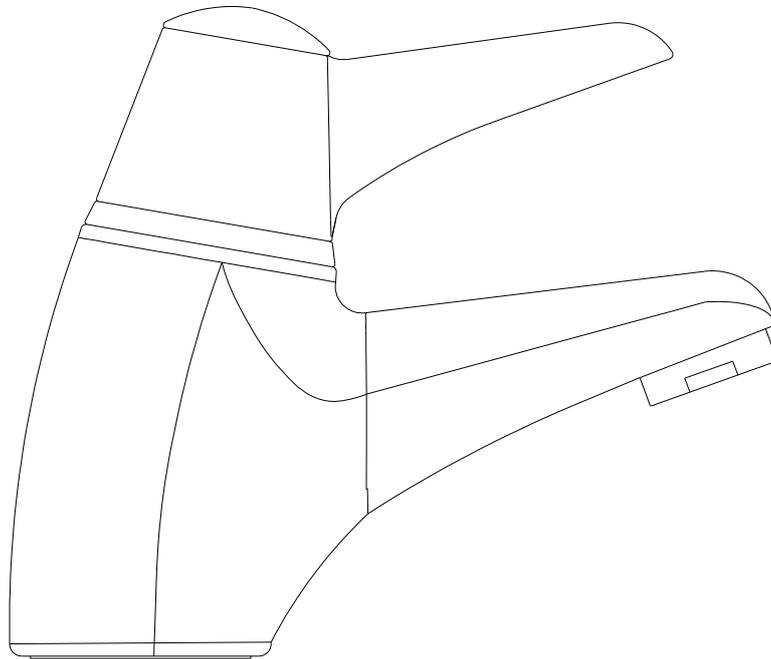




# Pegler Yorkshire

## Bulldog Thermo Tap



# bulldog



Bulldog Thermo Tap C85083 / 380001

**It is important that these guidance notes are read and fully understood  
prior to product installation**

**Before installing this product its recommended the reading of this document thoroughly and leaving it with the user for future reference.**

## **Introduction**

It has been recognised that users of hot water in care establishments are at risk from scalding. By using this Bulldog product you have reduced the risk by designing and using Bulldog Thermo Tap technology into the body of these products. In order to assure the performance of Bulldog Thermo Tap s the N.H.S. Estate Model Engineering Standard DO8 was written. The products listed below have been tested and approved to this standard by a third party as part of the TMV3 scheme for use within their designated applications.

The lists of abbreviations and description below are designated codes used throughout this manual.

HP – High Pressure

LP – Low Pressure

W – Washbasin

Bulldog thermo Tap – C85083 / 380001

Approved for use in the following designations

<b>Code</b>	<b>Operating Pressure</b>	<b>Application</b>
HP-W	High Pressure	Washbasin
LP-W	Low Pressure	Washbasin

## **Water Regulations Requirements**

It is important to ensure that the water supplies to your taps and mixers are connected in accordance with the water supply (water fittings) regulation 1999 requirements and good plumbing practice.

It is Wolseley recommendation and good plumbing practice that the supplies of hot and cold water to the products should be at equal (balanced) pressures in order to provide a consistent flow. Supplies should be from a common source, either mains or tank fed. If supplies are not equal pressures then non return valves should be fitted (supplied).

This product has been designed to function on all types of water systems

**Please Note:** If a pump is to be installed to boost gravity supplies please refer to the pump manufactures instructions.

The hot and cold inlets for any of the products are hot on the left and cold on the right when viewed from the front of the fitting. For a better installation in-line with good plumbing practice this product comes complete with service valves fitted to the inlet

supply hoses.

### Pipe Connections

**IMPORTANT.** Before making any inlet pipe connections all supplies **MUST** be thoroughly flushed to remove any debris. Failure to do so could result in damage or low flow from the mixing valve. It is a requirement of Byelaw 55 of the Water Fittings Byelaw Scheme that this function is undertaken before making any pipe connections to supplies.

The Washbasin (Bulldog Thermo Tap) is supplied with Inlet supply connections via the 1/2" BSP internal threads in the checkvalve assemblies, connected to the ends of flexible inlet tails. The reversible insert washers allow for connection to either flat-faced 1/2" BSP external or 15 mm compression unions , The hot supply connection is through the flexible inlet tail nearest the outlet of the Bulldog Thermo Tap , identified with a red mark.

### General Installation Notes

- Care must be taken during installation to prevent any risk of damage to the product or injury to installer.
- Installation must be carried out by a qualified and competent person and in accordance with the instructions supplied.
- Installations must comply with all Local and National Water Authority Regulations, and Building/Plumbing Regulations.
- Please ensure that you have read and understood all sections of this manual before installation.

### Conditions for normal use

In order to comply with the requirements of the N.H.S. Estate Model Engineering Standard DO8 the table below is to be used as conditions for normal use. Although in many cases the performance of the product may work suitably outside of these limits the TMV3 approval will not apply. If they are to be required to work outside of these conditions then an approved engineer must carry out a risk assessment and satisfy themselves that the units are still suitable for use.

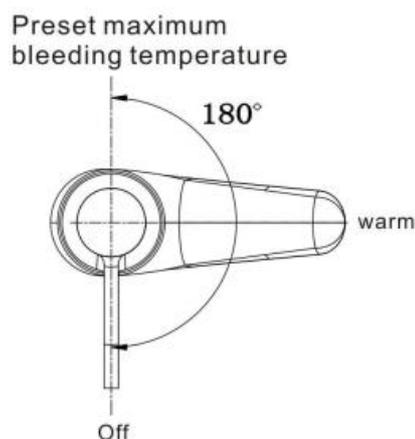
The Bulldog Thermo Tap product has been designed to function under the following conditions:

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Flow Pressure – hot and cold sides (bar)	1 to 5	0.2 to 1
Hot Supply Temperature Range (10°C above outlet temperature)	53 to 65	53 to 65
Cold Supply Temperature Range (°C)	5 to 20	5 to 20

Maximum hot water supply temperature 80°C

**Please note:** a suitable hot water temperature control device should be installed to reduce temperatures exceeding the above maximum hot water supply temperature.

### Product Specific Bulldog Thermo Tap



Recommended Minimum Dynamic Supply Pressure 0.2 bar

Pressure (bar)	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0
Flow (l/m)	3.5	5.0	6.3	7.4	11	15.7	19.3	22.4

Bulldog Thermo Tap C85083 / 380001 has a factory preset temperature of 41°C

The temperature differential required between hot supply and outlet temperature is a minimum of 10°C (for example if the required outlet temperature is 41°C then the incoming hot temperature has to be minimum 51°C)

### Pre-Installation Checks

Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

- Ensure that there is sufficient space to install the product without hampering its operation.
- Ensure all pipe work has been thoroughly flushed before any installation takes place.
- Before commencing, ensure that the installation conditions comply with the information given in the specification section.
- Care must be taken during installation to prevent any risk of damage.
- The hole in the basin must be a minimum of 26 mm up to a maximum of 36 mm diameter, with a basin thickness of 30 mm maximum.

- The Bulldog Thermo Tap should be positioned for easy access during use and maintenance. All routine maintenance procedures can be conducted with the Bulldog Thermo Tap body in place.
- Conveniently situated isolating valves must be provided for maintenance.
- Pipe work dead-legs should be kept to a minimum.
- Supply pipe work layout should be arranged to minimize the effect of hydraulic restriction or other outlet usage upon the dynamic pressures at the Bulldog Thermo Tap inlets. Recommended minimum supply line pipe diameter is 1/2" or 15 mm.
- Inlet threaded joint connections should be made with PTFE tape or liquid sealant. Do not use oil-based, non-setting jointing compounds.
- To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before connection to the Bulldog Thermo Tap.

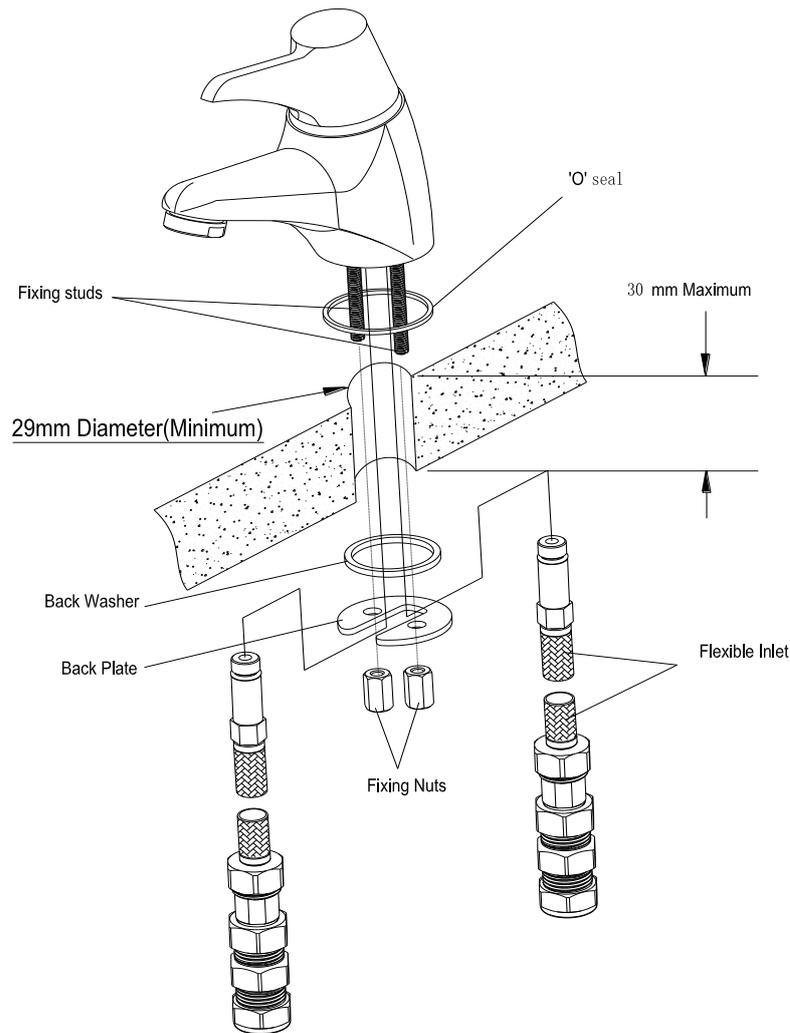
### Installation

1. Screw the fixing studs fully into the Bulldog Thermo Tap body.
2. Place the 'O' seal in the groove in the basin of the Bulldog Thermo Tap body and then place the Bulldog Thermo Tap into the hole in the basin.
3. Place the flexible inlet tails through the larger holes in the back plate.
4. Screw the flexible inlet tails into the Bulldog Thermo Tap from under the basin and tighten.
5. Pull the back plate over the fixing studs.
6. Make sure that the Bulldog Thermo Tap is in the correct position and screw the fixing nuts onto the fixing studs. Tighten the fixing nuts.
7. Select the correct orientation of the insert washers. This is dependent on the type of unions used to terminate the supply pipe work.

**Please Note:** For flat-faced unions remove the 'O' seals and place the insert washers into the check valve assemblies small end first.

**Please Note:** For 15 mm compression unions place the insert washers, complete with 'O' seals, into the check valve assemblies large end first.

8. Connect the check valve assemblies complete with insert washers to the supply pipe work. Use a suitable 22 mm A/F spanner/adjustable to tighten the check valve assemblies.
9. Locate the fibre washers inside the nuts on the flexible inlet tails and screw the flexible inlet tails on to the check valve assemblies. The flexible inlet tail nearest the outlet of the Bulldog Thermo Tap must be connected to the hot supply. Use a suitable 24 mm A/F spanner/adjustable to tighten the flexible inlet tails.
10. Restore the water supplies and check all connections are watertight. Refer to commissioning.



## Operating

The Bulldog Thermo Tap is a lever operated sequential mixing valve for basins. It uses proven thermostatic technology for temperature control. A single lever provides sequential operation from OFF through COLD and WARM to a maximum blend temperature preset at 41, which can be adjusted if required.

The Bulldog Thermo Tap is designed for single or two hole basins. The supply connections are via flexible inlet tails and check valve assemblies that incorporate check valves and filters.

## Commissioning

**Commissioning must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.**

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**

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.

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 17

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

### **Commissioning Checks**

(Temperatures should always be recorded using a thermometer with proven accuracy)

1. Check the inlet pipe work temperature for correct function of check valves.
2. Operate the Bulldog Thermo Tap and check:
  - Flow rate is sufficient for purpose
  - Temperature obtainable is acceptable
  - All connections are watertight.
3. It is advisable to establish a performance check at this time, which should be noted for future reference as part of a Planned Maintenance Program. The procedure should be chosen to imitate both typical and difficult operating conditions, such as any supply pressure fluctuations that may be likely. An ideal method is to locate another outlet on the common cold water supply close to the fluctuations (operating this outlet should cause a drop in supply pressure), and note the subsequent effect on blend temperature. This should be no more than 2°C change).

**Please Note:** Causing thermal shutdown of the Bulldog Thermo Tap by full closure of the cold supply may not adequately indicate the practical capability of the Bulldog Thermo Tap, nor its service condition. Consequently this is not a recommended performance check, and repeated such testing may ultimately affect service life.

## Maximum Temperature

The maximum blend temperature obtainable by the user should be limited, to prevent accidental selection of a temperature that is too hot. The Bulldog Thermo Tap is fully performance tested, and the maximum temperature is preset to 41°C under ideal installation conditions at the factory. Site conditions and personal preference may dictate that the maximum temperature has to be reset following installation. Adjust the mixed water temperature in accordance with table below.

The method of adjustment is covered in this **COMMISSIONING** section.

## Mixed Water Temperature

After commissioning or any maintenance/servicing it's imperative that the water temperatures are checked and reset (if applicable) in accordance with the table below. The method of adjustment of temperature is covered in the product specific instructions.

Application	Abbreviated Designation	Mixed water temperature °C
Washbasin	HP-W, LP-W	41 max

**Please note:** For washbasins, washing under running water is assumed

Using the same measuring equipment or equipment to the same specification as used in the commissioning of the valve, adjust the temperature of the mixed water in accordance with the manufacturer's instructions and the requirement of the application. 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

If the mixed water temperature has changed significantly from the previous test results

(E.g. > 1 K <sup>5</sup>), record the change and before re-adjusting the mixed water temperature check:

The following set of tests should be carried out

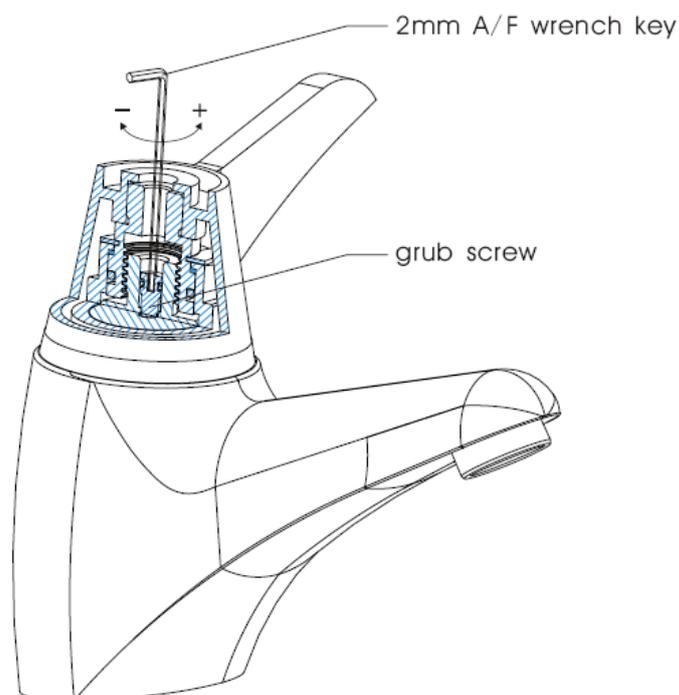
- a) Record the temperature of the hot and cold inlet water supplies
- b) Record the temperature of the mixed water at the largest draw off flow rate.
- c) Record the temperature of the mixed water at a smaller draw of flow rate, which shall be measured
- d) Isolate the cold water supply to the valve body and monitor the mixed water temperature

- e) Record the maximum temperature achieved as a result of point (d) and the final temperature
- f) Record the equipment, thermometer etc used for the measurements.

### Maximum Temperature Setting

Make sure that an adequate supply of hot water is available at the hot inlet of the Bulldog Thermo Tap. The minimum temperature of the hot water must be at least 10° above the desired blend, however during resetting this should be close to the typical storage maximum to offset the possibility of any blend shift due to fluctuating supply temperatures. Make sure that both inlet isolating valve are fully open.

Application	Mixed water temperature °C
Washbasin	43



Make sure that both inlet isolating valve are fully open. Temperatures should always be measured using a thermometer with proven accuracy.

1. Use the screwdriver to loosen the screw in the lever.
2. Move the lever to full hot, note its position and remove the lever.
3. Let the water run until the temperature stabilizes.
4. Insert the 2mm A/F hexagonal wrench key (supplied) into the grub screw in the centre of the head assembly (Refer to illustration).
5. Rotate the grub screw as necessary until the required maximum blend temperature is achieved. Rotate the grub screw anticlockwise to increase the temperature or clockwise to decrease the temperature (Refer to illustration).

6. Refit the lever in its original position. If required the lever can be fitted in any position that allows unobstructed movement of the lever over its operating range.
7. Move the lever to the off position.
8. Use the screwdriver to tighten the screw in the lever.

### **Maintenance**

If the temperatures of the unit falls out of what are specified for their individual applications then it may be the result of incorrect installation. Please refer to installation and site requirements.

If the valve however has operated correctly for some time previous but no longer performs to an acceptable level then it may require servicing/cleaning.

The check valves, flow regulators and filters are all located in the base unit of the mixer.

### **In-service Testing**

The purpose of in service testing is to regularly monitor the thermal performance of the thermostatic valve; deterioration in performance can indicate the need for service work to be carried out on the valve and/or the water supplied.

Using the same measuring equipment or equipment to the same specification as used in the commissioning of the valve, If the authority concerned does not have a planned test and maintenance schedule then the suggested below should form the basis of a system.

At intervals of 6-8 weeks and 12-15 weeks after the commissioning:

With an acceptable mixed water temperature, complete the following procedure:

1. Record the temperature of the hot and cold water supplies
2. Record the temperature of the mixed water at the largest draw-off flow rate
3. Record the temperature of the mixed water at a smaller draw-off flow rate, which shall be measured
4. Isolate the cold water supply to the mixing valve and monitor the mixed water temperature
5. Record the maximum temperature achieved as a result of (d) and the final stabilised temperature
6. Record the equipment, thermometer etc. used for the measurements
7. If at step (6) the final mixed water temperature is greater than the values in Table 4 and / or the maximum temperature exceeds the corresponding value from the previous results by more than about 2 K, the need for service work is indicated

Adjust the temperature of the mixed water in accordance with the manufacturer's instructions and the requirement of the application. Carry out the following sequence:

1. That any in-line or integral strainers are clean
2. Any in-line or integral check valves or other anti-back siphonage devices are in good working order
3. Any isolating valves are fully open
4. Check supply parameters are still within the expected values if not check system for faults.
  1. record the temperature of the hot and cold water supplies
  2. record the temperature of the mixed water at the largest draw-off flow rate
  3. record the temperature of the mixed water at a smaller draw-off flow rate, which shall be measured
  4. 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:
    5. Check to ensure in line filters are clean, that the check valves are working and all isolation valves are fully open.
    6. If no fault can be found check and record the mixed water temperatures and readjust mixed water temperature to the values in table 4.
    7. Complete the commissioning procedure if the mixed water temperature exceeds the values of the maximum recorded temperature by more than 2K the need for service work is indicated.

Depending on the results of the above tests, several possibilities exist:

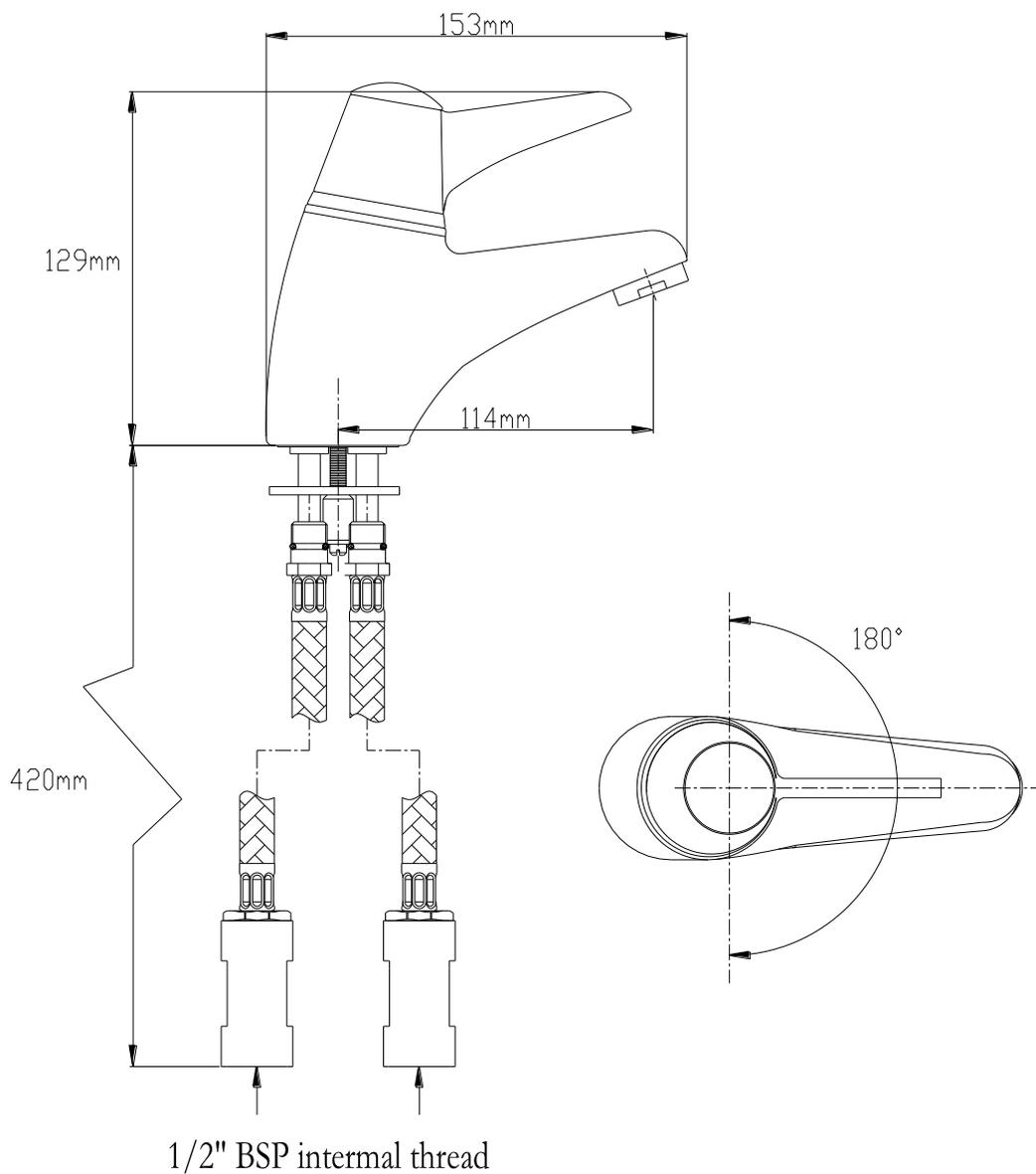
- a) If no significant changes (e.g.  $\leq 1$  K) in mixed water temperatures are recorded between commissioning and 6 to 8 week testing, or between commissioning and 12-15 week testing the next in-service test can be deferred to 24 to 28 weeks after commissioning.
- b) If small changes (e.g. 1 to 2 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.

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

**Please 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 Annex F of D 08 may be used

1) K = Kelvin, the unit of thermodynamic temperature. The unit “kelvin” is equal to the unit “degree Celsius”. Kelvin is used for a difference of Celsius temperature.

**Dimensions:**



**Care & Maintenance**

To maintain the surface finishes, simply wipe occasionally with a mild detergent on soft damp cloth. Dry using soft cloth, never use abrasive cleaners or chemical

household cleaners, avoid contact with concentrated bleach.

Bulldog products are manufactured to the highest standards and should require little or no maintenance. In the unlikely event of any spare part requirements, please contact your nearest Wolseley Branch

**Customer Reference Data**

Date of Purchase.....

Supplier.....

Supplier Tel. No.....

Model Type.....Bulldog Thermo Tap C85083./ 380001.....

Installer.....

Installer Contact Details.....

Date of Service #1 .....

Recorded Temperature.....

Date of Service #2 .....

Recorded Temperature.....

Date of Service #3 .....

Recorded Temperature.....

Date of Service #4 .....

Recorded Temperature.....

Date of Service #5 .....

Recorded Temperature.....

Date of Service #6 .....

Recorded Temperature.....

Date of Service #7 .....

Recorded Temperature.....