



Method for demounting mixer:

1. Observe disassembling sequence, as detailed in **section 14, steps 1 & 2**.
2. Remove the overhead shower assembly, if fitted (BD579xx).
3. Undo the two coupling nuts located at the rear of the mixer (see fig above). Take care not to lose the two sealing /strainer washers.
4. Lift the mixer body off from the wall mount brackets, by gently pulling away as shown.
5. The mixer body can be further dismantled for cleaning protocols. Do not leave the wall mount brackets uncovered for long periods, protect from environmental contamination.
6. To refit the mixer body; reverse this procedure. Tighten the nuts at the rear of the mixer securely.

Avoid damaging the inlet seals. See section 22 for replacement strainer washers.

Disinfection method

Disinfection by full immersion in an appropriate bactericidal solution is recommended for this assembly. Prior to immersion, the mixer body should be clean and dismantled to a level that prevents air locking.

The level of dismantling should be established as a result of practice and will be largely dependent upon the water quality and service life. As a minimum we recommend removal both handles, thermostatic cartridge & flow-control (or diverter) cartridge. Cleaning the cartridge strainer screens is important. All components can be immersed together unassembled.

Disinfected mixers should be promptly replaced or stored using an appropriate method until required.

Disinfection frequency

The frequency of such disinfection actions will be derived from regular sampling carried out under the regime of the Responsible Person (Water). We would not expect to need greater than 6 monthly frequencies, hopefully considerably less.

The need for excessive use of this procedure would be indicative of the need for some root cause analysis as there could be some system or behavioural problems that need addressing.

Recommended Disinfection Solutions

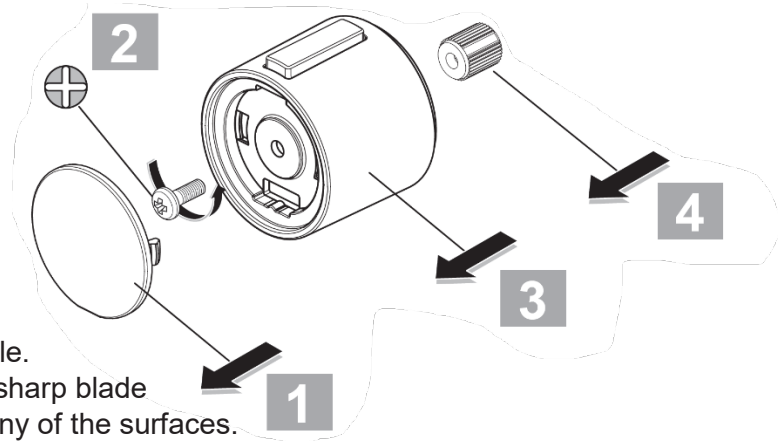
For immersion we recommend the use of a 70% Ethanol solution for 10 minutes.

NB: counter intuitively, **greater than recommended concentrations are less effective** not more effective; take care to get the recommended concentration in line with the manufactures recommendation. **DO NOT USE SOLUTIONS CONTAINING AMMONIA.**

16. REMOVAL OF HANDLES FOR CARTRIDGE ACCESS

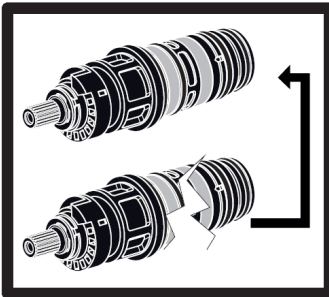


To gain access to either the thermostatic, flow or diverter cartridges, it will be necessary to remove the appropriate handle.



1. Carefully prise out the end cap fitted to the handle.
Look for a small notch in the handle, then use a sharp blade to lever the cap out, taking care not to damage any of the surfaces.
2. Undo the handle retaining screw using a Phillips screw driver.
3. Carefully slide the handle off from the cartridge drive spindle.
4. Slide off the plastic bush from the drive spindle.
5. Undertake the necessary maintenance work, the reverse this sequence & refit the handles.
6. Align the handle button to the markings on the mixer body (or normal parking position).

17. THERMOSTATIC CARTRIDGE REPLACEMENT

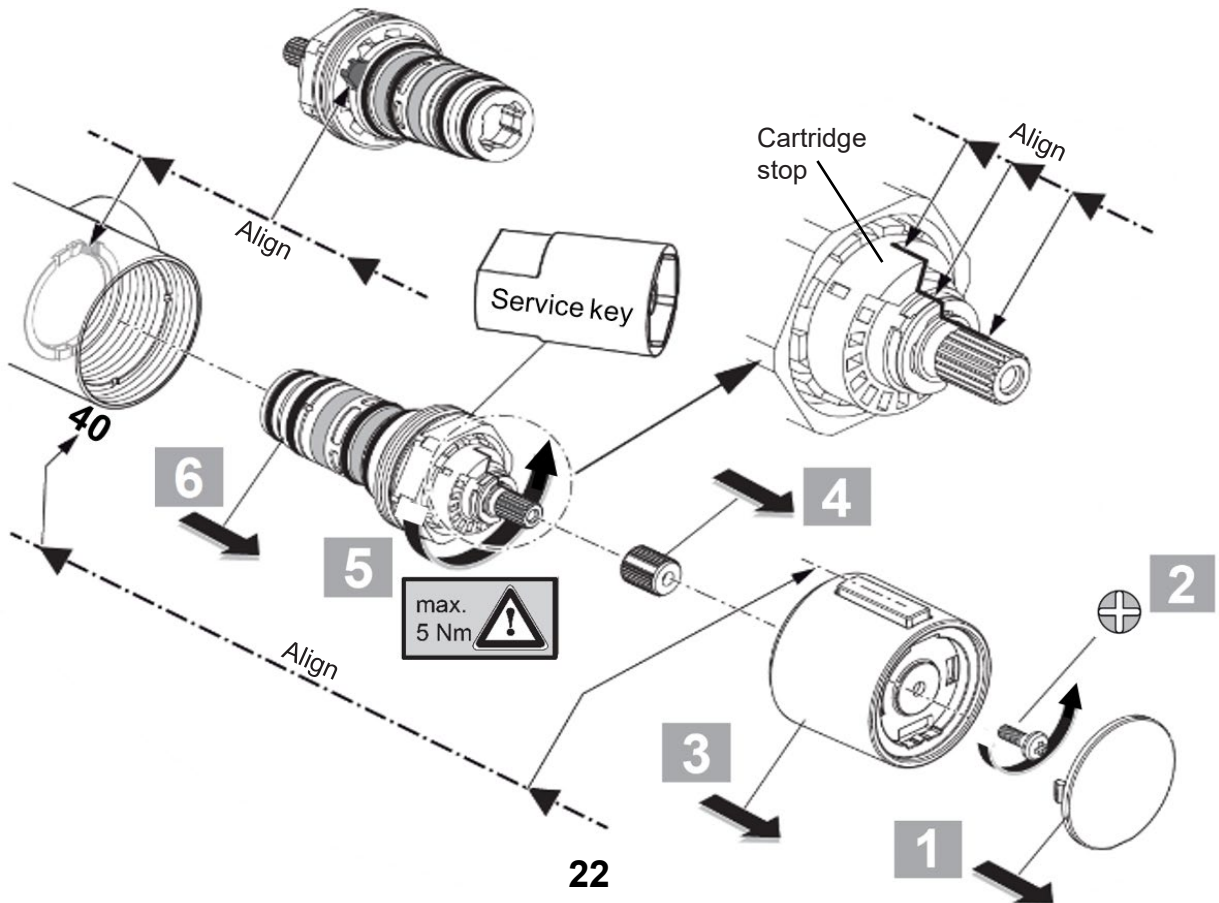


Use the following method to inspect or replace the thermostatic cartridge:

Observe the disassembling sequence, **see section 14, steps 1 to 3.**

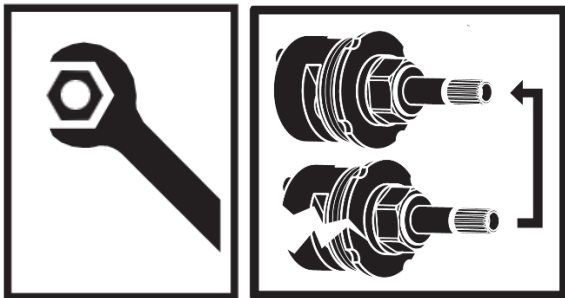
1, 2, 3 & 4. Remove the temperature control handle (right side) as detailed in **section 16.**

5 & 6. Using the service key (or slim 32mm socket), undo the large nut retaining the thermostatic cartridge. The cartridge should now slide out of the mixer's bore. Note: the nut is captivated onto the cartridge & will rotate freely.



- If necessary, replace the cartridge with a new one. Alternatively, if the cartridge is functioning correctly, clean it thoroughly & reuse it.
 - When fitting the cartridge into the bore, ensure the lug on the cartridge is orientated into the cut out in the mixer's bore, as illustration above.
 - Make sure the marking on the spline of the cartridge spindle is aligned with the edge of the „stop“ as illustration above. Correct the alignment if necessary.
 - With the cartridge located back in the mixer bore, screw the cartridge nut into the mixer body by hand & then tighten with a socket or service key. Do not exceed 5Nm torque.
- Reverse the sequence to refit the handle. Check & adjust the 40°C position as shown in **section 9**.
- Ensure correct alignment of the handle as detailed in **section 16**.

18. DIVERTER CARTRIDGE REPLACEMENT



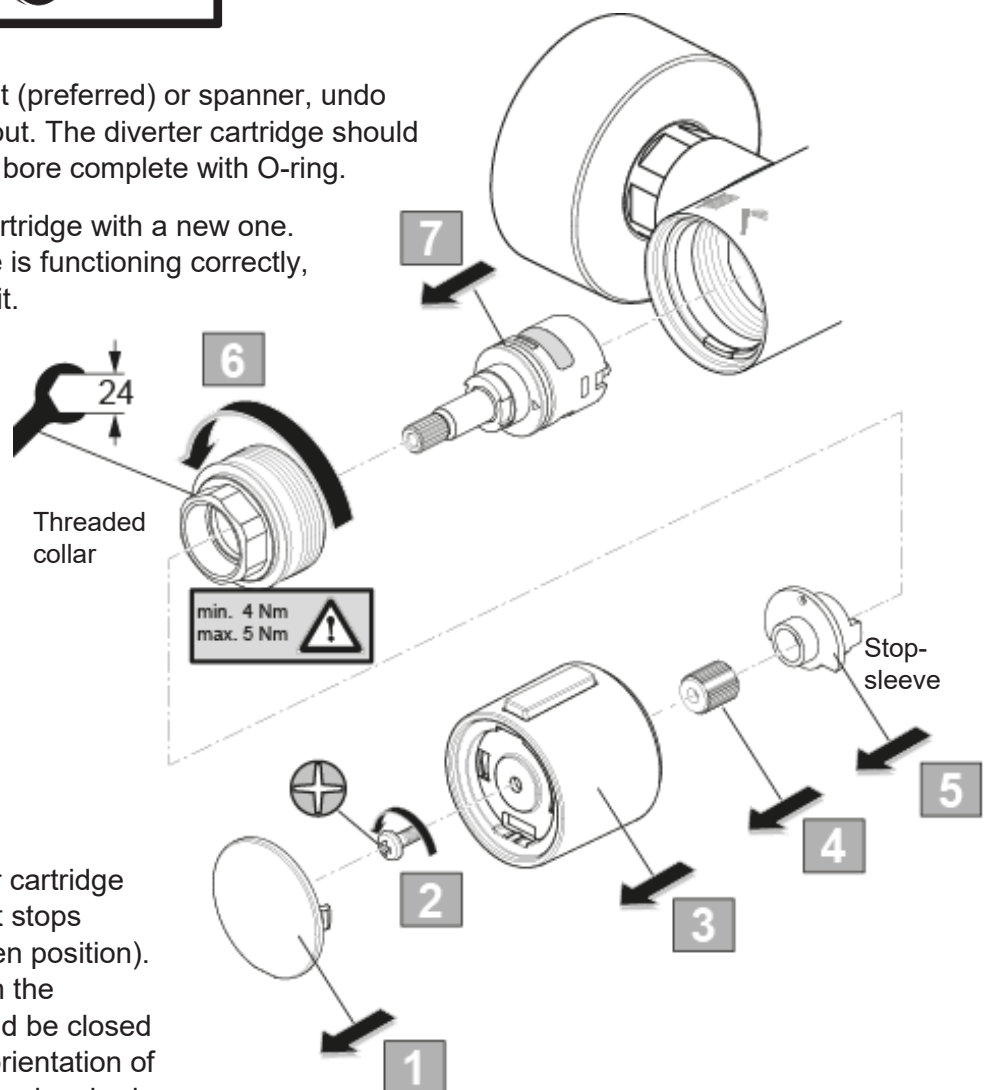
Observe disassembling sequence, as detailed in **section 14, steps 1 to 3**.

1, 2, 3 & 4. Remove the flow diverter handle (left side) as detailed in **section 16**.

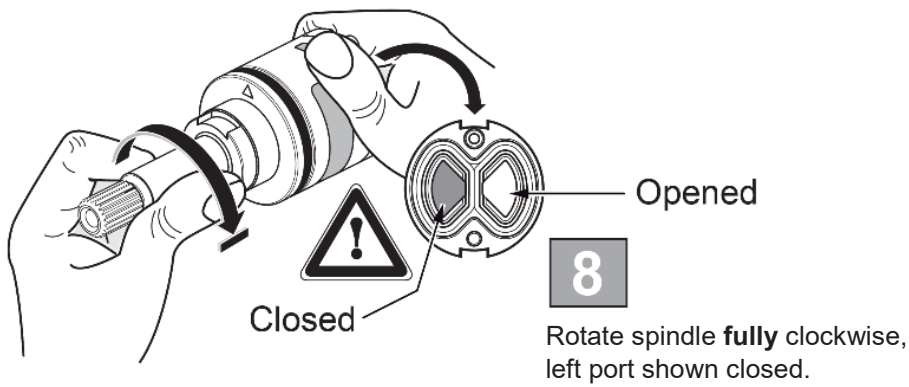
5. Slide off the stop-sleeve.

6 & 7. Using a 28mm socket (preferred) or spanner, undo the threaded collar & slide out. The diverter cartridge should now slide out of the mixer's bore complete with O-ring.

If necessary, replace the cartridge with a new one. Alternatively, if the cartridge is functioning correctly, clean it thoroughly & reuse it.



8. To refit, rotate the diverter cartridge spindle fully clockwise until it stops (hand shower outlet fully open position). Looking at the cartridge from the underside, the left port should be closed as illustrated. Maintain this orientation of the diverter & slide it into the mixer body. Note: the two locator pins on the front face of the diverter cartridge are different sizes to prevent incorrect installation.



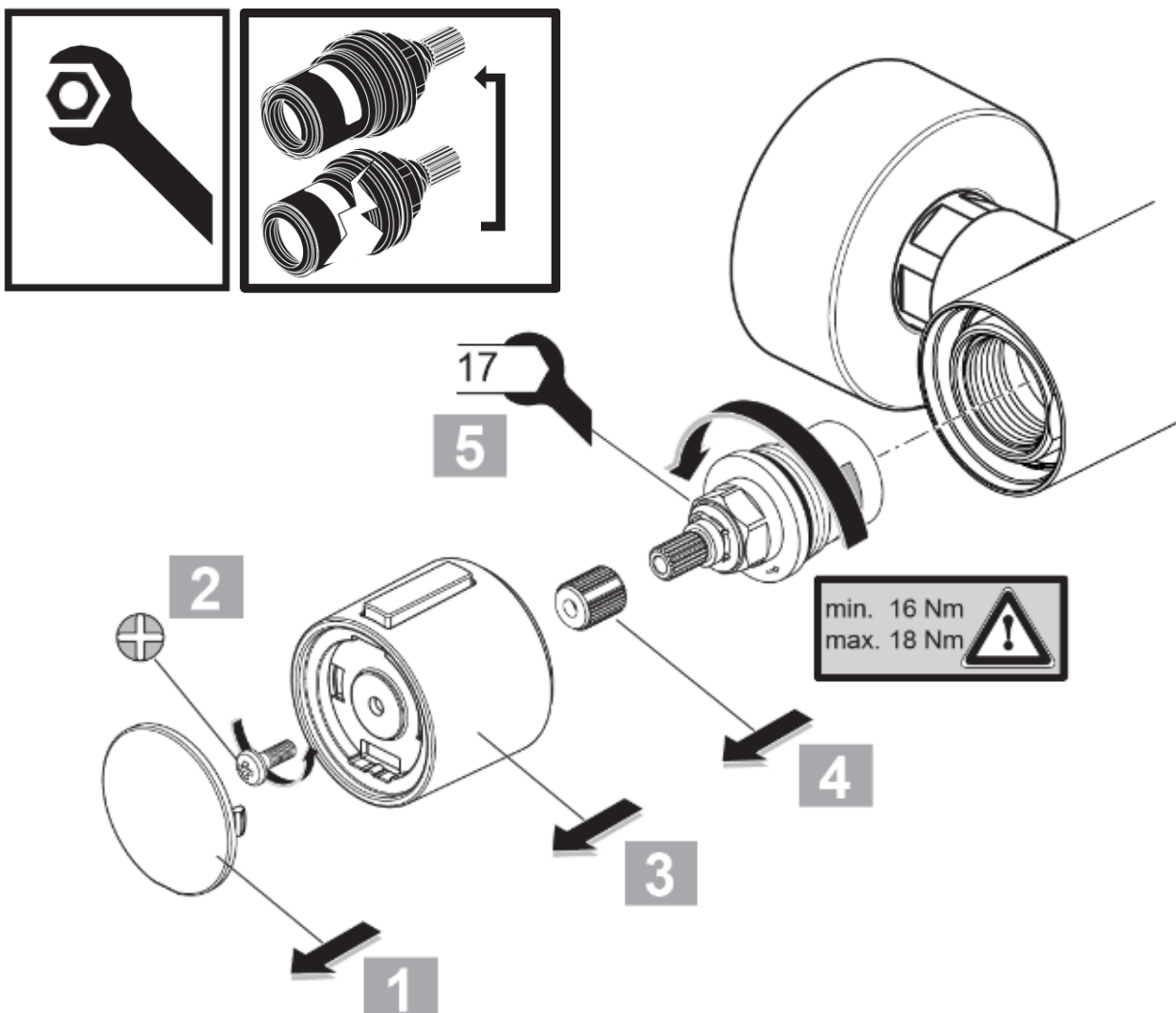
Ensure these locator pins are correctly located into the plastic moulding inside the mixer body. The diverter will then drop down to the correct depth.

With the cartridge located back in the mixer bore, screw the threaded collar into the mixer body by hand first & then tighten with a 28mm socket (preferred) or spanner. Ideally torque to 4Nm min to 5Nm max.

IMPORTANT: Before engaging the handle onto the diverter drive spindle, refit the stop sleeve & plastic drive insert.

Align the button on the handle to approximately fully open position of the shower hand set. Once the water supplies have been turned on, rotate the handle back towards the normal parking position (between the two shower symbols on the mixer body) until the water discharge from the handset stops. For fine button alignment, pull the handle off the drive spindle & accurately reposition it until it is correct. Refit the handle screw & handle end cap.

19. FLOW CARTRIDGE REPLACEMENT



Observe disassembling sequence, as detailed in **section 14, steps 1 to 3.**

1,2,3 & 4. Remove the flow control handle (left side) as detailed in **section 16.**

5. Using a 17mm spanner or socket, undo the flow cartridge. The cartridge should now slide out of the mixer's bore.

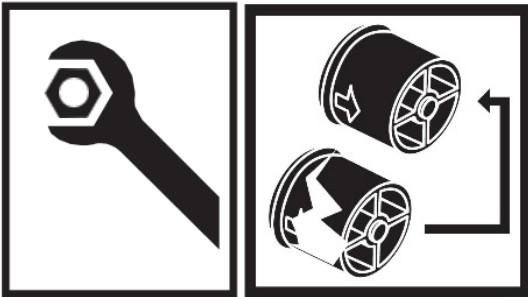
- If necessary, replace the cartridge with a new one. Alternatively, if the cartridge is functioning correctly, clean it thoroughly & reuse it.

- With the cartridge located back in the mixer bore, screw the cartridge into the mixer body by hand & then tighten with a spanner or socket. Ideally torque to 16Nm min to 18Nm max.

6. Rotate the cartridge spindle fully anticlockwise until it stops (fully closed).

Reverse the sequence to refit the handle, ensuring to refit the plastic drive insert onto the cartridge spindle. Check & adjust the off position as shown in **section 16.** Ensure correct alignment of the handle.

20. CHECK VALVES REPLACEMENT



1 & 2. Demount the mixer body from the wall, as detailed in **section 15, follow steps 1 to 4.**

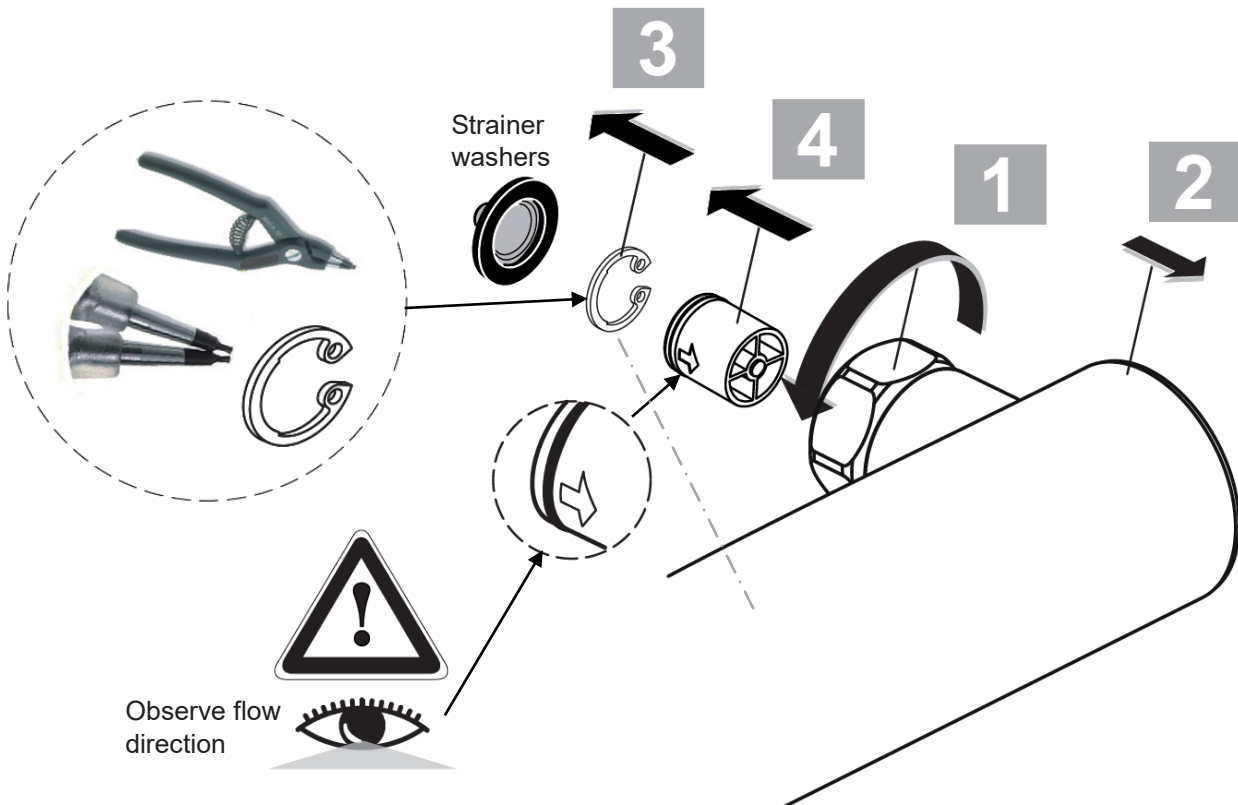
- Locate the sealing washers (with integral strainers) from inside the mixer's inlet bores & keep them in a safe location.

- The check valves are housed inside the retaining inserts within the inlet bores. Look closely at the rear of the mixer body.

3. Note: circlips hold the check valves in position. Using circlip pliers, squeeze the circlip & lift it away from the bore.

4. Gently pull out the check valves: inspect & clean or replace if necessary. Observe the flow direction arrow on the body of the check valve as shown above. Refit the circlips.

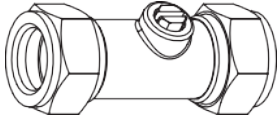
To refit the mixer to the wall reverse this procedure (remember to fit the sealing washers).



IMPORTANT: Although the check valves can be replaced, they **must not be removed** completely. Do not operate the mixer without BOTH the check valves correctly fitted.

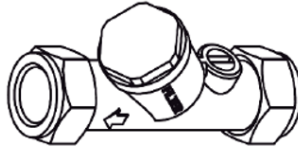
21. INLINE SERVICE VALVES

Inline service valves (**not supplied with these products**) MUST be fitted to permit future maintenance of the cartridges. They also facilitate the cold water isolation test. These should be fitted as close as is practicable to the water supply inlets of the thermostatic shower valve. Service valves should be installed in an easily accessible location.

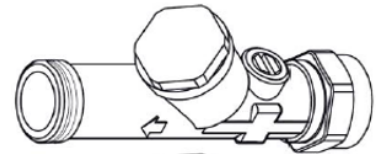


Basic valve with isolating only feature is available under spares code **S9005AA**.

15mm compression fittings at both ends & plated finish.

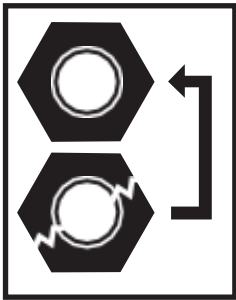


E960086NU. Brass valve with isolating & filter only features. 15mm compression fittings at both ends. Supplied in pairs.



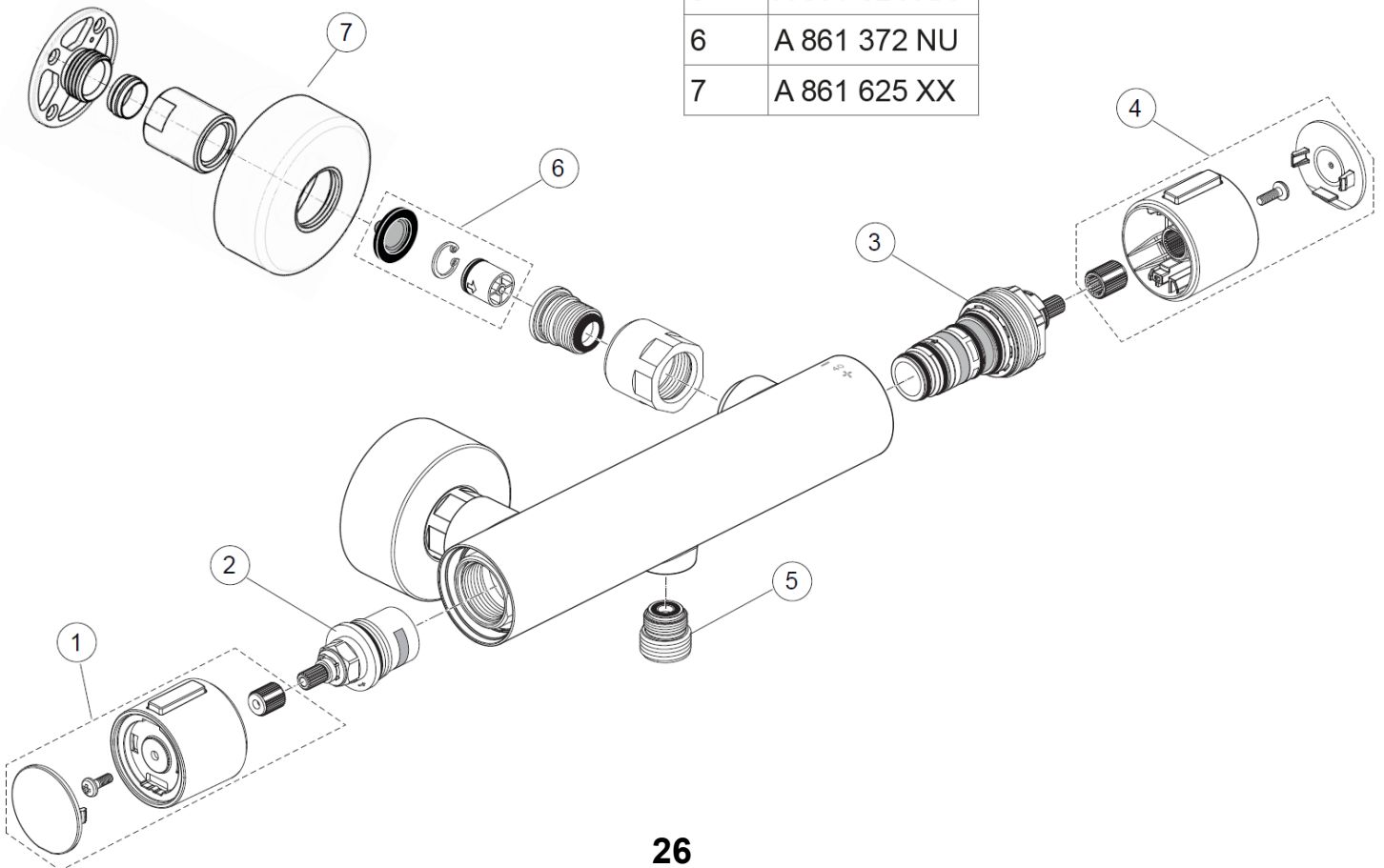
Spares code **E960613NU** contains a pair of combined service valves. Include a flow regulator, check valve, strainer mesh (filter) & isolating valve. The flow regulator and check valve can be removed if not required.

22. SPARE PARTS BD578xx



XX = RO, SI, XG

Pos.	Part No.
1	A 861 620 XX
2	A 861 639 NU
3	A 861 622 NU
4	A 861 623 XX
5	A 861 624 XX
6	A 861 372 NU
7	A 861 625 XX

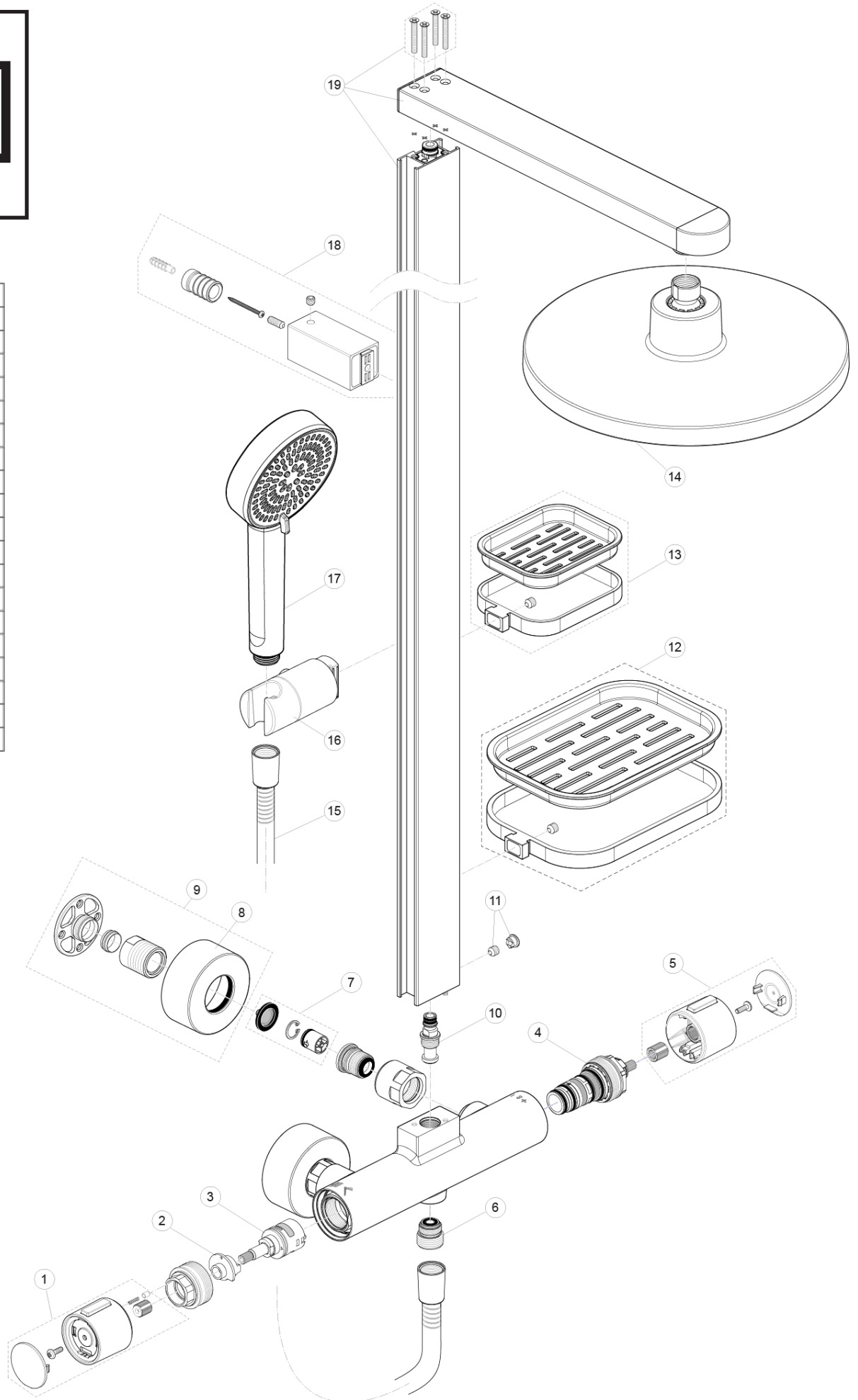


22. SPARE PARTS BD579xx

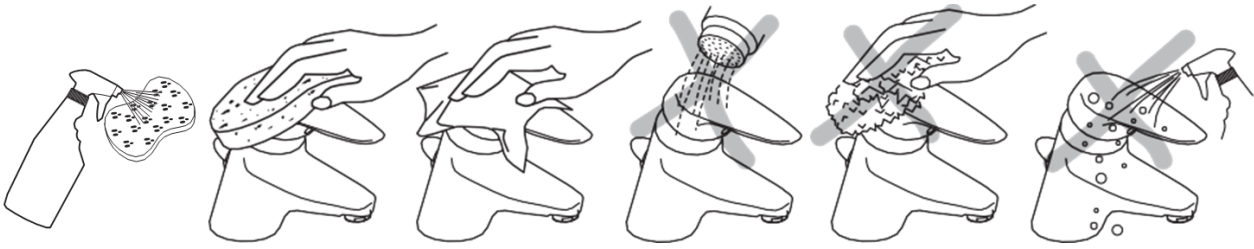


XX = RO, SI, XG

Pos.	Part No.
1	A 861 773 XX
2	A 861 647 NU
3	A 861 558 NU
4	A 861 622 NU
5	A 861 623 XX
6	A 861 624 XX
7	A 861 372 NU
8	A 861 625 XX
9	A 861 626 XX
10	A 861 627 NU
11	A 861 640 XX
12	A 861 631 XX
13	A 861 632 XX
14	BD 581 XX
15	BE 175 XX
16	A 861 629 XX
17	BD 580 XX
18	A 861 630 XX
19	A 861 628 XX



23. CLEANING THE PRODUCT'S SURFACES



When cleaning the product's surfaces use only a mild detergent, rinse & wipe dry with a soft cloth. Ideally clean after each use to maintain appearance.

Never use abrasive, scouring powders or scrapers. Never use cleaning agents containing alcohol, ammonia, hydrochloric acid, sulphuric acid, nitric acid, phosphoric acid or organic solvents. Use of incorrect cleaning products / methods may result in damage to the product's surface, which is not covered by the manufacturer's guarantee

For more information about our products & spares visit our website: www.idealstandard.co.uk



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