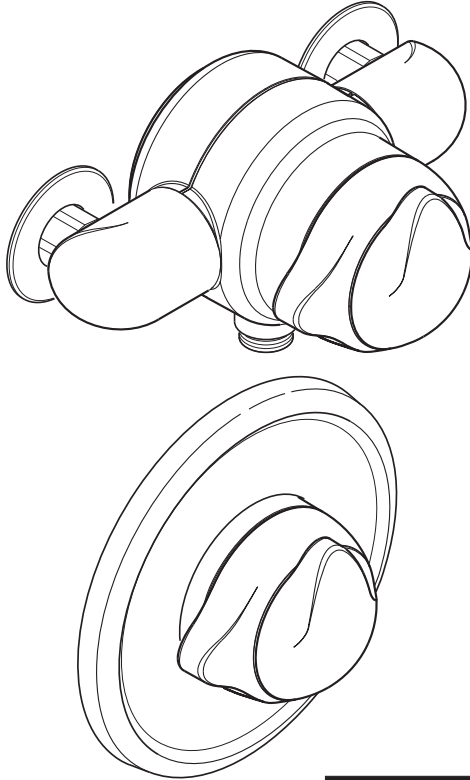


mira

select



SHOWER CONTROL

Installation

Operation &

Maintenance Guide

THESE INSTRUCTIONS ARE TO BE LEFT WITH THE USER

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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 high or low pressure applications.

Shower controls covered by this guide:

Mira Select

An exposed shower control for connection to exposed or rear entry pipework. Available in white/chrome or all chrome finish.

Mira Select B

A built-in shower control for connection to concealed pipework. A right angled connector is supplied to allow exposed shower fittings, such as the Select UV fittings, to be used with the Select B. Available in white, white/chrome or all chrome finish.

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

Warning!

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.

Caution!

1. Read all of these instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. The plumbing installation must comply with the requirements of UK Water Regulations/Bye-laws (Scotland), 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:

Institute of Plumbing (IOP), throughout the UK, Tel: 01708 472791.

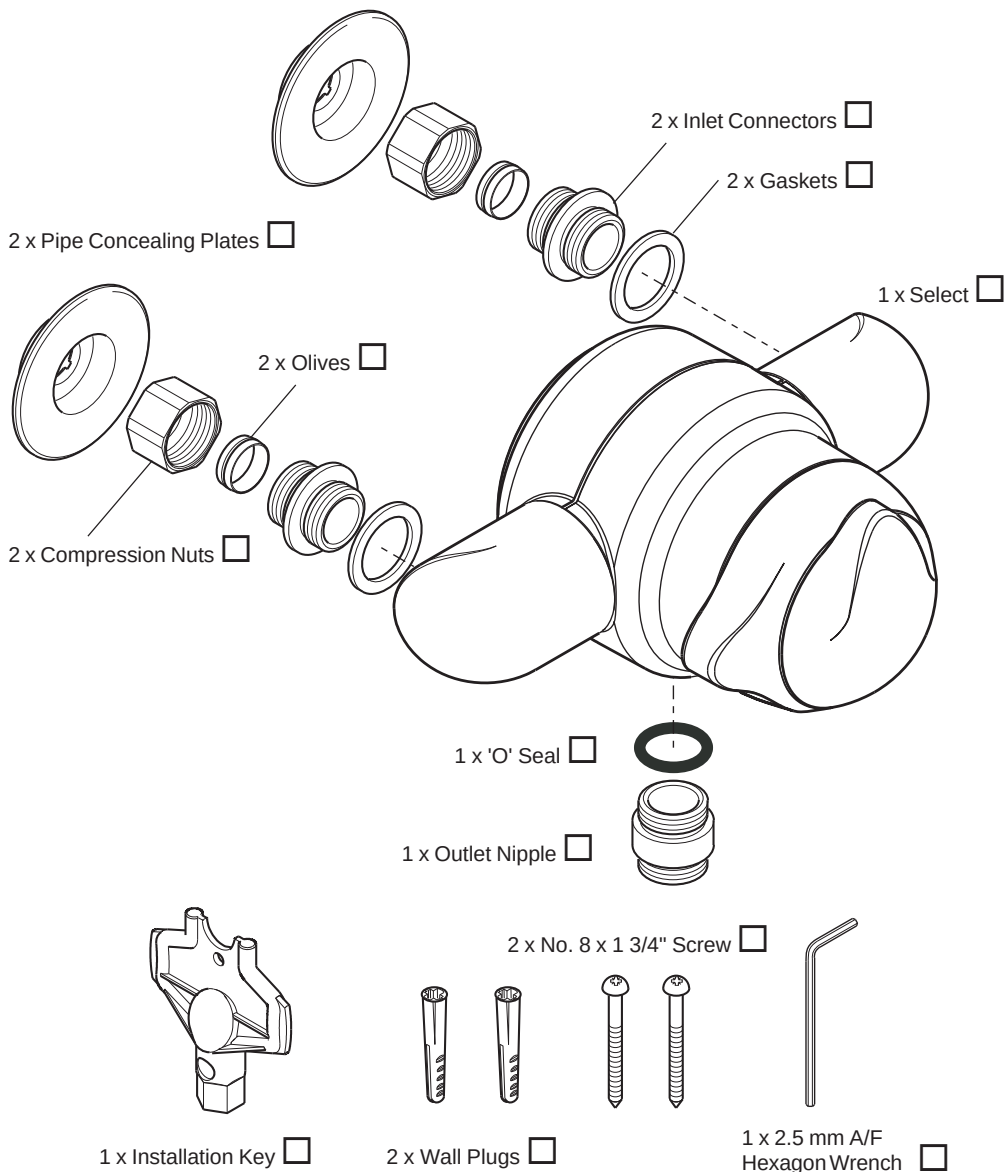
National Association of Plumbing, Heating and Mechanical Services Contractors (NAPH & MSC), England and Wales, Tel: 01203 470626.

Scottish and Northern Ireland Plumbing Employers' Federation (SNIPEF), Scotland and Northern Ireland, Tel: 0131 225 2255.

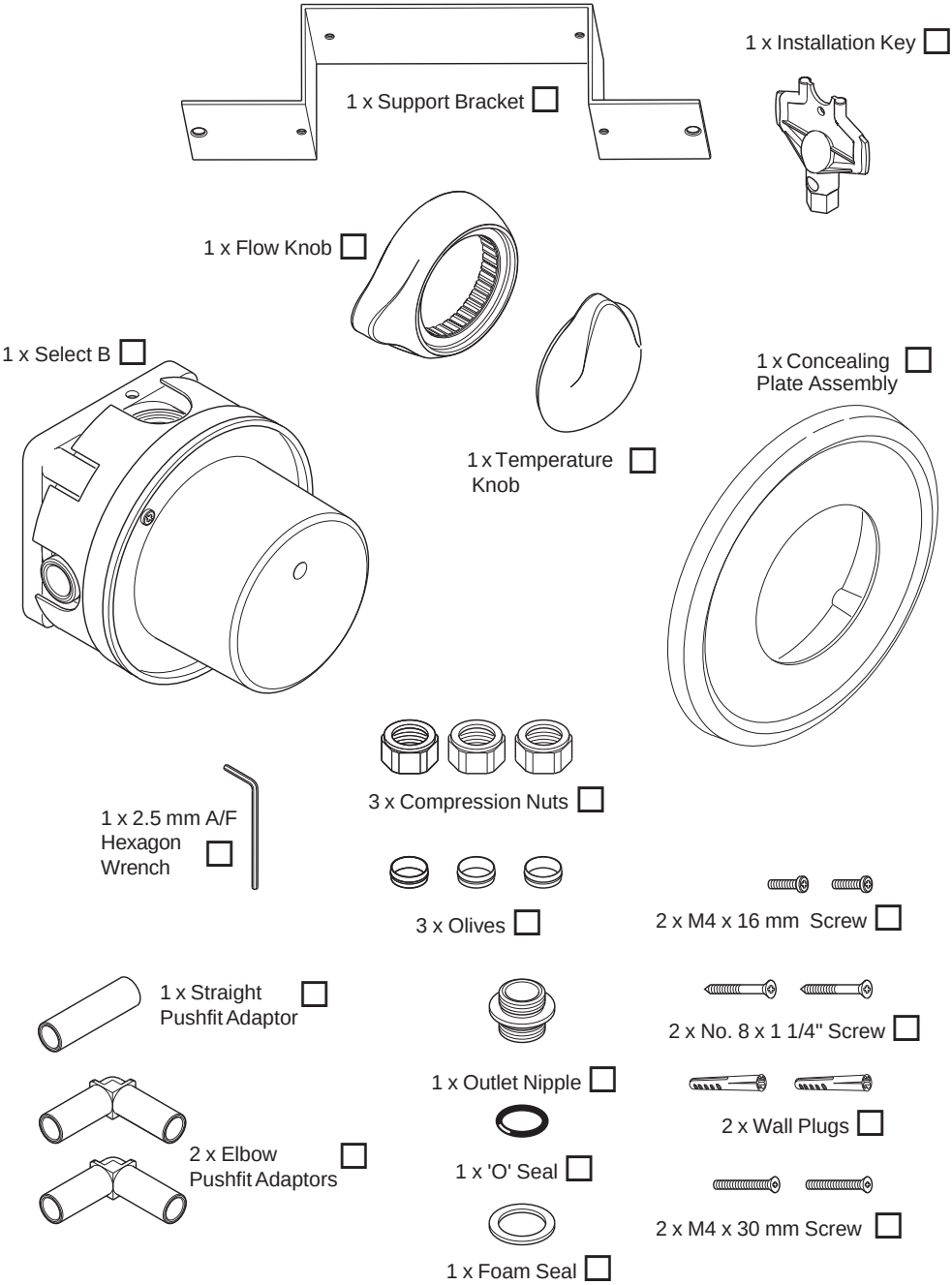
6. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm, or anyone inexperienced in the correct operation of the controls.

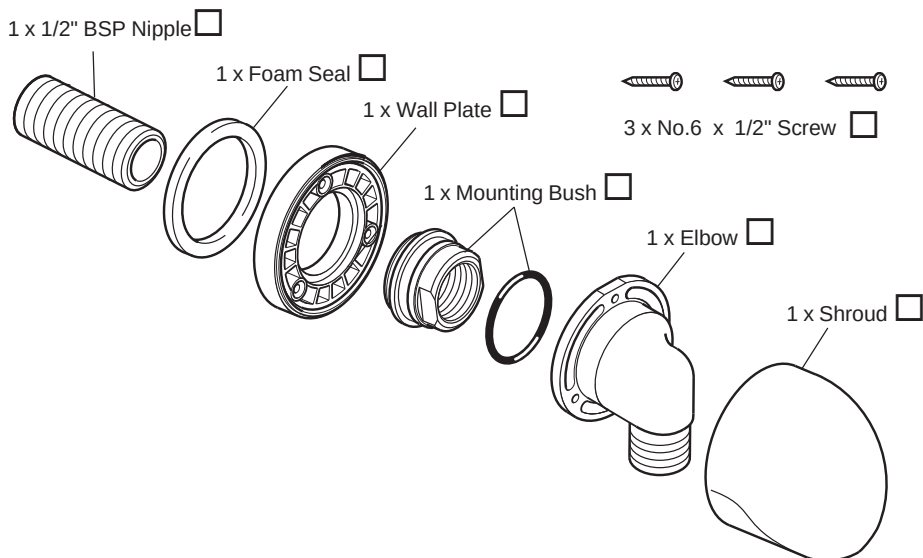
☒ Tick the appropriate boxes to familiarize yourself with the part names and to confirm that the parts are included.

1. Select Shower Control



2. Select B Shower Control

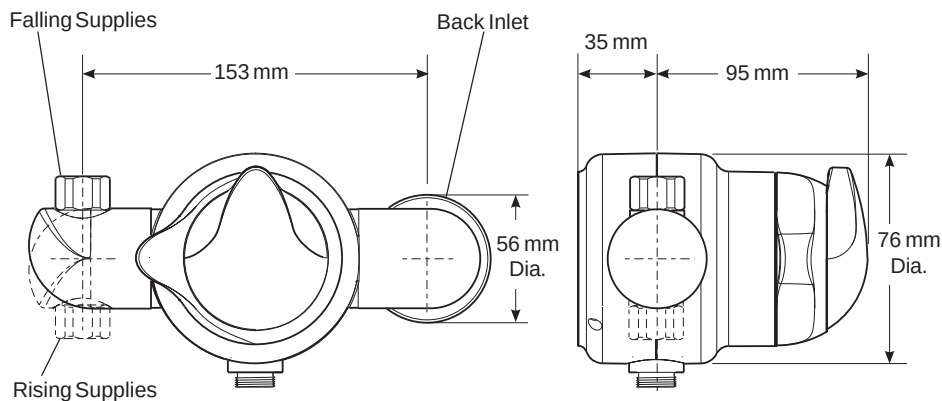




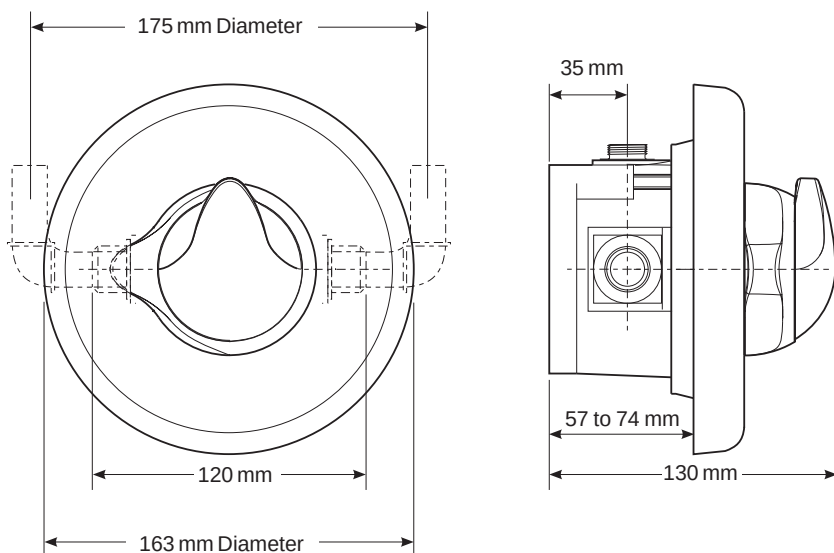
3. Documentation

1 x Installation, Operation and Maintenance Guide ☐

1. Select



2. Select B



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 - High Pressure Setting

1. Minimum maintained pressure: **1.0 bar** (10 Metre head) when used with Mira shower fittings.
2. Maximum maintained pressure: **5.0 bar**.
3. Maximum static pressure: **10 bar**.

Select & Select B - Low Pressure Setting

4. Minimum maintained pressure: **0.1 bar** (1 Metre head) when used with Mira shower fittings (**0.06 bar** without fittings).
5. Maximum maintained pressure **1.0 bar**.
6. Maximum static pressure: **10 bar**.

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

Temperature Control

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. The blended temperature is maintained within 2 °C with a 10 °C change in the hot or cold supply.
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.

Plumbing Connections

Inlet

15mm Compression or 1/2" BSP male (Select).

15mm Compression (Select B)*.

Outlet

1/2" BSP male (Select).

15mm Compression or 1/2" BSP male (Select B)*.

*Inlet and outlet adaptors are provided to allow the easy connection of 15mm pushfit fittings to the Select B.

General

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

1. Supply pipework **MUST** be flushed to clear debris before connecting the shower control. A flushing cartridge is available free of charge upon request (refer to **Accessories**).
2. **Do not** fit any form of flow control in the outlet pipework.
3. **Do not** install the product in a position where it could become frozen.
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.
5. Conveniently situated isolating valves **MUST** be fitted for servicing purposes.
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).
7. **Do not** use excessive force when making connections.
8. **Do not** install the shower control in a position that restricts service access.

Typical Suitable Installations

Key to symbols

	Float operated valve		Twin impeller inlet pump
	Stop or servicing valve		Single impeller outlet pump
	Shower control		Tempering valve
	Warning or overflow pipe		Mini expansion vessel
	Drop tight pressure reducing valve (PRV)		Non-return Valve

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

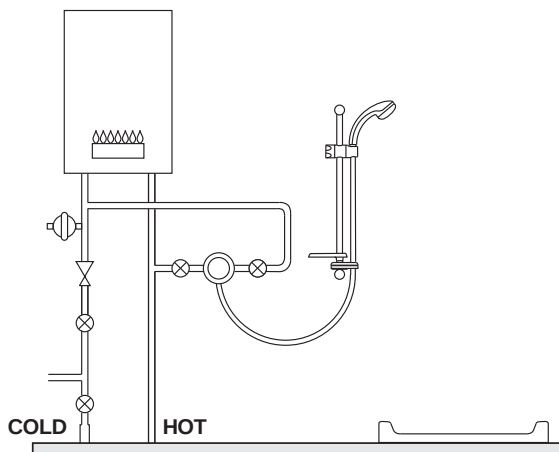
The shower **MUST** be installed with a multipoint gas water heater or combination boiler of a **fully modulating design** (i.e. where the water draw-off rate indirectly controls the gas flow rate to the burner).

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

An expansion vessel **MUST** be fitted (and regularly maintained) if any form of backflow prevention device is fitted, e.g. non-return valve, PRV. This will ensure that excess expansion or pulse pressures do not damage the product or the plumbing system. The expansion vessel may already be fitted within the boiler (check with the manufacturer) and is in addition to the normally larger central heating expansion vessel.

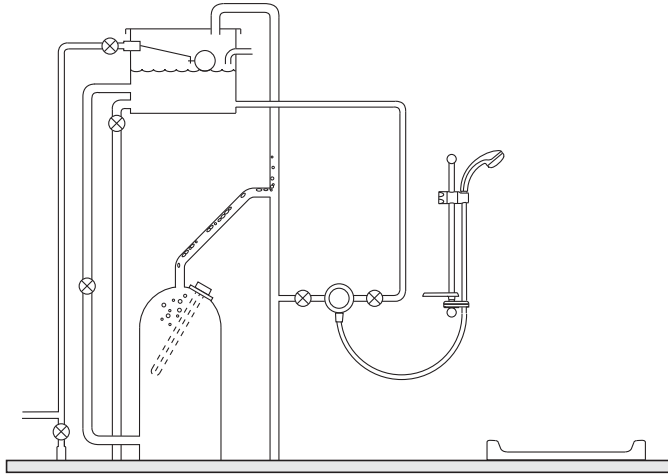
The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.

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



2. Gravity fed showers

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



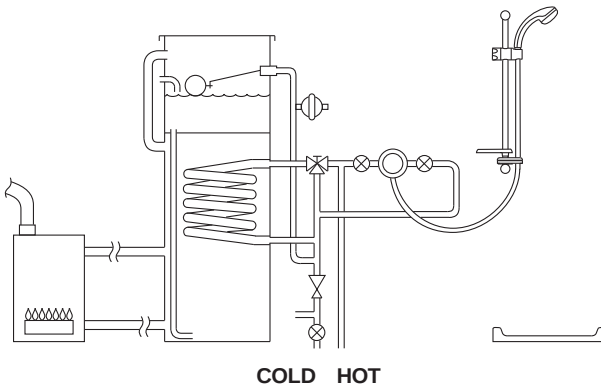
3. Mains pressurised instantaneous hot water shower, heated from a thermal store

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 vessel **MUST** be fitted (and regularly maintained) if any form of backflow prevention device is fitted, e.g. non-return valve, PRV. This will ensure that excess expansion or pulse pressures do not damage the product or the plumbing system. The expansion vessel 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.



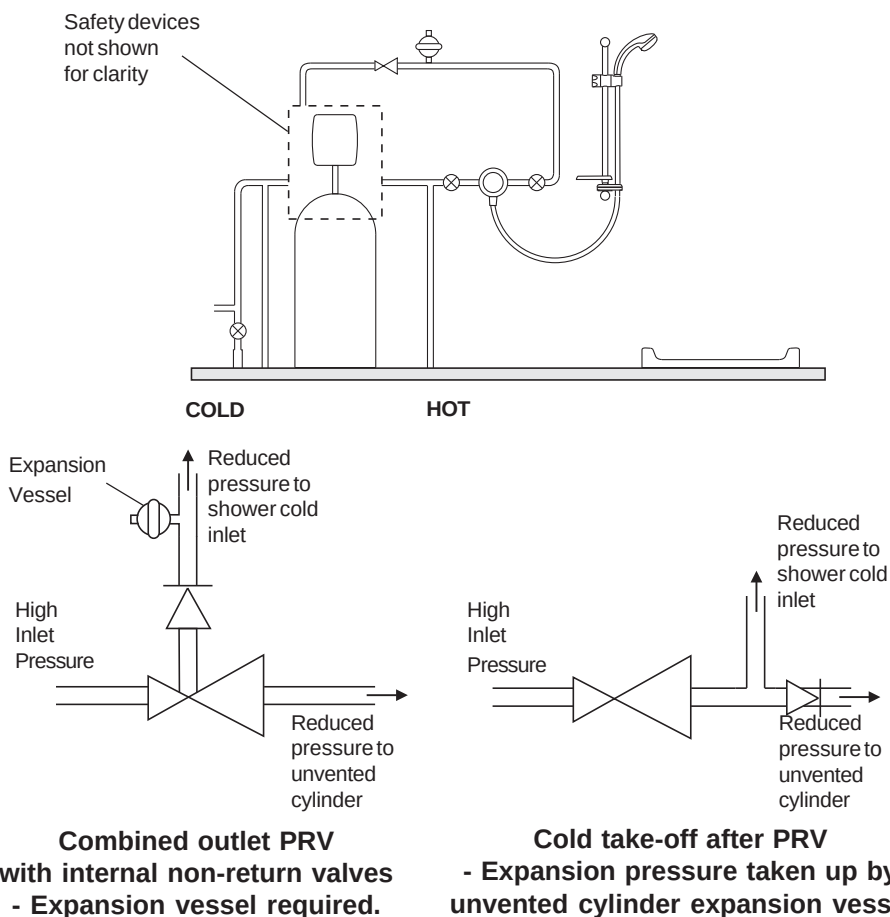
4. Unvented mains pressure showers

The shower can be installed with an unvented, stored hot water cylinder. Only a "competent person" as defined by 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 expansion vessel **MUST** be fitted (and regularly maintained) if any form of backflow prevention device is fitted, e.g. non-return valve, PRV. This will ensure that excess expansion or pulse pressures do not damage the product or the plumbing system.

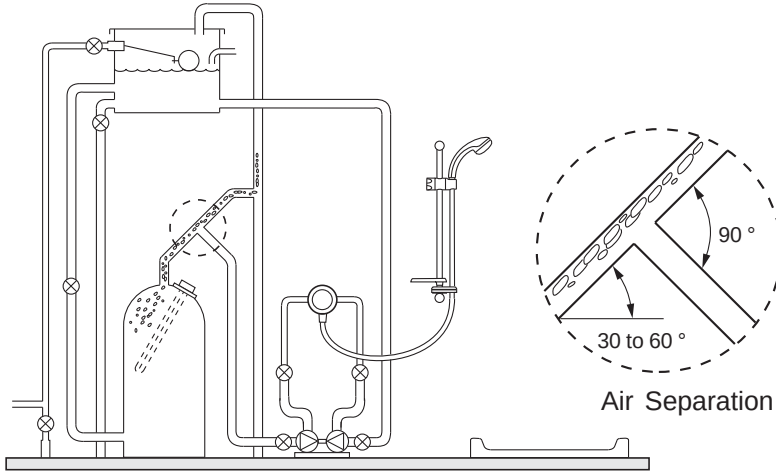
The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.



5. Pumped showers (inlet pumps)

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

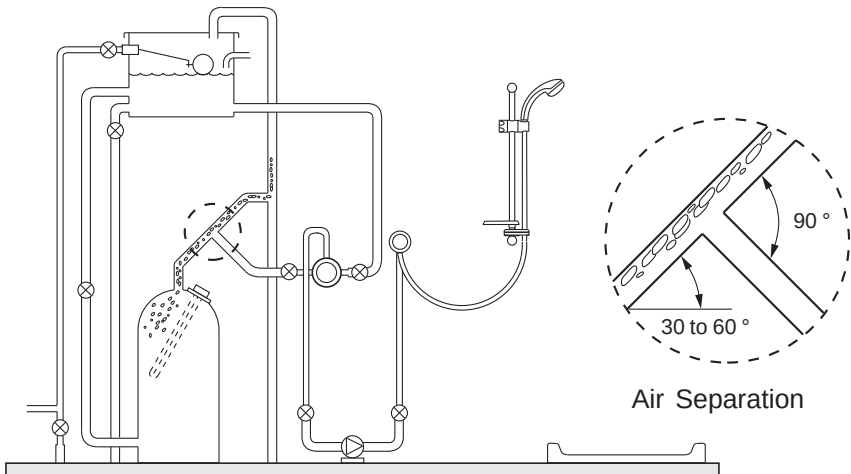
The layout and sizing of pipework **MUST** be such that nominally equal inlet supply pressures are achieved **AND** the effects of other draw-offs are minimized.



6. Pumped showers (outlet pumps)

The built-in shower 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.



Measuring System Pressures

1. General

It is important that system pressures do not exceed the **Specifications** for Select. 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**).

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. 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.

4. To measure pressure drop

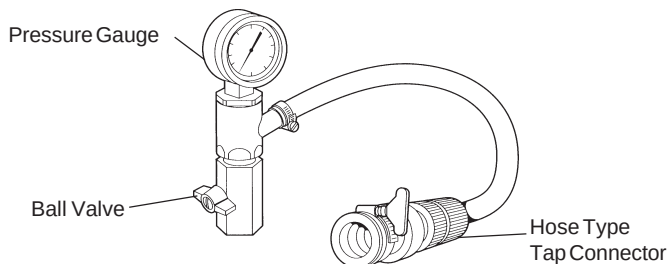
Pressure drop results from another fitting being turned on when the shower is in use. Having checked the maintained pressure (refer to paragraph 3.) and with the device still discharging at approximately 5 l/min, turn on a second draw-off from the same feed pipe. This new reading will show the pressure drop from 3. and should be above the minimum maintained pressure recommended by the manufacturer.

e.g. Static pressure - 3 bar.

Maintained pressure at approx. 5 l/min - 2.5 bar.

When second draw-off operates the pressure drops to 1.5 bar.

The pressure drop is above the minimum recommended (refer to **Specifications**).



Pressure Testing Device
Figure 1

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

General

Read the section **Installation Requirements** first.

The table below gives the correct pressure setting for **typical** plumbing installations. Refer to **Installation Requirements : “Measuring System Pressures”**, for measuring the actual system pressures.

System	Low Pressure Setting	High Pressure Setting
Gravity-fed showers.	✓	
Instantaneous gas heated showers (fully modulating type).		✓
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 pressures below 1 bar, and the high pressure setting for pumps that provide maintained system pressures above 1 bar.

Adjusting Select Pressure Setting

1. Use the 2.5 mm A/F hexagon wrench (supplied) to loosen the two grub screws.
2. Remove the backplate. This will allow access to the rear face of the cartridge assembly.
3. Adjust the pressure setting if necessary (refer to **"Use of Installation Key"**).

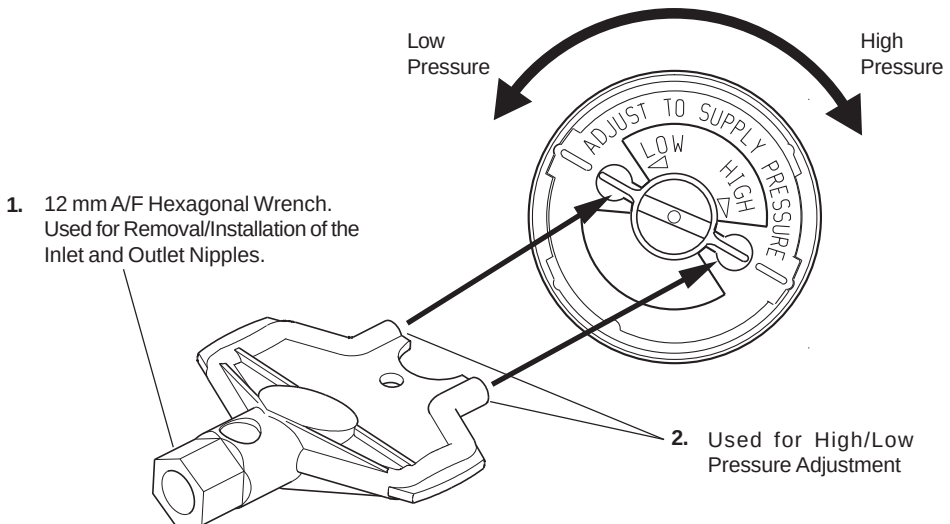
Adjusting Select B Pressure Setting

4. Remove the two screws that hold the building-in shroud to the backplate.
5. Remove the building-in shroud.
6. Refit the two screws temporarily into the backplate.
7. Use the 2.5 mm hexagonal wrench (supplied) to loosen the two grub screws.
8. Remove the shower control from the backplate. This will allow access to the rear face of the cartridge assembly.
9. Adjust the pressure setting if necessary (refer to "**Use of Installation Key**").

Use of Installation Key

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

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.
2. Refit the shower control to the backplate and use the 2.5 mm hexagonal wrench to tighten the grub screws.



Select

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. 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.

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

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.
3. Remove the backplate.
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.
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.
6. Fix the backplate to the wall with the two No. 8 x 1 3/4" screws (supplied).
7. Install the hot and cold supply pipes at 153 mm centres.
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 the 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.

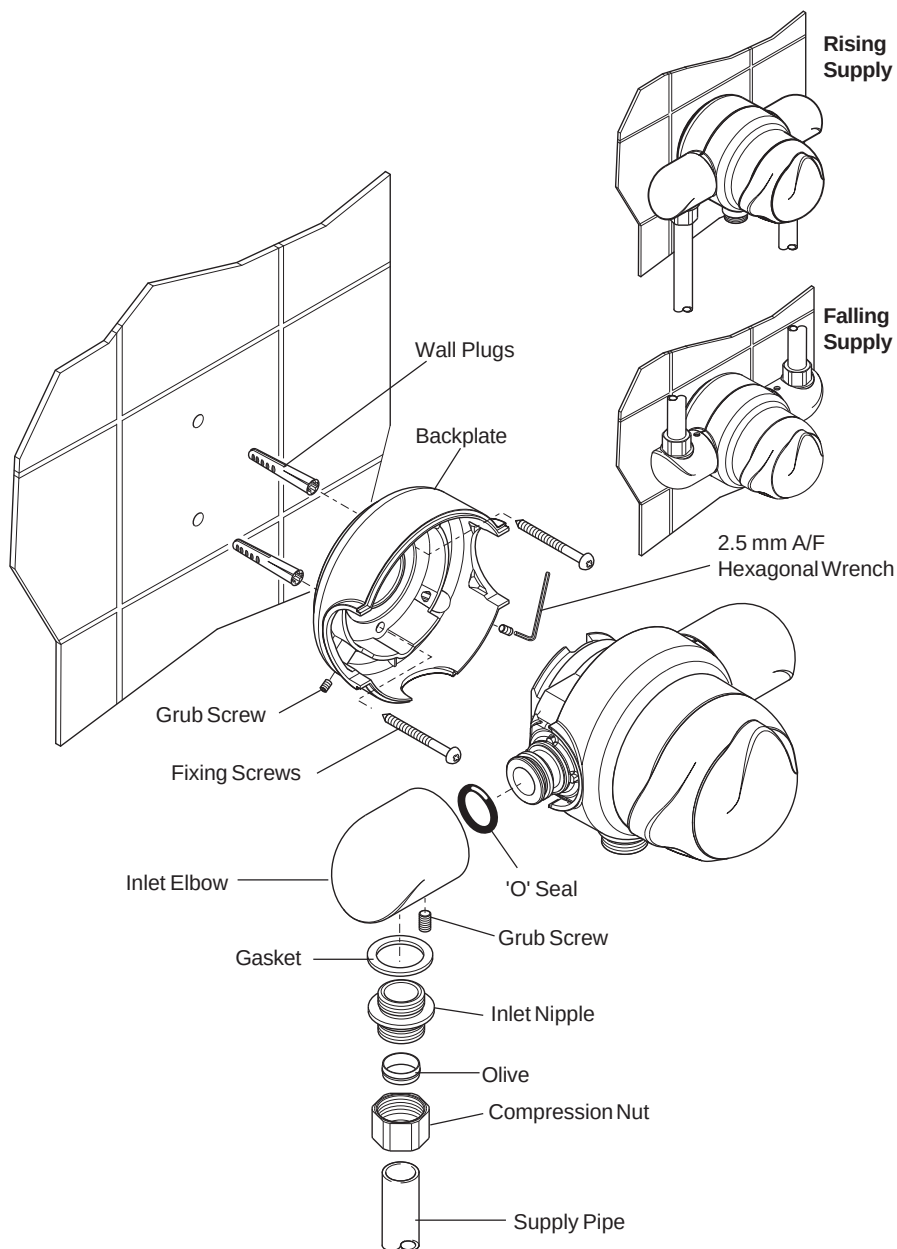
9. Fit the gaskets to the short inlet nipples and screw the nipples with tapered ends outermost to accept the compression fittings.
10. Tighten the nipples fully with a 12 mm A/F hexagonal wrench (not supplied) or key.
11. **Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control. 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).

12. Locate the shower control onto the backplate and secure with the grub screws.
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.
14. Turn on the water supplies and check for any leaks.

Shower fittings

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

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**.

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.

2. Use a spirit level and a pencil to mark the route for the hot and cold water supply pipes at 153 mm centres.
3. Remove the plaster and brick/block to the required depth to conceal the pipework.
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 made in the wall for the concealing plates must be 32 mm diameter x 10 mm deep. Ensure the pipework elbows are set sufficiently into the wall to avoid fouling the concealing plates.
5. Follow the shower control installation procedure as for **"Exposed Supplies": instructions 2. to 6.**
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).

7. Fit the concealing plates over the pipework into the enlarged recesses in the finished wall surface.
8. **Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control. 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).

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

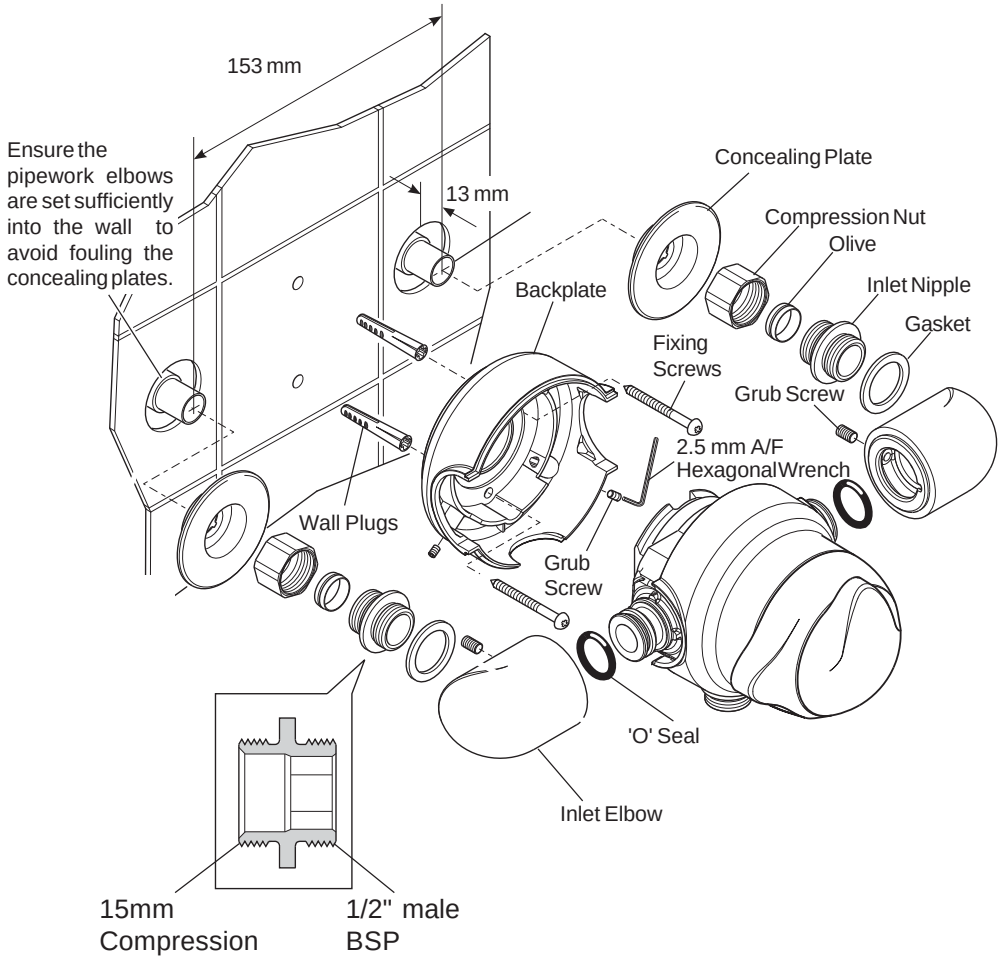
Locate the shower control body onto the backplate and secure by tightening the grub screw using the 2.5 mm A/F hexagonal wrench (supplied).

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

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

Shower fittings

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

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.

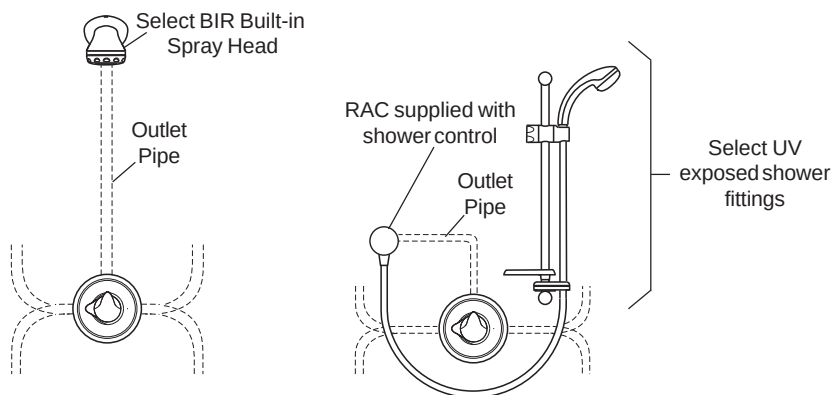
The building-in depth for the support bracket is 58 mm.

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. If pushfit connections are used within the installation the special pushfit adaptors supplied can be fitted to the shower, to allow easier connection.

Both built-in and exposed shower fittings can be used with the Select B. If exposed shower fittings are used the right angled connector (RAC) will require fitting.



Installation of Built-in and Exposed Shower Fittings
Figure 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.
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. 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. For installations with reversed hot and cold supplies complete the installation and refer to the section **Reversed Inlet Connections**.

4. Determine the route for the outlet pipework. It is recommended that, if the right angled connector (RAC) is to be fitted, 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.
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.
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.

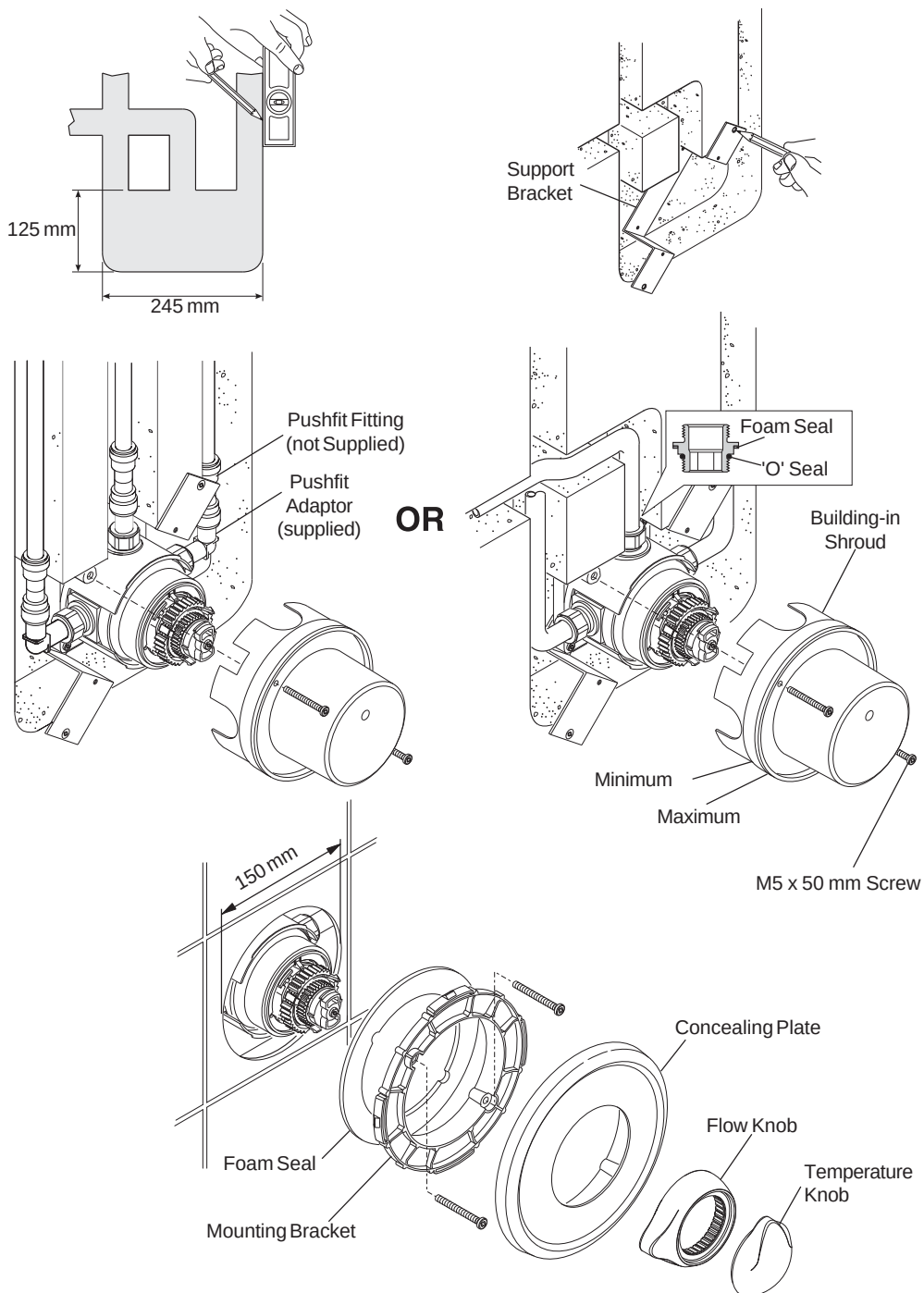
7. Mark the support bracket fixing hole positions. **The support bracket must be fixed at 45°.** Drill a 6.0 mm diameter hole at each of the marked positions and insert the wall plugs (supplied).
8. Install the hot and cold supply pipes.
9. Make sure that the 'O' seal and the foam seal are correctly located on the outlet nipple.
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).

If the installation uses pushfit fittings fit the adaptors supplied with the shower control. Follow the **"Fitting Inlet and Outlet Pushfit Adaptors"** installation instructions in the section **Select B: "Solid and dry-lined walls"**.

11. Fix the shower control to the support bracket using the two M4 x 16 mm screws (supplied).
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).
13. **Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control. 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).

14. Slide the compression nuts and olives over the supply pipes.
15. Insert the hot and cold supply pipes fully into the shower control and slide the olives and compression nuts into place.
16. Use a suitable spanner to tighten the compression nuts.
17. Install the outlet pipe.
18. Slide the compression nut and olive over the outlet pipe.
19. Insert the outlet pipe fully into the shower control and slide the olive and compression nut into place.
20. Use a suitable spanner to tighten the compression nut.
21. Turn on the water supplies and check for any leaks.
22. Refit the building-in shroud removed during pressure setting. Secure the shroud in position with the two M5 x 50 mm screws.
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.
24. When the plaster/tiles have set remove the building-in shroud. **Retain the two M5 x 50 mm screws for use later.**
25. Fit the foam seal to the back of the mounting bracket.
26. Fix the mounting bracket to the shower control with the two M5 x 50 mm screws.
27. Push the concealing plate firmly on to the mounting bracket until it clips into position.
28. **To complete the installation refer to the "Shower Fittings" section in Select B: "Solid and Dry-lined Walls".**



Solid and Dry-lined Walls
Figure 4

Fitting Inlet and Outlet Pushfit Adaptors

1. Slide the compression nuts and olives onto the pushfit adaptors.
2. Insert the adaptors fully into the shower control . Slide the olives and compression nuts into place.
3. Use a suitable spanner to tighten the compression nuts. While the compression nut is tightened the elbow adaptor can be held in position by placing a suitable spanner across the adaptor flats.

Note! DO NOT OVERTIGHTEN the compression nut. Overtightening may damage the pushfit adaptors.

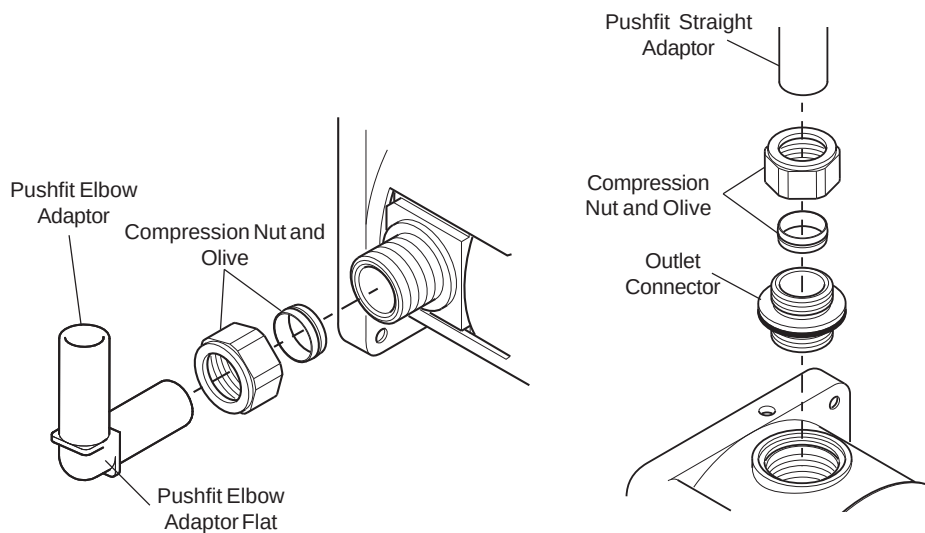
4. Fix the shower control to the support bracket using the two M4 x 16 mm screws (supplied).
5. Align the holes in the support bracket with the holes in the wall and secure the shower control with the two No. 8 x 1 1/4" screws (supplied).
6. **Thoroughly flush the hot and cold water supply pipes. The supplies must be clean and free from debris before connecting the shower control. 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**.

7. Fit 15 mm pushfit connectors to the supply pipes and connect to the inlet adaptors.
8. Turn on the water supplies and check for any leaks.
9. Refit the building-in shroud removed during pressure setting. Secure the shroud in position with the two M5 x 50 mm screws.
10. 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.
11. When the plaster/tiles have set remove the building-in shroud. **Retain the two M5 x 50 mm screws for use later.**
12. Fit the foam seal to the back of the mounting bracket.
13. Fix the mounting bracket to the shower control with the two M5 x 50 mm screws.

14. Push the concealing plate firmly on to the mounting bracket until it clips into position.
15. **Refer to the "Shower Fittings" section below to complete the installation.**



Inlet and Outlet Pushfit Adaptors

Figure 5

Shower Fittings

Built-in Shower Fittings

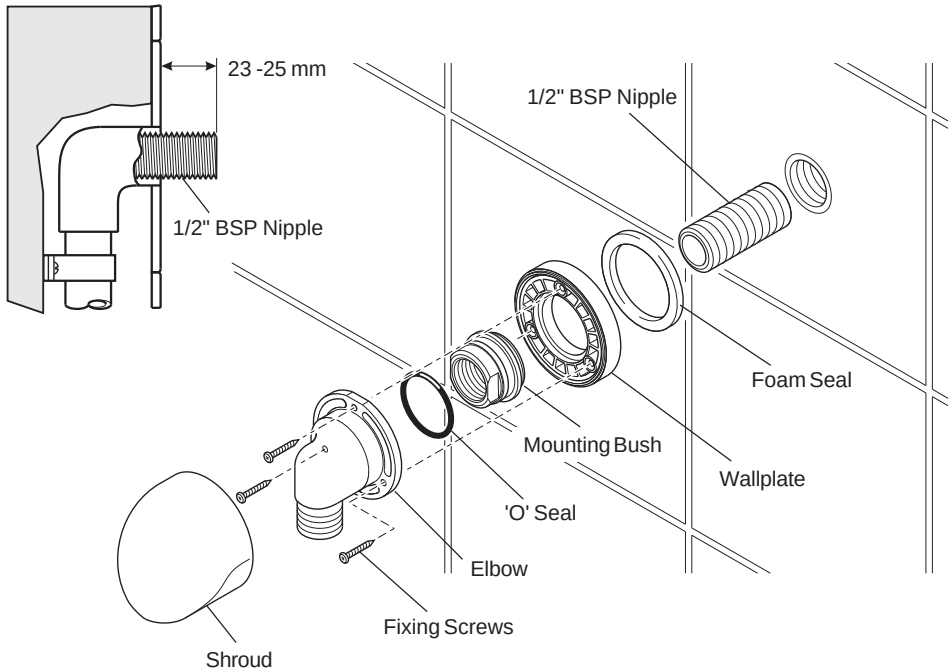
1. Refer to the installation instructions in the Installation, Operation and Maintenance Guide for the built-in shower fittings.

Exposed Shower Fittings

Fit the right angled connector assembly (RAC) supplied with the shower control. The RAC should be positioned above and offset to one side of the top outlet of the shower control. The RAC is offset to prevent the flexible hose from obstructing the shower temperature and flow control knobs. The pipework between the shower control and the 1/2" BSP female fitting is not supplied with the shower control.

2. The supply pipe from the shower control must terminate at the wall surface with a 1/2" BSP female thread. The end of the fitting must be flush with, or up to 5 mm below the finished surface of the wall.
3. Apply liquid sealant or PTFE tape to the 1/2" BSP brass nipple. **Do not use paste.**
4. Screw the brass nipple into the female fitting, until it projects between 23 and 25 mm from the finished surface of the wall. If the brass nipple projects greater than 25 mm it will prevent the elbow from engaging with the wallplate. If necessary, cut the brass nipple to the correct length and remove any burrs.

5. Place the wallplate over the brass nipple. Make sure that the foam seal abuts the finished wall surface.
6. Apply liquid sealant or PTFE tape to the exposed section of the brass nipple. **Do not use paste.**
7. Screw the mounting bush on to the brass nipple until it clamps the wallplate loosely against the wall.
8. Rotate the wallplate to align one of the fixing holes at the top centre.
9. Tighten the mounting bush to hold the wallplate in position. Flats are provided on the mounting bush for a 24 mm A/F spanner.
10. Push the elbow fully on to the mounting bush and secure with the three fixing screws.
11. Locate the shroud over the elbow. Carefully push the shroud until it engages with the clip feature of the elbow.
12. To complete the installation refer to the Installation, Operation and Maintenance Guide for the exposed shower fittings.



Right Angled Connector Installation
Figure 6

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

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.
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. 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. Determine the route for the outlet pipework. When connecting to exposed 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.
5. Cut a 145 mm diameter hole in the panel and mark the fixing holes for the support bracket at 45°.
6. Install the hot and cold supply pipes.
7. Make sure that the 'O' seal and the foam seal are correctly located on the outlet nipple.
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).
9. Fix the shower control to the support bracket using the two M4 x 16 mm screws (supplied).

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.

11. **To complete the installation, refer to paragraph 14. onwards in the Select B: "Solid and dry-lined walls" section.**

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.

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.

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).

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.

15. Determine the route for the outlet pipework. When connecting to exposed 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.

16. Cut a 124 mm diameter hole in the panel and mark the fixing holes for the support bracket at 45°.

17. Drill and countersink the fixing holes to accept the M4 x 30 mm screws (supplied).

18. Install the hot and cold supply pipes.

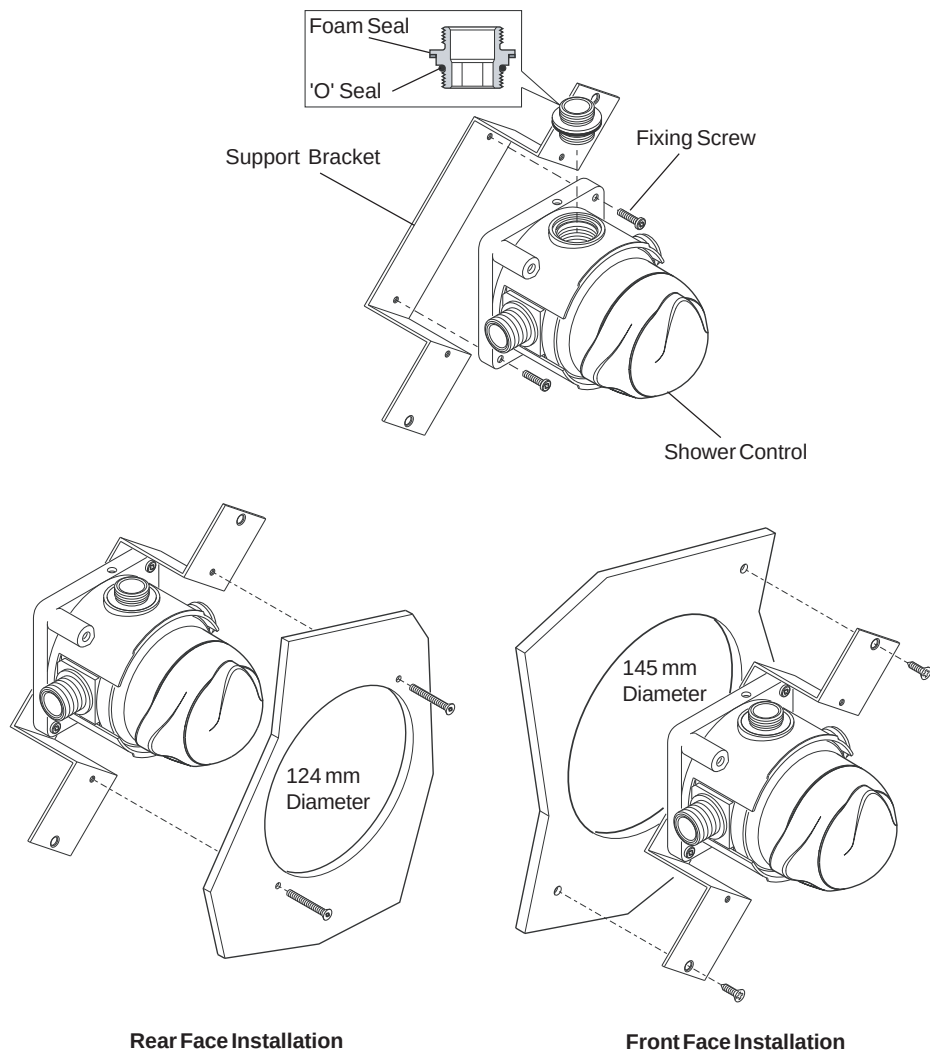
19. Make sure that the 'O' seal and the foam seal are correctly located on the outlet nipple.

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).

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**.

22. To complete the installation, refer to paragraph 14. onwards in the Select B: "Solid and dry-lined walls" section.



Shower Cubicle or Laminated Panel Walls
Figure 7

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.

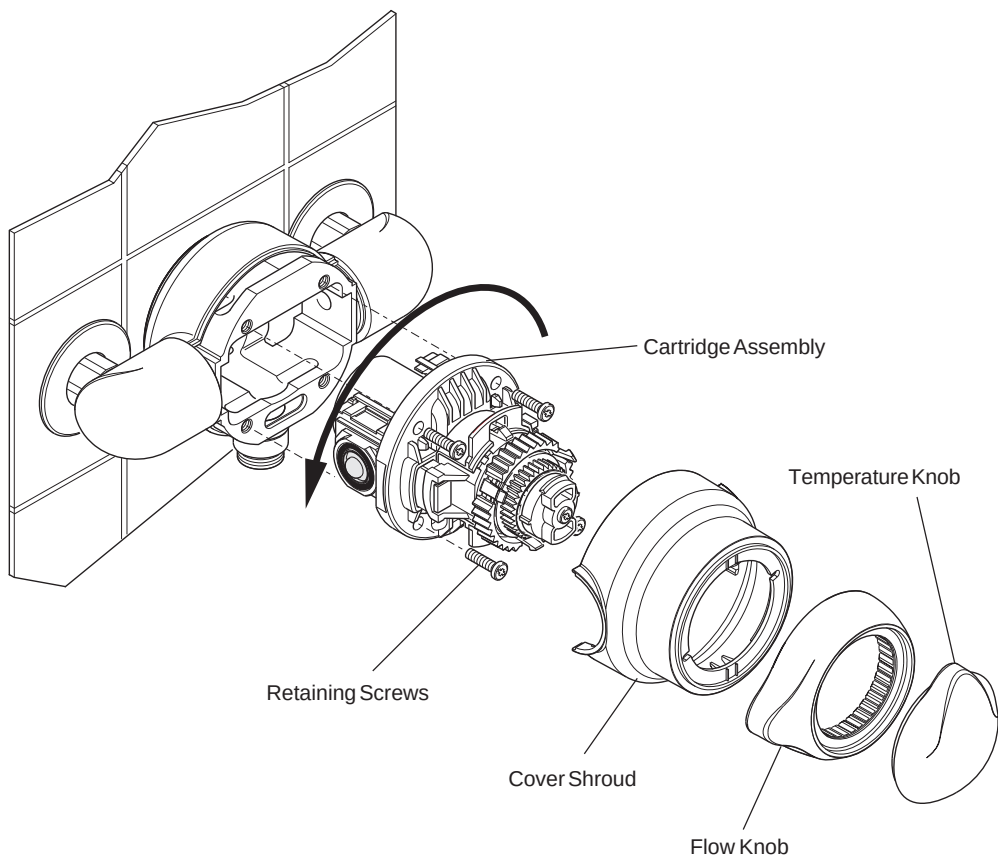
1. Isolate the hot and cold water supplies to the shower control.
2. Turn the flow knob fully anticlockwise to drain any water.
3. Carefully pull off the temperature knob.
4. Carefully pull off the flow knob.
5. Unclip and remove the cover shroud.
6. Remove the four cartridge retaining screws. **The red and blue tags identify the correct hot and cold inlets for the cartridge.**
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.

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.

9. Fit the four screws that retain the cartridge assembly.
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.
11. Fit the flow knob on to the cartridge assembly pointing to the 9 o' clock position when off (refer to Figure 1).
12. Refit the temperature knob.
13. Restore the hot and cold water supplies and check for any leaks.



Reversed Inlet Connections
Figure 1

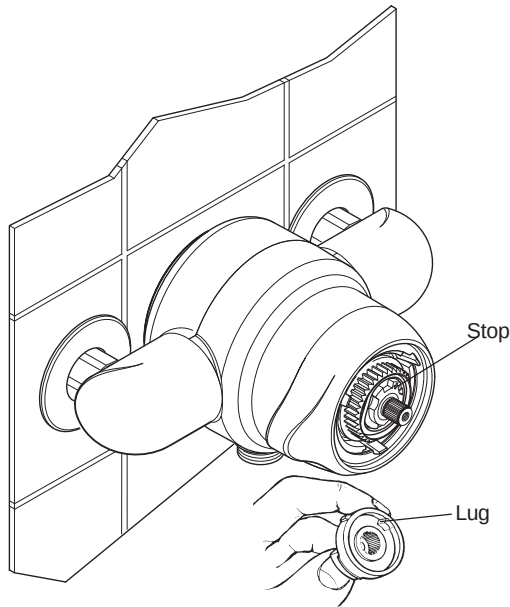
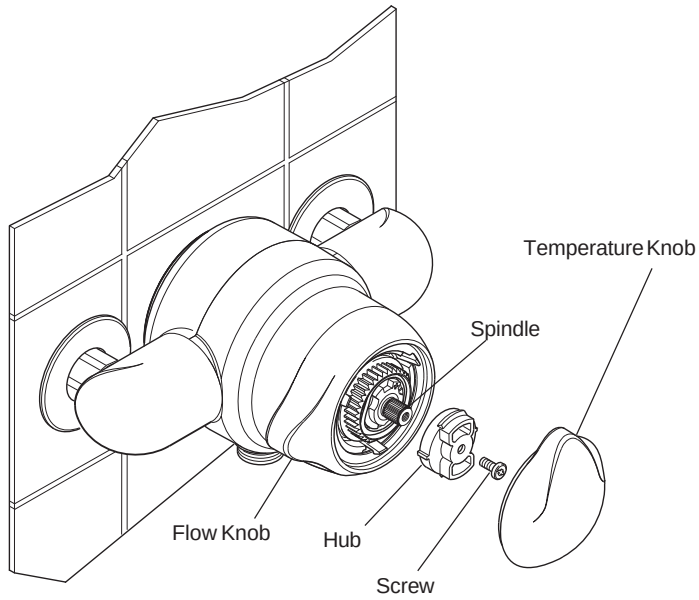
Maximum Temperature Setting

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.

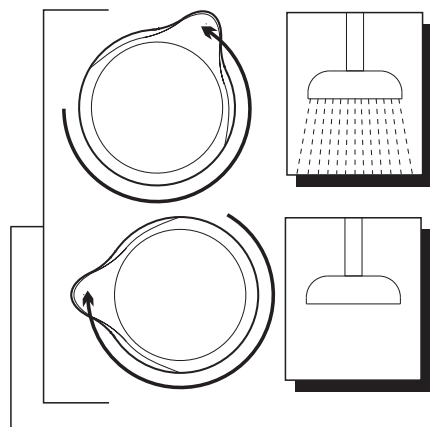
1. Turn the temperature knob to the full hot position.
2. Turn the flow knob fully anticlockwise (maximum flow) and allow the temperature to stabilize.
3. Measure the water temperature. If the temperature is satisfactory then no adjustment is needed. If adjustment is necessary continue with the commissioning procedure.
4. Carefully pull off the temperature knob.
5. Remove the temperature hub securing screw.
6. Use a screwdriver to carefully lever off the temperature hub. Ensure that the pressure washer remains in position.
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.
8. Turn the flow knob fully clockwise (off).
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.
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.

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.



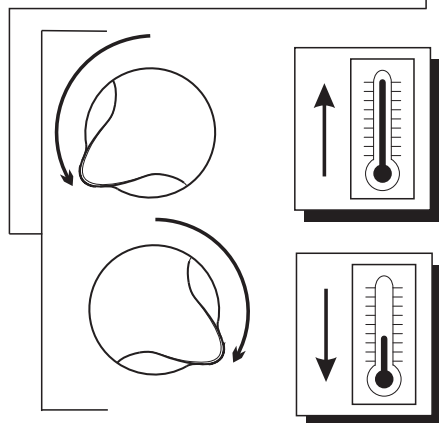
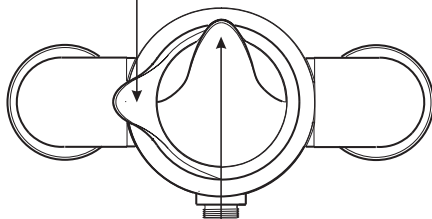
Maximum Temperature Setting
Figure 1

Select and Select B



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.



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

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
	Other hot or cold draw offs being used causing wide pressure changes or instantaneous boiler temperature changes.	Do not use other outlets whilst showering.	✓		
	Cartridge assembly set for high pressure in a low pressure application.	Refer to Pressure Setting .			✓
	Supply pressures unequal.	Refer to Installation Requirements .	✓	✓	✓
Drip from handset spray plate assembly or bir spray plate assembly.	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.	This is quite normal. Changing the angle of the shower fitting may vary the draining time.	✓	✓	✓
	Defective ceramic plates within the shower cartridge.	Renew the cartridge assembly.	✓	✓	✓
		Check that the pressures are not in excess of the maximum for product (refer to Fault Diagnosis "Flow control knob stiff to operate").			
Maximum shower temperature too hot or too cold	Maximum temperature incorrectly set.	Reset the maximum temperature. Refer to Commissioning: "Maximum Temperature Setting" .	✓	✓	✓

Malfunction	Cause	Remedy	A	B	C
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.	✓	✓	✓
	Cartridge damage due to pressure build up.	Remove the back flow prevention device. If system constraints make this impractical fit a domestic expansion vessel. If one is 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 water expansion caused by a backflow prevention device, such as PRV or non-return valve.	Remove the back flow prevention device. If system constraints make this impractical fit a domestic expansion vessel. If one is already fitted, it may be deflated and require repressurization. If necessary, fit new cartridge. (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 to 3.5 bar. (Note information on backflow prevention devices in Installation Requirements).	✓	✓	
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. (Note information on backflow prevention devices in Installation Requirements).	✓	✓	
	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 Reversed Inlet Connections .	✓	✓	✓
	Inlet strainer blocked.	Clean or renew.	✓	✓	✓

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.

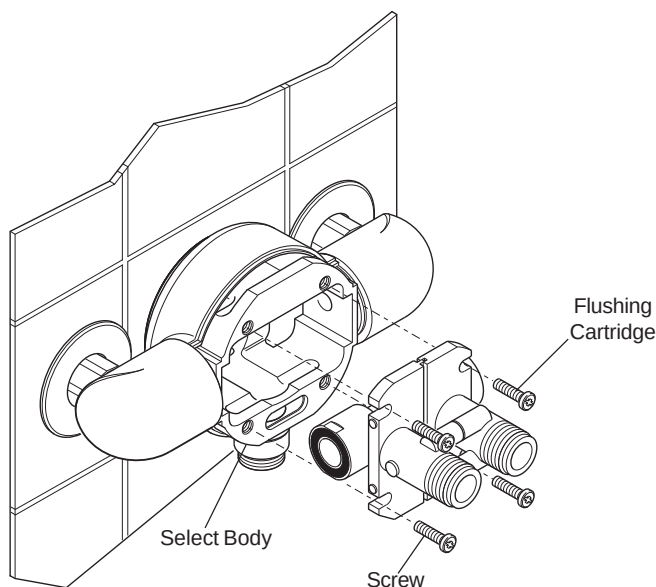
Cartridge Assembly - Renewal

1. Refer to the **Reversed Inlet Connections** section and follow instructions **1.** to **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. Insert the new cartridge assembly into the shower control body.
3. Refer to the **Reversed Inlet Connections** section and follow instructions **10.** to **15.** inclusive to complete the installation of the new the cartridge assembly.

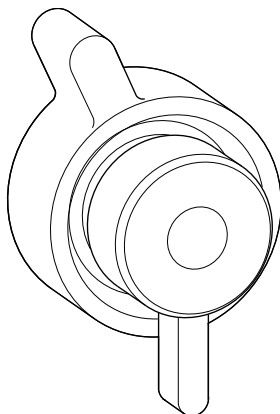
Cartridge Assembly 'O' Seals/Inlet Strainers - renewal

1. Refer to the **Reversed Inlet Connections** section and follow instructions **1.** to **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. Renew the 'O' seals as necessary. Refer to the **Spare Parts** section for the seal pack details.
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**).
4. Insert the cartridge assembly into the shower control body.
5. Refer to the **Reversed Inlet Connections** section and follow instructions **10.** to **15.** inclusive to complete the installation of the cartridge assembly.

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. It also provides an ideal test point for measuring supply pressures (see "**Measuring System Pressures**" in the section **Installation Requirements**).



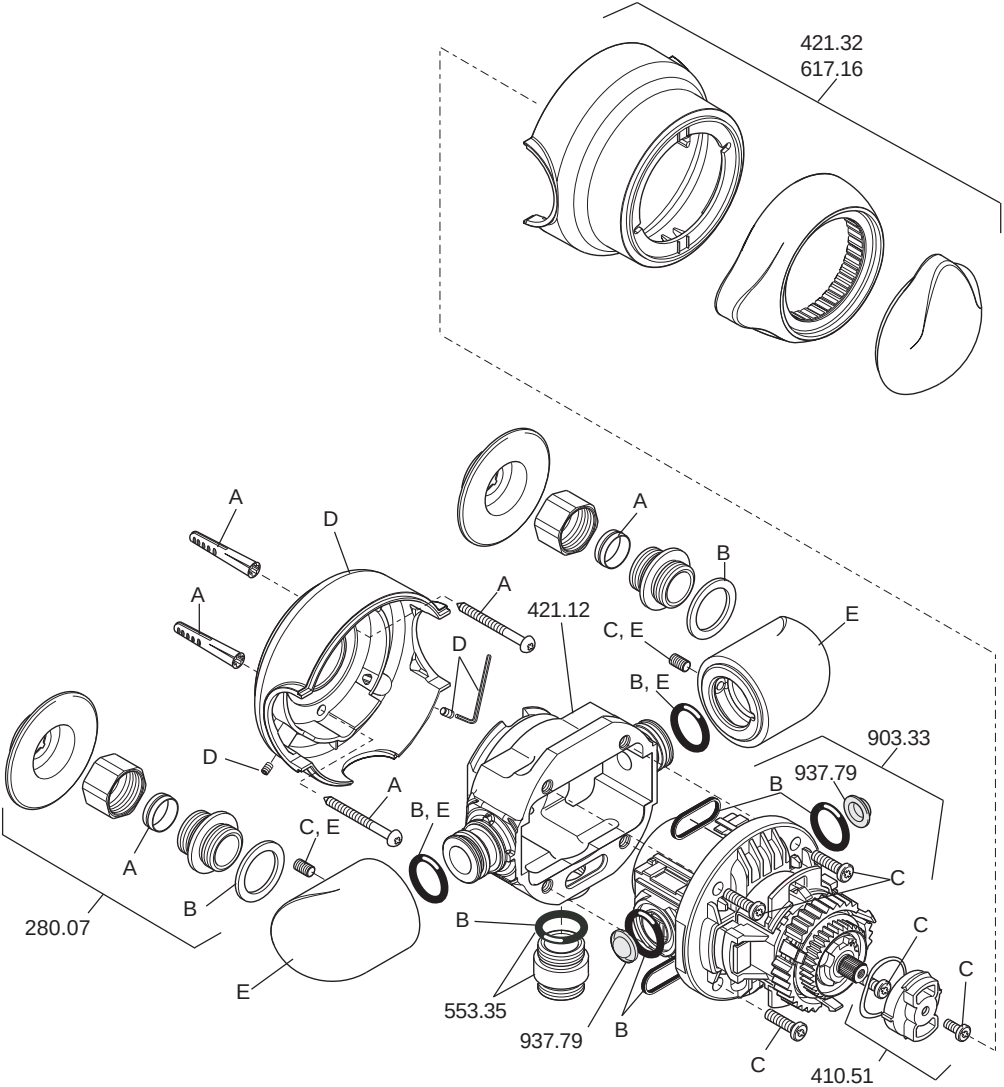
Select Lever Controls (Part no. 617.35): Moulded from ABS plastic, designed to allow the Select shower control to be more easily operated by users with restricted hand movement. Available from standard Select stockists.



Select Spare Parts List

280.07	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 - white - components identified 'D'
553.35	Outlet Nipple
617.16	Trim/Knob Pack Select - chrome
617.34	Backplate Kit - chrome - components identified 'D'
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

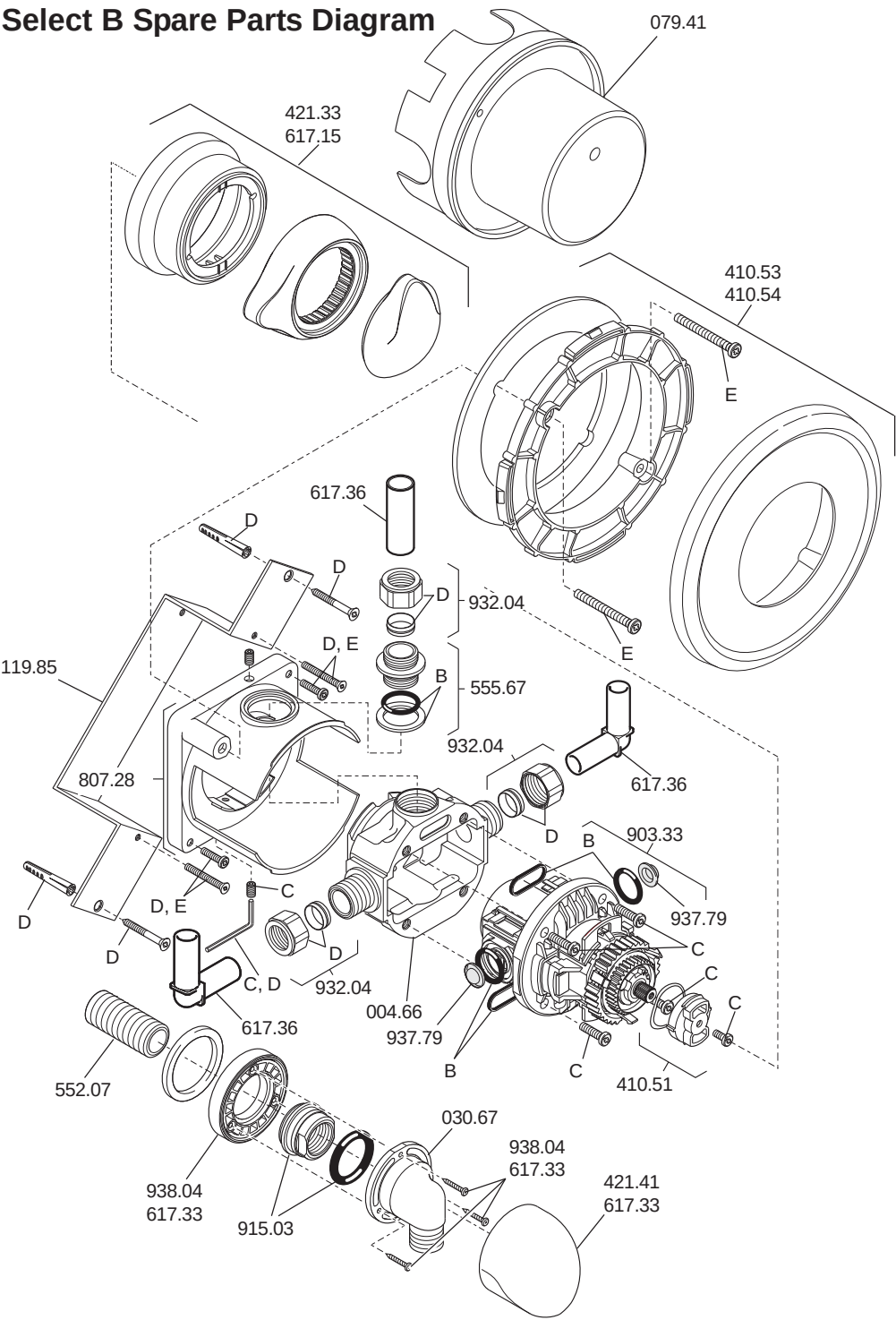
Select Spare Parts Diagram



Select B Spare Parts List

004.66	Body
030.67	RAC Elbow
079.41	Building-in Shroud
119.85	Support Bracket
410.51	Hub Pack
410.53	Concealing Plate Kit - white
410.54	Concealing Plate Kit - chrome
421.33	Trim/Knob Pack - white
421.41	RAC Elbow Shroud - white
552.07	1/2" BSP Parallel Nipple
555.67	Outlet Nipple Assembly
617.15	Trim/Knob Pack - chrome
617.33	RAC Shroud & Wallplate - chrome
617.36	Pushfit Adapter Kit
807.28	Backplate Assembly
903.33	Cartridge Assembly
915.03	RAC Mounting Bush
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
938.04	RAC Wall Plate - white

Select B Spare Parts Diagram



Customer Service

Guarantee of Quality

Mira Showers guarantee your product against any defect in materials or workmanship for the period shown in the Guarantee Registration Document included with your shower.

Alternatively, to confirm the applicable guarantee period please contact Customer Services.

To validate the guarantee, please return your completed registration card.

Within the guarantee period we will resolve defects, free of charge, by repairing or replacing parts or modules as we may choose.

To be free of charge, service work must only be undertaken by Mira Showers or our approved agents.

Service under this guarantee does not affect the expiry date.

The guarantee on any exchanged parts or product ends when the normal product guarantee period expires.

Not covered by this guarantee:

Damage or defects arising from incorrect installation, improper use or lack of maintenance, including build-up of limescale.

Damage or defects if the product is taken apart, repaired or modified by any persons not authorised by Mira Showers or our approved agents.

This guarantee is in addition to your statutory and other legal rights.

What to do if something goes wrong

If when you first use your shower, it doesn't function correctly, first contact your installer to check that installation and commissioning are satisfactory and in accordance with the instructions in this manual. We are on hand to offer you or your installer any advice you may need.

Should this not resolve the difficulty, simply contact our Customer Services Team who will give every assistance and, if necessary, arrange for our service engineer to visit. If the performance of your shower declines, consult this manual to see whether simple home maintenance is required. Please call our Customer Services Team to talk the difficulty through, request a service under guarantee if applicable, or take advantage of our comprehensive After-Sales service.

As part of our quality and training programme calls may be recorded or monitored.

Our Customer Services Team is comprehensively trained to provide every assistance you may need: help and advice, spare parts or a service visit.

Spare Parts

We maintain an extensive stock of spares and aim to provide support throughout the product's expected life.

Spares can be purchased from approved stockists or merchants (locations on request) or direct from Customer Services.

Spares direct will normally be despatched within two working days. Payment can be made by Visa or MasterCard at the time of ordering. Should payment by cheque be preferred, a pro-forma invoice will be sent.

All spares are guaranteed for 12 months from date of purchase. Spares that have been supplied directly from us can be returned within one month from date of purchase, providing that they are in good order and the packaging is unopened.

Note! Returned spares will be subject to a 15% restocking charge and authorisation must be obtained before return. Please contact our Customer Services Team.

Note! In the interests of safety, spares requiring exposure to mains voltages can only be sent to competent persons.

Service

Our Service Force is available to provide a quality service at a reasonable cost. You will have the assurance of a Mira trained engineer/agent, genuine Mira spare parts and a 12 month guarantee on the repair.

Payment should be made directly to the engineer/agent using Visa, MasterCard or a cheque supported by a banker's card.

To Contact Us

England, Scotland, Wales and Northern Ireland

Mira Showers Customer Services

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Sat 8:30 am - 3:30 pm

E-mail: technical@mirashowers.com

Fax: 01242 282595

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Eire

Modern Plant Ltd (Dublin)

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