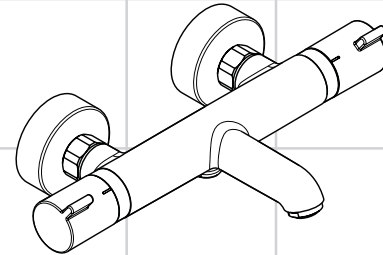


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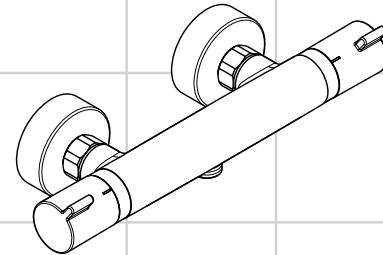


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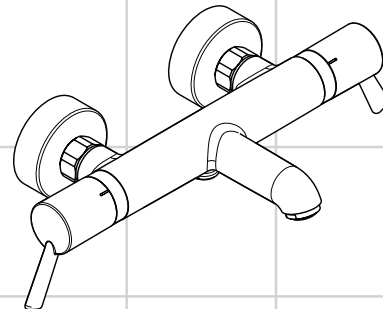


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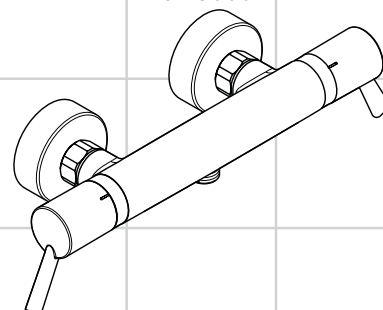
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Veiligheidsinstructies

- ⚠ Bij de montage moeten ter voorkoming van knel- en snijwonden handschoenen worden gedragen.
- ⚠ Het product mag alleen voor het wassen, hygiënische doeleinden en voor de lichaamreiniging worden gebruikt.
- ⚠ Kinderen en volwassenen met lichamelijke, geestelijke en/of sensorische beperkingen mogen het douchesysteem niet zonder toezicht gebruiken. Personen onder invloed van alcohol of drugs mogen het douchesysteem niet gebruiken.
- ⚠ Grote drukverschillen tussen de koud- en warmwatertoevoer dienen vermeden te worden.

Montage-instructies

- Vóór de montage moet het product gecontroleerd worden op transportschade. Na de inbouw wordt geen transport- of oppervlakteschade meer aanvaard.
- De leidingen en armaturen moeten gemonteerd, gespoeld en gecontroleerd worden volgens de geldige normen.
- De in de overeenkomstige landen geldende installatierichtlijnen moeten nageleefd worden.
- Het product is niet voorzien voor gebruik in combinatie met een stoombad!

Thermostaat en combinatie met een geiser

- Indien er een handdouche aangesloten wordt, dan dient de eventueel aanwezige doorstroombegrenzer eveneens verwijderd te worden.
- Indien de thermostaatkraan "pulseert" wordt dit veroorzaakt door de warmwater voorziening of door te grote drukverschillen tussen de warm- en koudwater toevoer. In dit geval dient er in de koudwatertoevoerleiding, de als optie verkrijgbare, "doorstroombegrenzer of remplaatje" nr. 97510000 ingebouwd te worden.

Technische gegevens

Werkdruk: max.	max. 1 MPa
Aanbevolen werkdruk:	0,1 - 0,5 MPa
Getest bij:	1,6 MPa
(1 MPa = 10 bar = 147 PSI)	
Temperatuur warm water:	max. 70°C
Aanbevolen warm water temp.:	65°C
Thermische desinfectie:	max. 70°C / 4 min
Aansluitmaten:	150 ± 12 mm
Aansluitingen G 1/2:	koud rechts - warm links

Beveiligd tegen terugstromen

Het product is uitsluitend ontworpen voor drinkwater!

Symboolbeschrijving



Gebruik geen zuurhoudende silicone!

max. ≈ 42°C

Safety Function (zie blz. 32)

Dankzij de Safety Function kan de gewenste maximale temperatuur van bijv. max. 42°C van te voren worden ingesteld.



Correctie (zie blz. 32)

Na montage dient de uitstroomtemperatuur van de thermostaat gecontroleerd te worden. Een correctie is noodzakelijk als de aan het tappunt gemeten temperatuur afwijkt van de op de thermostaat ingestelde temperatuur.



Onderhoud (zie blz. 36)

- De thermostaat is voorzien van terugslagkleppen. Keerklappen moeten volgens DIN EN 1717 regelmatig en volgens plaatselijk geldende eisen op het functioneren gecontroleerd worden. (Tenminste een keer per jaar).
- Om het soepel lopen van de regelenheid te garanderen moet de thermostaat van tijd tot tijd op heel koud en heel warm worden ingesteld.



Bediening (zie blz. 33)



Maten (zie blz. 34)



Doorstroomdiagram (zie blz. 34)

- ① Uitlaat douche
- ② Uitlaat bad



Service onderdelen (zie blz. 35)



Reinigen

zie bijgevoegde brochure

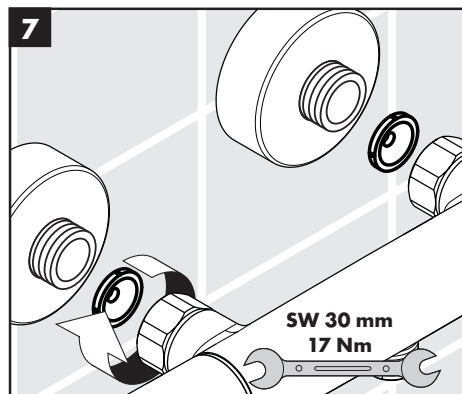
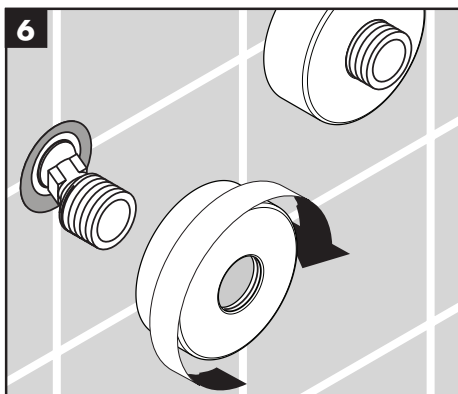
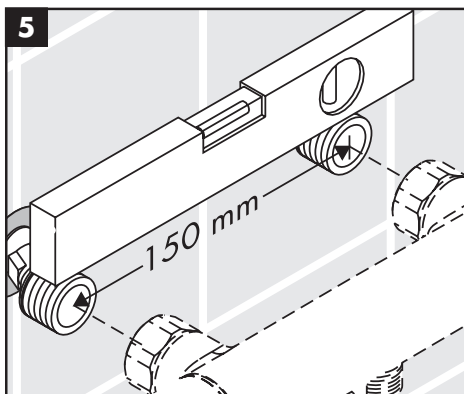
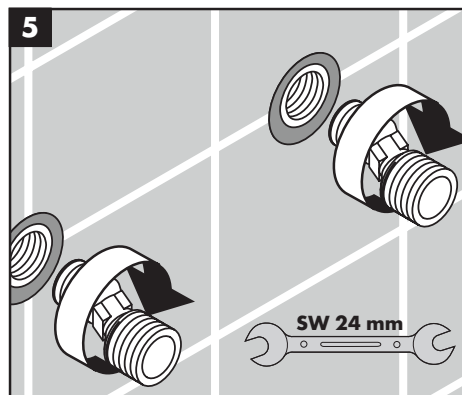
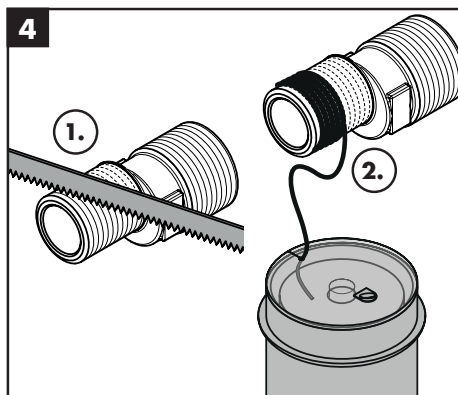
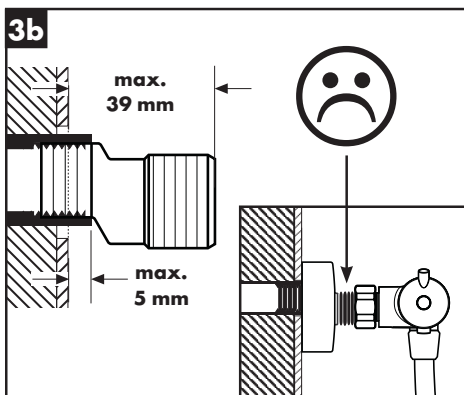
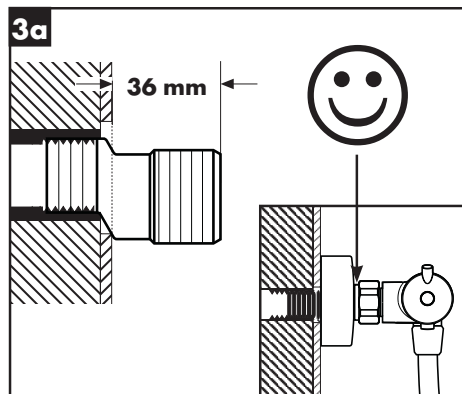
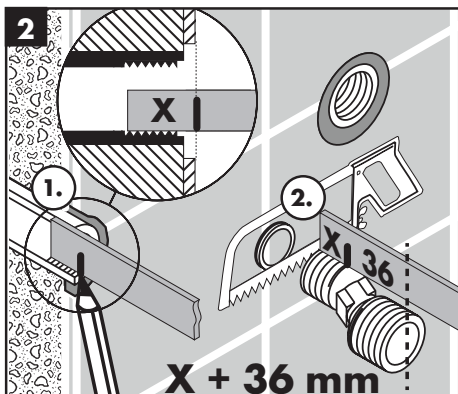
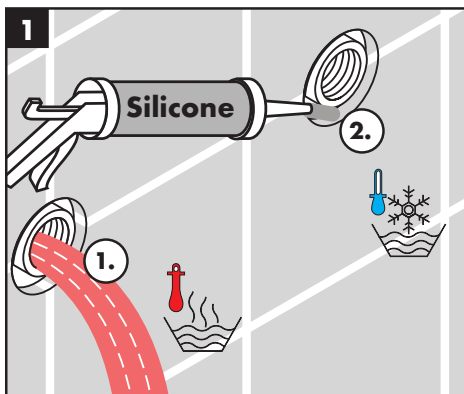


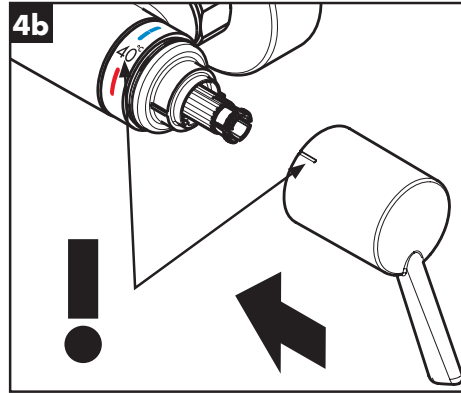
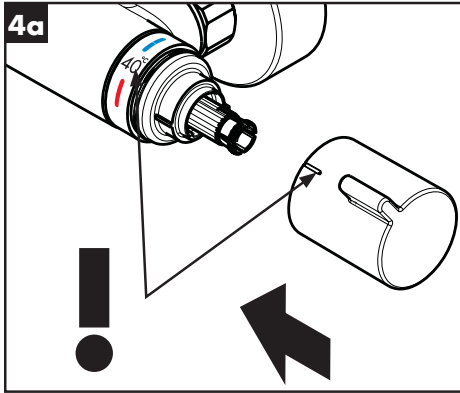
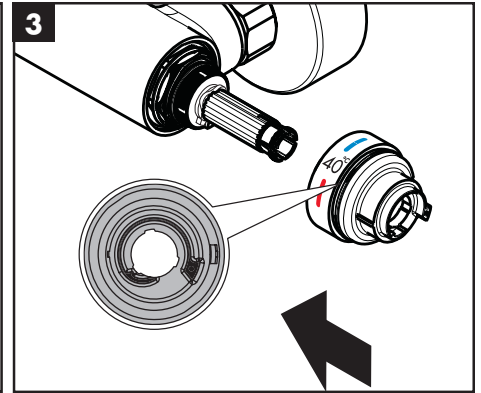
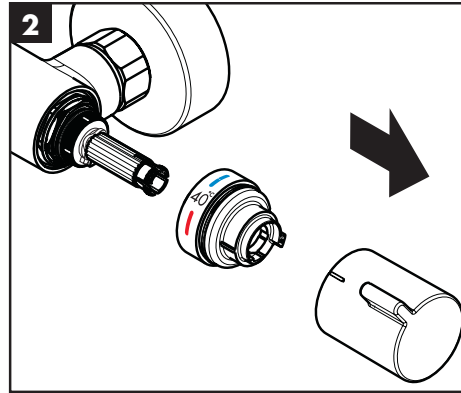
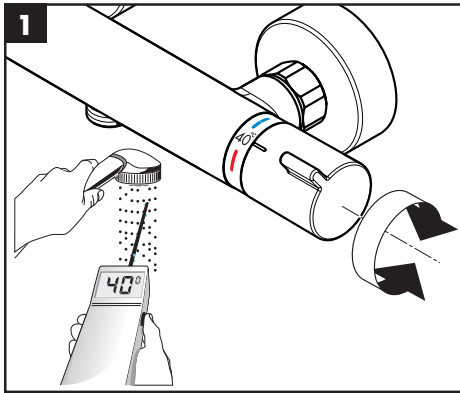
Keurmerk (zie blz. 36)

Storing	Oorzaak	Oplossing
Weinig water	- Druk te laag - Vuilzeef van thermo-element verstopt - Zeefdichting handdouche verstopt	- Druk controleren - Vuilvangzeefjes en zeefjes van regelenheid reinigen - Zeefdichting handdouche reinigen
Kruisstroom, warm water stroomt in gesloten toestand in koud water leiding of omgekeerd	- Terugslagkleppen vervuild of defect	- Terugslagkleppen reinigen dan wel uitwisselen
Uitstroomtemperatuur komt niet met ingestelde temperatuur overeen	- Thermostaat niet ingesteld - Temperatuur van warm water te laag	- Thermostaat instellen - Warmwater toevoer verhogen min. 42°C naar 65°C
Temperatuur niet regelbaar	- regelenheid verkalkt	- regelenheid uitwisselen
Doorstroomtoestel schakelt tijdens gebruik van thermostaat niet in	- Vuilzeef verstopt - Terugslagklep zit vast - Begrenzer van handdouche niet verwijderd	- Vuilvangzeef reinigen / uitwisselen - Terugslagklep uitwisselen - Begrenzer uit handdouche verwijderen
Douche/uitloop lekt	- Vuil of verkalking op de zitting, bovendeeel beschadigd	- Bovendeeel reinigen of omstelling uitwisselen

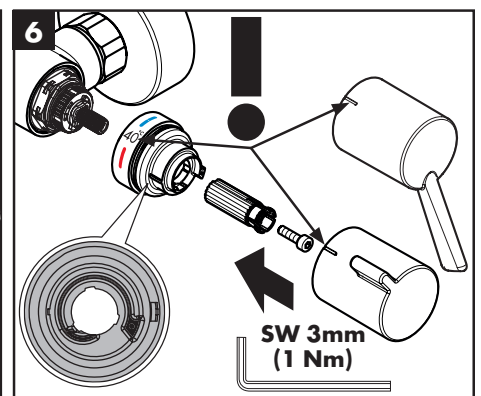
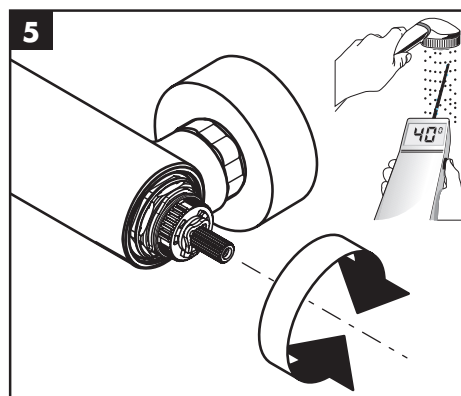
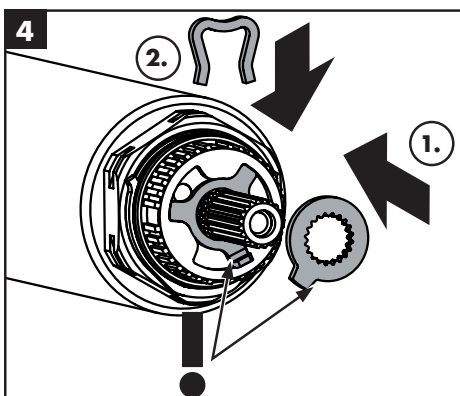
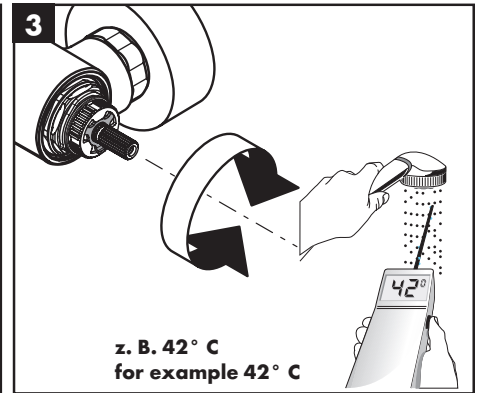
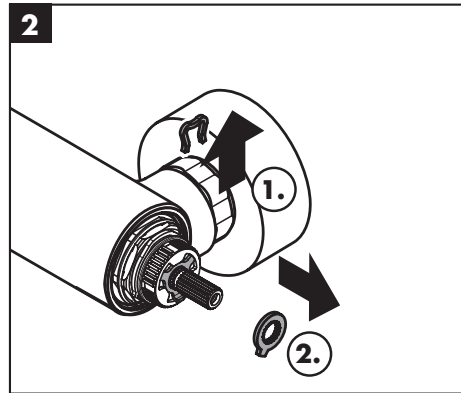
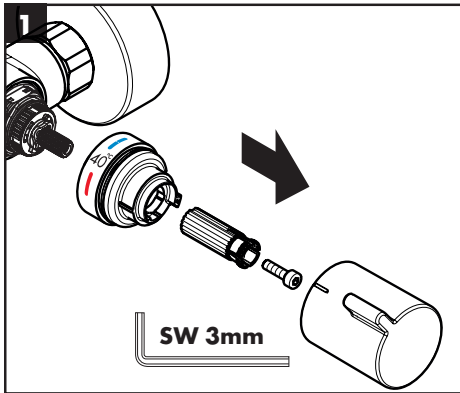


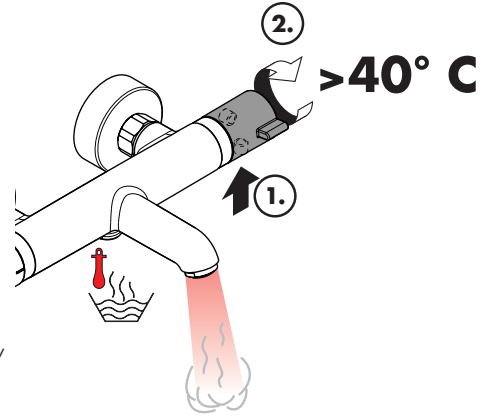
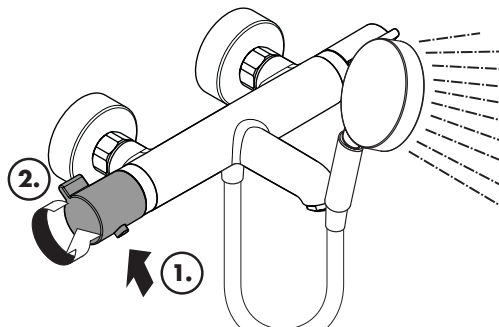
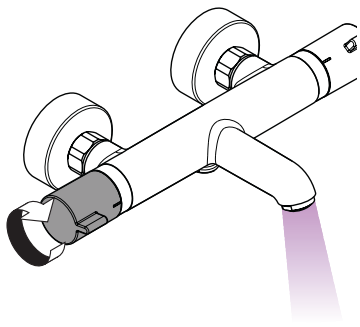
Montage zie blz. 31





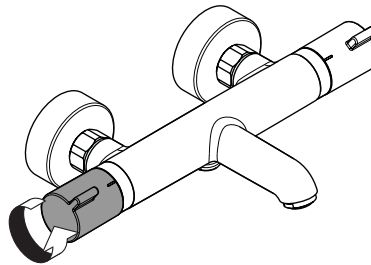
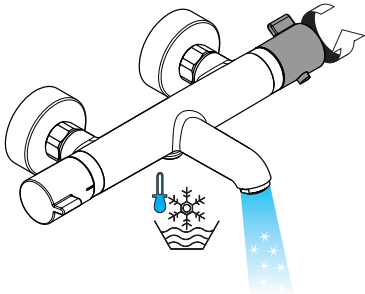
max.
≈ 42 °C



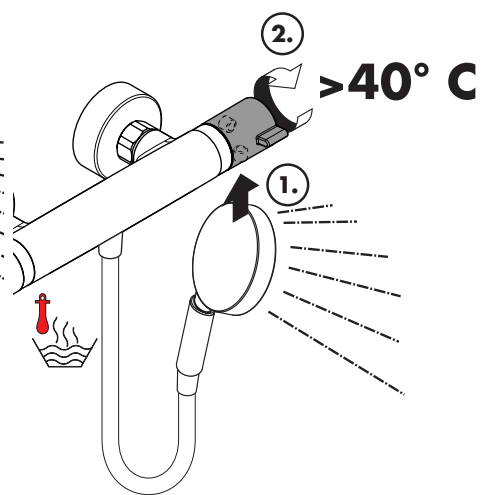
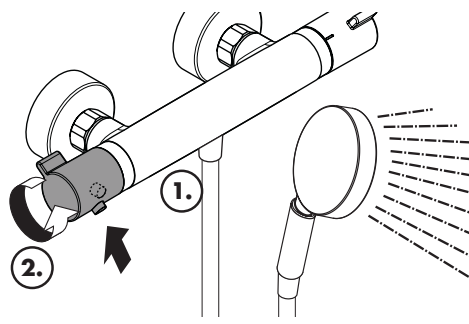
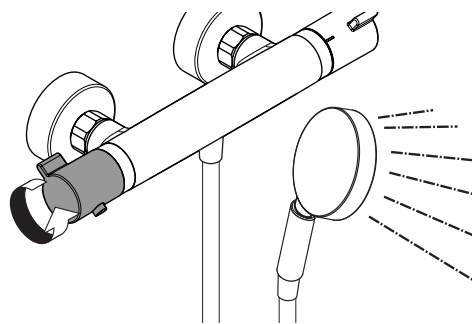


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årne / отварање / hare / فتح

warm / chaud / hot / caldo / caliente / warm / varmt /
quente / ciepła / teplá / teplá / 热 / горячая / meleg /
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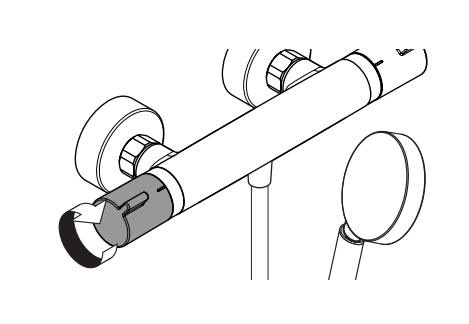
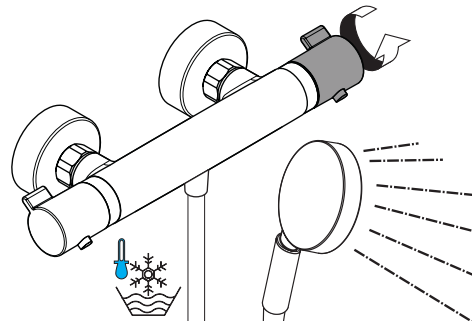


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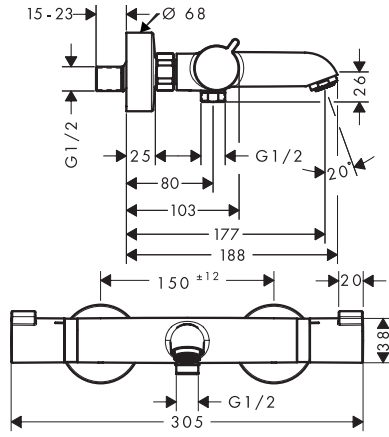
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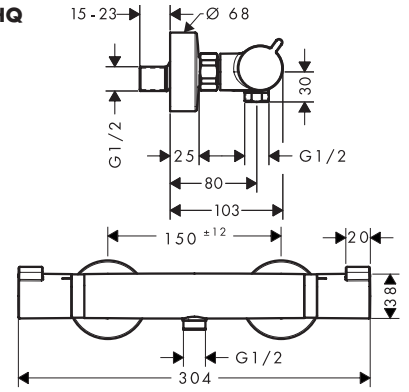
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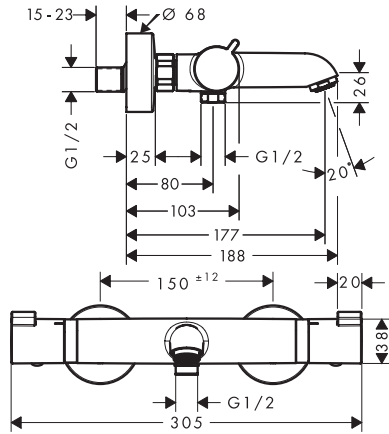
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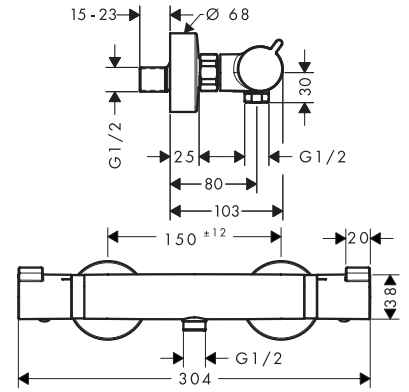
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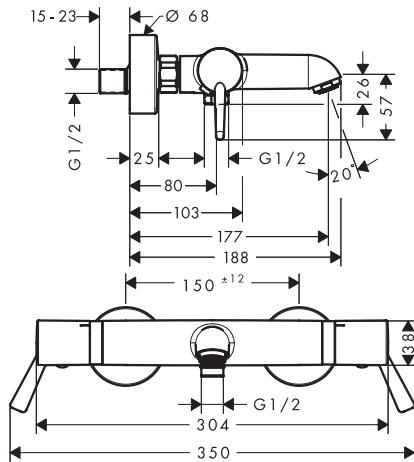
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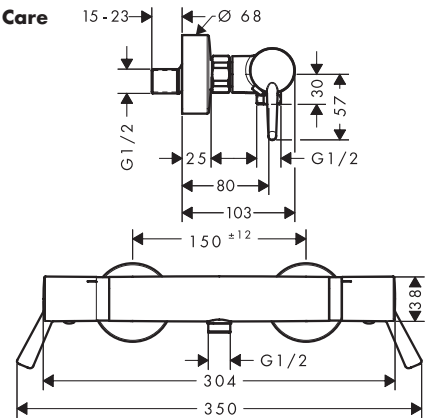
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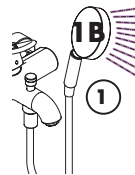
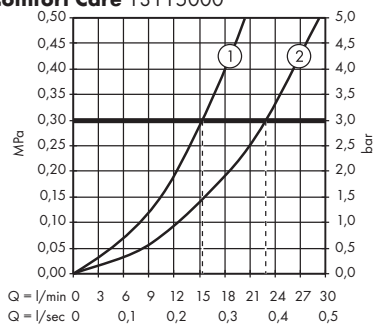
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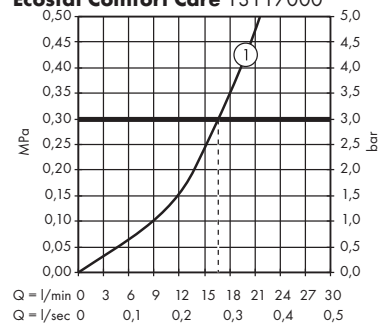
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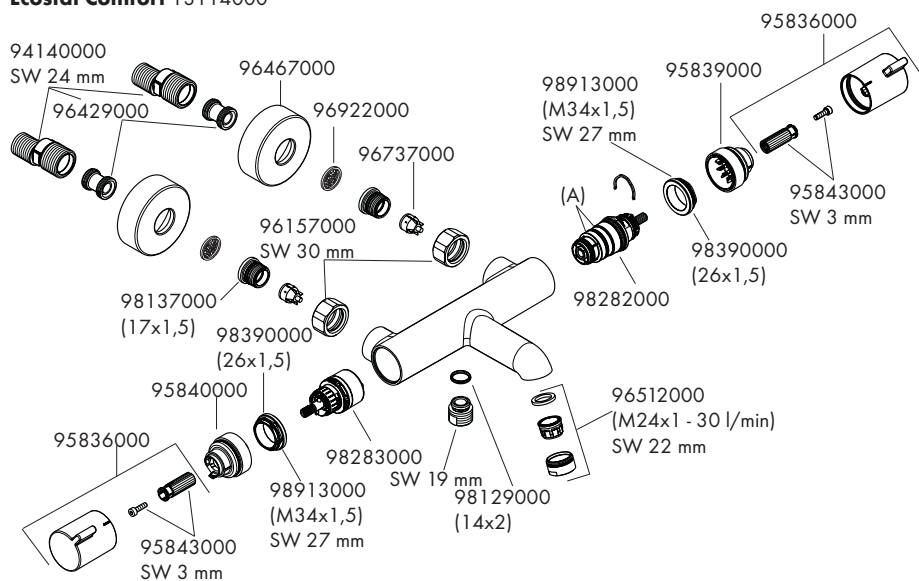


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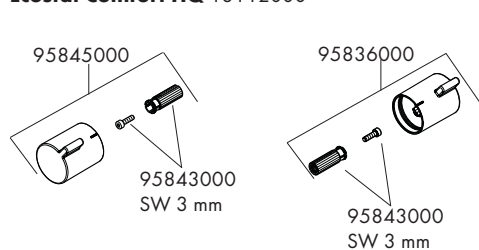




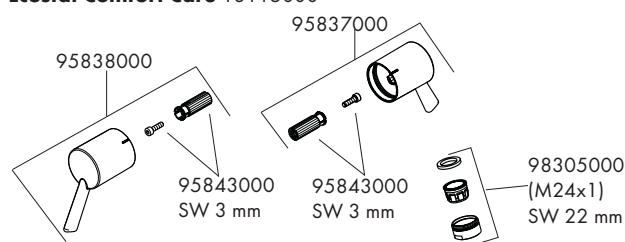
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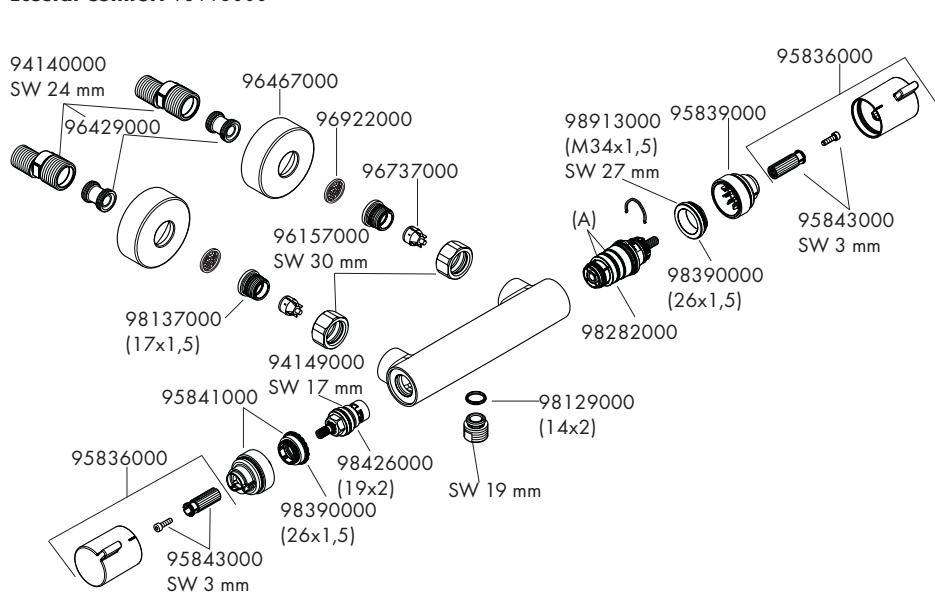
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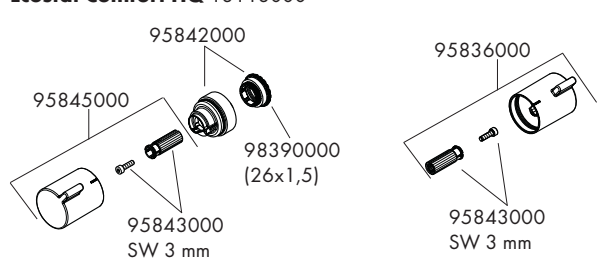
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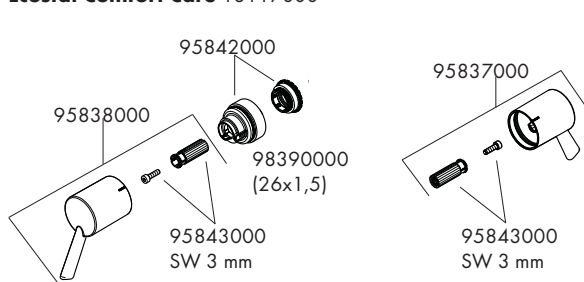
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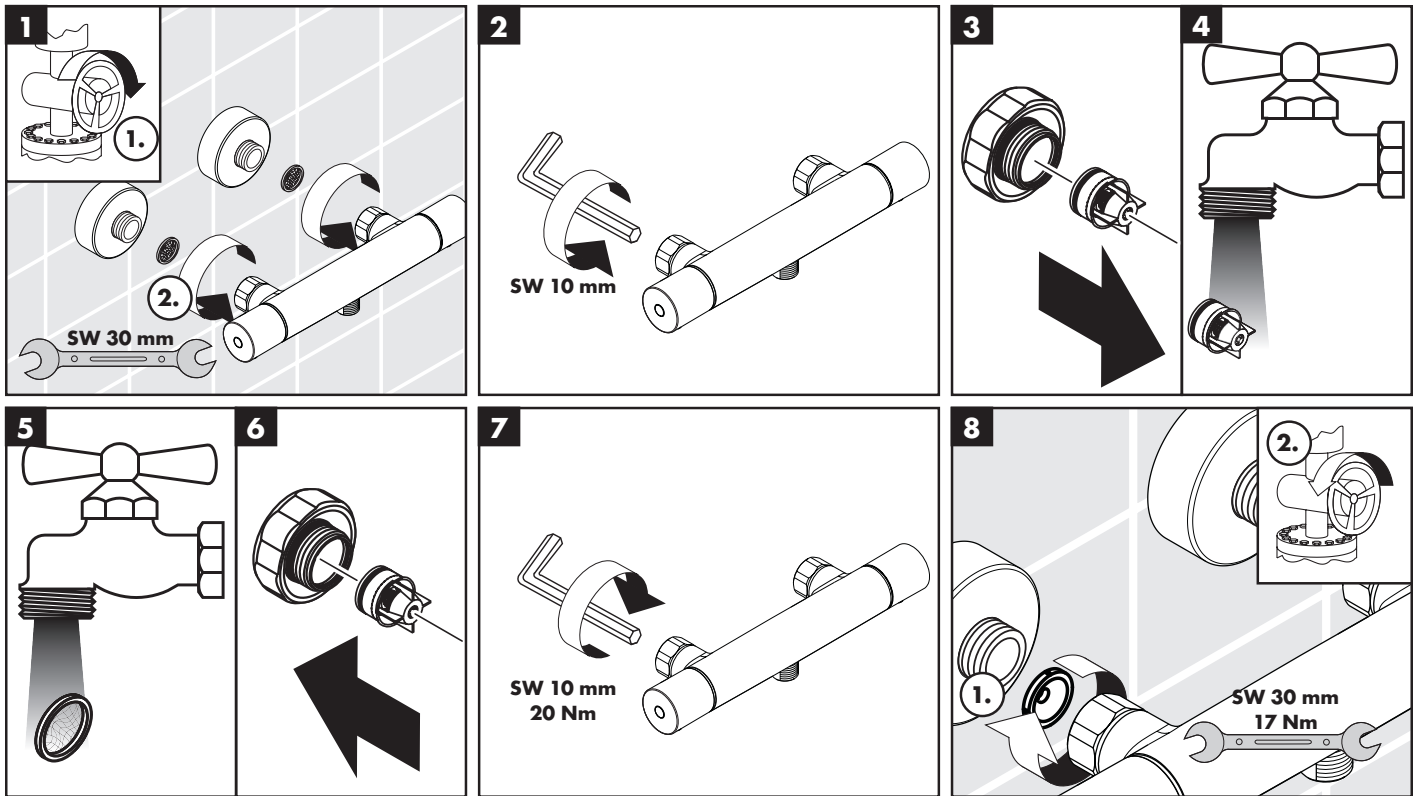


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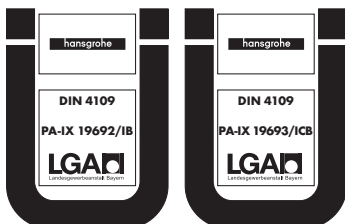


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	P-IX	DVGW	SVGW	NF	ACS	WRAS	KIWA	ETA
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13113000	PA-IX 19692/IB	CN0422			X	X	X	VD 1.43/20148
13114000	PA-IX 19693/ICB	CN0422		X	X	X	X	VD 1.43/20147
13115000	PA-IX 19693/ICB	CN0422			X	X	X	VD 1.43/20147
13116000	PA-IX 19692/IB	CN0422		X	X	X	X	VD 1.43/20148
13117000	PA-IX 19692/IB	CN0422			X	X	X	VD 1.43/20148





On the following pages 37 - 40 you can find important information only for the installation in UK

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 thermostat mixing valve 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.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

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

Chartered Institute of Plumbing and Heating Engineering (CIPHE)
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 valve must remain accessible to maintain and commission it.

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

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

The mixer is fitted with check valves (page 35 pos. 96737000). There are filters on the thermostatic element too (page 35 pos. 96922000 and A).

The fitting of isolation valves is required (preferred location page 38 Installation Requirements)

Technical Data

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

Operating pressure:	max. 10 bar
Recommended operating pressure:	1 - 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).
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 32.

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 or TMV3 valve.

Recommended outlet temperatures

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

- 44 °C for bath fill but see notes below;
- 41 °C for showers;
- 41 °C for washbasins.

The mixed water temperatures must never exceed 46 °C.

The maximum mixed water temperature can be 2 °C above the recommended maximum set outlet temperatures.

Note: 46 °C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

It is not a safe bathing temperature for adults or children.

The British Burns Association recommends 37 to 37.5 °C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum mixed water outlet temperature is 43 °C

Technical Hotline for UK only

E-mail for UK only

0 870 7701975

Technical@hansgrohe.co.uk

(Diese Servicehotline ist nur für das Vereinigte Königreich Großbritannien, nicht z. B. für Deutschland)

Supply Conditions TMV2

Operating pressure range	High pressure
Maximum static pressure - bar	10
Flow pressure, hot and cold - bar	0.5 to 5
Hot supply temperature - °C	55 to 65
Cold supply temperature - °C	5 to 25

Supply Conditions TMV3

Operating pressure range	High pressure
Maximum static pressure - bar	10
Flow pressure, hot and cold - bar	1 to 5
Hot supply temperature - °C	52 to 65
Cold supply temperature - °C	5 to 20

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.

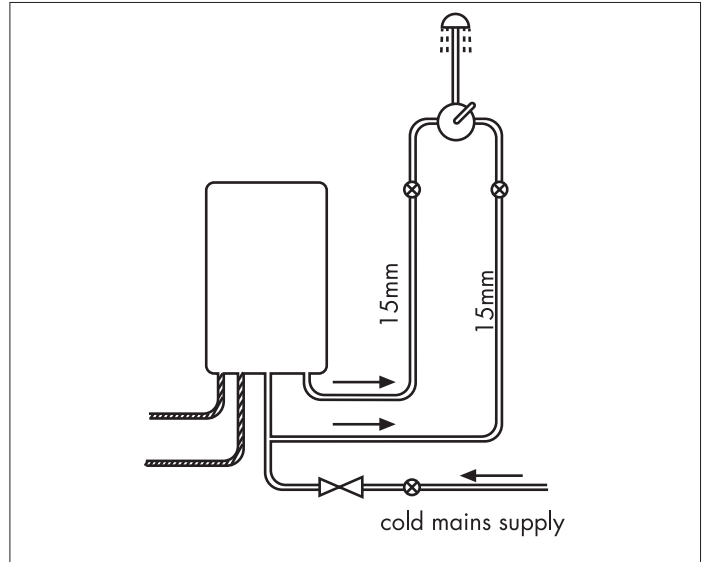
This mixer valve is suitable for use with the following water supply systems:

Gas Combination Boiler (multi-point) 1.0 - 10 bar*
 Unvented System (pressure balanced) 1.0 - 10 bar
 Pumped System 1.0 - 10 bar

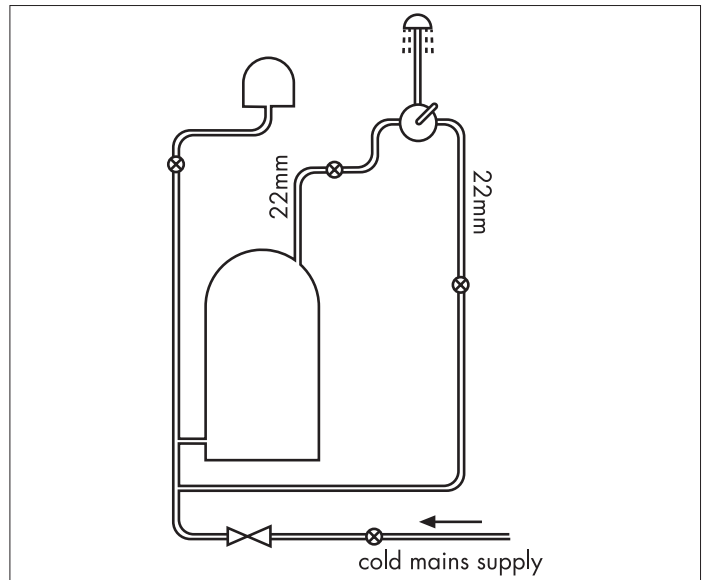
IMPORTANT: If you install this mixer with a gravity fed system, there must be a minimum head (vertical distance) from the underside of the cold water storage tank to the showerhead position of at least 5 metre.

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

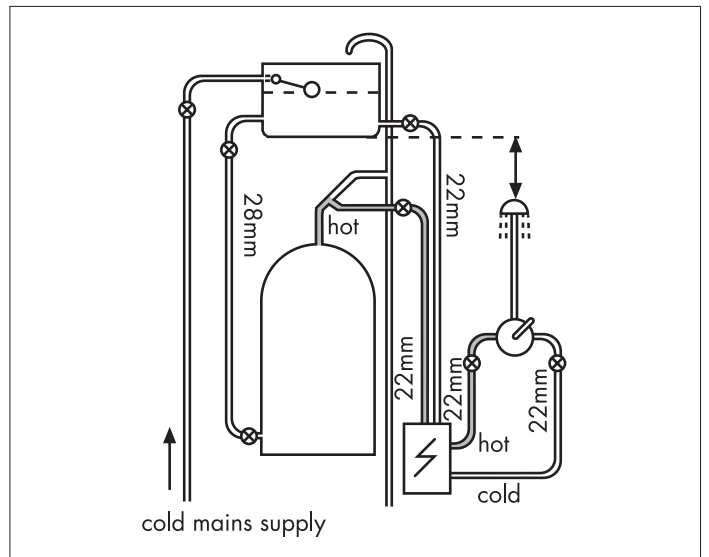
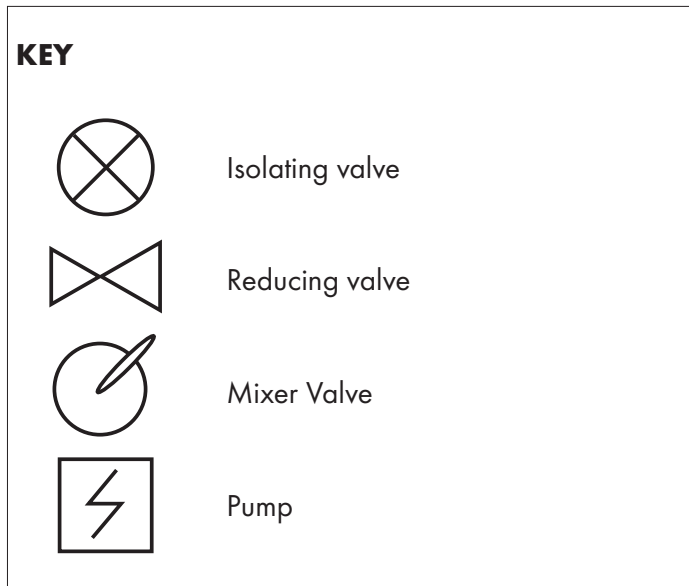
* If pressure is in excess of 3.5 bar, a pressure-reducing valve should be fitted.



Gas Combination Boiler (multi-point)



Unvented System (pressure balanced)



Pumped System

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 (page 32) 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

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

If there is a residual flow during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

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

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 re-tested in accordance with the manufacturers' instructions.

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 (e) on page 39 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 (e) on page 39.
4. If at step 2. (e) on page 39 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 TMV3*

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 39.
2. 12 to 15 weeks after commissioning carry out the tests given in 2. on page 39.
3. Depending on the results of 1. and 4. several possibilities exist:
 - a) If no significant changes (e.g. < 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.

***TMV2: The frequency of performing the in-service tests is 1 year maximum.**

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 over ride the safety stop by depressing the safety button.

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 43°C

Temperatures can be set by following the procedures on page 32. 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 35 pos. 96737000) and filters (page 35 pos 96922000 and A). If the water flow drops the filters need to be cleaned. For that purpose please follow the steps 1 - 8 on page 36.

Calibrating Thermostat

If the temperature reading is different to the showering temperature, follow the steps 1 - 4 on page 32.