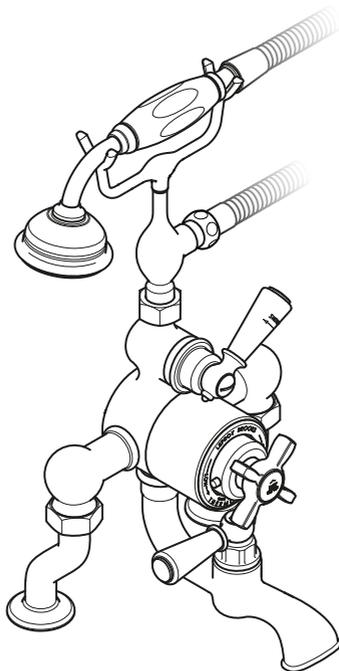


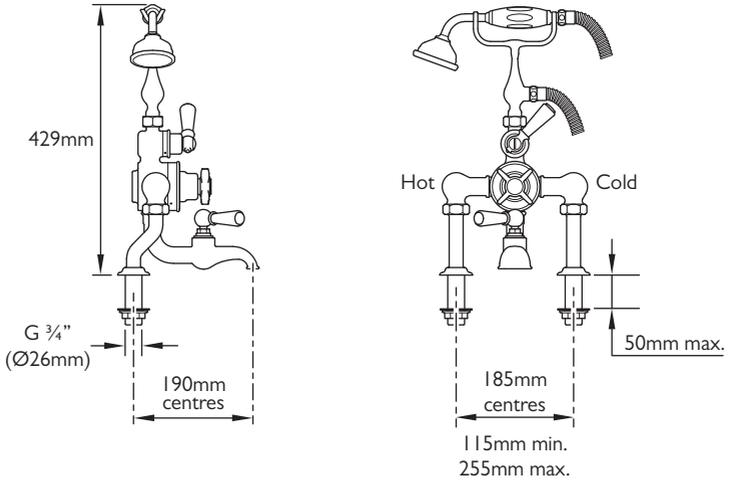
8821 / 8822 / 8823 / 8824 / 8825
EXPOSED THERMOSTATIC BATH & SHOWER
MIXING VALVE
INSTALLATION GUIDE



LEFROY BROOKS

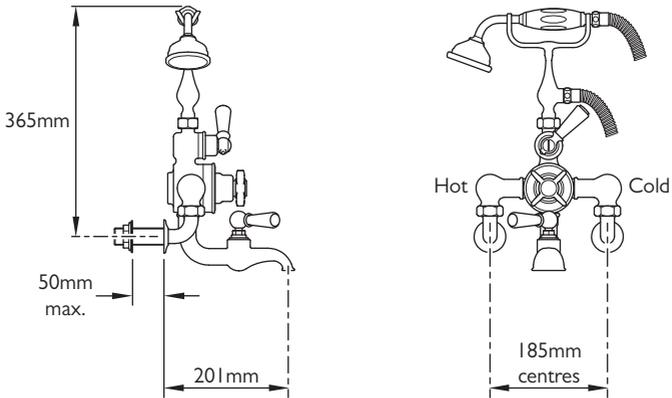
DIMENSIONS

Deck mounted



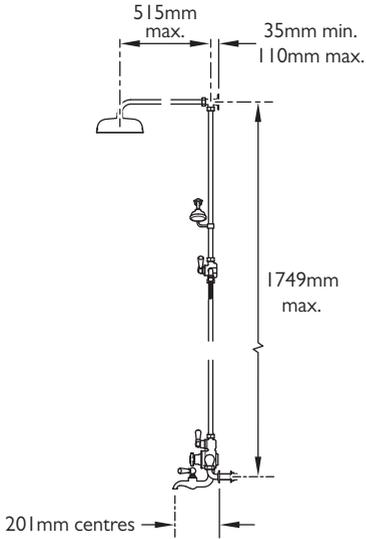
Spout reach can be increased by 100mm using LB 21 19 extended deck legs.

Wall mounted

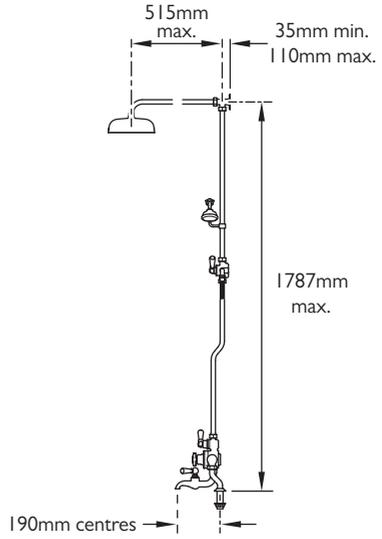


Spout reach can be increased by 40mm using LB 21 18 extended return bends.

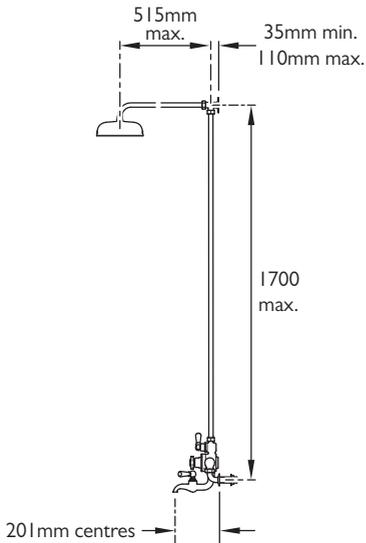
WM/8824 – 5 inch rose
WM/8825 – 8 inch rose



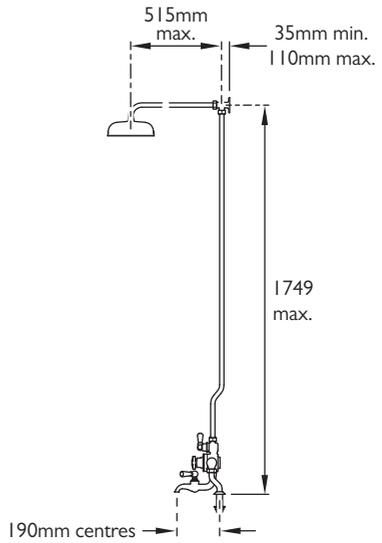
8824 – 5 inch rose
8825 – 8 inch rose



WM/8821 – 5 inch rose
WM/8822 – 8 inch rose

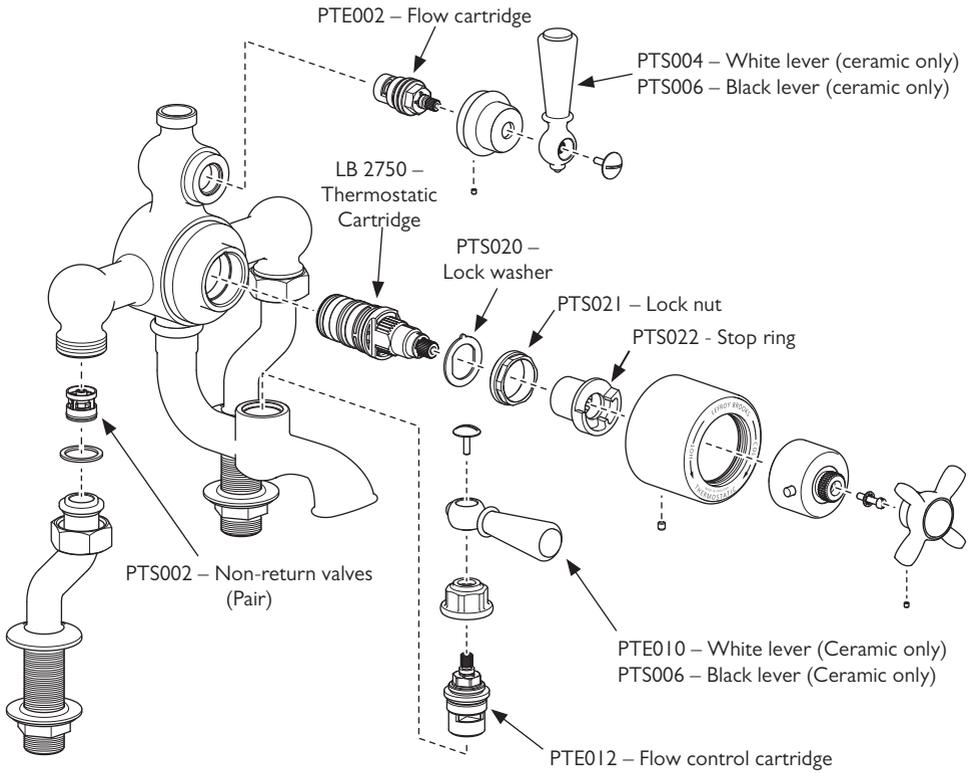


8821 – 5 inch rose
8822 – 8 inch rose



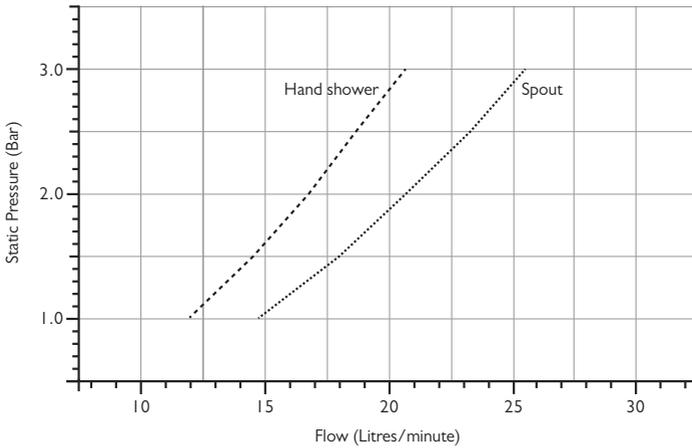
Not to scale

EXPLODED VIEW



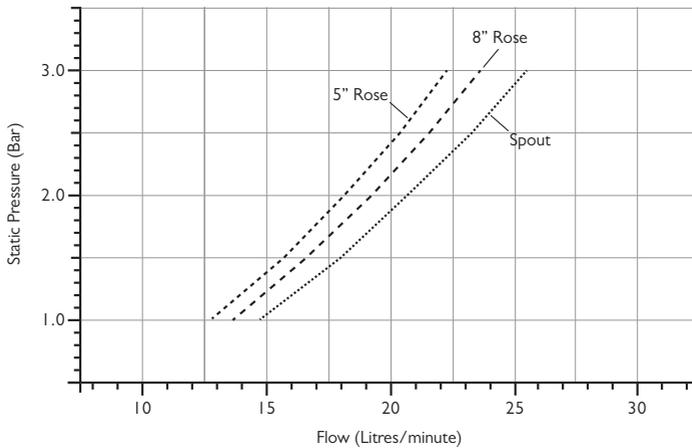
TYPICAL FLOW RATES

8823



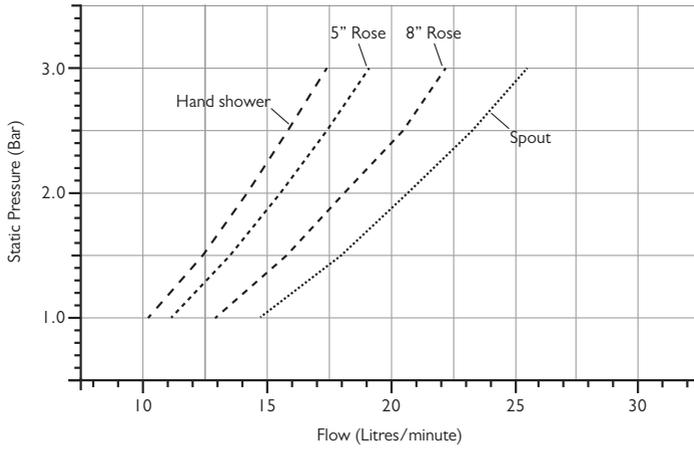
Note: Balanced pressures shown are applied directly to the hot and cold inlets; flow rates indicated are free flowing and may vary subject to restrictions created by installation, pipework, layout or application.

8821 & 8822



Note: Balanced pressures shown are applied directly to the hot and cold inlets; flow rates indicated are free flowing and may vary subject to restrictions created by installation, pipework, layout or application.

8824 & 8825



Note: Balanced pressures shown are applied directly to the hot and cold inlets; flow rates indicated are free flowing and may vary subject to restrictions created by installation, pipework, layout or application.

IMPORTANT INFORMATION

Professional installation

We recommend that our products are fitted by a fully qualified professional plumber. They should be installed correctly and in accordance with all local water regulations. All products and connections should be accessible for routine servicing.

Suits all systems

This Lefroy Brooks product is potentially suitable for every possible application, type of boiler and water supply pressure. However, for full 'power' shower performance it is advisable to fit a water pump if the supply pressure is below 1 bar. For systems with combination boilers, it is not advisable to fit pumps (refer to boiler manufacturer).

Recommended supply temperatures

HOT = 60°C maximum

COLD = 10/15°C

Water quality

In hard water areas, a suitable water treatment system should be provided to prevent limescale deposits (calcium deposits) which may effect the long term performance of the thermostatic cartridge and ceramic cartridge. Exterior surfaces should be gently wiped with a dry soft cloth after use to minimise water stains and limescale deposits.

Servicing

All serviceable parts are available to maintain your Lefroy Brooks product. We recommend periodic servicing to help maintain the best performance from your shower ('Servicing the thermostatic cartridge', 'Replacing the non-return valves', 'Replacing the shower cartridge' & 'Replacing the spout cartridge' sections). Time between servicing can vary as it is subject to usage and water quality. Please refer to exploded view for individual items.

Flushing system

It is most important to flush out all pipework thoroughly before connecting the product. This is the single most common cause of ceramic cartridge and thermostatic cartridge failure.

Supply connections

The hot water supply must be connected to the left port and cold water to the right port as viewed from the front.

Balancing flow

If there is a significant difference in water pressures between hot & cold supplies, we recommend an in-line flow suppressor/regulator (not supplied) be fitted. This should be fitted to whichever has the greater flow rate, in an accessible position close to the valve.

Safety/Anti-scald

This thermostatic valve not only maintains a constant temperature to approximately plus or minus 1°C, but will automatically shut down completely on failure of hot or cold supplies.

Temperature setting

Once the installation has been completed the 'safe temperature' must be checked and set in accordance with the setting instructions (see following 'Setting safe temperature' & 'Fitting the temperature override' sections). The valve is factory set but the working temperature may differ subject to the hot & cold water temperatures being supplied to the valve.

General Installation details

Both wall and deck mounted models have 3/4" BSP threaded tails and are designed to take standard 22mm fittings/connections.

For deck mounted models, where pre-drilled holes are not available, drill 27-30mm diameter holes in a suitable position in the mounting surface for the mixer legs.

Non-return valves

To protect your water system, non-return valves are fitted in the elbows of the valve.

These can be accessed by removing the body from the deck/wall legs. These can be cleaned if required.

Testing

Before the valve connections are sealed behind the mounting surface it is important to pressure check all connections. Installation can affect the external joints. For this reason we recommend that all connections to and from the valve are pressure tested.

Access

It is important to leave suitable clearance and access to the connections for future servicing.

Setting the 'safe temperature'

To avoid damage, when setting the 'safe temperature' the thermostatic cartridge spindle must be turned by hand only. The spindle will require only minor adjustment. **Turning the spindle to the end of its travel and forcing it beyond this point will cause internal damage to the thermostatic cartridge.**

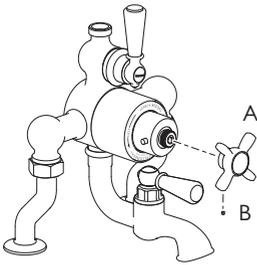
Always fit the black plastic 'temperature stop' before fitting the 'override'. One of the functions of the temperature stop is to prevent the thermostatic cartridge spindle being turned beyond the end of its travel. **Not fitting the temperature stop will result in damage to the thermostatic cartridge.**

SETTING 'SAFE TEMPERATURE'

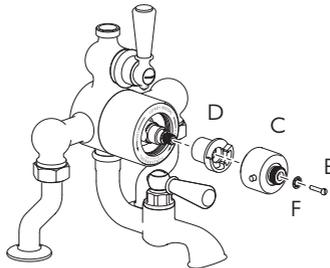
The recommended safe temperature settings is 38°C

For specific details please refer to local building regulations, current legislation, relevant standards and codes of practice.

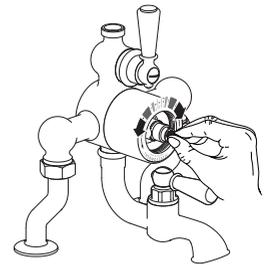
This valve is designed to be set at the required safe operating temperature, but is fitted with an override button which allows the user to select higher temperatures if required. The override control is to be returned to the 'safe temperature' setting after use.



Remove the thermostatic control cross handle/handwheel (A) by unscrewing set screw (B) using a 1.5mm hexagonal key.



Remove the override (C) and temperature stop (D) by unscrewing and removing screw (E) and washer (F). Fitting cross handle/handwheel (A) and set screw (B) will aid with removal of override (C).



Adjust the cartridge spline whilst measuring the temperature of the water. Ideally the temperature measurement should be taken using a digital thermometer.

Duty of care

Legislation dictates recommendations and guidelines on health and safety, including safe hot water temperatures. The emphasis is on regulatory and design criteria, with responsibility for meeting such guidelines being that of a suitably appointed responsible person.

How hot water temperatures affect the skin

65°C – A partial thickness burn in about 2 seconds

60°C – A partial thickness burn in about 5 seconds

55°C – A partial thickness burn in about 15 seconds

50°C – A partial thickness burn in about 90 seconds

Safe temperature

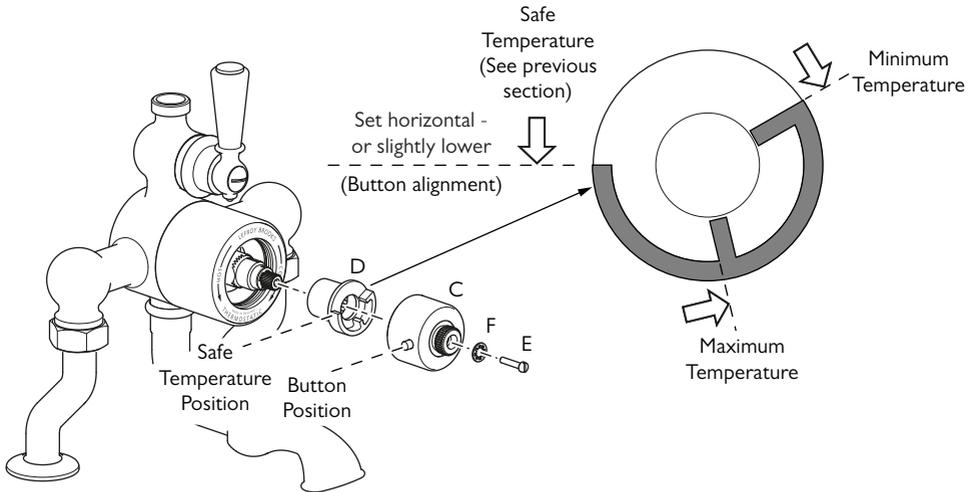
The age, mental and physical capabilities of persons occupying the property will effect the 'safe temperature' setting of the thermostatic valve. For specific details please refer to local building regulations, current legislation, relevant standards and codes of practice.

FITTING THE 'TEMPERATURE OVERRIDE'

Once the safe operating temperature has been set, the next stage is to correctly assemble the temperature stop (D) & override (C). The temperature stop and 'safe temperature' button can be positioned to customer requirements. The below setting is suitable for right handed operation.

Three typical settings are shown on the next page.

Temperature stop (D) orientation



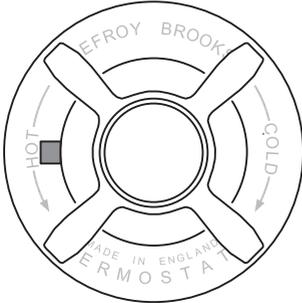
- 1 Locate the temperature stop (D) onto the cartridge spline with the 'safe temperature' locator in a horizontal or slightly lower position. This is dependent on the orientation of the splines (as shown above). Do not set higher as this will effect the position of the button on the override (C). Once located in a suitable position push the temperature stop in fully.
- 2 Locate the override (C) with the button positioned horizontally and to the left. Slide the override carefully onto the smaller cartridge spline. There may be a small amount of rotation required to align the override mechanism with the safe temperature position.

Note: The button may not be perfectly horizontal depending on the orientation of the cartridge splines.

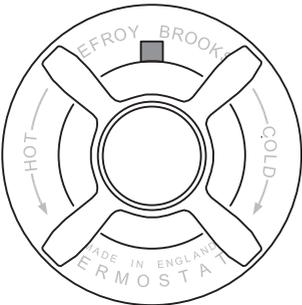
- 3 Secure with screw (E) and washer (F). It is important to check the water temperature.
- 4 Fit the temperature control cross handle/ handwheel (A) ensuring the button is aligned between the arms of the cross handle, tighten set screw (B) using a 1.5mm hexagonal key to secure.

The temperature stop and safe temperature button can be positioned to customer requirements as below:

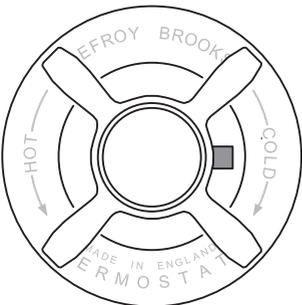
Button position



Safe temperature button set to left
(suitable for right handed operation)

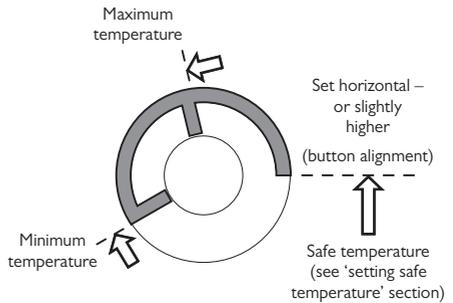
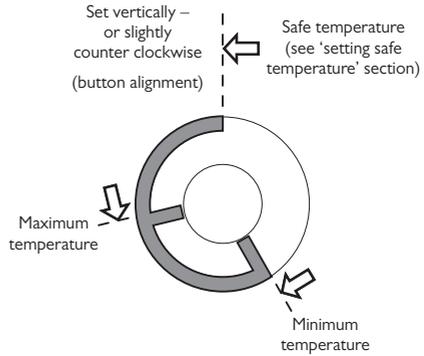
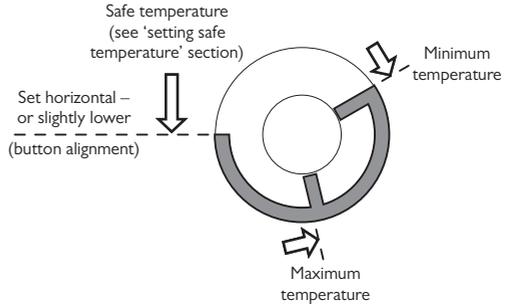


Safe temperature button set to top
(suitable for right and left handed operation)



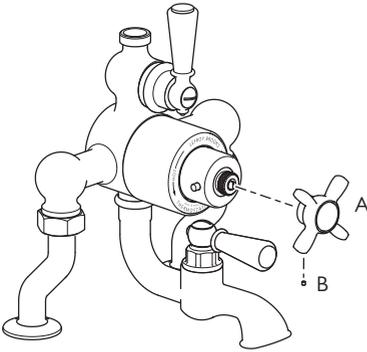
Safe temperature button set to right
(suitable for left handed operation)

Temperature stop position

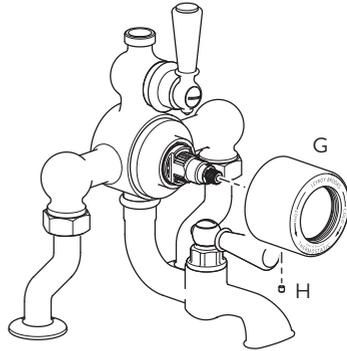


SERVICING THE THERMOSTATIC CARTRIDGE

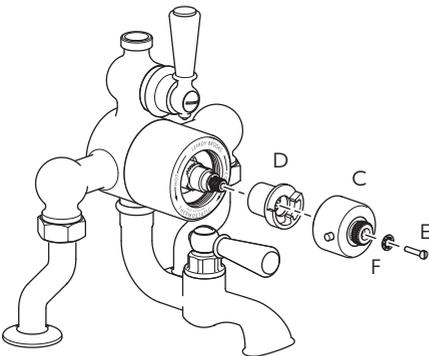
If after a period of time you experience temperature problems with your shower valve, particularly if you are in a hard water area, it is quite common for limescale deposits to have formed in the thermostatic cartridge. We recommend you remove the cartridge and soak it in a descaling fluid which normally resolves the problem. It is difficult to set a regular servicing time scale as it is subject to water conditions and usage.



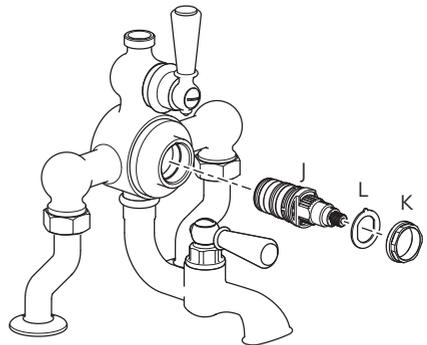
- 1 Isolate the hot and cold water supplies. Remove thermostatic control cross handle/handwheel (A) by unscrewing set screw (B) using a 1.5mm hexagonal key.



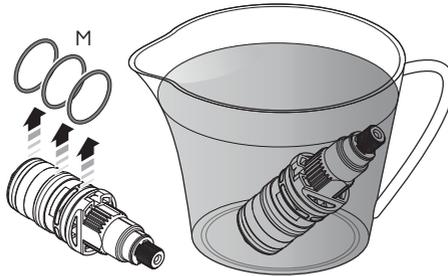
- 3 Remove thermostat cartridge cover (G) by unscrewing set screw (H) using a 1.5mm hexagonal key.



- 2 Remove override (C) & temperature stop (D) by unscrewing and removing screw (E) and washer (F).



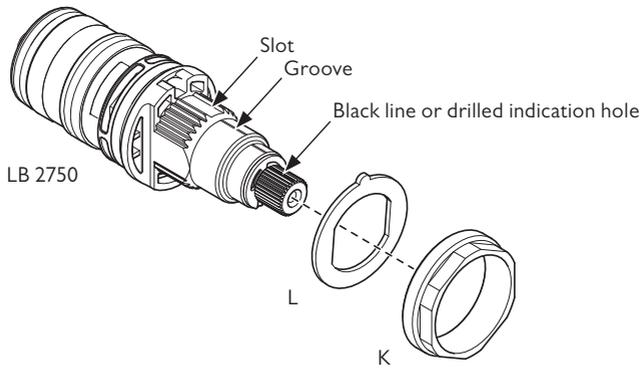
- 4 To remove the thermostat cartridge (J), unscrew and remove locking nut (K). Remove anti-rotation washer (L) and pull out cartridge. To help grip, it may be advisable to re-fit override (C) and screw (E) to assist cartridge removal.



5 Check the 'o' rings (M) for damage (i.e. cuts or tears). A set of three replacement 'o' rings are available (PTS027). Remove the 'o' rings before soaking the cartridge in descaling fluid.

6 Soak the cartridge according to the instructions on the descaling fluid packaging. Rinse under cold water before fitting (refer to the 'installing the thermostatic cartridge' section to install).

INSTALLING THERMOSTATIC CARTRIDGE



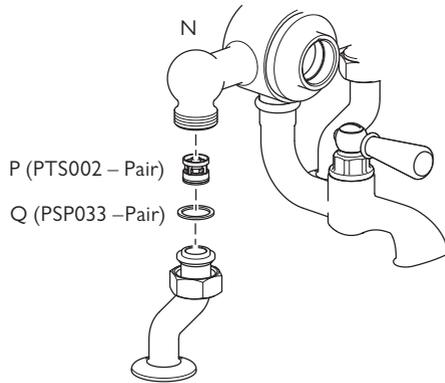
Important note:

For an approximately 38°C setting, align the 'key setting points' shown. Once assembled, reset the safe temperature by following the setting instruction in the 'setting safe temperature' section. Check the water temperature with a thermometer.

- 1 Once the 'key setting points' have been aligned and 'o' rings (M) fitted, apply a smear of silicon grease to the 'o' rings and firmly push the thermostatic cartridge (LB 2750) into the valve body with the groove pointing upwards.

- 2 Insert the anti-rotation washer (L) so it locates to the 'flats' on the cartridge and fits into the 'notch' cut into the valve body.
- 3 Screw in locking nut (K) and fully tighten using a 32mm a/f spanner to secure the thermostatic cartridge in place.

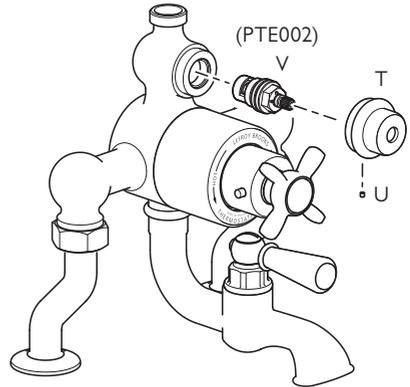
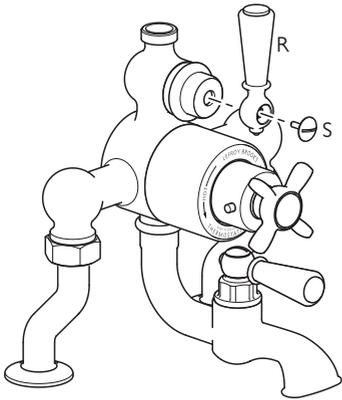
REPLACING THE NON-RETURN VALVES



- 1 Isolate the hot and cold water supplies. Unscrew the nuts connecting the elbows and pipes to the valve body (N). Gently pull the valve body clear of the support legs. Remove the non-return valve(s) (P) for cleaning or replacement.
- 2 Check the condition of the fibre washer(s) (Q) (PSP033 –Pair). It is advisable to replace the washers if there are any signs of damage. Fit the (replacement) non-return valve(s) (PTS002 – Pair) ensuring the direction of flow arrows on the valve bodies correspond with the direction of flow and assemble in reverse order.

REPLACING THE SHOWER CARTRIDGE

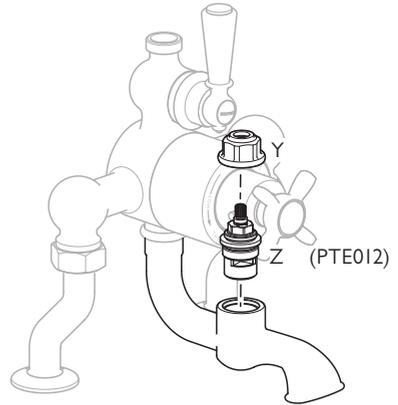
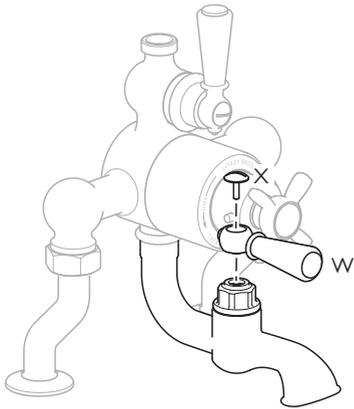
If after a period of time you experience problems with your shower developing a regular drip after use, it is normally an indication that the shower cartridge requires replacement.



- 1 Isolate the hot and cold water supplies. To remove lever (R) unscrew and remove fulcrum screw (S).
- 2 To remove flow cover (T) use a 1.5mm hexagonal key to unscrew set screw (U) then using a 17mm socket or spanner unscrew and remove flow cartridge (V) (PTE002).
- 3 After installing the replacement flow cartridge, fit flow cover (T) & lever (R) in reverse order.

REPLACING THE SPOUT CARTRIDGE

If after a period of time you experience problems with your spout developing a regular drip after use, it is normally an indication that the spout cartridge requires replacement.



- 1 Isolate the hot and cold water supplies. To remove lever (W) unscrew and remove fulcrum screw (X).
- 2 Unscrew and remove flow cover (Y) then using a 17mm spanner unscrew and remove flow cartridge (Z) (PTE012).
- 3 After installing the replacement flow cartridge, fit flow cover (Y) & lever (W) in reverse order.

FAULT FINDING

The hot/cold taps are turned off but the shower/hand shower drips continuously.

- Replace the shower cartridge. See the 'Replacing the shower cartridge' section.

The hot/cold taps are turned off but the spout drips continuously.

- Replace the spout cartridge. See the 'Replacing the spout cartridge' section.

Hot or cold water only on new installations.

- Ensure that the hot supply is on the left and the cold on the right.

Unable to control water temperature on established installations.

- Refer to the 'Servicing the thermostatic cartridge' section.

DOs

- Check all joints and connections before sealing the valve connections behind the finished wall/ mounting surface.
- Ensure that the 'safe temperature' has been set.
- Ensure the black plastic 'temperature stop' has been fitted to avoid damage to the thermostatic cartridge and enable the 'safe temperature' to be operational.
- Ensure that the thermostatic valve, connected controls and outlets work satisfactory.
- Instruct the customer how to override the 'safe temperature' setting. Also ensure the customer knows the dangers of overriding the setting and understands that the override control is to be returned to the 'safe temperature' setting after use.
- Hand these instructions along with the cleaning leaflet to the customer.
- Ensure that the valve is suitably protected from damage and decorating materials during installation.

DON'Ts

- Do not use excessive force when turning the thermostatic cartridge spindle. This will damage the cartridge. To avoid damage, when setting the 'safe temperature' the thermostatic cartridge spindle must be turned by hand only. The spindle will require only minor adjustment. **Turning the spindle to the end of its travel and forcing it beyond this point will cause internal damage to the thermostatic cartridge.**



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