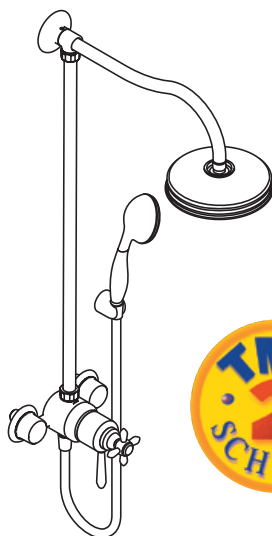


# Installation Instructions

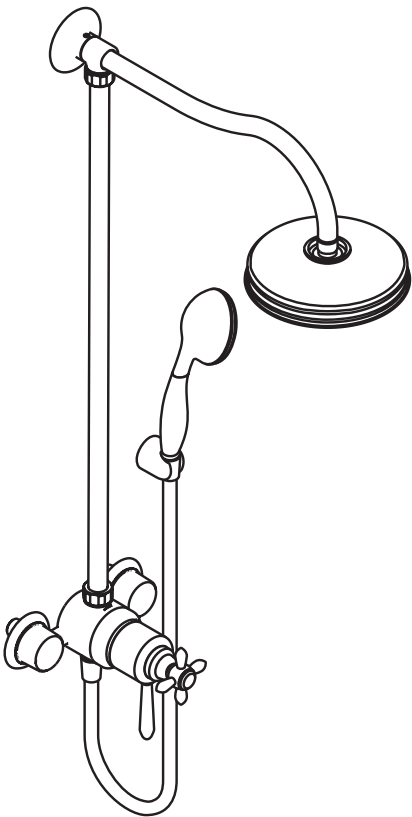


**Carlton Showerpipe**  
17670XXX

**AXOR<sup>®</sup>**  
hansgrohe

# Contents

|                                           |       |
|-------------------------------------------|-------|
| Safety and Important Information          | 3     |
| Dimensions                                | 4     |
| Pack Contents                             | 5     |
| Technical Data                            | 5     |
| Supply Conditions TMV2                    | 5     |
| Installation Requirements                 | 6-7   |
| <b>Installation</b>                       | 8-11  |
| <b>Commissioning and in-service tests</b> |       |
| Commissioning                             | 12    |
| In-service tests                          | 13    |
| Frequency of in-service tests             | 13    |
| <b>Thermostatic Adjustment</b>            |       |
| Temperature Limitation                    | 14    |
| Callibrating Thermostat                   | 14    |
| Setting Thermostat Max. Temp.             | 15    |
| Operating your Shower                     | 16    |
| Cleaning                                  | 17    |
| Spare Parts                               | 18-19 |
| Trouble Shooting                          | 20    |
| Warranty                                  | 20    |



The **Carlton Shower Pipe 17670XXX** meets the requirements of the **TMV2 Scheme**.

If there are any queries regarding this product or its installation, please contact the Hansgrohe technical hotline: **0870 7701975**

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## Safety and Important Information

Hansgrohe products are safe provided they are installed, used and maintained in accordance with these instructions and recommendations.

Please read these instructions thoroughly and retain for future use.

The plumbing installation of this shower must comply with the requirements of UK Water Regulations/Bylaws (Scotland), Building Regulations or any other regulations specified by the local Water Authority and supplier.

We strongly recommend that you use a plumber registered with or a member of an Association:

Institute of Plumbing (IOP) - throughout the UK  
National Association of Plumbing, Heating and Mechanical Services Contractors  
(NAPH & MSC) - England & Wales  
Water Industry Approved Plumber Scheme (WIAPS)

Dispose of plastic bags carefully

Keep children well away from the work area.

Check for hidden pipes and cables in the wall before drilling holes.

The unit must be mounted on a finished waterproofed wall surface (usually tiles).

If you are using power tools (e.g. to drill holes) wear safety glasses and always disconnect tools from the power supply after use.

Do not operate the shower unit if the hand shower or spray hose has been damaged or is blocked.

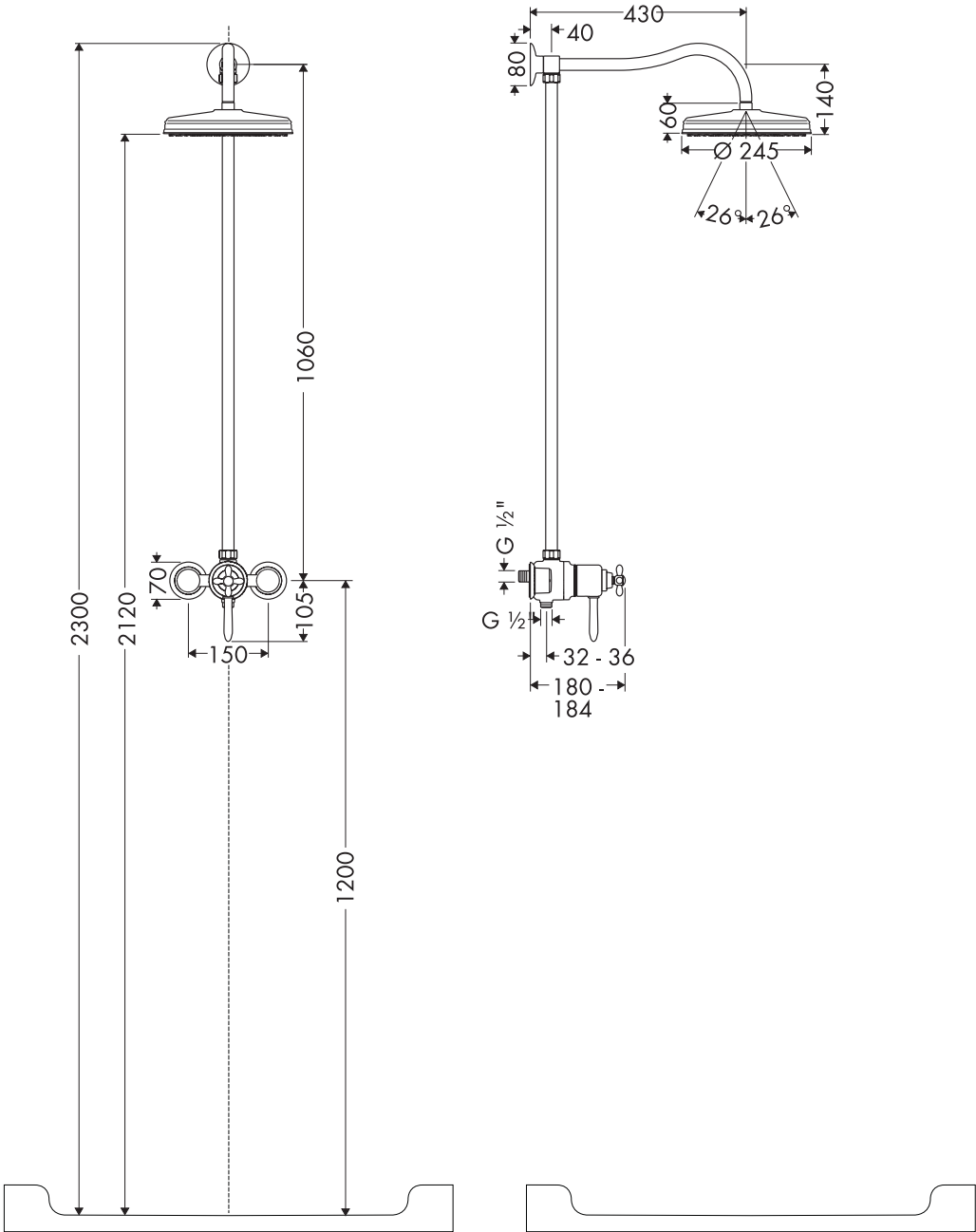
Do not block the flow of water from the hand shower, by placing it on your hand or any other part of your body or foreign object.

The thermostatic unit should be serviced annually by a qualified person to ensure maximum safety during use.

The mixer incorporates check valves (page 18 pos. 7) and filters on the thermostat-element.

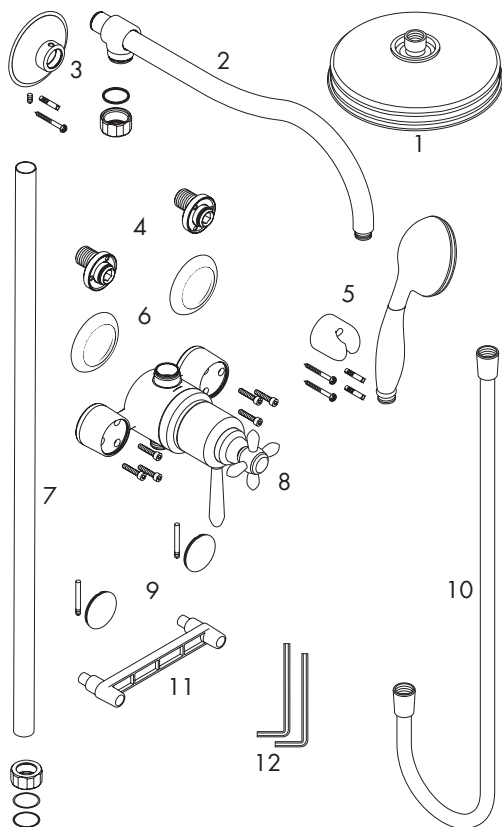
The fitting of isolation valves is required (preferred location page 6 and 7 Installation Requirements)

# Dimensions



## Pack Contents

Please check that you have been supplied with the following:



- 1 shower head cpl.
- 2 shower arm
- 3 wallflange (with deco-ring\*)
- 4 s-unions
- 5 handshower with shower holder
- 6 escutcheon
- 7 pipe
- 8 thermostatic valve.
- 9 cover
- 10 connection hose
- 11 spacer gauge
- 12 allen keys (3mm/4mm)

\* Decoring only for chrome plated / gold plated variant!

## Technical Data

### Carlton Showerpipe

This thermostatic valve will suit supplies of:  
HIGH PRESSURE (HP-S)

|                                                                   |                   |
|-------------------------------------------------------------------|-------------------|
| Operating pressure:                                               | max. 10 bar       |
| Recommended operating pressure:                                   | 0.2 - 5 bar       |
| Test pressure:                                                    | 16 bar            |
| Hot water temperature:                                            | max. 80°C         |
| Recommended hot water temp.:                                      | 65°C              |
| Rate of flow from bath spout:                                     | 20 l/min. @ 3 bar |
| Rate of flow from shower outlet:                                  | 18 l/min. @ 3 bar |
| Maximum outlet temperature:                                       | 43°C +/-*         |
| Safety check:                                                     | 40°C              |
| Hot water connection:                                             | Left hand         |
| Cold water connection:                                            | Right hand        |
| Minimum difference between hot water and mixed water temperature: | 6 K               |
| Hot and cold supply pressure should be balanced                   |                   |

### Mixed water temperature

|                  |                                                 |
|------------------|-------------------------------------------------|
| Application      | Mixed water temperature (at point of discharge) |
| Bidet            | 38°C max.                                       |
| Shower           | 41°C max.                                       |
| Washbasin        | 41°C max.                                       |
| Bath (44°C fill) | 44°C max.                                       |
| Bath (46°C fill) | 46°C max.                                       |

\* For preset outlet temperature adjustment – See page 12 „Commissioning“.

**NB.** If a water supply is fed by gravity then the supply pressure should be verified to ensure the conditions of use are appropriate for the valve. Valves operating outside of these supply conditions cannot be guaranteed to operate as a TMV2 valve.

## Supply Conditions TMV2

| Operating pressure range          | High pressure |
|-----------------------------------|---------------|
| Maximum static pressure - bar     | 10            |
| Flow pressure, hot and cold - bar | 1 to 5        |
| Hot supply temperature - °C       | 55 to 65      |
| Cold supply temperature - °C      | 5 to 25       |

# Installation Requirements

This thermostatic mixer valve must be installed in compliance with current Water Regulations. If you have any doubts about the Water Regulation requirements contact your local water services provider or use the services of a professional plumber.

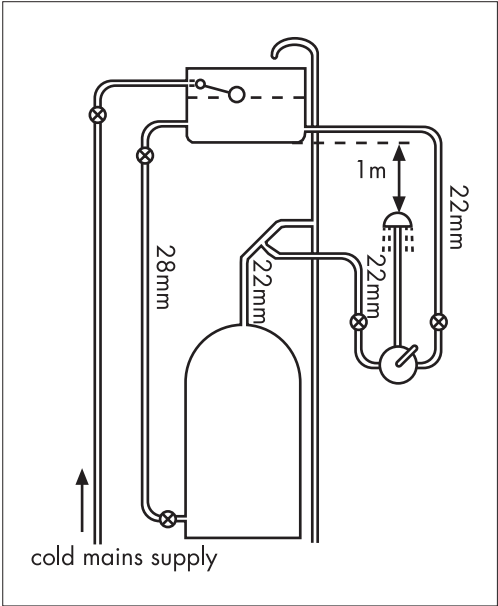
This mixer valve is suitable for use with the following water supply systems:

- Gravity Fed Hot and Cold (pressure balanced) 0.1 - 1.0 bar
- Gas Combination Boiler (multi-point) 1.0 - 10 bar\*
- Unvented System (pressure balanced) 1.0 - 10 bar
- Pumped System 1.0 - 10 bar

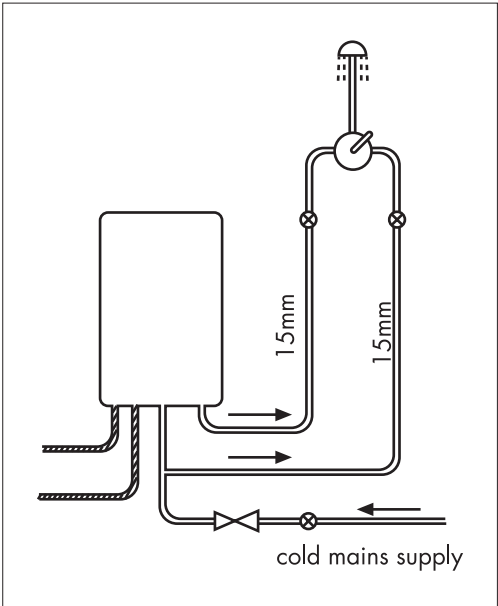
**IMPORTANT:** If you install this mixer with a gravity fed system, there must be a minimum head (vertical distance) from the underside of tile cold water storage tank to the showerhead position of at least 1 metre.

Before connecting the mixer, water should be flushed through the system to remove all debris that might otherwise damage the valve.

\* If pressure is in excess of 3.5 bar, a pressure-reducing valve should be fitted.



Gravity Fed Hot and Cold (pressure balanced)



Gas Combination Boiler (multi-point)

## KEY



Isolating valve



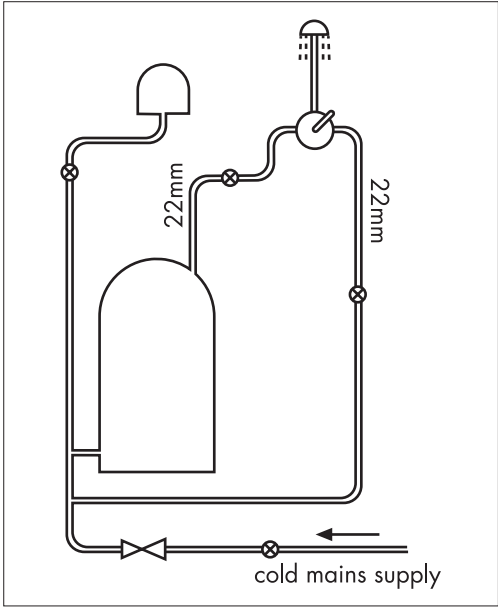
Reducing valve



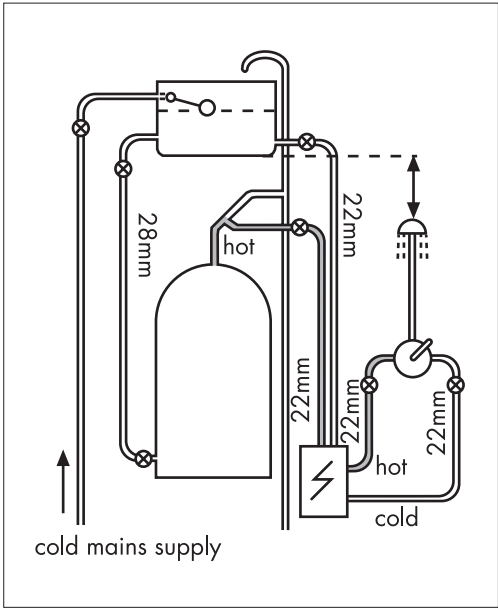
Mixer Valve



Pump



Unvented System (pressure balanced)



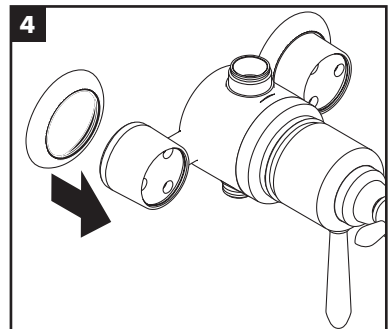
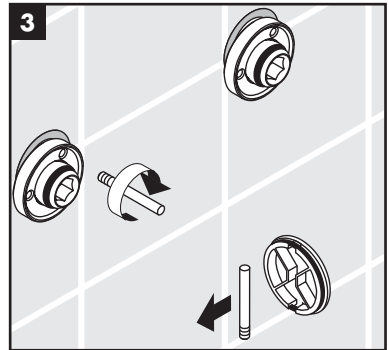
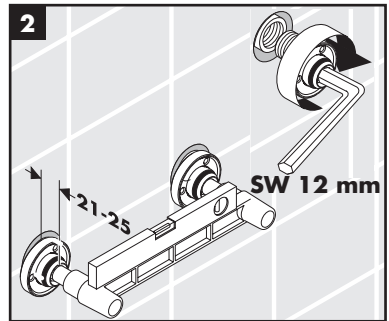
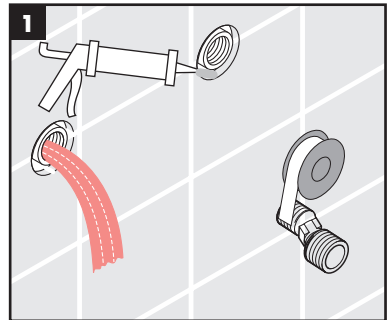
Pumped System

# Installation

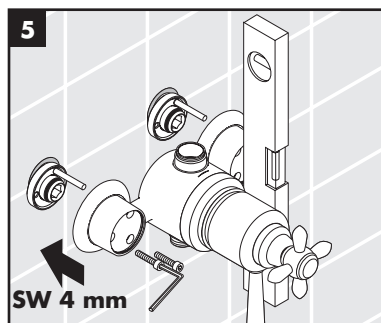
The hot supply **MUST** be on the left side, and the cold supply **MUST** be on the right. If the unit is cross-piped, it cannot function properly.

The hot and cold piping must be securely fastened in the wall. Flush the hot and cold lines thoroughly before installing the valve body. Damage to the cartridge caused by debris is not covered under the Hansgrohe Warranty.

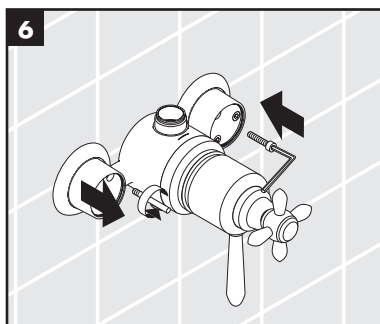
1. Wrap PTFE tape round the S-unions and screw into the backplate elbows.
2. Use a 12 mm allen key (not included) to install the offset adapters into the wall. Use the spacer gauge to check for proper spread, and a torpedo level to check for level. Make adjustments to each side using the 12 mm allen key until proper spacing and level are achieved.
3. Remove the guide pins from the reverse sides of the screw covers. Place each into one of the three screw holes on each adapter flange.
4. Install the escutcheons to the valve body.



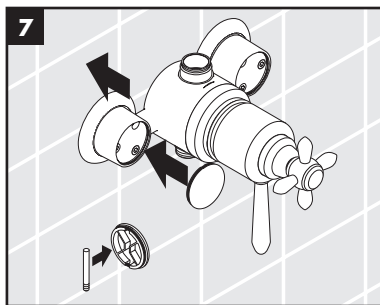
5. Place the valve body over the offset adapters, aligning it so that the guide pins come through the corresponding holes on the valve body. Start two of the 4 mm Allen bolts into the remaining two holes on each side, but do not tighten.



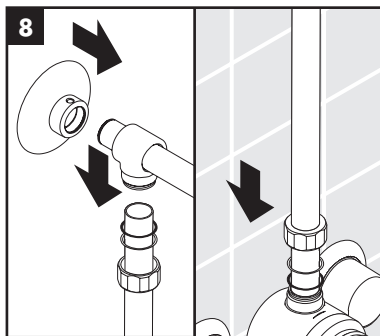
6. Use your fingers to unscrew and remove the guide pins from the adapter flanges. Install the two remaining Allen bolts. Tighten the Allen bolts a little at a time until snug. Replace the guide pins in the screw covers.



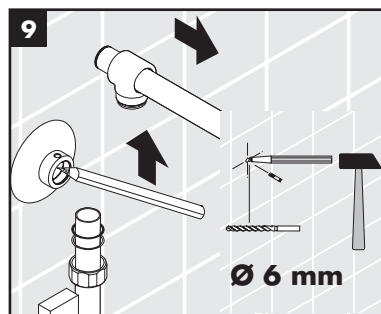
7. Place the screw covers over the screws and press firmly into place.



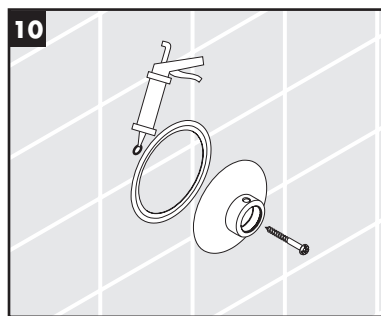
8. Attach the shower-arm with the the pipe and the flange. Connect the pipe with the valve-body, but do not tighten the nuts.



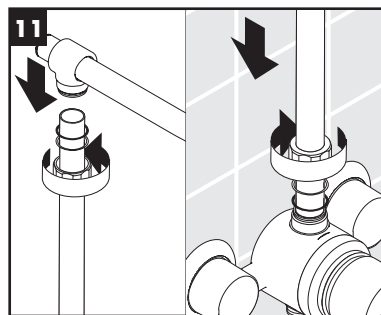
9. Hold the flange and detach the shower-arm. Use a pencil to mark through the hole to locate the position of the anchor. Mark the position for the drill-hole with a pen. Drill a 6 mm hole and install the anchor in the wall.



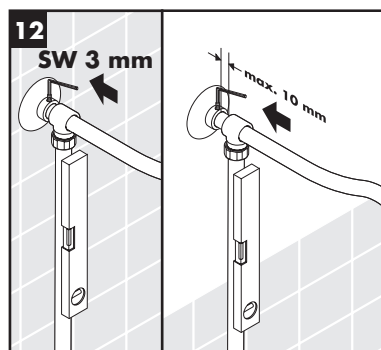
10. Place the flange on the wall. Screw the flange and the deco-ring (if included) to the wall, with the set screw at the top. **The deco-ring is only included with the chrome/gold version of the shower pipe.**



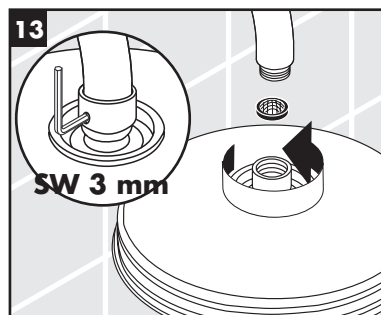
11. Attach the pipe and shower-arm to the valve-body. Tighten the nuts.



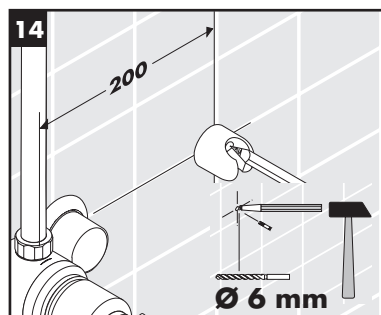
12. Insert the shower arm into the flange. Tighten the set screw.



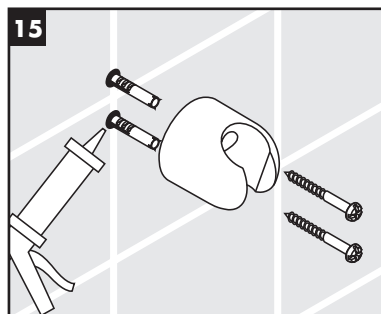
13. Insert the filter in the ball joint of the showerhead. Screw the showerhead to the end of the shower arm. Secure the showerhead with the set screw.



14. Measure 200 mm from the valve body. Place the handshower holder against the wall at this position. Use a pencil to mark through the holes to locate the position of the anchors. Set the handshower holder aside. Drill 6mm holes. Install the anchors in the wall.

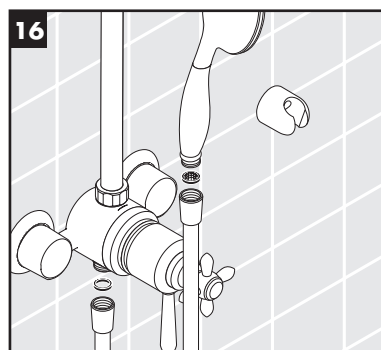


15. Seal the wall around the anchors with a suitable, non-staining waterproof bathroom sealant. Screw the holder to the wall.



16. Compare the ends of the handshower hose. Place a black rubber washer in the short end of the hose. Screw it to the valve body.

Place the filter in the long end of the hose. Screw it to the end of the handshower. Place the handshower in the handshower holder.



# Commissioning and in-service tests

## Commissioning

### Purpose

Since the installed supply conditions are likely to be different from those applied in the laboratory tests it is appropriate, at commissioning, to carry out some simple checks and tests on each mixing valve to provide a performance reference point for future in-service tests.

### Procedure

1. Check that:
  - a) the designation of the thermostatic mixing valve matches the intended application
  - b) the supply pressures are within the range of operating pressures for the designation of the valve
  - c) the supply temperatures are within the range permitted for the valve and by guidance information on the prevention of legionella etc.
2. Adjust the temperature of the mixed water in accordance with the manufacturer's instructions and the requirement of the application and then carry out the following sequence:
  - a) record the temperature of the hot and cold water supplies
  - b) record the temperature of the mixed water at the largest draw-off flow rate
  - c) record the temperature of the mixed water at a smaller draw-off flow rate, which shall be measured
  - d) isolate the cold water supply to the mixing valve and monitor the mixed water temperature
  - e) record the maximum temperature achieved as a result of (d) and the final stabilised temperature

NOTE: The final stabilised mixed water temperature should not exceed the values in Table A.

- f) record the equipment, thermometer etc. used for the measurements

**Table A: Guide to maximum stabilised temperatures recorded during site tests**

| Application      | Mixed water temperature |
|------------------|-------------------------|
| Shower           | 43°C                    |
| Washbasin        | 43°C                    |
| Bath (44°C fill) | 46°C                    |
| Bath (46°C fill) | 48°C                    |

## In-service tests

### Purpose

The purpose of in-service tests is to regularly monitor and record the performance of the thermostatic mixing valve. Deterioration in performance can indicate the need for service work on the valve and / or the water supplies.

### Procedure

1. Carry out the procedure **2.** (a) to (c) on page 12 using the same measuring equipment, or equipment to the same specifications.
2. If the mixed water temperature has changed significantly from the previous test results (e.g. > 1 K), record the change and before re-adjusting the mixed water temperature check:
  - a) that any in-line or integral strainers are clean
  - b) any in-line or integral check valves or other anti-backsiphonage devices are in good working order
  - c) any isolating valves are fully open
3. With an acceptable mixed water temperature, complete the procedure **2.** (a) to (c) on page 12.
4. If at step **2.** (e) on page 12 the final mixed water temperature is greater than the values in Table A and / or the maximum temperature exceeds the corresponding value from the previous test results by more than about 2 K, the need for service work is indicated.

NOTE: In-service tests should be carried out with a frequency which identifies a need for service work before an unsafe water temperature can result. In the absence of any other instruction or guidance, the procedure described in „Frequency of in-service tests“ may be used.

## Frequency of in-service tests

The frequency of performing the in-service tests is 1 year maximum

### General

In the absence of any other instruction or guidance on the means of determining the appropriate frequency of in-service testing, the following procedure may be used:

1. 6 to 8 weeks after commissioning carry out the tests given in **2.** on page 12.
2. 12 to 15 weeks after commissioning carry out the tests given in **2.** on page 12.
3. Depending on the results of **1.** and **4.** several possibilities exist:
  - a) If no significant changes (e.g.  $\leq 1$  K) in mixed water temperatures are recorded between commissioning and **1.**, or between commissioning and **4.** the next in-service test can be deferred to 24 to 28 weeks after commissioning.
  - b) If small changes (e.g. 1 to 2 K) in mixed water temperatures are recorded in only one of these periods, necessitating adjustment of the mixed water temperature, then the next in-service test can be deferred to 24 to 28 weeks after commissioning.
  - c) If small changes (e.g. 1 to 2 K) in mixed water temperatures are recorded in both of these periods, necessitating adjustment of the mixed water temperature, then the next in-service test should be carried out at 18 to 21 weeks after commissioning.
  - d) If significant changes (e.g. > 2 K) in mixed water temperatures are recorded in either of these periods, necessitating service work, then the next in-service test should be carried out at 18 to 21 weeks after commissioning.
4. The general principle to be observed after the first 2 or 3 in-service tests is that the intervals of future tests should be set to those which previous tests have shown can be achieved with no more than a small change in mixed water temperature.

# Thermostatic Adjustment

## Temperature Limitation

The temperature is limited by the safety stop to 40°C. If a higher temperature is required, it is possible to override the safety stop by depressing the cross handle.

**NB.** It is recommended that for **private domestic use** the maximum mixed water temperature be set at the following factory set values:

Shower Mixer 43°C

Bath/Shower 46°C

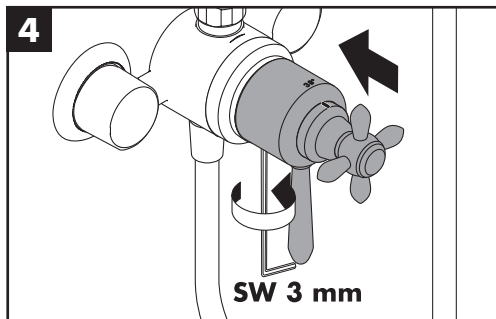
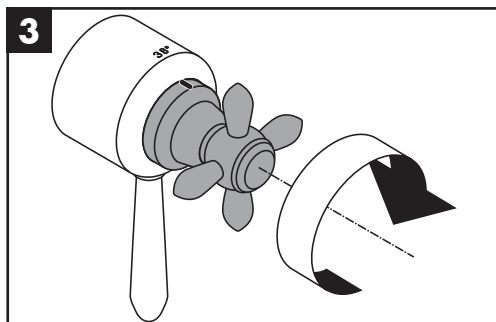
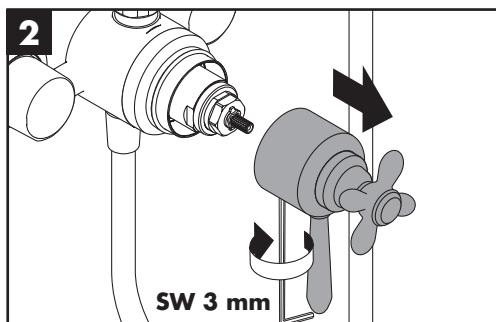
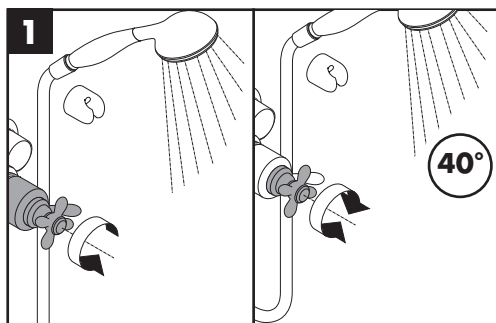
Temperatures can be set by following the procedures under „**Setting thermostat to a maximum temperature**“. This ensures that after correct installation the outlet temperature of the water can never exceed 43°C.

To guarantee a smooth running of the thermostatic element, it is necessary from time to time to turn the thermostat from total hot to total cold. The thermostatic mixer valve should be checked annually by a qualified person to ensure correct operation.

The mixer is fitted with check valves (page 18 pos. 7) and filters on the thermostatic element. If the water flow drops the filters need to be cleaned. For that purpose the mixer has to be removed from the wall.

## Calibrating Thermostat

1. If the temperature reading is different to the showering temperature, turn the thermostat handle until a 40°C reading is shown on your thermometer (fig.1).
2. Remove the handle end cap, undo the screw and pull off the handle and safety set disk (fig.2).
3. Rotate the cross handle so the marking point is positioned at 12 o'clock (fig. 3) and re-fit onto the spindle. Replace the screw (fig.4).

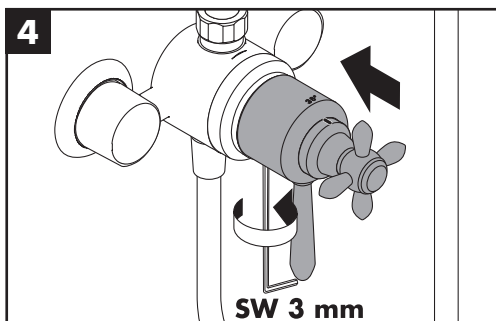
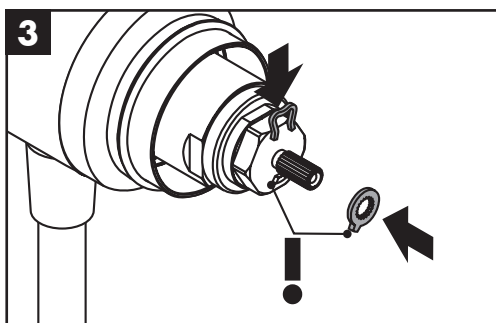
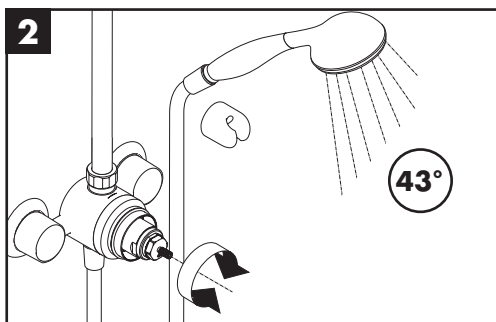
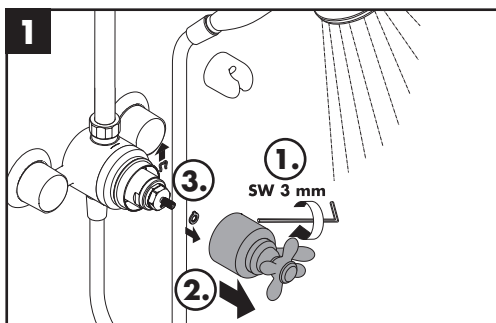


## Setting thermostat to a maximum temperature (Optional)

The desired maximum temperature (43°C) can be pre-set using the safety function.

Proceed as follows:

1. Undo the screw and pull off the handle. Remove the circlip from the spindle and slide off the locking ring (fig.1).
2. Turn the spindle until the required maximum temperature is reached (43°C). You will need to use a thermometer (fig.2).
3. Replace the locking ring back onto the spindle as shown. Refit the circlip (fig.3).
4. Refit the safety set disk as shown. Replace the handle and screw (fig.4).



# Operating your Shower

The shower pipe has two controls built onto the handle assembly.

## Flow ON/OFF Control

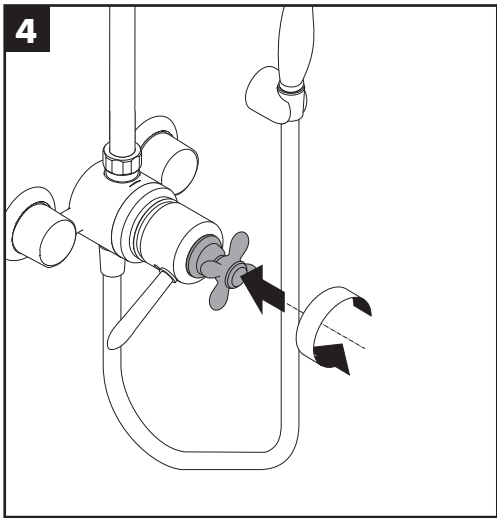
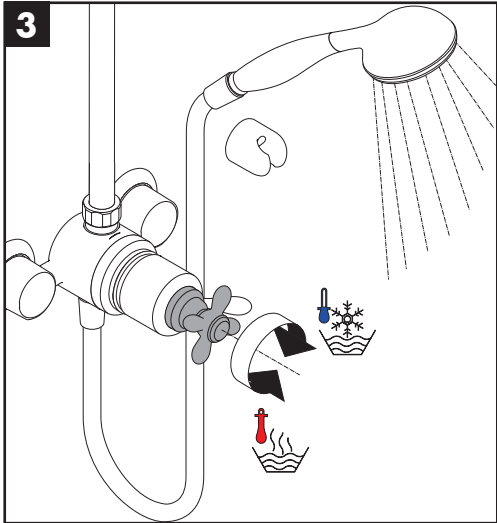
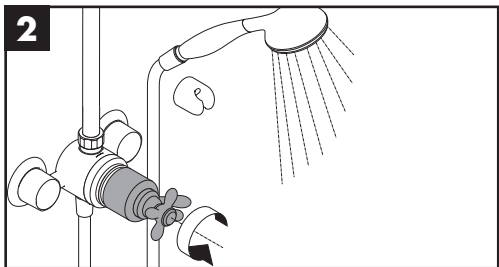
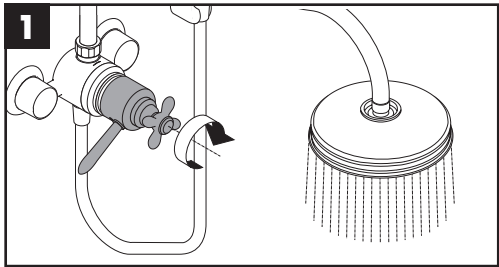
The lever part of the handle is the volume control / diverter. When it is pointing straight down, it is in the off position. Turn the lever clockwise to send water to the showerhead (fig. 1), anti-clockwise to send water to the handshower (fig. 2). The further the handle is turned, the greater the flow of water.

## Temperature Control

The front part of the handle is the temperature control. Turn it clockwise to make the water cooler. Turn it anti-clockwise to make the water warmer (fig. 3). When turning the handle anti-clockwise, it will stop when the water is 40°C. To obtain water warmer than 40°C, press inward on the temperature control, and continue turning anti-clockwise (fig. 4).

## Thermostat

The valve automatically adjusts for changes in flow supply and maintains the outlet set water temperature.



---

## Cleaning

### **Cleaning materials for Mixers and Showers**

Acids are necessary ingredients of cleaning materials for removing lime. However please pay particular attention to the following points when cleaning mixers and showers:

- Only use cleaning material specifically intended for this type of cleaning - such as Hansgrohe's Decalcifying Agent, available through the specialist sanitary trade.

- Never use cleaning materials which contain hydrochloric, formic or acetic acid, as they cause considerable damage.

- Never use Phosphoric acid as it can cause damage.

- Never mix any cleaning material with another.

- Never use cleaning materials on appliances with an abrasive effect, such as unsuitable cleaning powders, sponge pads or micro fibre cloths.

### **Cleaning Instructions for Mixers and Showers**

Please follow the cleaning materials manufacturer's instructions. In addition pay attention to the following points:

- Clean the mixers and showers as and when required.

- The cleaning dosage and time the cleaner needs to take effect should be adjusted according to the product and the cleaner should not be left longer than necessary.

- Regular cleaning can prevent calcification.

- When using spray cleaner, spray first into a cloth or sponge never directly onto the sanitary tapware, as drops could enter openings and gaps and cause damage.

- After cleaning, rinse thoroughly with clean water to remove any cleaner residue.

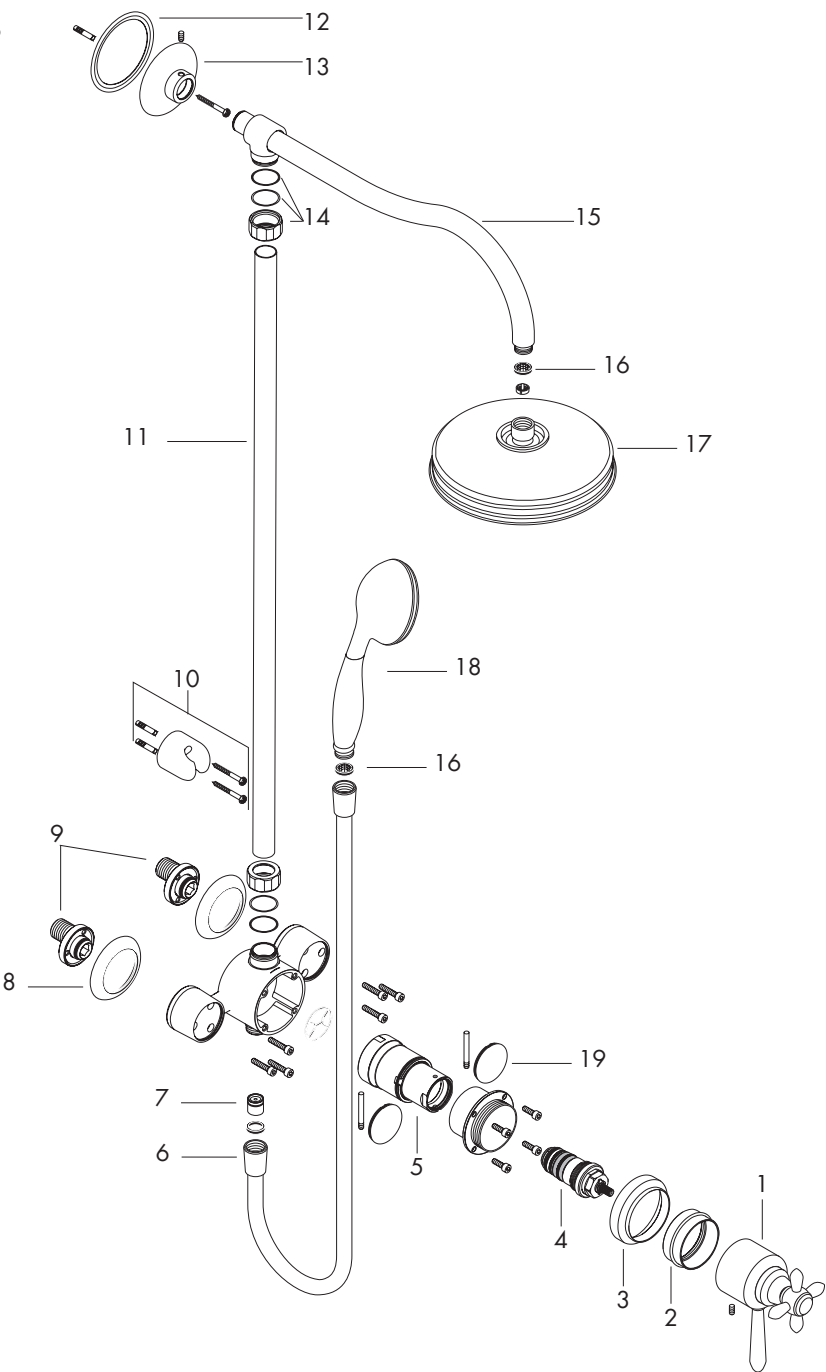
### **Important**

Residues of liquid soaps, shampoos and shower foams can also cause damage, so rinse with clean water after use.

If the surface is already damaged, the effect of cleaning materials will cause further damage.

**Damage caused by improper treatment will not be covered by our guarantee.**

**Spare Parts**



---

|    |                            |          |
|----|----------------------------|----------|
| 1  | handle                     | 17392XXX |
| 2  | nut                        | 96738XXX |
| 3  | escutcheon                 | 96739XXX |
| 4  | thermostatic element       | 94282000 |
| 5  | shut off and diverter unit | 96740000 |
| 6  | hose                       | 28276XXX |
| 7  | check valve                | 94074000 |
| 8  | escutcheon                 | 96741XXX |
| 9  | s - unions                 | 96742000 |
| 10 | shower holder              | 96532XXX |
| 11 | pipe                       | 96743XXX |
| 12 | deco-ring*                 | 96744990 |
| 13 | wall flange                | 96745XXX |
| 14 | sleeve nut                 | 96746XXX |
| 15 | shower arm                 | 96747XXX |
| 16 | filter packing             | 94246000 |
| 17 | head shower                | 28474XXX |
| 18 | handshower                 | 17850XXX |
| 19 | cover                      | 96748XXX |

#### XXX = Colors

000 chrome plated

090 chrome plated/gold plated

810 satinox®

\* Decoring only for chrome plated / gold plated variant!

# Trouble Shooting

| Fault                                                                | Cause                                             | Remedy                                             |
|----------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------|
| Insufficient water flow                                              | Supply pressure inadequate                        | Check mains pressure                               |
|                                                                      | Shower filter seal dirty                          | Clean filter seal between shower and hose          |
|                                                                      | Thermostat cartridge filters dirty                | Remove cartridge & clean the filters on the barrel |
| ‚Crossflow‘, hot water is forced into cold water pipe, or vice versa | check valves dirty or leaking                     | Clean check valves - replace if necessary          |
| Spout temperature does not correspond with the temperature set       | Thermostat has not been adjusted                  | Calibrate thermostat                               |
|                                                                      | Hot water temperature too low                     | Increase hot water temperature                     |
| No temperature control                                               | Thermostat cartridge failure or blocked filters   | Check/clean filters<br>Replace cartridge           |
| Shower or spout dripping                                             | Dirt in the flow valve or ‚shut off‘ unit damaged | Clean or replace shut-off unit                     |

## Warranty

You have purchased a quality product from Hansgrohe. All parts which show any kind of fault as far as construction, material or assembly are concerned within the first 24 months after installation, we will repair or exchange the part in question free of charge. Faulty items become our property.

We do not grant warranty for faults caused by:  
unsuitable or improper use; incorrect assembly; installation started and/or completed by a non-qualified plumber, natural wear out, improper or careless treatment, lack of maintenance; unsuitable usage; chemical, electro-chemical or electrical influences.



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