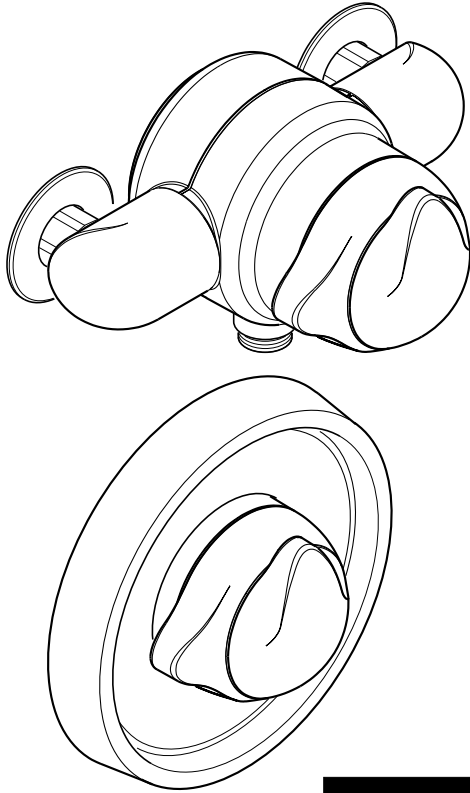


# ***mira***

select



## SHOWER CONTROL

Installation

Operation &

Maintenance Guide

**THESE INSTRUCTIONS ARE TO BE LEFT WITH THE USER**

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# Introduction

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly, having done so, keep it handy for future reference.

The Mira Select is a thermostatic shower control with independent selection of spray force and temperature. The shower control incorporates a wax capsule temperature sensing unit. This provides an almost immediate response to changes in pressures or temperature of the incoming water supplies to maintain the selected temperature. An adjustable maximum temperature stop is provided which limits the temperature to the desired level. The flow control mechanism utilizes ceramic plate technology operating directly on the hot and cold inlets to provide complete isolation of the incoming water supplies. An adjustable pressure setting allows the Select to be used in either low or high pressure applications.

Shower controls covered by this guide:

## **Mira Select**

An exposed shower control for connection to exposed or rear entry pipework. Refer to **Specifications** for details on the pressure ranges.

## **Mira Select B**

A built-in shower control for connection to concealed pipework. Refer to **Specifications** for details on the pressure ranges.

If you experience any difficulty with the installation or operation of your new shower control, then please refer to **Fault Diagnosis**, before contacting Caradon Plumbing Solutions. Our telephone and fax numbers can be found on the back cover of this guide.

# Important Safety Information

## 1. Warning!

- 1.1. Products manufactured by us are safe and without risk provided they are installed, used and maintained in good working order in accordance with our instructions and recommendations.

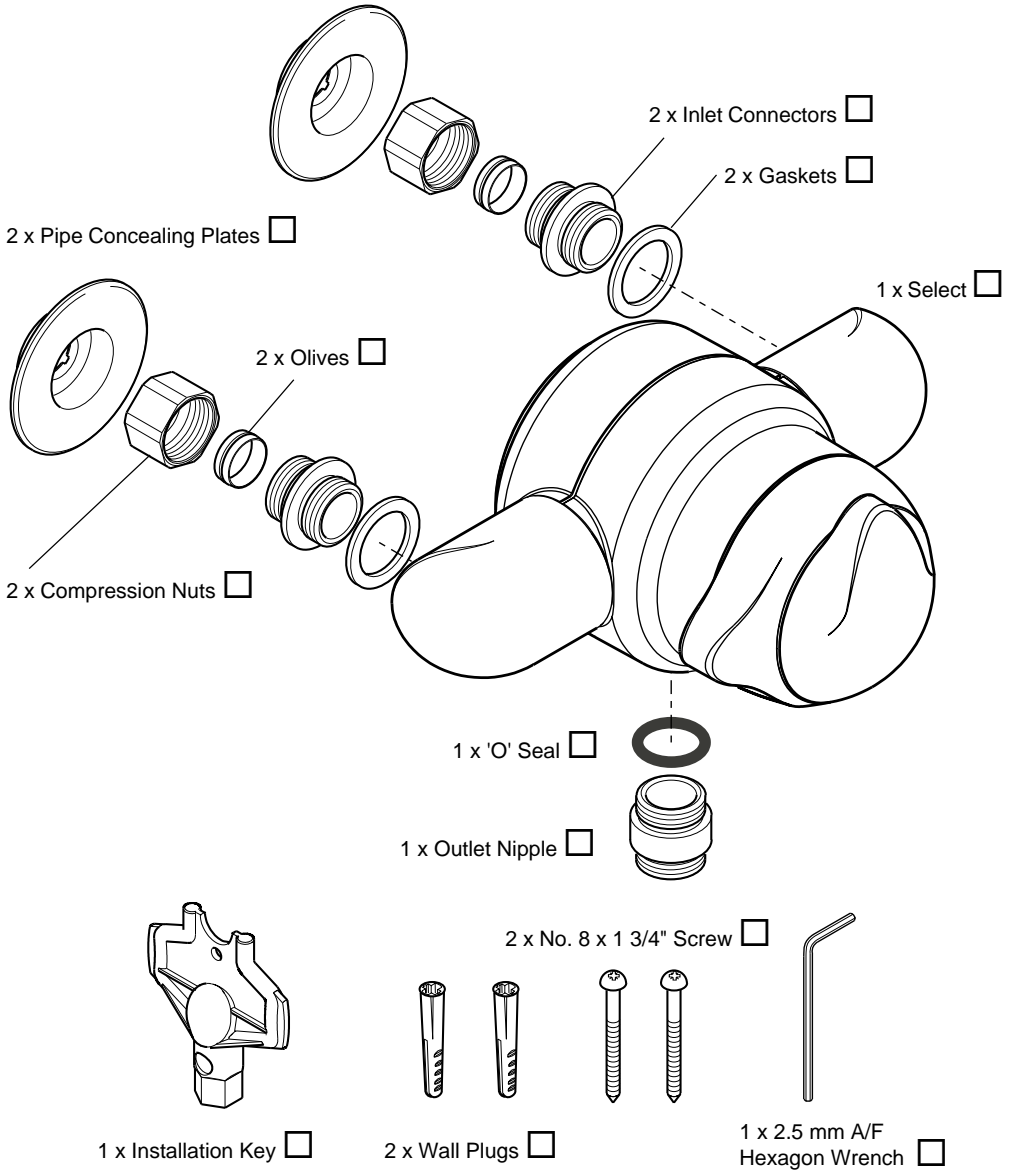
## 2. Caution!

- 2.1. Read all of these instructions.
- 2.2. Retain this guide for later use.
- 2.3. Pass on this guide in the event of change of ownership of the installation site.
- 2.4. Follow all warnings, cautions and instructions contained in this guide.
- 2.5. The plumbing installation must comply with Water Supply Bye-laws, BS 6700, Building Regulations or any particular regulations and practices, specified by the local water company or water undertakers. The installation should be carried out by a plumber or contractor who is registered, or is a member of, an association such as:
  - 2.5.1. Institute of Plumbing (IOP), throughout the UK, Tel: 01708 472791.
  - 2.5.2. National Association of Plumbing, Heating and Mechanical Services Contractors (NAPH & MSC), England and Wales, Tel: 01203 470626.
  - 2.5.3. Scottish and Northern Ireland Plumbing Employers' Federation (SNIPEF), Scotland and Northern Ireland, Tel: 0131 225 2255.
- 2.6. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm, or anyone inexperienced in the correct operation of the controls.

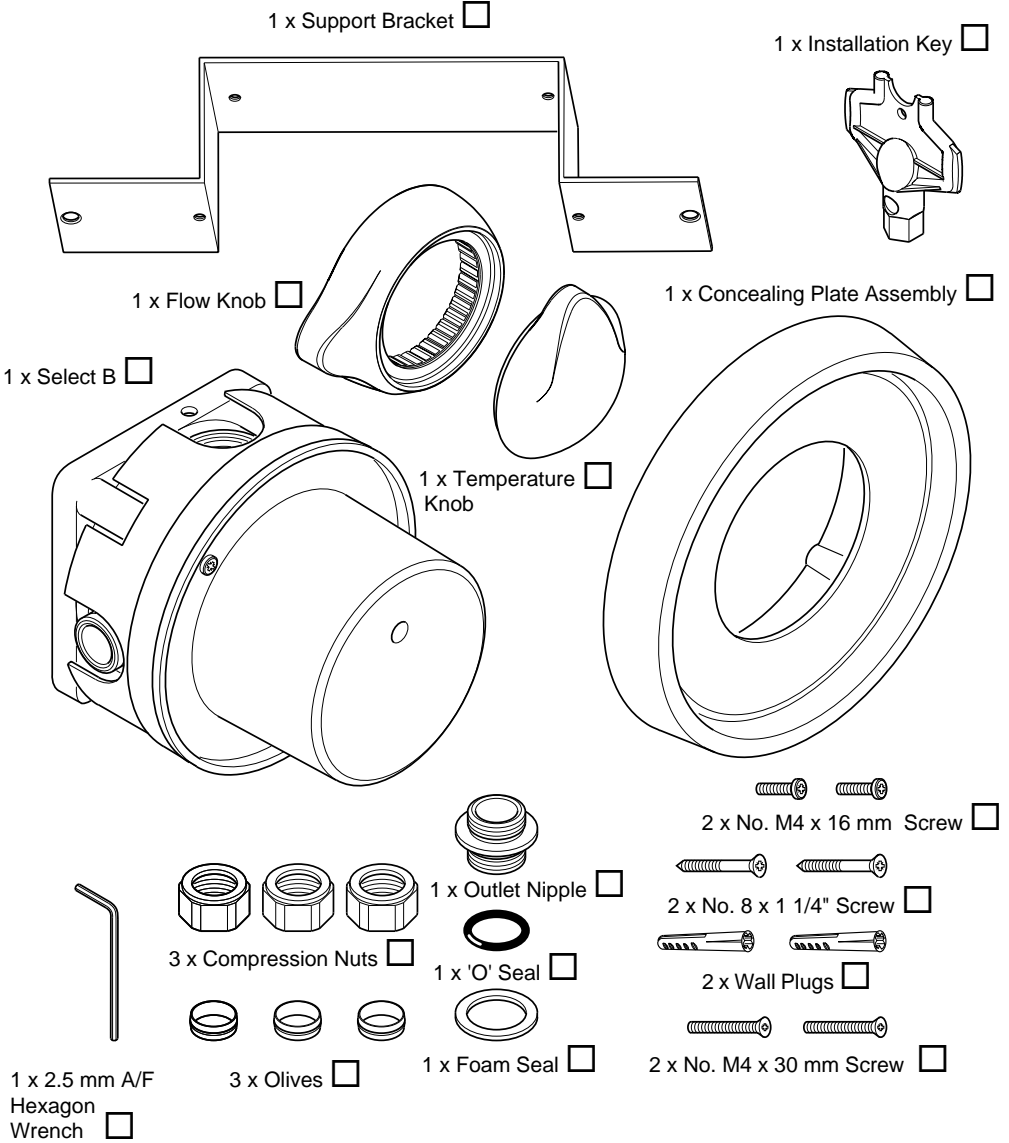
# Pack Contents Checklist

Tick the appropriate boxes to familiarize yourself with the part names and to confirm that the parts are included.

## 1. Select Shower Control



## 2. Select B Shower Control

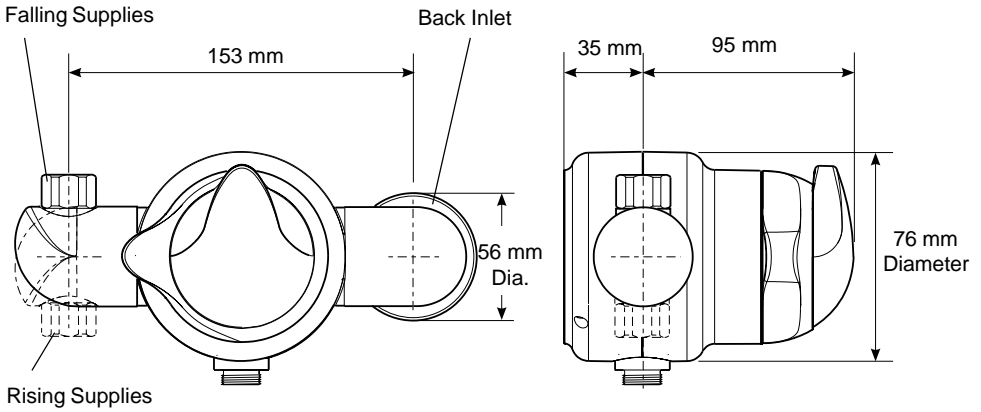


## 3. Documentation

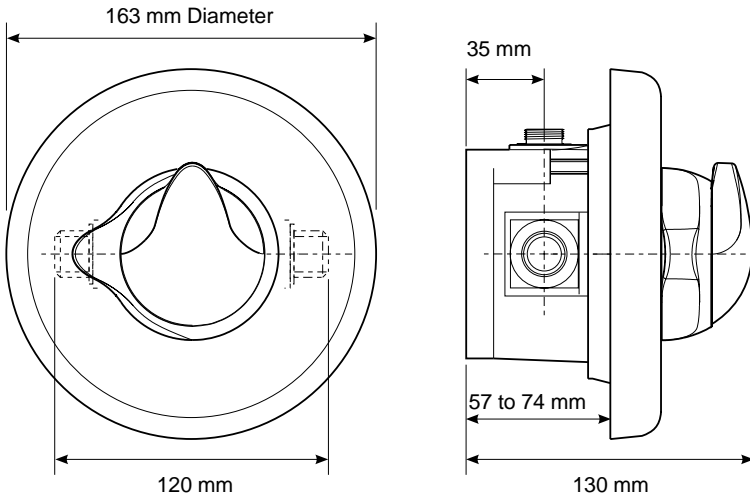
1 x Installation, Operation and Maintenance Guide

# Dimensions

## 1. Select



## 2. Select B



# Specifications

## 1. Pressure Ranges

The Select/Select B has an adjustable pressure range to suit the particular installation. For methods of measuring the system pressure, refer to **Installation Requirements**.

### Select & Select B - Low Pressure Setting

- 1.1. Minimum maintained pressure 0.1 bar (1 Metre head) when used with Mira shower fittings (0.06 bar without fittings).
- 1.2. Maximum maintained pressure 1.0 bar.
- 1.3. Maximum static pressure 10 bar.

### Select & Select B - High Pressure Setting

- 1.4. Minimum maintained pressure 1 bar (10 Metre head) when used with Mira shower fittings.
- 1.5. Maximum maintained pressure 5.0 bar.
- 1.6. Maximum static pressure 10 bar.

**Note!** Nominally equal inlet supply pressures are recommended for optimum performance.

## 2. Temperature Control

- 2.1. Close temperature control is provided between 30 and 50 °C.

**Note!** The temperature control specification, outlined below, is achieved with the blend set between 35 and 45 °C, with supply temperatures of 15 °C cold and 65 °C hot, **AND**, nominally equal inlet supply pressures.

- 2.2. The blended temperature is maintained within 2 °C with a 10 °C change in the hot or cold supply.
- 2.3. The wax capsule sensor effects a shut down to seepage in approximately 2 seconds if the cold supply fails. Shut down to seepage is only achieved if the hot supply is 12 °C above the blend temperature.



# Installation Requirements

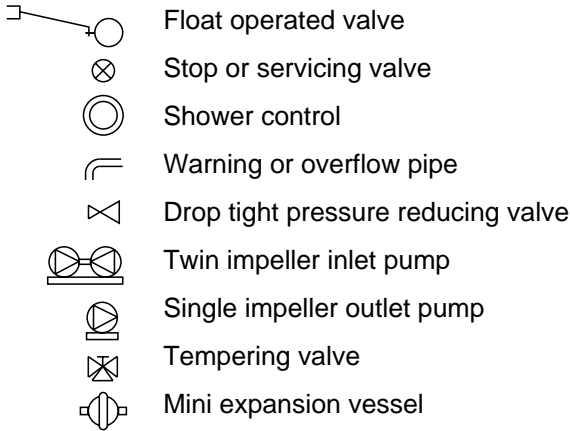
## 1. General

Read the section “**Important Safety Information**” first.

- 1.1. Supply pipework **MUST** be flushed to clear debris before connecting the shower control (Bye-law 55). A flushing cartridge is available free of charge upon request (refer to **Accessories**).
- 1.2. **Do not** fit any form of flow control in the outlet pipework.
- 1.3. **Do not** install the product in a position where it could become frozen.
- 1.4. Layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved and effects of other draw-offs are minimised.
- 1.5. Conveniently situated isolating valves **must** be fitted for servicing purposes.
- 1.6. If the shower control is to be used with a multipoint water heater, combination boiler, thermal store or unvented system an expansion vessel must be fitted to accommodate the expansion of water in the domestic hot water supply (this may already be part of the system, check with the appliance manufacturer).
- 1.7. **Do not** use excessive force when making connections.
- 1.8. **Do not** install the shower control in a position that restricts service access.

## 2. Typical Suitable Installations

### Key to symbols



### 2.1. Instantaneous gas-heated showers (e.g. combination boilers)

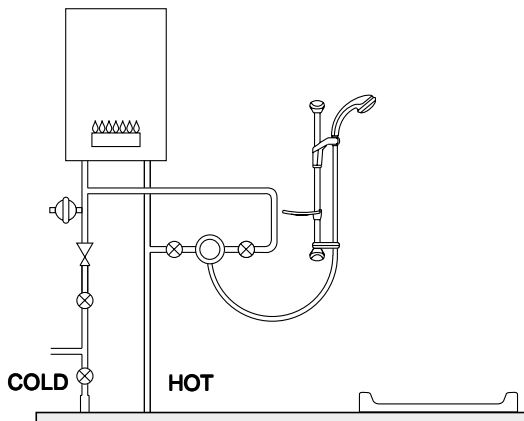
The shower control **MUST** be installed with a multipoint gas water heater or combination boiler of a **fully modulating design** (i.e. where the water draw-off rate indirectly controls the gas flow rate to the burner).

A drop tight pressure reducing valve **MUST** be fitted if the supply pressures exceed 5 bar maintained.

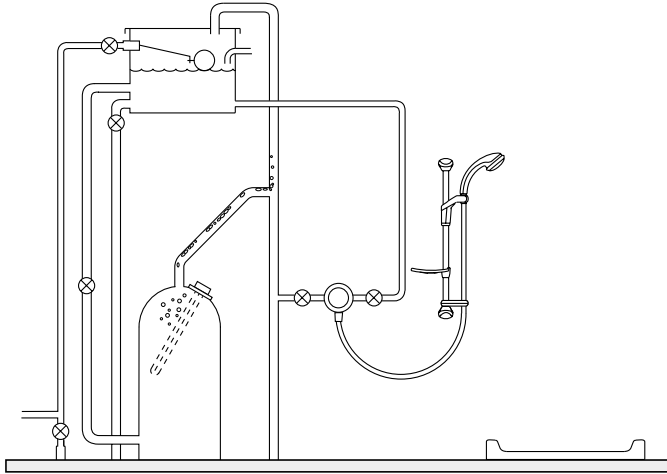
An expansion vessel **MUST** be fitted (and regularly maintained) as shown in the diagram below to ensure that excess pressures do not damage the product. This may already be fitted within the boiler (check with the manufacturer) and is in addition to the normally larger central heating expansion vessel.

The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.

The hot supply temperature **MUST** be at least 12 °C hotter than the required blend temperature for optimum performance.



2.2. **Gravity fed showers** - The shower control **MUST** be fed from a **cold water storage cistern** and **hot water cylinder** providing nominally equal pressures.



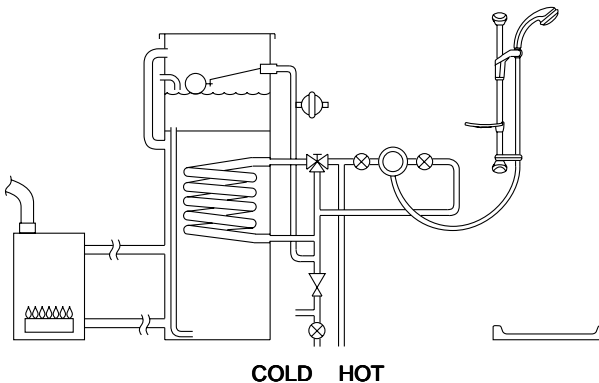
2.3. **Mains pressurised instantaneous hot water shower, heated from a thermal store**

Packages of this type, fitted with a tempering valve can be used.

A drop tight pressure reducing valve **MUST** be fitted if the supply pressures exceed 5 bar maintained.

An expansion valve **MUST** be fitted (and regularly maintained) as shown in the diagram below to ensure excess pressures do not damage the product. This may already be fitted externally or internally within the thermal store (check with thermal store manufacturer).

The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.



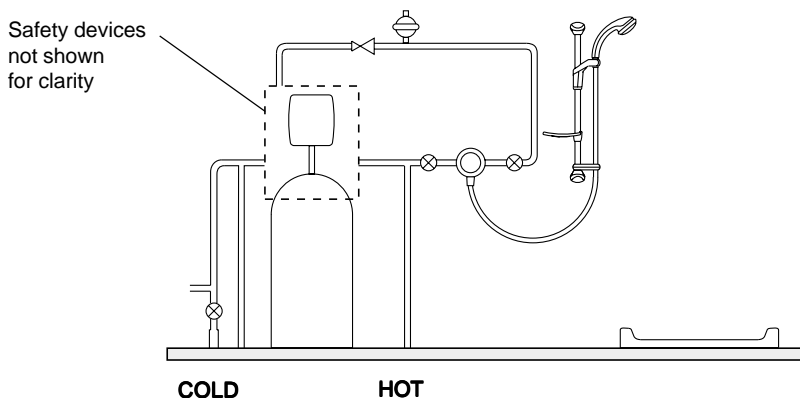
## 2.4. Unvented mains pressure showers

The shower control can be installed with an unvented, stored hot water cylinder. Only a "competent person" as defined by part G of schedule 1 of the Building Regulations may fit this type of system.

For packages with no cold water take off after the appliance reducing valve, it will be necessary to fit an additional drop tight pressure reducing valve when the mains pressure is over 5 bar. The drop tight pressure reducing valve must be set at the same value as the unvented package pressure reducing valve.

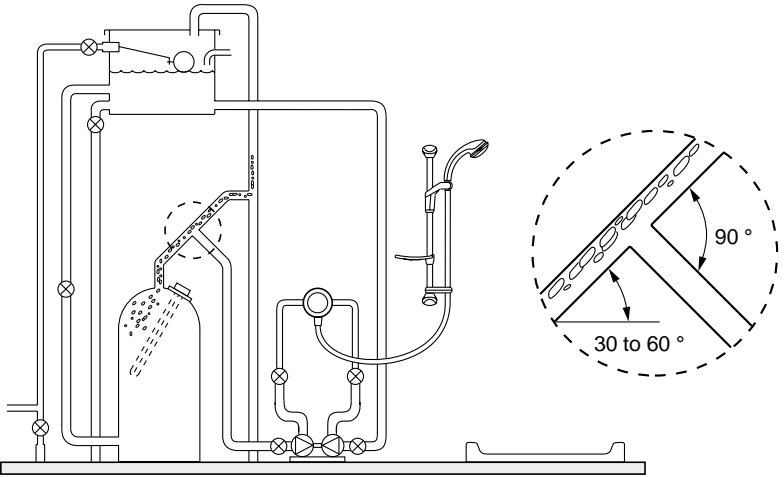
**Note!** An additional expansion vessel may be required and fitted as shown if a second pressure reducing valve is installed. This does not apply to packages with a cold take off after the pressure reducing valve.

The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.



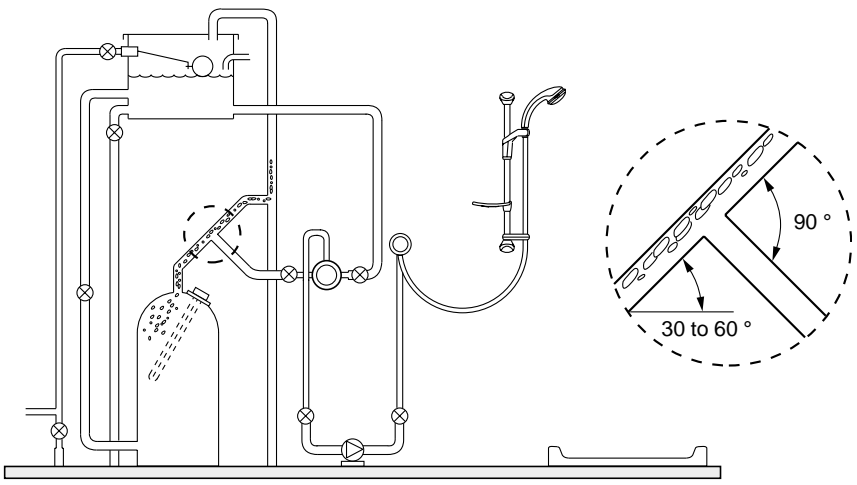
**2.5. Pumped showers (inlet pumps)** - The shower control can be installed with an inlet pump (twin impeller). The pump **MUST** be located on the floor next the hot water cylinder. The hot water cylinder/vent pipes must be arranged as shown to achieve air separation.

The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.



**2.6. Pumped showers (outlet pumps)** - The built-in shower control can be installed with an outlet pump (single impeller). The pump **MUST** be located on the floor near to the shower control.

The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.



## 3. Measuring System Pressures

### 3.1. General

It is important that the system pressure does not exceed the Select specification (refer to section, 5).

If the system pressure is not known then the system pressure **MUST** be measured as explained in this section.

Pressures are those present at the inlet to the appliance either whilst running (maintained) or in the off state (static). Nearby hot and cold taps connected to the same proposed feed pipes as the appliance can be used to measure the static pressure. No other fitting or appliance should be in use at this time.

Water pressures vary throughout the day, therefore you must ensure that water pressures do not drop below or exceed the minimum/maximum required (refer to Specifications).

### 3.2. To measure static pressure (refer to Figure 1)

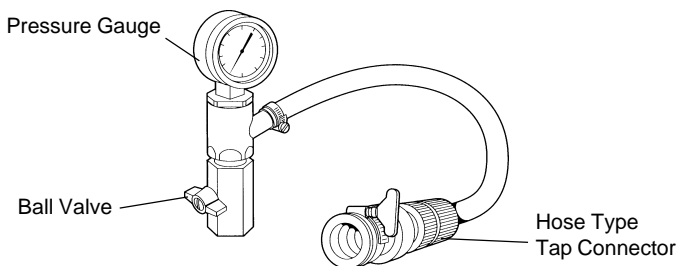
With the pressure testing device firmly connected to a tap drawing from one of the proposed feed pipes and the outlet from the device in the off position, the tap is turned on and the static pressure noted.

### 3.3. To measure maintained pressure (refer to Figure 1)

The pressure testing device is connected as above, the taps turned on and the outlet from the device opened until a flow of around 5 l/min is obtained (this is easily done by timing the flow into a calibrated container). The maintained pressure which can be expected when the shower is in operation can then be read. This should be carried out on the hot and cold supply.

### 3.4. To measure pressure drop

Pressure drop results from another fitting being turned on when the shower is in use. Having checked the maintained pressure as in **3.3.** and with the device still discharging at approximately 5 l/min, turn on a second draw-off from the same feed pipe. This new reading will show the pressure drop from **3.3.** and should be above the minimum maintained pressure recommended by the manufacturer.



Pressure Testing Device  
Figure 1

# Pressure Setting

**Important!** Before the Select shower control can be installed the cartridge assembly **must** be set to the correct pressure setting for the plumbing system.

## 1. General

Read the section "**Installation Requirements**" first.

The table below gives the correct pressure setting for **typical** plumbing installations. Refer to section 5, for measuring the actual system pressures.

System	Low Pressure Setting	High Pressure Setting
Gravity-fed showers.	✓	
Instantaneous gas heated showers.		✓
Mains pressurised instantaneous hot water shower, heated from a thermal store.		✓
Unvented mains pressure showers.		✓
Pumped showers.		✓ †

† **Note!** For user comfort and convenience we recommend the low pressure setting for pumps that provide maintained system pressure below 1 bar, and the high pressure setting for pumps that provide maintained system pressure above 1 bar.

## 2. Select and Select B

**Important! The cartridge assembly is supplied set for low pressure.** The following procedure is necessary, even if a low pressure setting is required, to remove the backplate prior to installation and to confirm the factory setting.

### Select

- 2.1. Use the 2.5 mm A/F hexagon wrench (supplied) to loosen the two grub screws.
- 2.2. Remove the backplate. This will allow access to the rear face of the cartridge assembly.
- 2.3. Adjust the pressure setting if necessary (refer to use of installation key).

### Select B

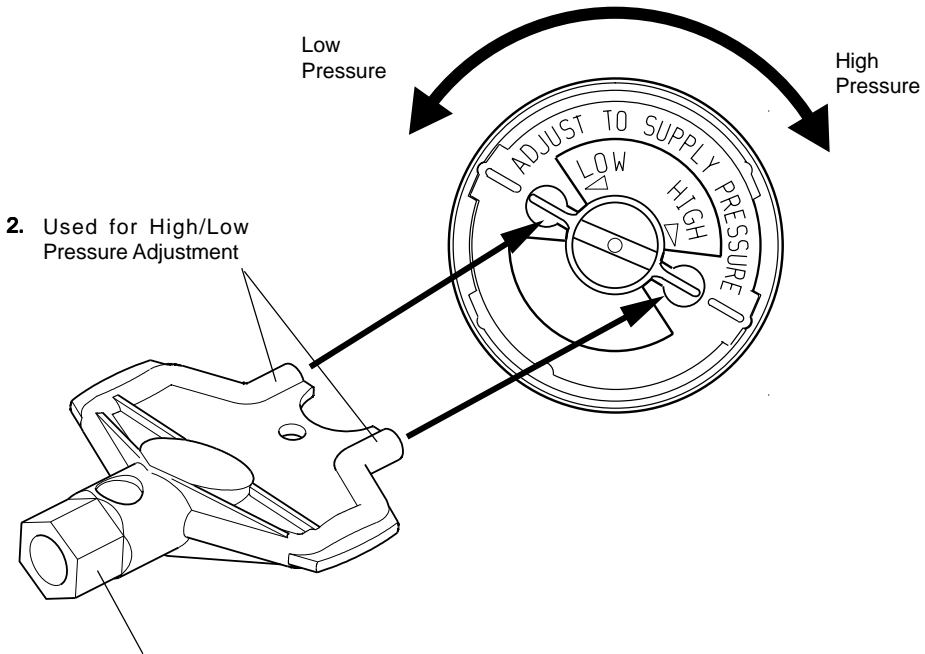
- 2.4. Remove the two screws that hold the building-in shroud to the backplate.
- 2.5. Remove the building-in shroud.
- 2.6. Refit the two screws temporarily into the backplate.
- 2.7. Use the 2.5 mm hexagon wrench (supplied) to loosen the two grub screws.
- 2.8. Remove the shower control from the backplate. This will allow access to the rear face of the cartridge assembly.
- 2.9. Adjust the pressure setting if necessary (refer to use of installation key).

## 3. Use of Installation Key

An installation key is available to help you during installation of the Mira Select. The key has the following functions:

- 3.1. The plastic end prongs fit neatly into the pressure selector to enable you to easily change the pressure setting to high or low pressure.
- 3.2. Refit the shower control to the backplate and use the 2.5 mm hexagon wrench to tighten the grub screws.





2. Used for High/Low Pressure Adjustment

1. 12 mm A/F Hexagonal Wrench. Used for Removal/Installation of the Inlet and Outlet Nipples.

# Installation

## Select

### 1. Exposed Supplies (rising or falling surface pipework)

**Important!** Before the Select shower control can be installed the cartridge assembly **must** be set to the correct pressure setting for the plumbing system. Refer to the section "**Pressure Setting**".

**Note!** The Select is supplied with inlet connections **hot left, cold right** and **bottom outlet** as standard. For installations with reversed hot and cold supplies complete the installation and refer to the section, **Reversed Inlet Connections**.

- 1.1. Before you decide on the final position of your shower control, please bear in mind the following:

Decide on a suitable position for the shower control. The position of the shower control and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent backsiphonage and comply with the requirements of Bye-law 17.

Determine whether the hot or cold water services will be connected to the shower control from the bottom (rising) or from top (falling).

- 1.2. Use the 2.5 mm A/F hexagon wrench (supplied) to loosen the two grub screws that secure the backplate to the shower control.
- 1.3. Remove the backplate.
- 1.4. Mark the final position on the finished wall surface using the backplate as a template. Make sure that the two holes on the backplate are vertically aligned.
- 1.5. For solid walls drill the backplate holes with a 6 mm diameter drill and insert the wall plugs (supplied). For other types of wall structure alternative fixings may be required.
- 1.6. Fix the backplate to the wall with the two No. 8 x 1 3/4" screws (supplied).
- 1.7. Install the hot and cold supply pipes at 153 mm centres.

**1.8.** Adjust the inlet elbow to accept falling or rising supplies as follows:

Using the 2.5 mm A/F hexagonal wrench loosen the grub screws and remove the inlet elbows.

Ensure that the 'O' seal locates correctly on inlet connector.

Turn the inlet elbows to the required position and refit onto the inlet connectors.

Tighten the grub screws to fix the inlet elbows

**1.9.** Fit the gaskets to the short inlet nipples and screw the nipples with tapered ends outermost to accept the compression fittings.

**1.10.** Tighten the nipples fully with a 12 mm A/F hexagonal wrench (not supplied).or key

**1.11. Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control (Bye-law 55). Failure to do so may result in product malfunction.**

**Alternatively fit the shower control as instructed, remove the cartridge and use the Flushing Cartridge (refer to Accessories).**

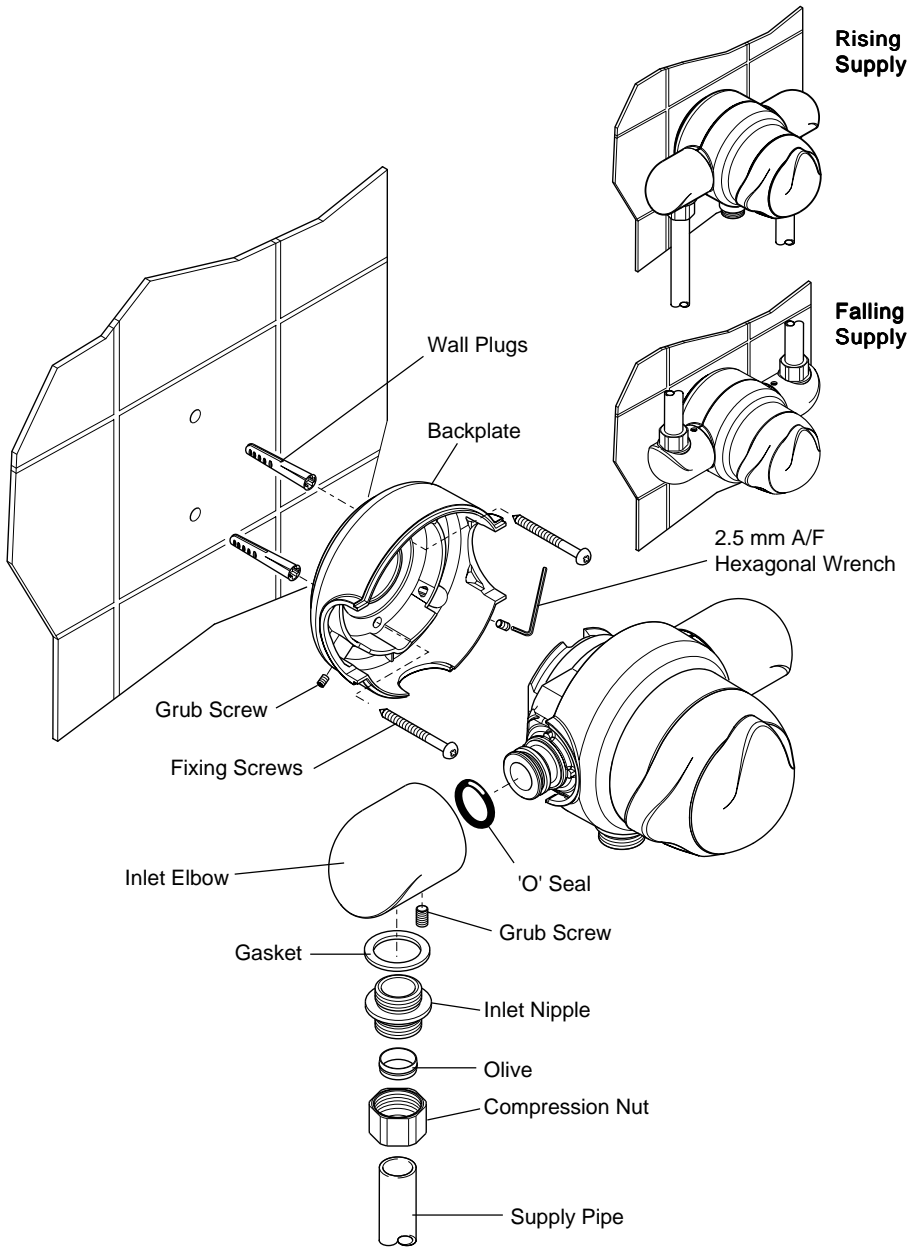
**1.12.** Locate the shower control onto the backplate and secure with the grub screws.

**1.13.** Slip the compression nuts and olives over the supply pipes and then make the connection to the inlet pipework. Make sure that you protect the plated surfaces.

**1.14.** Turn on the water supplies and check for any leaks.

### **Shower fittings**

**1.15.** Install the shower fittings. Refer to the Installation, Operation and Maintenance Guide for the shower fittings.



**Exposed Supplies (rising or falling pipework)  
Figure 1**

## 2. Back Inlet Supplies (rising or falling concealed pipework)

**Important!** Before the Select shower control can be installed the cartridge assembly **must** be set to the correct pressure setting for the plumbing system. Refer to the section "**Pressure Setting**".

**Note!** The Select is supplied with inlet connections **hot left, cold right** and **bottom outlet** as standard. For installations with reversed hot and cold supplies complete the installation and refer to the section, **Reversed Inlet Connections**.

- 2.1. Before you decide on the final position of your shower control, please bear in mind the following:

Decide on a suitable position for the shower control. The position of the shower control and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent backsiphonage and comply with the requirements of Bye-law 17.

- 2.2. Use a spirit level and a pencil to mark the route for the hot and cold water supply pipes at 153 mm centres.
- 2.3. Remove the plaster and brick/block to the required depth to conceal the pipework.
- 2.4. Install the supply pipes. The pipes must project from the finished wall by **13 mm**. Finish the surface of the wall as required. The recesses in the wall for the concealing plates must be 32 mm diameter x 10 mm deep.
- 2.5. Follow the shower control installation procedure as for "**Rising inlet and falling inlet supplies**": instructions **1.2.** to **1.6.**
- 2.6. Fit the gaskets to the short inlet nipples and screw the nipples with the tapered ends outermost to accept the compression fittings.  
  
Tighten the nipples fully with a 12 mm A/F hexagonal wrench (not supplied).
- 2.7. Fit the concealing plates over the pipework into the enlarged recesses in the finished wall surface.
- 2.8. **Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control (Bye-law 55). Failure to do so may result in product malfunction.**

**Alternatively fit the shower control as instructed, remove the cartridge and use the Flushing Cartridge (refer to Accessories).**

2.9. Slip the compression nuts and olives over the supply pipes.

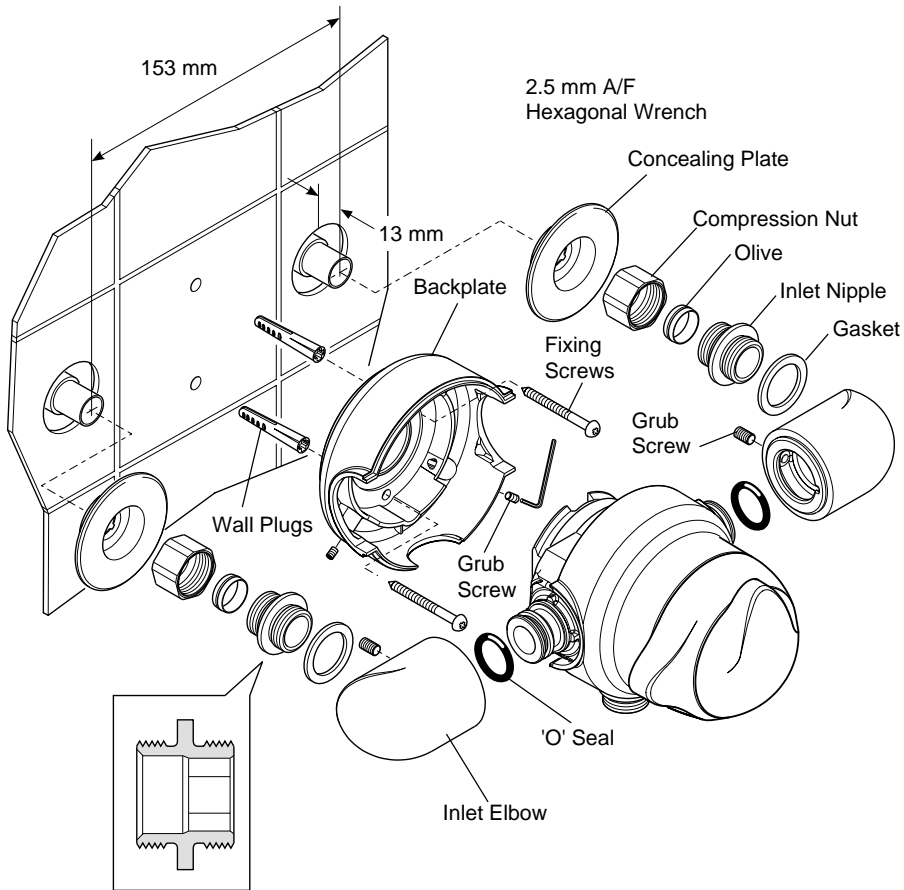
Locate the shower control body onto the backplate and secure by tightening the grub screw using the 2.5 mm A/F hexagonal wrench (supplied).

Make the connections to the inlet pipework. Make sure that you protect the chrome plated surfaces whilst you tighten the compression nuts.

2.10. Turn on the water supplies and check for any leaks.

## Shower fittings

2.11. Install the shower fittings. Refer to the Installation, Operation and Maintenance Guide for the shower fittings.



**Back Inlet Supplies (rising or falling concealed pipework)  
Figure 2**

## Select B

### 3. Solid and dry-lined walls

**Important!** Before the Select shower control can be installed the cartridge assembly **must** be set to the correct pressure setting for the plumbing system. Refer to the section "**Pressure Setting**".

The built-in shower control is supplied with a support bracket that can be used to install the shower control into a solid or dry-lined wall structure. Installers may wish to consider other options such as fabricating rear supports using wooden noggins, however, these methods of fixing are beyond the scope of this guide.

The building-in depth for the support bracket is 58 mm.

The building-in depth for the shower control (to the finished wall surface) is between 64 and 81 mm. The building-in depth calculation must include the final thickness of plaster and tiles. This dimension determines how much of the flow and temperature control knob will be visible through the concealing plate when the installation is complete.

A building-in shroud is supplied, which protects the shower control during plastering and provides a reference for the building-in depth when chasing out the wall surface.

The built-in shower control has 1/2" BSP male inlets and is supplied with 15 mm compression fittings. The outlet has a 1/2" BSP tapping and is supplied with a special screw in nipple terminating in a 1/2" BSP male or 15 mm compression fitting.

- 3.1.** Decide on a suitable position for the shower control. The position of the shower control and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent backsiphonage and comply with the requirements of Bye-law 17.
- 3.2.** Determine whether the hot or cold water services will be connected to the shower control from the top (falling) or from the bottom (rising).
- 3.3.** Remove the plastic building-in shroud. The two M5 x 50 mm retaining screws should be screwed temporarily into the base of the shower control for use later.

Familiarise yourself with the hot and cold water inlet ports and the outlet port. The Select B is supplied with inlet connections **hot left, cold right** and **top outlet** as standard.

- 3.4. Determine the route for the outlet pipework. When connecting to the shower fittings it is recommended that the outlet be positioned above and to one side of the shower control. This is to prevent the flexible hose from obstructing the temperature and flow knobs of the shower control. For further information on the installation of the shower fittings refer to the Installation, Operation and Maintenance Guide.
- 3.5. Mark an opening sufficient to accommodate the shower control approximately 245 mm x 125 mm on the surface of the wall. Alternatively, mark a 150 mm diameter hole for a carbide tipped hole cutter.
- 3.6. Mark the route of the supply and outlet pipes. Using the building-in shroud as a guide remove the plaster and brickwork/dry-lining to the required depth.  
  
**Note!** The depth of concealment must be such that the final wall surface (e.g. plaster and tiles) finishes on the raised portion of the plastic building-in shroud.
- 3.7. Mark the support bracket fixing hole positions. **The support bracket must be fixed at 45°**. Drill a 6.0 mm diameter hole at each of the marked positions and insert the wall plugs (supplied).
- 3.8. Install the hot and cold supply pipes.
- 3.9. Make sure that the 'O' seal and the foam seal are correctly located on the outlet nipple.
- 3.10. Screw the outlet nipple into the shower control, flat face end first. Make sure that the shoulder on the outlet nipple engages with the recess in the backplate. Tighten the outlet nipple with a 12 mm A/F hexagon wrench (not supplied).
- 3.11. Fix the shower control to the support bracket using the two M4 x 16 mm screws (supplied).
- 3.12. Align the holes in the support bracket with the holes in the wall and secure the shower control with the two No. 8 x 1 1/4" screws (supplied).
- 3.13. **Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control (Bye-law 55). Failure to do so may result in product malfunction. Alternatively fit the shower control as instructed, remove the cartridge and use the Flushing Cartridge (refer to Accessories).**

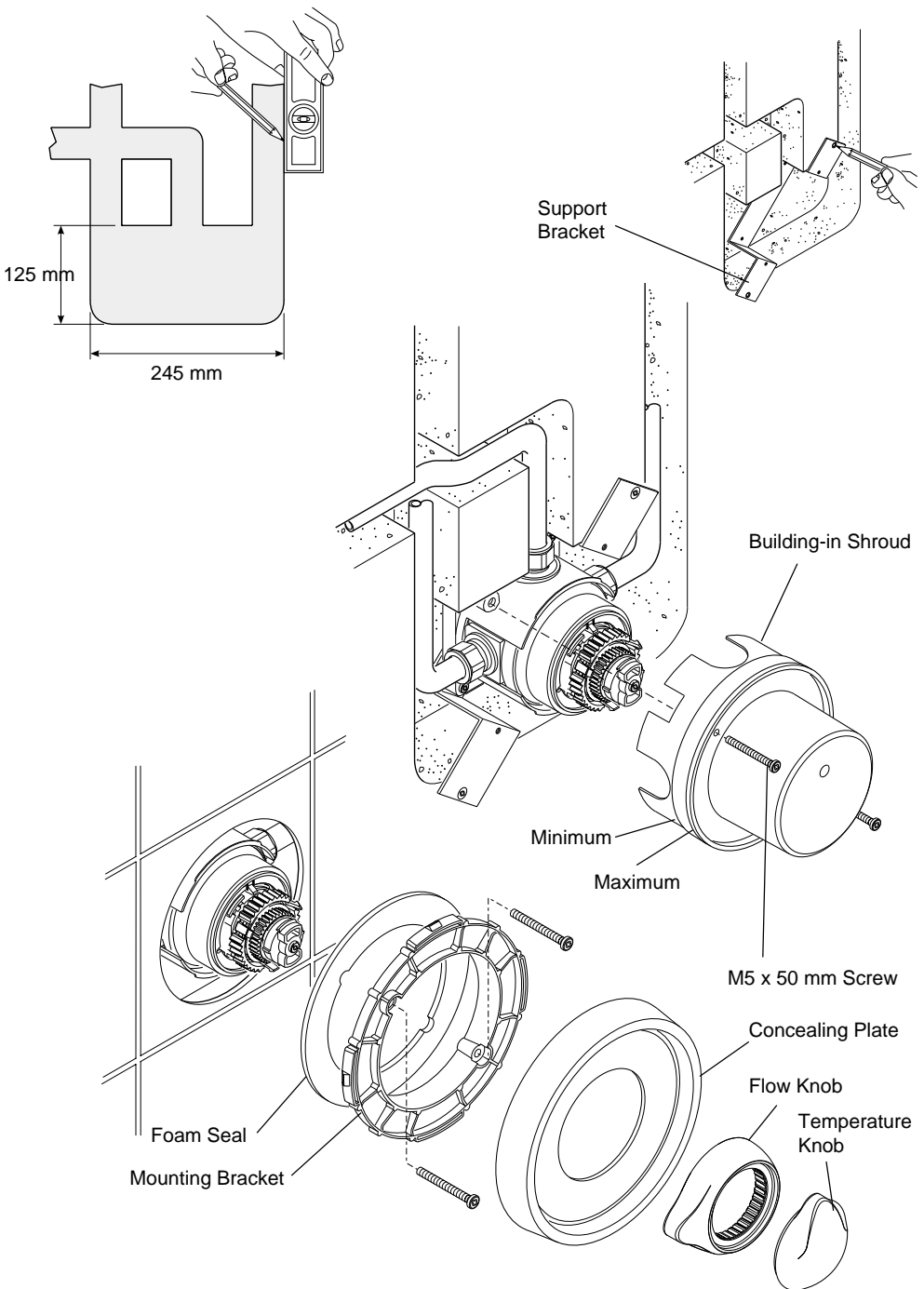
**Note!** The Select B is supplied with inlet connections **hot left, cold right** and **top outlet** as standard. For installations with reversed hot and cold supplies complete the installation and refer to **Reversed inlet connections**.



- 3.14. Slide the compression nuts and olives over the supply pipes.
- 3.15. Insert the hot and cold supply pipes fully into the shower control and slide the olives and compression nuts into place.
- 3.16. Use a suitable spanner to tighten the compression nuts.
- 3.17. Install the outlet pipe.
- 3.18. Slide the compression nut and olive over the outlet pipe.
- 3.19. Insert the outlet pipe fully into the shower control and slide the olive and compression nut into place.
- 3.20. Use a suitable spanner to tighten the compression nut.
- 3.21. Turn on the water supplies and check for any leaks.
- 3.22. Refit the building-in shroud removed during pressure setting. Secure the shroud in position with the two M5 x 50 mm screws.
- 3.23. Plaster and tile as necessary up to the sides of the building-in shroud. The finished surface of the wall must be between the minimum and maximum depths on the building-in shroud.
- 3.24. When the plaster/tiles have set remove the building-in shroud. **Retain the two M5 x 50 mm screws for use later.**
- 3.25. Fit the foam seal to the back of the mounting bracket.
- 3.26. Fix the mounting bracket to the shower control with the two M5 x 50 mm screws.
- 3.27. Push the concealing plate firmly on to the mounting bracket until it clips into position.
- 3.28. Fit the flow knob and the temperature knob. The flow knob must point to 9 O'clock when in the off position and the temperature knob should point upwards (refer to Figure 3).

## Shower Fittings

- 3.29. Install the shower fittings. Refer to the Installation, Operation and Maintenance Guide for the shower fittings.



**Solid and Dry-lined Walls**  
**Figure 3**

## 4. Shower Cubicle or Laminated Panel Walls

**Important!** Before the Select shower control can be installed the cartridge assembly **must** be set to the correct pressure setting for the plumbing system. Refer to the section "**Pressure Setting**".

The built-in shower control is supplied with a support bracket that can be used to install the shower control into the front face or the rear face of a shower cubicle or laminated panel. The front face installation of the support bracket is only practical where plaster or tiles can conceal flanges of the bracket. Installers may wish to consider other options such as fabricating rear supports using wooden noggins, however, these methods of fixing are beyond the scope of this guide.

### Front Face Installation

- 4.1. Decide on a suitable position for the shower control. The position of the shower control and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent backsiphonage and comply with the requirements of Bye-law 17.
- 4.2. Determine whether the hot or cold water services will be connected to the shower control from the top (falling) or from the bottom (rising).
- 4.3. Remove the plastic building-in shroud. The two M5 x 50 mm retaining screws should be screwed temporarily into the base of the shower control for use later.

Familiarise yourself with the hot and cold water inlet ports and the outlet port. The Select B is supplied with inlet connections **hot left, cold right and top outlet** as standard.

- 4.4. Determine the route for the outlet pipework. When connecting to the shower fittings it is recommended that the outlet be positioned above and to one side of the shower control. This is to prevent the flexible hose from obstructing the temperature and flow knobs of the shower control. For further information on the installation of the shower fittings refer to the Installation, Operation and Maintenance Guide.
- 4.5. Cut a 145 mm diameter hole in the panel and mark the fixing holes for the support bracket at 45°.
- 4.6. Install the hot and cold supply pipes.
- 4.7. Make sure that the 'O' seal and the foam seal are correctly located on the outlet nipple.

- 4.8. Screw the outlet nipple into the shower control, flat face end first. Make sure that the shoulder on the outlet nipple engages with the recess in the backplate. Tighten the outlet nipple with a 12 mm A/F hexagon wrench (not supplied).
- 4.9. Fix the shower control to the support bracket using the two M4 x 16 mm screws (supplied).
- 4.10. Fix the support bracket and shower control in position using suitable fixings (not supplied).

**Note!** The support bracket requires a clearance depth of **58 mm**, with a finished wall thickness of **6 mm**. The raised portion on the building-in shroud can be used as a depth gauge. Wall thicknesses in excess of 6 mm can be accommodated, but clearance will be required around the inlet and outlet connections to allow insertion of pipe and tightening of compression nuts.

- 4.11. **To complete the installation, refer to paragraphs 3.14 to 3.29 inclusive.**

### **Back Face Installation**

**Note!** This installation is only possible with a finished wall thickness of between **4 and 21 mm**, and is normally associated with the installation into laminated panels or preformed shower cubicles.

- 4.12. Decide on a suitable position for the shower control. The position of the shower control and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent backsiphonage and comply with the requirements of Bye-law 17.
- 4.13. Determine whether the hot or cold water services will be connected to the shower control from the top (falling) or from the bottom (rising).
- 4.14. Remove the plastic building-in shroud. The two M5 x 50 mm retaining screws should be screwed temporarily into the base of the shower control for use later.

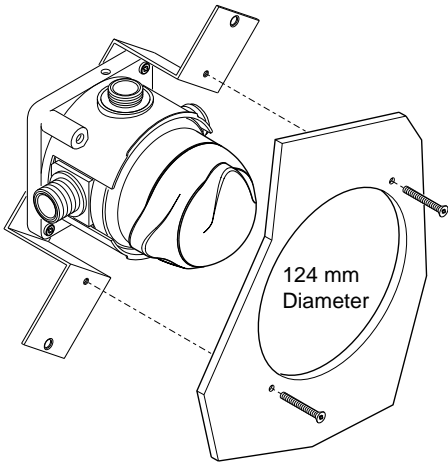
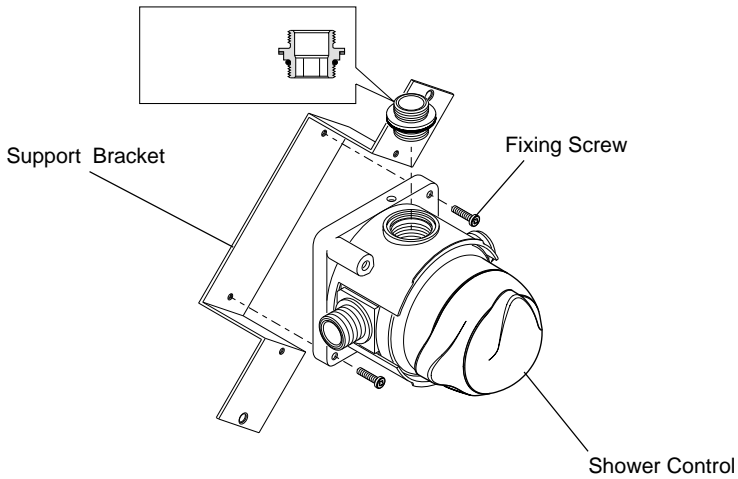
Familiarise yourself with the hot and cold water inlet ports and the outlet port. The Select B is supplied with inlet connections **hot left, cold right and top outlet** as standard.

- 4.15. Determine the route for the outlet pipework. When connecting to the shower fittings it is recommended that the outlet be positioned above and to one side of the shower control. This is to prevent the flexible hose from obstructing the temperature and flow knobs of the shower control. For further information on the installation of the shower fittings refer to the Installation, Operation and Maintenance Guide.

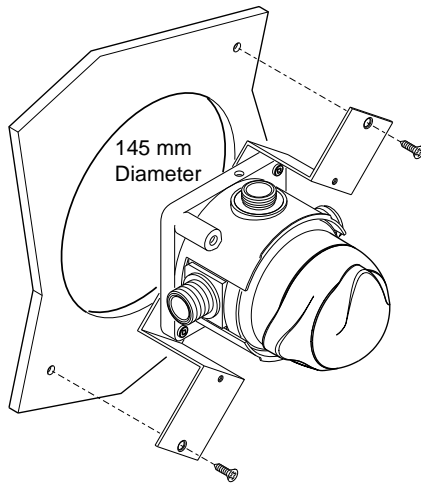
- 4.16. Cut a 124 mm diameter hole in the panel and mark the fixing holes for the support bracket at 45°.
- 4.17. Drill and countersink the fixing holes to accept the M4 x 30 mm screws (supplied).
- 4.18. Install the hot and cold supply pipes.
- 4.19. Make sure that the 'O' seal and the foam seal are correctly located on the outlet nipple.
- 4.20. Screw the outlet nipple into the shower control, flat face end first. Make sure that the shoulder on the outlet nipple engages with the recess in the backplate. Tighten the outlet nipple with a 12 mm A/F hexagon wrench (not supplied).
- 4.21. Fix the support bracket and shower control in position using the two M4 x 30 mm screws (supplied).

**Note!** The support bracket requires a clearance depth of **58 mm**, with a finished wall thickness of between **4 and 21 mm**.

- 4.22. **To complete the installation, refer to paragraphs 3.14 to 3.29 inclusive.**



**Rear Face Installation**



**Front Face Installation**

**Shower Cubicle or Laminated Panel Walls  
Figure 4**

# Reversed Inlet Connections

The Select is supplied with inlet connections **hot left, cold right** and **bottom outlet**. The Select B is supplied with inlet connections **hot left, cold right** and **top outlet** as standard. If the hot and cold water supply pipes have been reversed during installation the following procedure must be performed.

- 1.1. Isolate the hot and cold water supplies to the shower control.
- 1.2. Turn the flow knob fully anticlockwise to drain any water.
- 1.3. Carefully pull off the temperature knob.
- 1.4. Carefully pull off the flow knob.
- 1.5. Unclip and remove the cover shroud.
- 1.6. Remove the four cartridge retaining screws. **The red and blue tags identify the correct hot and cold inlets for the cartridge.**
- 1.7. Remove the cartridge assembly. Two flats are provided on the cartridge assembly and a lever can be used on these to aid removal. Any residual water will drain from the body.

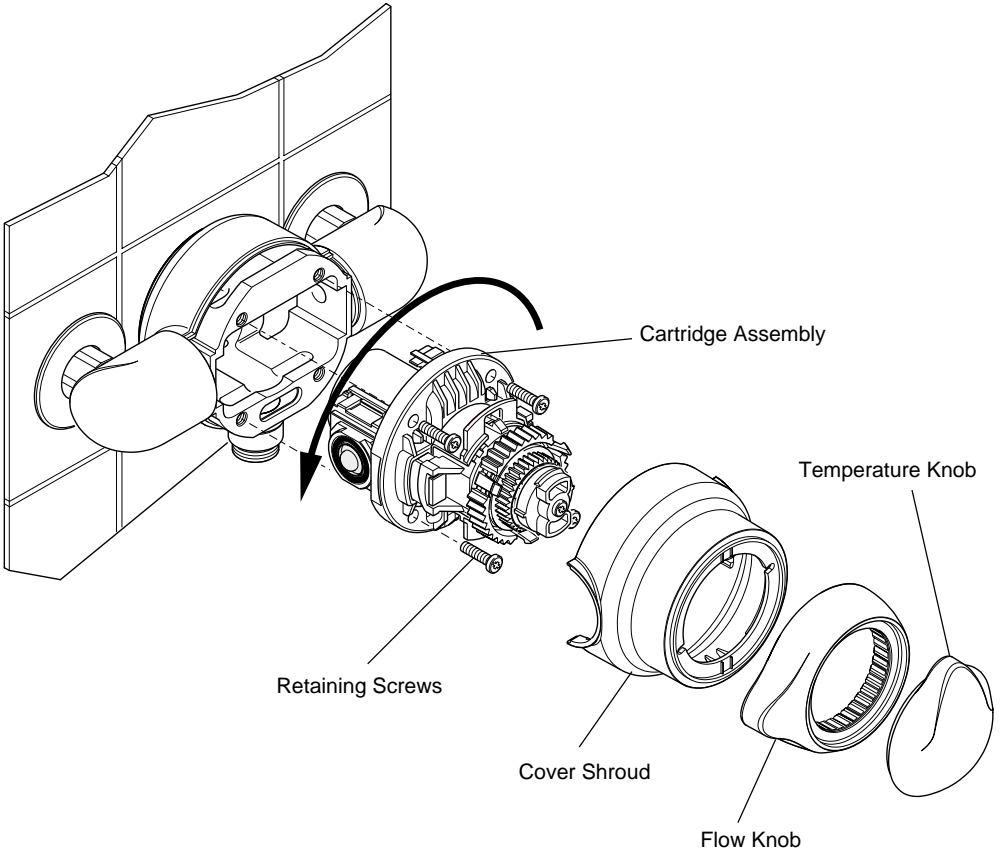
**Caution!** Do not remove or damage the two round inlet seals and the two oval outlet seals.

- 1.8. Rotate the cartridge assembly through half a turn (180°) and insert it back into the shower control body. **The blue tag should now be on the left side of the shower control.**

**Caution!** Do not over tighten the screws.

- 1.9. Fit the four screws that retain the cartridge assembly.
- 1.10. Refit the cover shroud. The lugs on the inside of the cover shroud must engage with the cutouts in the cartridge assembly. Line markings on the front face of the cover shroud show the position of the lugs.
- 1.11. Fit the flow knob on to the cartridge assembly pointing to the 9 O' clock position when off (refer to Figure 1).
- 1.12. Refit the temperature knob.

1.13. Restore the hot and cold water supplies and check for any leaks.



**Reversed Inlet Connections  
Figure 1**



# Commissioning

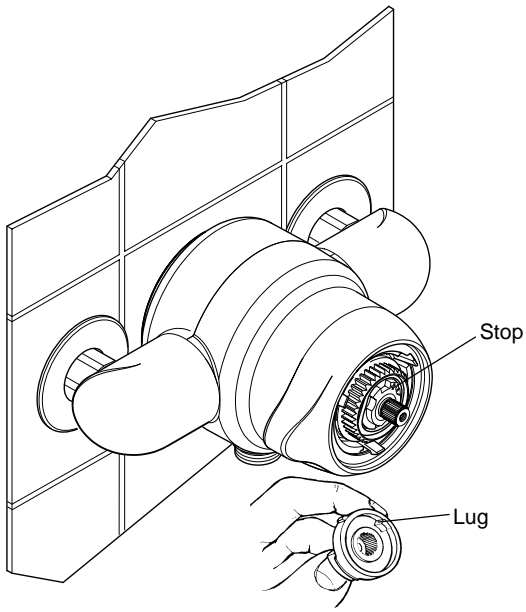
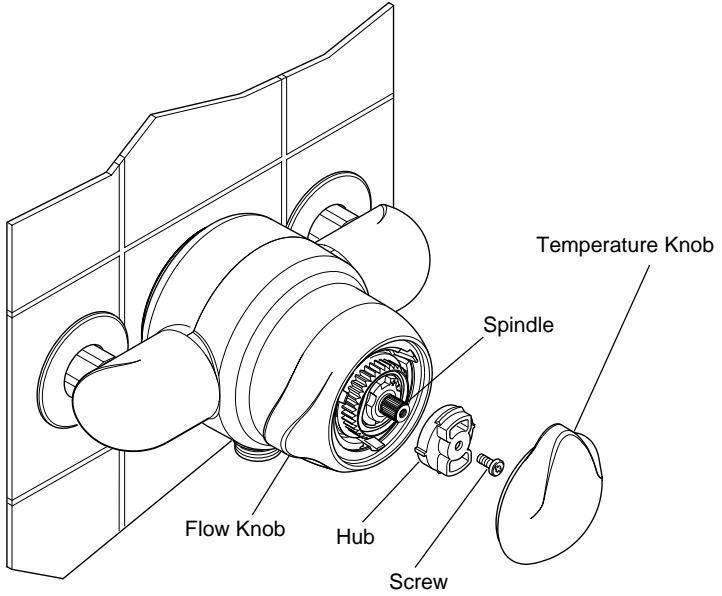
## 1. Maximum Temperature Setting

All Select shower controls are fully performance tested and the maximum temperature has been preset to 43 °C under ideal installation conditions at the factory. Site conditions and personal preference may make it necessary to reset these temperatures.

**Note! An adequate supply of hot water at least 12 °C above the required temperature must be available for correct operation of the shower control.**

- 1.1. Turn the temperature knob to the full hot position.
- 1.2. Turn the flow knob fully anticlockwise (maximum flow) and allow the temperature to stabilize.
- 1.3. Measure the water temperature. If the temperature is satisfactory then no adjustment is needed. If adjustment is necessary continue with the commissioning procedure.
- 1.4. Carefully pull off the temperature knob.
- 1.5. Remove the temperature hub securing screw.
- 1.6. Use a screwdriver to carefully lever off the temperature hub. Ensure that the pressure washer remains in position.
- 1.7. Rotate the temperature spindle until the required temperature is obtained. Turn the spindle anticlockwise to increase the temperature or clockwise to decrease the temperature. If resistance is felt **DO NOT USE FORCE** to rotate the spindle as this is the **maximum obtainable temperature** from the shower control with the available hot water supply temperature. **FORCE** will **DAMAGE** the internal components of the cartridge assembly.
- 1.8. Turn the flow knob fully clockwise (off).
- 1.9. Refit the temperature hub so that the two small lugs located on the reverse side of the hub are against the stop with an embossed symbol on the temperature cartridge, thus preventing any further anticlockwise movement.
- 1.10. Rotate the temperature hub to a vertical position and refit the securing screw and the temperature knob. Check that the temperature knob can be rotated fully in both directions.

1.11. Turn the flow knob fully anticlockwise (maximum flow) and check the temperature is correct. If necessary repeat the procedure until the correct temperature is achieved.



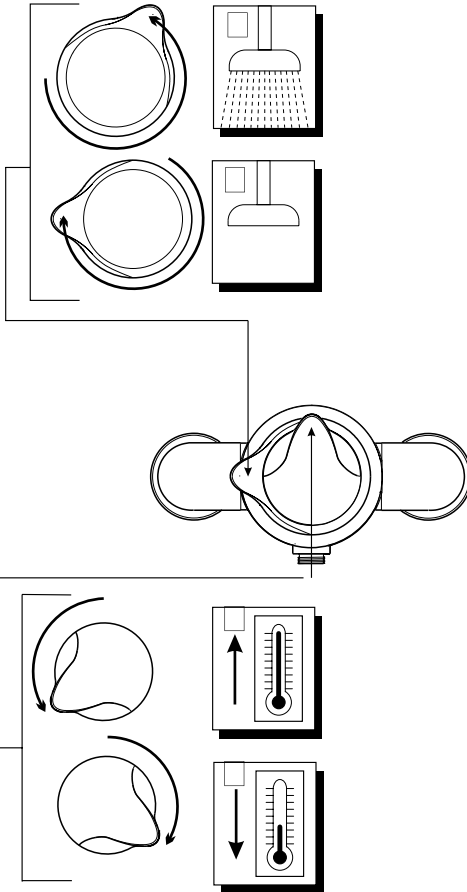
**Maximum Temperature Setting  
Figure 1**

# Operation

## 1. Select and Select B

- 1.1. Turn the flow knob anticlockwise until the desired force of water is obtained.

**Note!** When the Select is installed with a fully modulating multipoint or combination type gas water heater, the maintained mains water pressure, and hence the flow, must be sufficient to keep the heater ignited. Therefore, it is important to ensure that the flow knob is fully open to prevent variation in the hot water supply temperature.



- 1.2. Turn the temperature knob anticlockwise for warmer water or clockwise for cooler water. The preset maximum temperature can be adjusted as required to suit both site conditions and the user's comfort. Refer to **Commissioning, Maximum Temperature Setting**.

# Fault Diagnosis

## 1. Fault Diagnosis

Providing the shower control has been correctly installed and is operated in accordance with the instructions contained in this guide, difficulties should not arise. If any maintenance is required then it must be carried out by a competent tradesperson for whom the fault diagnosis chart and maintenance instructions are provided. Before replacing any parts ensure that the underlying cause of the malfunction has been resolved.

### Key

**A.** Instantaneous Gas Heated Showers

**B.** Unvented Mains Pressure and Thermal Store Systems

**C.** Gravity Systems/Pumped Systems

Malfunction	Cause	Remedy	A	B	C
No flow/low flow rate and/or unstable fluctuating temperature.	Spray plate assembly blocked.	Clean the spray plate. Refer to the shower fitting maintenance guide.	✓	✓	✓
	Incorrect spray plate fitted.	Fit high capacity spray plate.	✓	✓	
	Partially closed stop or servicing valve in supply pipe work to shower control.	Open valve.	✓	✓	✓
	Instantaneous boiler cycling on and off as flow rate/pressure too low.	Fit high capacity spray plate. Increase flow/pressure through system. Contact boiler manufacturer.	✓		
	Head of water below minimum required.	Raise cistern or fit Mira pump.			✓
	Inlet strainer blocked.	Clean or renew. Flush pipework before refitting. (continued)	✓	✓	✓

Malfunction	Cause	Remedy	A	B	C
	<p>Other hot or cold draw offs being used causing wide pressure changes or instantaneous boiler temperature changes.</p> <p>Cartridge assembly set for high pressure in a low pressure application.</p> <p>Supply pressures unequal.</p>	<p>Do not use other outlets whilst showering.</p> <p>Refer to, <b>Pressure Setting</b>.</p> <p>Refer to, <b>Installation Requirements</b>.</p>	✓		✓
<p>Drip from handset spray plate assembly or bir sprayplate assembly.</p>	<p>A small amount of water may be retained in the shower fitting after the shower control has been turned off. This may drain over a few minutes.</p> <p>Defective ceramic plates within the shower cartridge.</p>	<p>This is quite normal. Changing the angle of the shower fitting may vary the draining time.</p> <p>Renew the cartridge assembly.</p> <p>Check that the pressures are not in excess of the maximum for product (refer to Fault Diagnosis " Flow control knob stiff to operate").</p>	✓	✓	✓
<p>Maximum shower temperature too hot or too cold</p>	<p>Maximum temperature incorrectly set.</p>	<p>Reset the maximum temperature. Refer to, <b>Commissioning: "Maximum Temperature Setting"</b>.</p>	✓	✓	✓

<b>Malfunction</b>	<b>Cause</b>	<b>Remedy</b>	<b>A</b>	<b>B</b>	<b>C</b>
Shower temperature too cold (maximum temperature correctly set).	Hot water temperature less than 12 °C above the required shower blend temperature.	Adjust the hot water temperature or wait for the water to reheat if stored system.	✓	✓	✓
	Instantaneous boiler not igniting because the water flow rate is too low.	Fit high capacity spray plate. Increase flow rate through the system. Check the cartridge inlet filters, clean or replace. Contact boiler manufacturer.	✓		
	Instantaneous boiler not igniting because the water pressure is too low.	Increase water pressure. Contact boiler manufacturer.	✓		
Leak from shower control body.	Cartridge inlet or outlet seals missing or damaged.	Fit new seals.	✓	✓	✓
	Pressure build up causing damage to the cartridge. This may be due to domestic hot water expansion.	Fit domestic hot water expansion vessel. If one already fitted, it may be deflated and require repressurization. If necessary, fit new cartridge.	✓	✓	
Flow control knob stiff to operate.	Pressure build up. This may be due to domestic hot water expansion.	Fit domestic hot water expansion vessel. If one already fitted, it may be deflated and require repressurization.  (continued)	✓	✓	

Malfunction	Cause	Remedy	A	B	C
	High inlet supply pressures.	Maximum maintained pressure for shower should not exceed 5 bar. If greater fit a drop tight pressure reducing valve (PRV) just after the property incoming mains stopcock, effectively balancing the hot and cold supply pressures. Ideally set the PRV at 3.5 bar.	✓	✓	
Select noisy during operation.	Unbalanced inlet supply pressures.	Balance Select inlet supply pressures. Fit a drop tight PRV just after the incoming mains stopcock, effectively balancing the hot and cold supply pressures. Ideally set the PRV to 3.5 bar.	✓	✓	
	High inlet supply pressures.	Maximum maintained pressure for shower should not exceed 5 bar. If greater fit a drop tight (PRV) installed as detailed above.	✓	✓	
Only full hot or full cold available.	Reversed inlet supplies.	Refer to, <b>Reversed Inlet Connections.</b>	✓	✓	✓
	Inlet strainer blocked.	Clean or renew.	✓	✓	✓

# Maintenance

## 1. Cleaning

Many household cleaners contain abrasives and chemical substances, and should not be used for cleaning plated or plastic fittings. These finishes should be cleaned with a mild washing up detergent or soap solution, and then wiped dry using a soft cloth.

## 2. Cartridge Assembly - Renewal

- 2.1. Refer to the, **Reversed Inlet Connections** section and follow instructions **1.1.** to **1.8.** inclusive to remove the cartridge assembly. Note the orientation of the red and blue tags on the cartridge assembly that identify the hot and cold inlets. Normally the red tag will be on the left unless the cartridge assembly has been rotated for reversed supplies.
- 2.2. Insert the new cartridge assembly into the shower control body.
- 2.3. Refer to the **Reversed Inlet Connections** section and follow instructions **1.10.** to **1.15.** inclusive to complete the installation of the new the cartridge assembly.

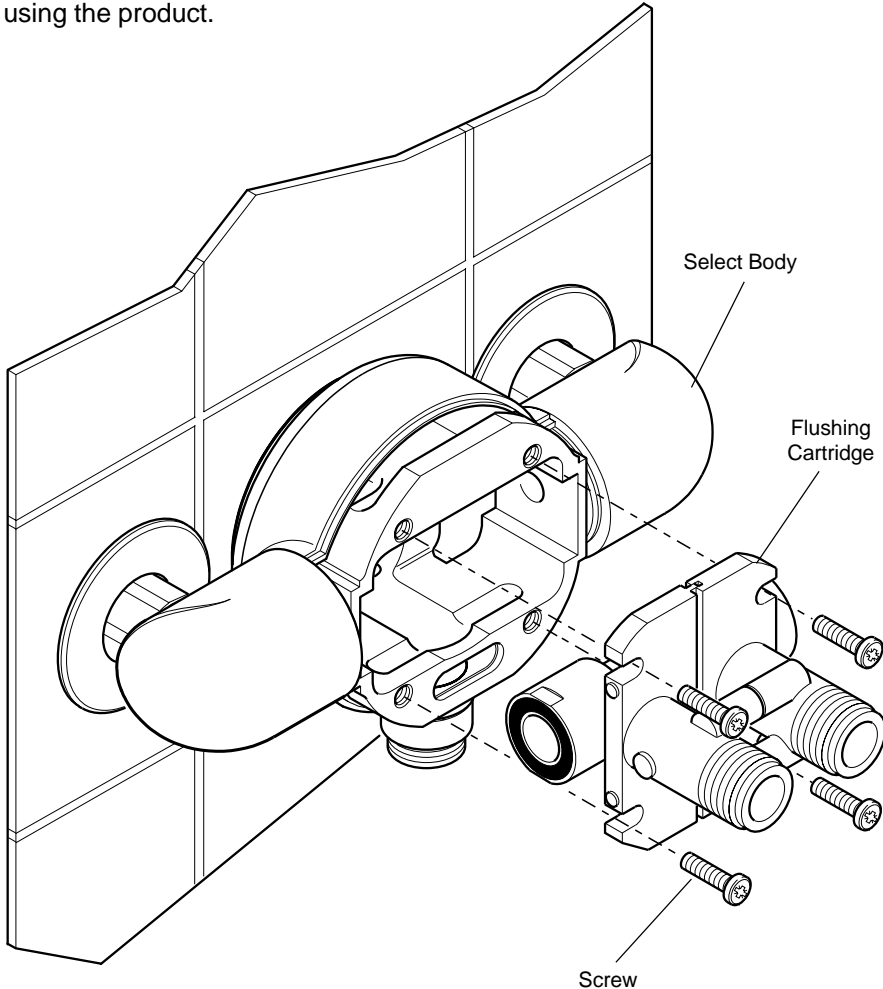
## 3. Cartridge Assembly 'O' Seals/Inlet Strainers - renewal

- 3.1. Refer to the **Reversed Inlet Connections** section and follow instructions **1.1.** to **1.8.** inclusive to remove the cartridge assembly. Note the orientation of the red and blue tags on the cartridge assembly that identify the hot and cold inlets. Normally the red tag will be on the left unless the cartridge assembly has been rotated for reversed supplies.
- 3.2. Renew the 'O' seals as necessary. Refer to the **Spare Parts** section for the seal pack details.
- 3.3. Clean or renew the inlet strainers as necessary. Refer to the **Spare Parts** section for the strainer pack details. The inlet strainers must be fitted squarely and flush in the cartridge assembly inlet port. If necessary, flush the supply pipework to remove any residual debris. A flushing cartridge is available on request (refer to Accessories).
- 3.4. Insert the cartridge assembly into the shower control body.
- 3.5. Refer to the **Reversed Inlet Connections** section and follow instructions **1.10.** to **1.15.** inclusive to complete the installation of the cartridge assembly.



# Accessories

**Flushing Cartridge:** A **Flushing Cartridge** is available from Mira Customer Support **free of charge**. This flushing Cartridge is designed to fit the surface mounted and built-in products. It temporarily replaces the thermostatic cartridge assembly for the purpose of flushing the incoming hot and cold water supply pipework after installation and before using the product.

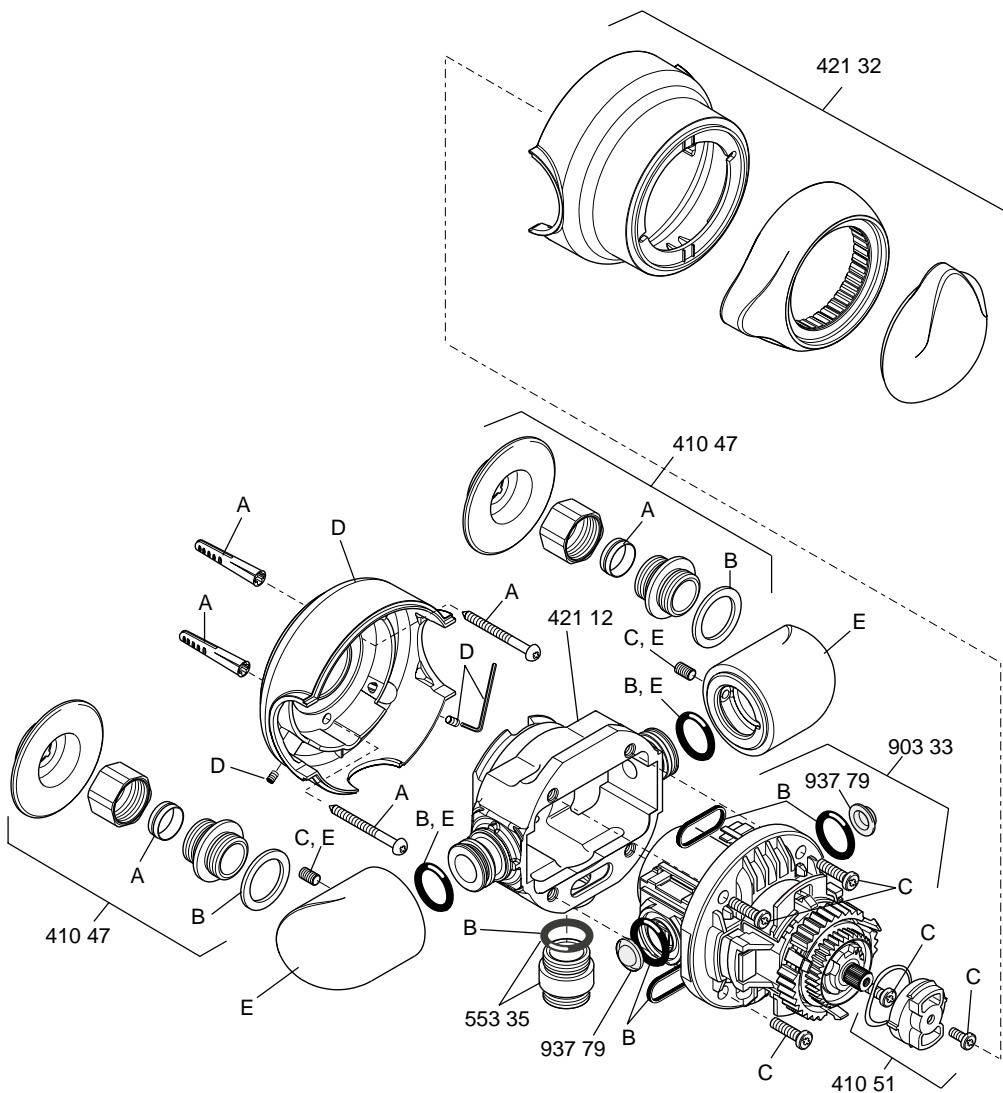


# Spare Parts

## 1. Select Spare Parts List

410 47	Compression Fitting Kit
410 51	Hub Pack
421 12	Select Body
421 31	Elbow Kit - components identified 'E'
421 32	Trim/Knob Pack
421 34	Backplate Kit - components identified 'D'
553 35	Outlet Nipple
903 33	Cartridge Assembly
932 16	Component Pack (as supplied) - components identified 'A'
935 12	Seal Pack - components identified 'B'
937 14	Screw Pack - components identified 'C'
937 79	Strainer Pack

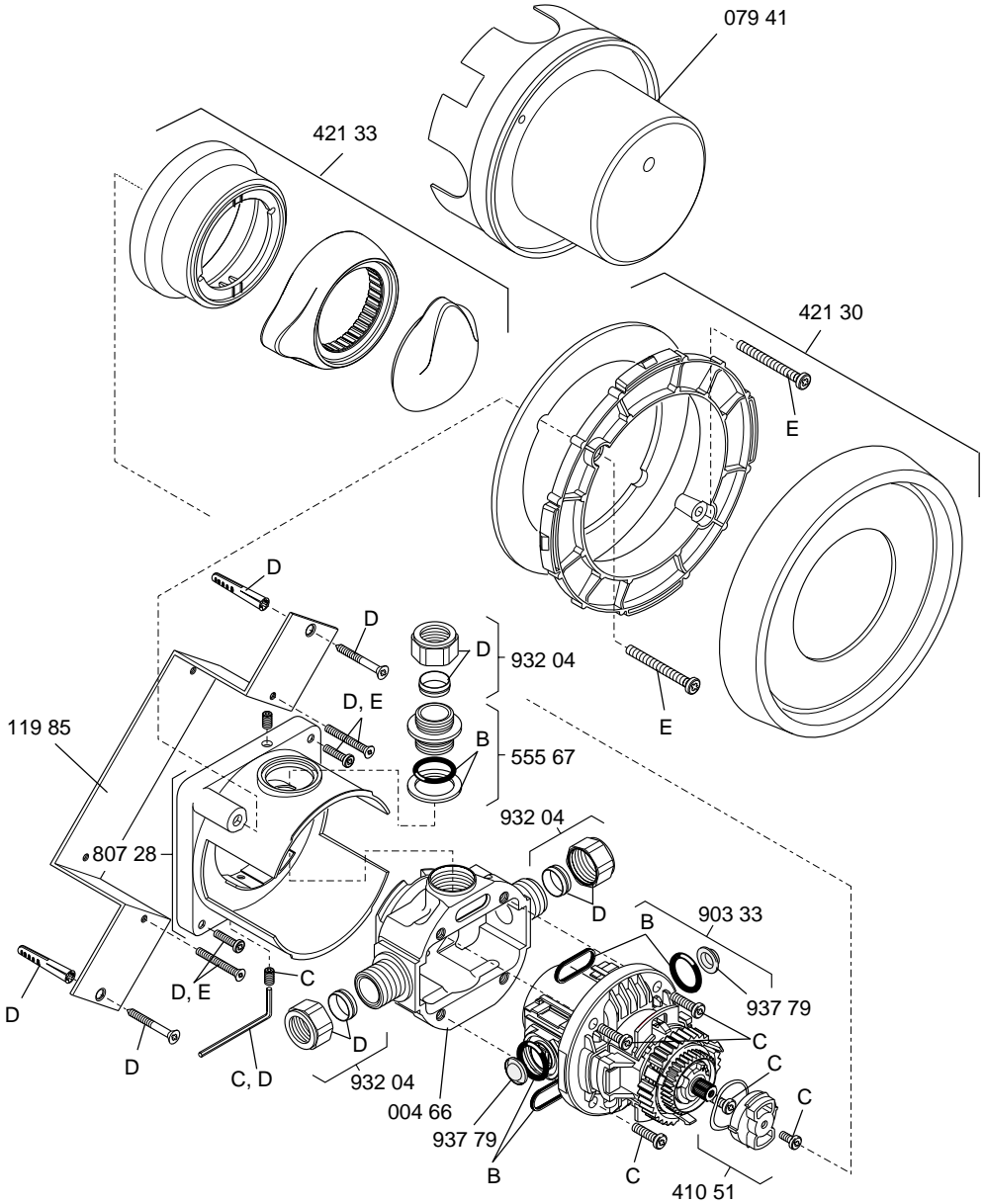
## 2. Select Spare Parts Diagram



### 3. Select B Spare Parts List

004 66	Body
079 41	Building-in Shroud
119 85	Support Bracket
410 51	Hub Pack
421 30	Concealing Plate Kit - white
421 33	Trim/Knob Pack
555 67	Outlet Nipple Assembly
807 28	Backplate Assembly
903 33	Cartridge Assembly
932 03	Component Pack (as supplied) - components identified 'D'
932 04	15 mm Compression Fitting Pack
935 12	Seal Pack - components identified 'B'
937 14	Component Pack - components identified 'C'
937 59	Screw Pack - components identified 'E'
937 79	Strainer Pack

# 4. Select B Spare Parts Diagram



# Notes



# Customer Service

## Guarantee

Caradon Plumbing Solutions guarantee this product against any defect of materials or workmanship for two years from the date of purchase, provided that the product has been installed correctly and used and maintained in accordance with the instructions supplied.

Any part found to be defective during the guarantee period will be replaced or repaired – at our option – without charge, provided that the product has been properly used and maintained.

The product should not be taken apart, modified or repaired except by a person authorised by Caradon Plumbing Solutions.

Your statutory rights are in no way affected by this guarantee.

## After Sales Service – how we can help you

Caradon Plumbing Solutions have a team of expert staff ready to provide assistance, should you experience any difficulty with your Mira shower.

The Caradon Plumbing Solutions Customer Services is available to give you advice on any problem encountered. Should the problem be unable to be resolved by advice, we will offer either a replacement part to be sent to you, or for one of our Service Engineers or Agents to call.

## Spare Parts

At Caradon Plumbing Solutions we keep a stock of all functional parts of our products for up to ten years from the date of final manufacture of the product.

If during that period, our stock of a particular part is exhausted we will, as an alternative, provide an equivalent new product or part at a price equating to the cost of repair to the old, bearing in mind the age of the product.

Caradon Plumbing Solutions will normally despatch spare parts within two working days and by 1st class post. In the interests of customer safety, spares that require exposure to areas of mains voltage can only be sent to a competent person.

Payment for such parts – if applicable – can be made by Visa or Access over the phone at the time of ordering. Should payment by cheque be preferred a pro forma invoice will be sent.

## Customer Care Policy

If within a short time of installation the product does not function correctly, first check with the Installation, Operation and Maintenance Guide to see if the difficulty can be overcome by simple home maintenance.

Failing this, contact your installer to ensure that the product has been installed and commissioned in full accord with our detailed installation instructions. Our Customer Services is available, on the number shown below, to advise you or your installer.

If this does not resolve the difficulty, contact our Customer Services who will give every assistance and, if appropriate, arrange for our local Service Engineer or Agent to call on a mutually agreeable date.

If, through circumstances beyond our control, we are unable to provide this cover we will, with prior agreement, authorise a competent local installer to attend.

Within the Guarantee period there will be no charge for the parts or labour insofar as a fault with our product is concerned. However, it is important to appreciate that our Guarantee extends to our product only and that it does not cover difficulties arising from incorrect installation or misuse.

During a Service visit a responsible person – familiar with the purpose of the visit – should be present. Should our Service Engineer or Agent be unable to gain access at the pre-arranged time a callout charge may be made.

Payment for Service visits, if applicable, should be made directly to the Service Engineer or Agent, using either Visa, Access or a cheque supported by a banker's card.

## To contact us:- For England, Wales and Scotland

**Telephone 01242 262888 (12 Direct Lines)  
and ask for Caradon Plumbing Solutions Customer Services**

- For advice on product maintenance
- To order spare parts
- To arrange a service visit
- For product advice and problem solving
- To order Installation, Operation and Maintenance Guides
- For your feedback on our products or services

By Fax: (01242) 282595

By Post: Caradon Plumbing Solutions, Cromwell Road  
Cheltenham, Gloucestershire, GL52 5EP.

## For Northern Ireland

By Phone: 01232 401909 – Monday to Friday 9am–5pm

By Fax: 01232 401235 – 24 Hours

By Post: Wm. H. Leech & Son Ltd, Unit 3,  
34, Montgomery Road, Belfast, BT6 9HL.

## For Eire

By Phone: Dublin 01 4591344 – Monday to Friday 9am–5pm

By Fax: Dublin 01 4592329 – 24 Hours

By Post: Modern Plant Ltd, Otter House, Naas Road,  
Clondalkin, Dublin 22, Eire.



## Mira Showers

Caradon Plumbing Ltd  
Cromwell Road,  
Cheltenham GL52 5EP.

Mira is a registered trade mark of subsidiaries of Caradon plc.

The company reserves the right to alter product specifications without notice.

[www.mira-showers.co.uk](http://www.mira-showers.co.uk)



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Reg. No. FM 14646

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