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HORNE TSV1–109A/306A/307A THERMOSTATIC SHOWER VALVE

FOR SURFACE MOUNTING WITH TIMED FLOW CONTROL

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

NOTE: The TSV1-109A, 306A and 307A are all identical except for the shower outlet fittings. All comments about the TSV1-306A in these instructions equally refer to the TSV1-109A and the TSV1-307A.

APPROVALS

The Home 15 Type H1503 Thermostatic Mixing Valve used in the TSV1–306A shower valve has been independently tested by the WRc and approved to the requirements of *NHS Model Engineering Specifications D08 Thermostatic Mixing Valves (Healthcare Premises)* to the following designations for shower applications.

DESIGNATION	APPLICATION
HP-S	Shower with supply pressures of 1 – 5 Bar
LP - S	Shower with supply pressures of 0.2 – 1 Bar

Supply Water Pressure Requirements

The minimum water pressure required to achieve a spray at the shower head is a dynamic head of 5m (8psi, 0.5 Bar). Note that the dynamic head is the pressure measured with the water running.

Where one supply is tank fed and the other pressurised, (e.g. cold mains and tank fed hot, or pressurised hot and tank fed cold), a pressure reducing valve on the higher pressure side is not required provided the lower of the two pressures is equivalent to at least a 5m (8psi, 0.5 Bar) dynamic head at the sprayhead.

The maximum recommended dynamic supply pressure is 6 Bar (90psi, 60m head) for hot, and 10 Bar (150psi, 100m head) for the cold.

Supply Water Temperature Requirements

Max. Hot water temperature* 85°C

Min. Hot water temperature# 55°C

Max. Cold water temperature# 20°C

Note that requirements marked * originate from WRAS approval of non-metallic components, and those marked # originate from HTM 04-01, Part B, 2007.

Temperature Adjustment

The mixed water temperature is not user adjustable. It is preset at approx. 39°C, but should be checked, or adjusted, on site during commissioning to suit prevailing conditions and requirements.

General

Integral WRAS approved single check valves and integral large area strainers are fitted to each inlet. Inlet connections are by compression fittings for 15mm copper pipe on the integral isolating valves.

HORNE TSV1–306A SURFACE MOUNTED THERMOSTATIC SHOWER VALVE

INSTALLATION INSTRUCTIONS

General

The surface mounted valve is supplied with a fitting kit containing the necessary fixings to attach it to the wall and hex keys to assist with routine maintenance.

Installation

Installation of the pre-plumbed enclosure is particularly simple and involves mounting the enclosure on the wall and connecting and flushing the water supply pipes.

1) Position the Pre-Plumbed Enclosure

Identify a suitable position for the pre-plumbed enclosure and mark a line on the wall level with the top of the casing. Mark a point on the wall which is on the required centerline for the valve 35mm below the line of the top of the casing, for the support screw (see Fig 1).

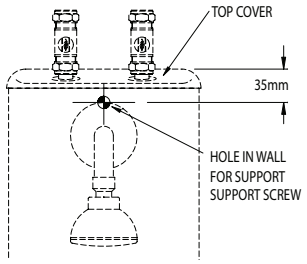


Fig 1

2) Install the Support Screw

Drill a 7.0mm dia. hole in the wall and insert a wall-plug and screw, leaving the head of the screw a few mm from the wall surface.

3) Hang the Enclosure on the Support Screw

Release the top cover of the pre-plumbed enclosure using the supplied hex key to remove the 2 retaining screws (if preferred, the top cover may be completely removed after removing the handles of the isolating valves with a cross head screwdriver). Hang the pre-plumbed enclosure on the support screw by the larger hole in the middle of the backplate and let this take the weight of the enclosure.

4) Mark Out the 4 Support Holes.

Ensure that the enclosure is hanging true and then mark out the holes for the 2 upper support holes. Remove the bottom cover of the pre-plumbed enclosure using the supplied hex key and mark out the 2 lower support holes (see Fig 2).

5) Drill Support Holes.

Carefully remove the pre-plumbed enclosure from the temporary support screw and, being careful not to scratch the enclosure or top and bottom covers, lay it down. Drill 4 x 7mm dia. support holes and install the wall plugs.

6) Attach the Pre-Plumbed Enclosure to the Wall

Carefully re-hang the pre-plumbed enclosure on the temporary screw and then attach it firmly to the wall by the other 4 screws. ***Use the stainless steel screws supplied***. A bead of silicon mastic can be used to seal between the enclosure and the wall to prevent the ingress of water.

7) Connect the Supply Pipes

Ensure that the top cover of the pre-plumbed enclosure is replaced prior to connecting up the supply pipes.

Connect the HOT water supply to the LEFT HAND inlet, and COLD water to the RIGHT HAND inlet (see Fig 3).

Note that push-fit plumbing fittings are used to attach the pipes to the valve and that the supply pipes are therefore free to rotate. Ensure that the supply pipes are not rotated during connection to the Hot and Cold supplies.

DO NOT OPEN THE WATER SUPPLIES AT THIS STAGE AS THEY HAVE NOT BEEN FLUSHED OUT TO REMOVE DEBRIS IN THE PIPEWORK. SUCH DEBRIS CAN DAMAGE THE VALVE.

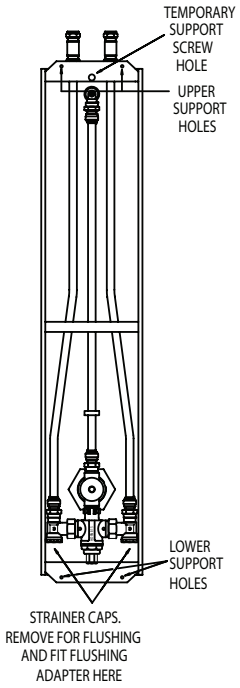

TEMPORARY
SUPPORT
SCREW
HOLE
UPPER
SUPPORT
HOLES
LOWER
SUPPORT
HOLES
STRAINER CAPS.
REMOVE FOR FLUSHING
AND FIT FLUSHING
ADAPTER HERE

Fig 2

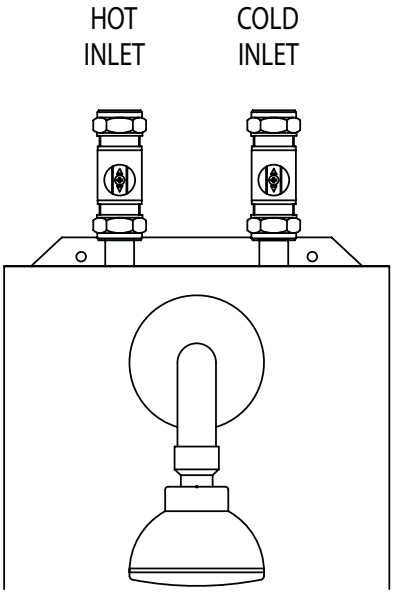

HOT
INLET
COLD
INLET

Fig 3

8) Flush the Pipework

Flush out the pipework in accordance with Water Supply (Water Fittings) Regulations 1999. The use of a Horne Flushing Kit is strongly recommended because this connects directly to the water inlets of the mixing valve. Access to the flushing points is gained from underneath the pre-plumbed enclosure through the lower end cap. Isolate the hot and cold water supplies, remove the strainer cap and strainer basket and screw in the flushing adaptor. Place the end of the flushing hose in an appropriate drain or container and turn on the supply to flush as required. Remove the flushing adaptor and replace the strainer cap. Repeat for both hot and cold supplies (see Fig 4).

NOTE THAT IF THERE IS A DANGER OF FREEZING THEN THE PIPES AND VALVE MUST BE DRAINED TO AVOID DAMAGE.

9) Test for Leaks in Pipework

Open the supplies and check for any leaks at the supply pipe joints. Water should not flow from the sprayhead as the push button timed flow control has not been pressed. Make good any leaks found. The valve is now ready for commissioning.

Note that if any controls, enclosure or shower sprayhead require cleaning then care must be taken not to scratch them in the process. Wash off any surface dust before cleaning with soapy water.

DO NOT USE ANY ABRASIVE CLEANERS OR SOLVENTS OR THE SURFACES MAY BE DAMAGED.

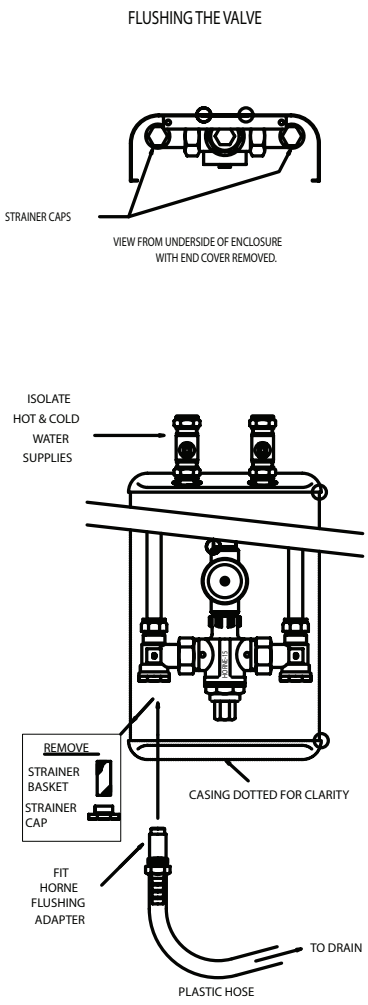


Fig 4

COMMISSIONING

ENSURE THAT THE PIPEWORK HAS BEEN FLUSHED OUT BEFORE COMMISSIONING THE TSV1-306A (SEE INSTALLATION INSTRUCTIONS).

Ensure that both hot and cold water supplies are open and at, or near their design temperatures and pressures, and that they are within the requirements of the valve as outlined on page 1. The NHS designation of the valve should match the intended application.

Run the shower by pressing the push button timed flow control. The shower will run for approx. 15 seconds before the flow stops and the button needs to be pushed again. Allow the shower to run until the water temperature has stabilised, pressing the push button as required to maintain the flow.

The TSV1–306A is set at the factory to provide an outlet temperature of approx. 39°C, but this should be checked on site to ensure that the setting has not been adjusted and that it meets site requirements. To adjust the temperature setting, follow the instructions below:

a) Remove the lower end cover from the shower enclosure by removing the 2 hex screws.

b) Remove the adjusting screw cover from the valve (see Fig 5).

c) Using the 5/32" (or 4mm) hex key supplied, adjust the temperature of the mixed water. Turn the screw anti-clockwise to increase the temperature, or clockwise to reduce it.

d) After each adjustment, isolate the HOT supply at the ball valve for a few seconds, restore it and check the set temperature.

e) Operate the shower a few times to ensure the set temperature is correct.

f) Record the commissioning details on the attached maintenance sheet to permit the in- service performance of the valve to be assessed.

Finally, check the thermal shut-off facility of the valve by performing a thermal shut-off test. Shut off the cold supply at the isolation valve. The flow from the shower should immediately stop or reduce to a trickle, in which case the mixed water temperature should be less than 2°C above the set temperature. In either case there is no scalding risk. If the temperature rises more than 2°C above the set temperature then it is likely that there is contamination in the mixing valve that is preventing it from shutting off the hot supply. Refer to the maintenance section of the attached booklet for the Home 15 or phone the factory for advice.

Ensure that the Flow Control push button remains pressed during the thermal shut-off test.

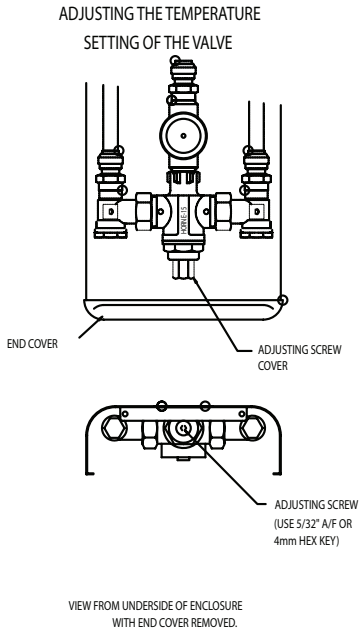
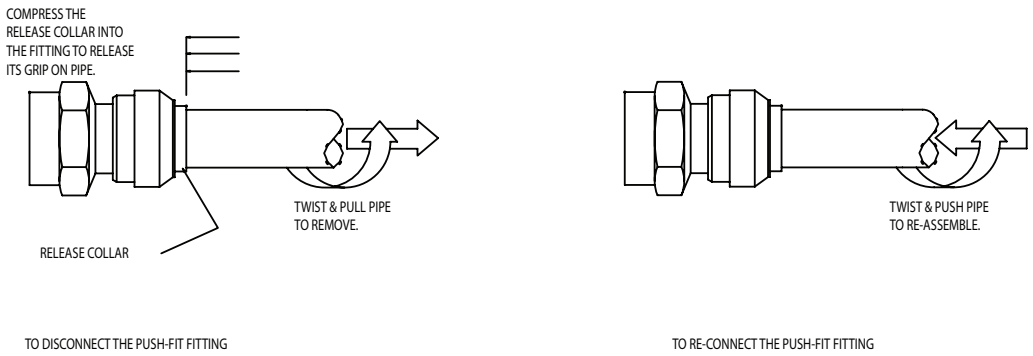


Fig 5

Maintenance.

Note that the TSV1-306A contains a Horne 15 Thermostatic Mixing Valve and is supplied with separate instructions for the mixing valve. Please refer to these instructions for details of maintenance procedures, which can be carried out without removing the panel from the wall.

Note that connections within the panel are made with push-fit pipe fittings. Should the pipes have to be removed for any reason, e.g. to service the valve, then the fittings can be undone as follows: Use the plastic disconnecting tool which is clipped to the outlet pipe, or a metal IMI Tectite disconnecting tool, to compress the release collar on the pipe fitting. With the collar compressed, twist out the pipe from the fitting (see Fig 6).



TO DISCONNECT THE PUSH-FIT FITTING

TO RE-CONNECT THE PUSH-FIT FITTING

FIG 6

Check the fitting for damage before remaking the joint by inserting the pipe through the release collar and pressing it with a slight twisting action until it reaches the pipe stop with a positive "click". Pull on the pipe to check that the fitting is secure (see Fig 6).

COMMISSIONING, MAINTENANCE & IN-SERVICE TESTING RECORD HORNE®

Establishment

…….……….

Valve Type Horne TSV1-109A/306A/307A Thermostatic Shower Valve (delete as appropriate)
Valve Location

…….…...

Date Installed ………………… Installed by

……………………………………………………………………………………

Commissioning Details	Hot Water Temp. ………………. °C	Pressure ……………... Bar
Equip. Used ……………….	Cold Water Temp. ……………... °C	Pressure ……………… Bar
Equip. Used ……………..	Max. Temp. Setting ……………. °C	C.W.Fail ……………..… °C (Max)

Replacement Dates: O Ring Seals (recommended every 3 yrs) ………………………………..
Thermostat Element & Slidevalve (every 6 yrs) ………………………………..

Inspection & Maintenance Record

Date	Mixed Temp	Hot Temp.	Hot Press	Cold Temp.	Cold Press	Flowrate	C.W. Failure Test	Signed
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