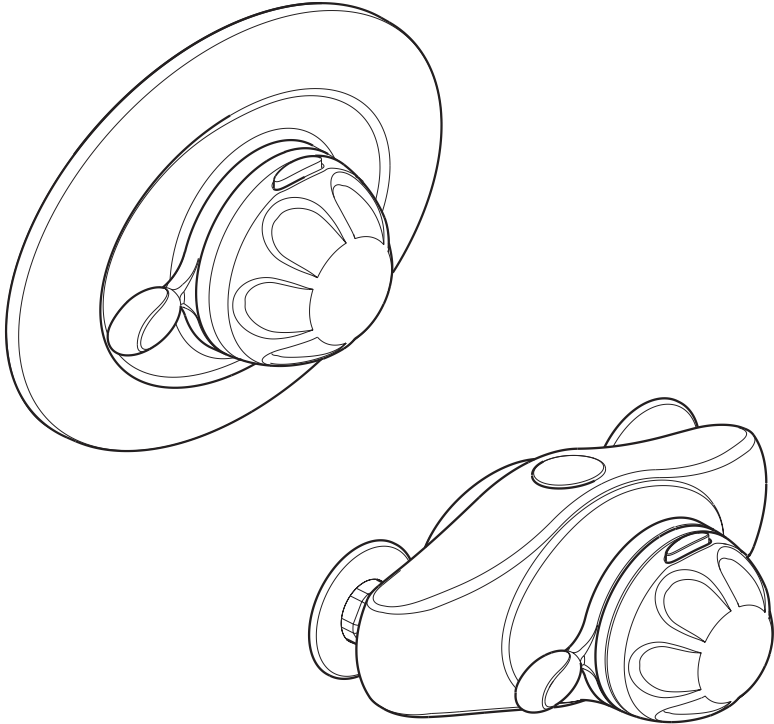


mira

EXCEL



MIRA EXCEL

SHOWER CONTROL

Installation & User 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 Excel 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. An override button allows the user to exceed the preset maximum temperature. The flow control utilizes ceramic plate technology operating directly on the hot and cold inlets to provide precise control and isolation of the incoming water supplies. Inlet filters are fitted to protect the thermostatic control mechanism.

The Mira Excel (Exposed Version) has adjustable inlets to fit pipework centres between 150 mm and 155 mm.

Shower controls covered by this guide:

Mira Excel

An exposed shower control for connection to wall mounted or rear entry pipework.

Mira Excel B

A built-in shower control for connection to concealed pipework.

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.

IMPORTANT SAFETY INFORMATION

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.

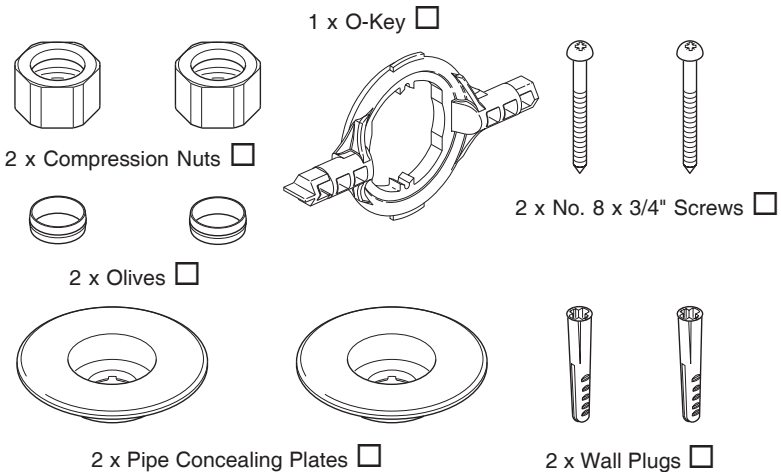
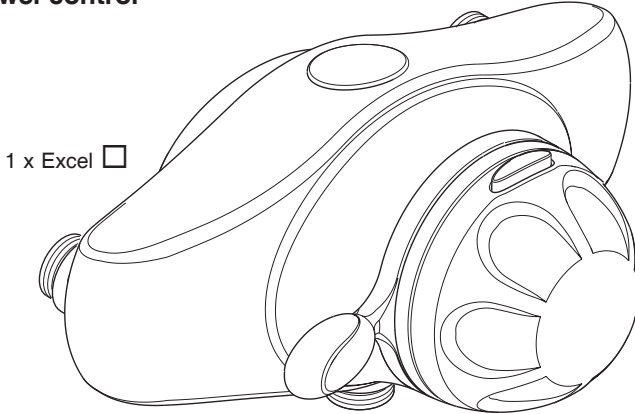
Caution!

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. 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.
6. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

PACK CONTENTS CHECKLIST

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

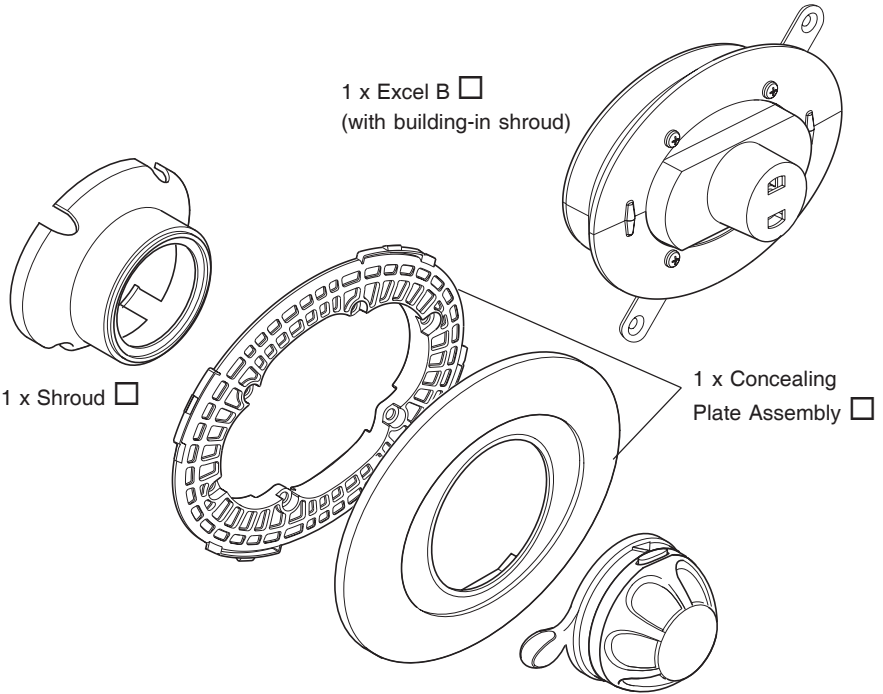
Excel shower control



Documentation

- 1 x Installation and User Guide
- 1 x Customer Support Brochure
- 1 x Installation Template

Excel B shower control



2 x No.8 x 1 1/4" Screws

1 x Knob Assembly



4 x M5 x 50 mm Screws (2 fitted)



2 x M4 x 30 mm Screws



2 x Wall Plugs



3 x Compression Nuts



3 x olives

Documentation

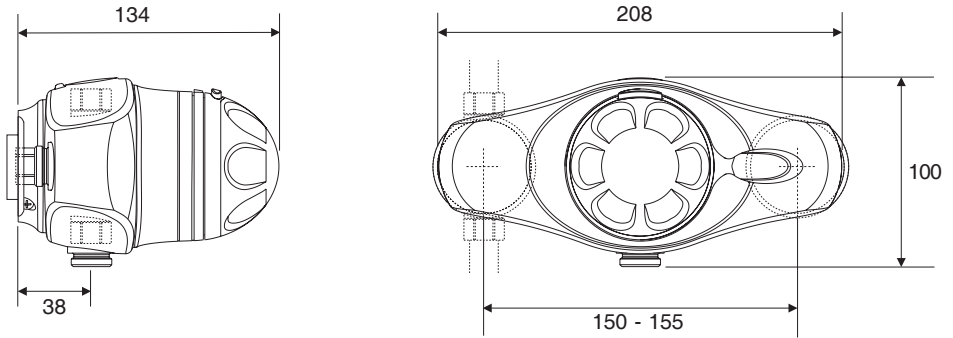
1 x Installation and User Guide

1 x Customer Support Brochure

1 x Installation Template

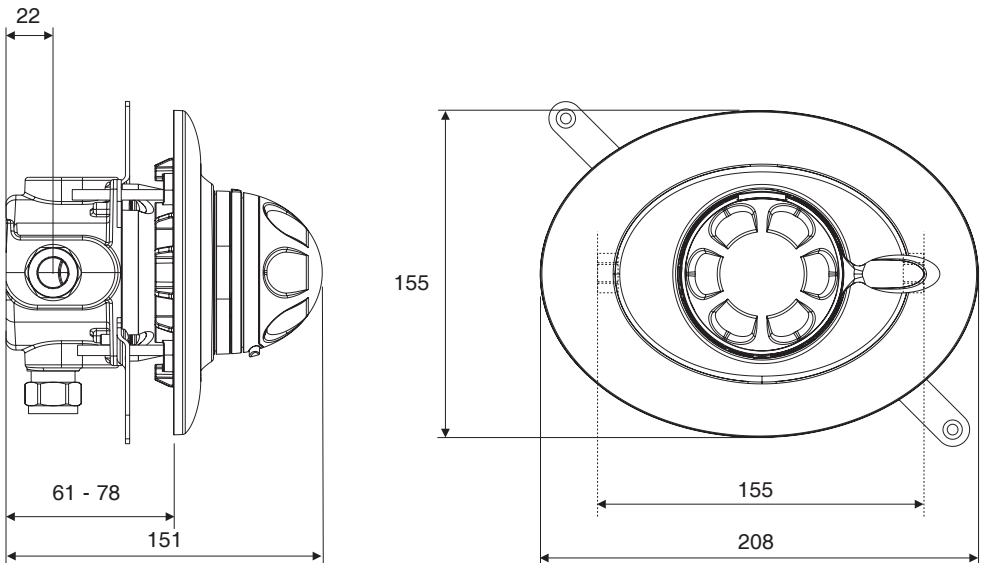
DIMENSIONS

Excel



NOTE:- NOT TO SCALE - All dimensions are nominal and in millimetres

Excel B



SPECIFICATIONS

1. Pressure Ranges

Excel & Excel B

- 1.1. Minimum maintained pressure: 0.1 bar (1.0 metre head) when used with Mira shower fittings.
- 1.2. Maximum maintained pressure: 5.0 bar.
- 1.3. 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 35 °C and 45 °C.

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

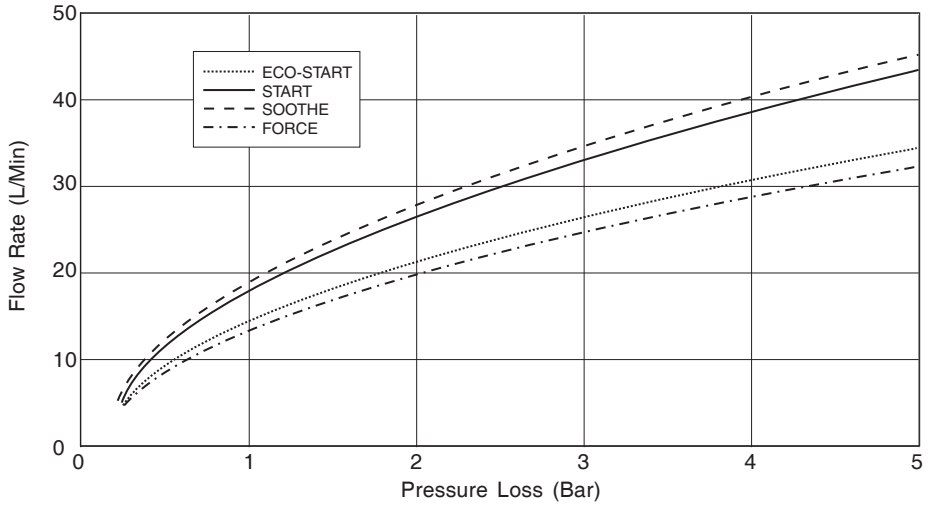
- 2.2. The blended temperature is maintained within 2 °C with a 10 °C change in the hot or cold supply.
- 2.3. The wax capsule sensor effects a shut down to seepage in approximately 2 seconds if the cold supply fails. Shut down to seepage is only achieved if the hot supply is 12 °C above the blend temperature.

3. Standards and Approvals

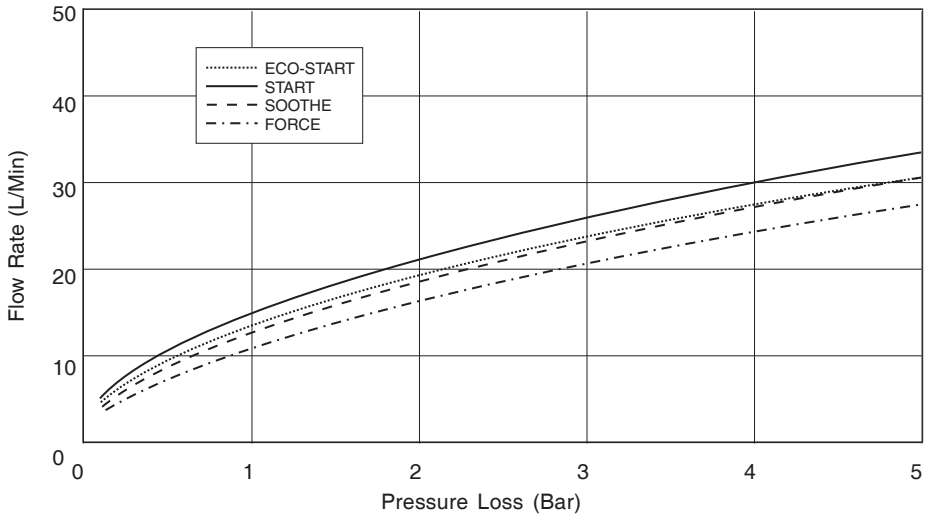
- 3.1. Designed to comply with BS EN 1111 and 1287 for thermostatic mixing valves, and to be used within systems designed to BS6700.
- 3.2. BS 6700 recommends that the temperature of stored water should never exceed 65 °C. A stored water temperature of 60 °C is considered sufficient to meet all normal requirements and will minimise the deposition of scale in hard water areas.

4. Flow Rates

EXCEL WITH LOGIC FITTINGS HIGH CAPACITY SPRAY PLATE



EXCEL WITH LOGIC FITTINGS LOW CAPACITY SPRAY PLATE



Note! Pressure conversion: 1 bar = 10 m head of water = 100 kPa

INSTALLATION REQUIREMENTS

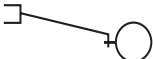
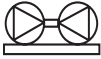







Read the section '**Important Safety Information**' first.

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

1. Installations **must** comply with UK Water Regulations/ Bye-laws (Scotland), and Building and Plumbing Regulations in force at the time of installation.
2. Layout and sizing of pipework **must** be such that when other services are used, pressures at the shower control inlets are maintained approximately equal and **do not** fall below the recommended minimum.
3. **Do not** install the product in a position in which service access is restricted.
4. **Do not** fit any form of flow control in the shower outlet, only Mira recommended fittings should be used.
5. **Do not** use excessive force when making connections.
6. **Do not** install the product in a position where it could become frozen.
7. Supply pipes **must** be flushed to clear debris before connecting the shower control.
8. Conveniently situated isolating valves **must** be fitted for servicing purposes.
9. If the shower control is to be used with a fully modulating multipoint water heater, fully modulating 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 the details on the boiler/heater or contact the boiler/heater manufacturer).

Typical Suitable Installations

Key to symbols appearing throughout this guide.

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

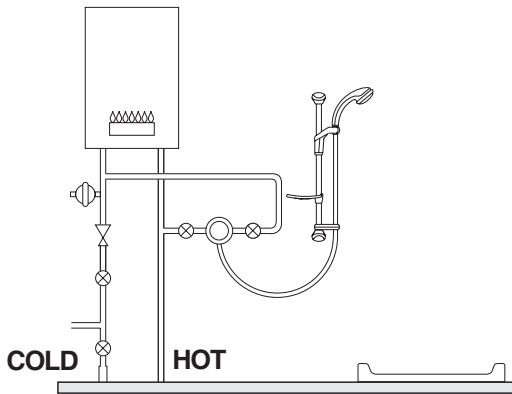
Instantaneous gas-heated showers (e.g. combination boilers)

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.

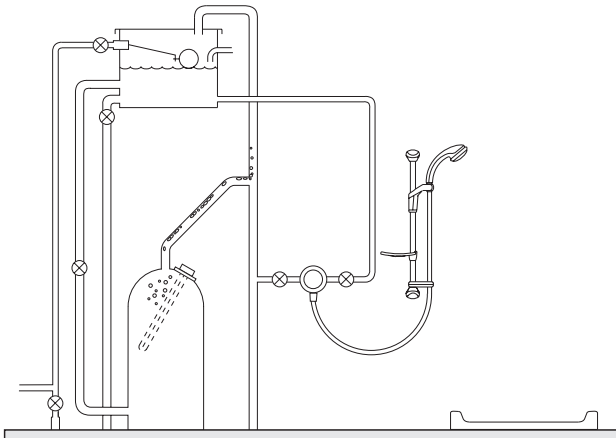
An expansion vessel **MUST** be fitted (and regularly maintained) as shown in the diagram below to ensure that excess pressures do not damage the product. This may already be fitted within the boiler (check with the manufacturer) and is in addition to the normally larger central heating expansion vessel.

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



Gravity fed showers

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

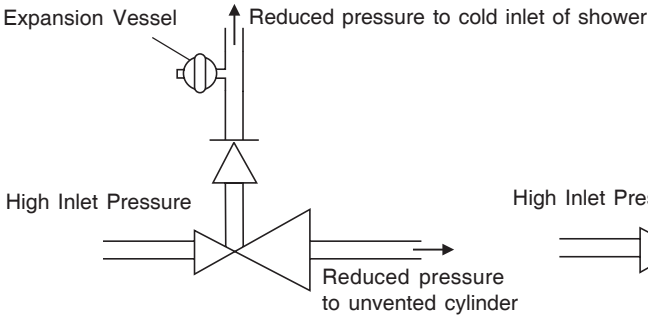
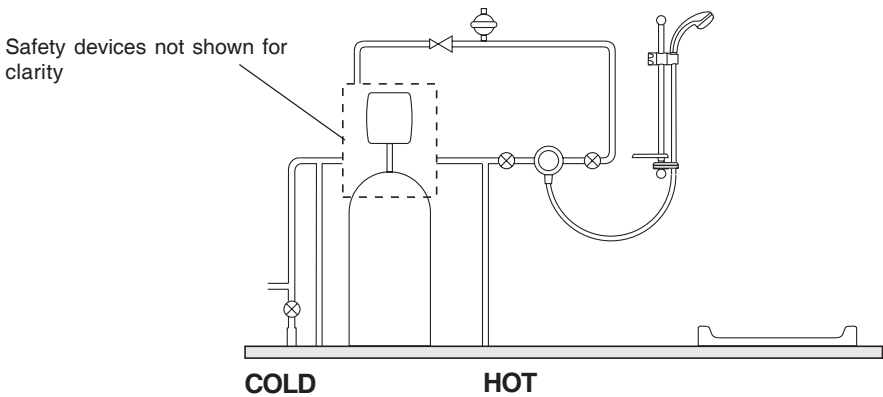


Unvented mains pressure showers

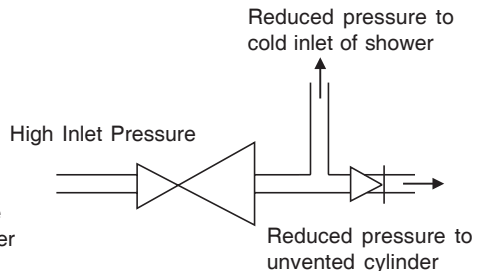
The shower can be installed with an unvented, stored hot water cylinder. Only a "competent person" as defined by Part G of Schedule 1 of the Building Regulations may fit this type of system.

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 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.



**Combined outlet PRV
with internal non-return valves
- Expansion vessel required.**



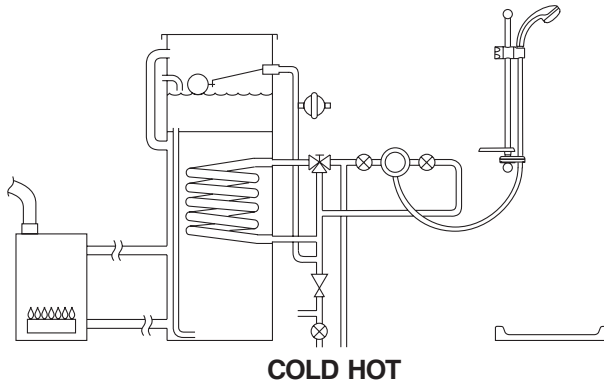
**Cold takeoff after PRV
- Expansion pressure taken up by
unvented cylinder expansion vessel.**

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

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

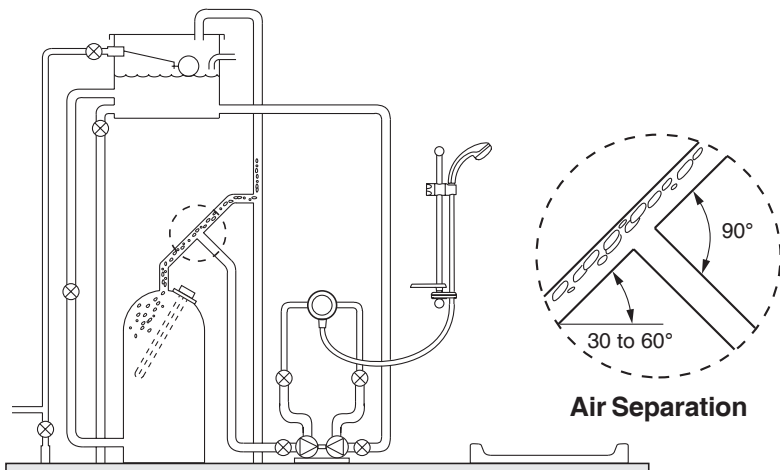
A drop tight pressure reducing valve **MUST** be fitted if the supply pressures exceed 5 bar maintained.

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).



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.



INSTALLATION

Excel

1. Back inlet supplies (rising or falling concealed pipework)

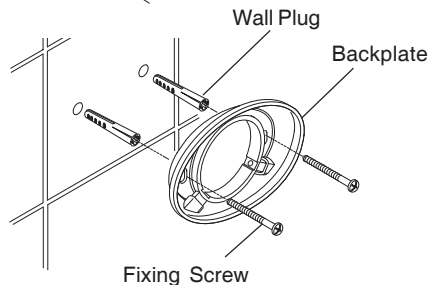
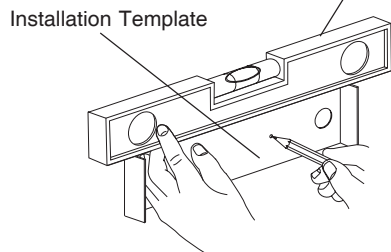
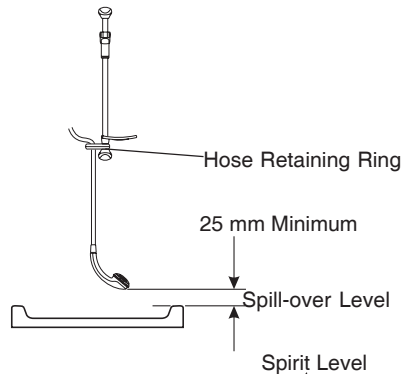
Read the section: **Installation Requirements** first.

1.1 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 back-siphonage.

1.2 Use the installation template to mark the positions of the holes for the backplate and the pipe centres.

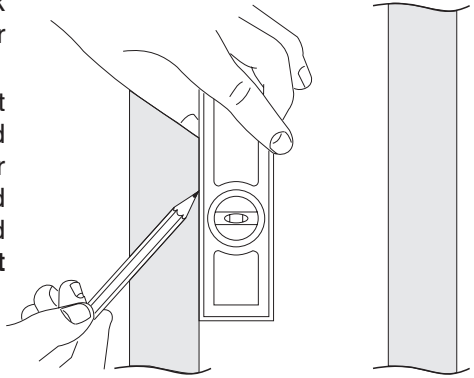
1.3 For solid walls drill the backplate holes with a 6 mm diameter drill and insert the wall plugs (supplied). For other types of wall structure alternative fixing may be required.

1.4 Use the two No. 8 x 1 3/4" fixing screws (supplied) to fix the backplate to the wall. Make sure that the two angled fixing holes are at the bottom of the backplate.



1.5 Use a spirit level and pencil to mark the route of the hot and cold water supply pipes at 150-155mm centres.

Note! The Excel 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 section: **Reversed Inlet Connections.**



1.6 Remove the plaster and brick/block to the required depth to conceal the pipework.

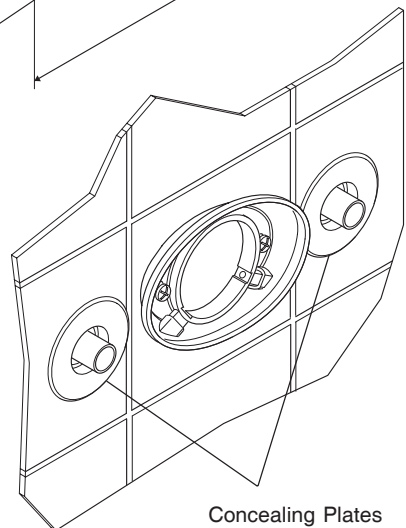
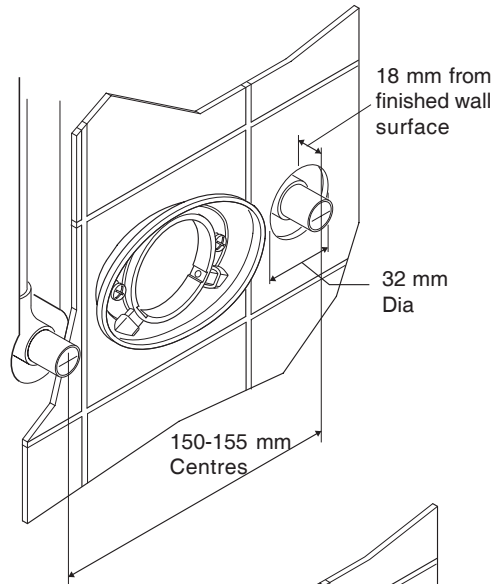
Note! Depth must be sufficient to prevent pipe concealing plates fouling on the plumbing elbows.

1.7 Install the supply pipes. The pipes must project 18 mm from the finished surface of the wall at 150-155mm centres.

Note! Use the installation template to ensure pipes are in the right position.

1.8 Finish the surface of the wall as required. The recesses from which the pipes emerge must also accommodate the 32 mm diameter x 10 mm deep flanges on the pipe concealing plates.

1.9 Fit the pipe concealing plates over the hot and cold supply pipes.



1.10 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.

1.11 Slide the compression nuts and olives over the supply pipes.

1.12 Locate the Excel shower control on to the backplate and supply pipes and hold it in position.

Note! Align the adjustable inlets to aid location onto the pipework.

1.13 Use a suitable screwdriver to tighten the two screws in the backplate. The screws will hold the shower control in position.

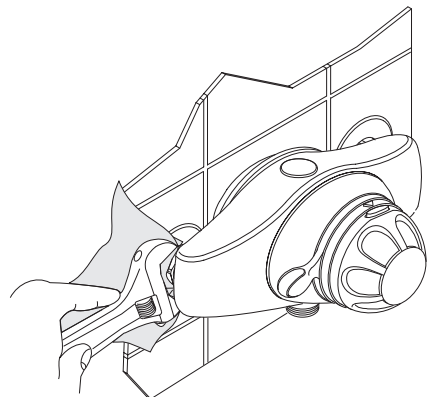
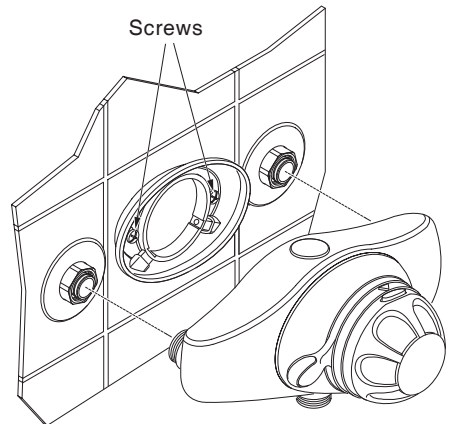
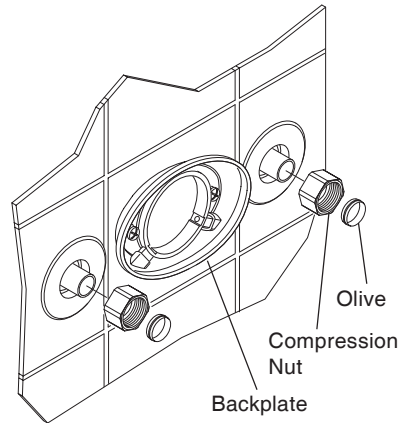
1.14 Use a suitable spanner to tighten the compression nuts (anticlockwise rotation when viewed from front). Protect the chromium plated surfaces with a cloth.

Do not overtighten.

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

Shower fittings

1.16 Install the shower fittings. Refer to the Installation and User Guide for the shower fittings.

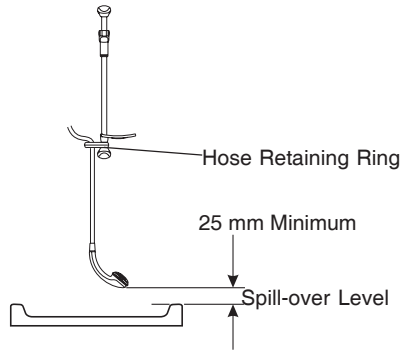


2. Exposed supplies (rising or falling surface pipework)

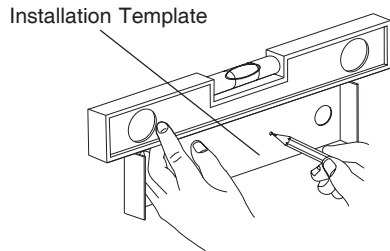
Read the section: **Installation Requirements** first.

Rising Supplies

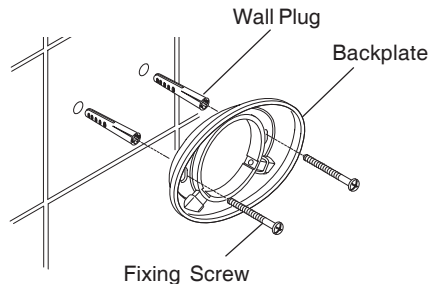
2.1 Decide on a suitable position for the shower control. The position of the shower control and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent back-siphonage.



2.2 Use the installation template to mark the positions of the holes for the backplate and the pipe centres.



2.3 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 fixing may be required.

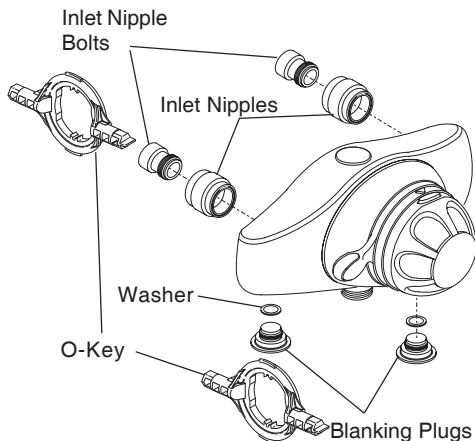


2.4 Fix the backplate to the wall with the two fixing screws (supplied). Make sure that the angled fixing holes are at the bottom of the backplate.

2.5 Use the O-Key or a suitable screwdriver to remove the blanking plugs from the rising supply inlets.

2.6 Use the O-Key to remove the inlet nipple bolts from the rear supply inlets.

2.7 Remove the inlet nipples.

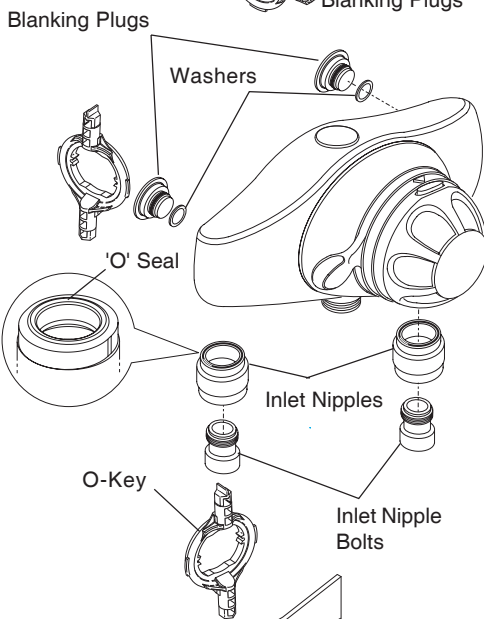


2.8 Align and fit the inlet nipples, complete with 'O' seals, into the rising supply inlets.

2.9 Fit and tighten the inlet nipple bolts with the O-Key.

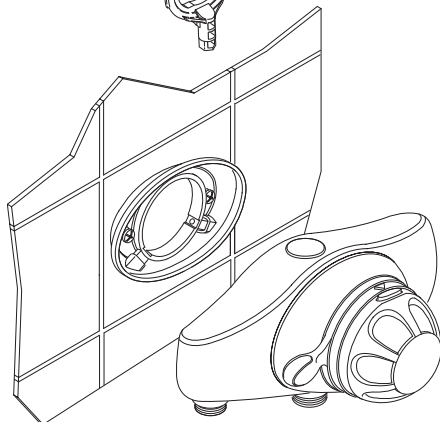
Note! The nipple will still float when the bolt has been tightened.

2.10 Screw the blanking plugs, complete with washers into the rear supply inlet nipple holes. Tighten the blanking plugs using the O-Key or suitable screwdriver.



2.11 Locate the Excel shower control on to the backplate.

2.12 Use a suitable screwdriver to tighten the two screws in the backplate. The screws will hold the shower control in position. Do not overtighten the screws.



2.13 Install the hot and cold supply pipes 38 mm from the finished wall at 150-155 mm centres.

Use the installation template to make sure the pipes are in the right position.

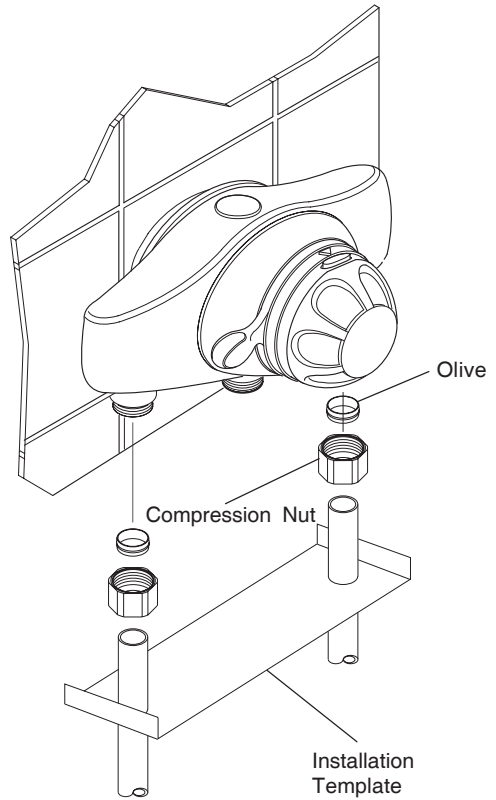
Note! The Excel is supplied with inlet connections **hot left, cold right** and **bottom outlet** as standard. For installations with reversed hot and cold supplies complete the installation and refer to section: **Reversed Inlet Connections.**

Note! 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.

2.14 Slide the compression nuts and olives over the supply pipes.

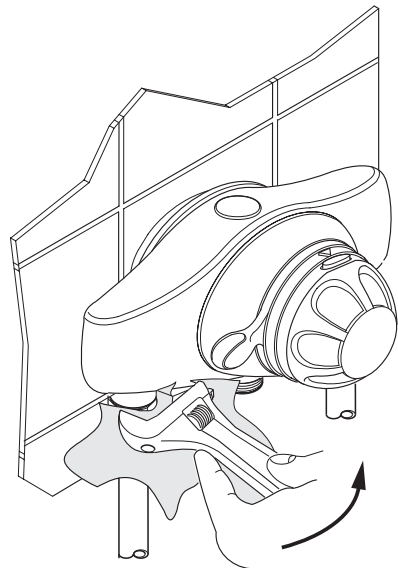
2.15 Insert the hot and cold supply pipes fully into the inlet nipples and slide the olives and compression nuts into place.

Note! Align the adjustable inlets to aid location onto the pipework.



2.16 Use a suitable spanner to tighten the compression nuts. Protect the chromium plated surfaces with a cloth.

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



Falling Supplies

2.18 Follow the installation instructions 2.1 to 2.10 inclusive.

2.19 Use the O-Key to remove the outlet nipple.

2.20 Carefully lever the outlet cap from the outlet blanking plug in the shower control body.

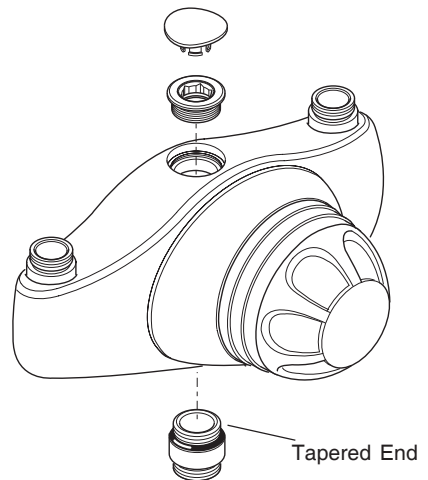
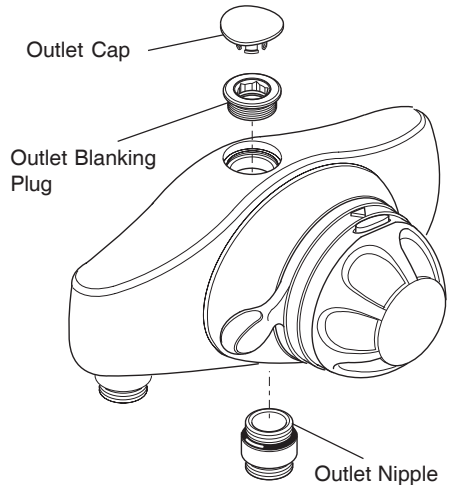
2.21 Use the O-Key to remove the outlet blanking plug.

2.22 Screw the outlet nipple, complete with 'O' seal into the hole previously blanked. Tighten the outlet nipple with the O-Key.

2.23 Screw the outlet blanking plug, complete with 'O' seal, into the outlet hole between the two inlet nipples. Tighten the outlet blanking plug with the O-Key.

2.24 Fit the outlet cap correctly. The matching contours of the outlet cap and shower control body must be aligned.

2.25 Locate the Excel shower control on to the backplate.



2.26 Use a suitable screwdriver to tighten the two screws in the backplate. The screws will hold the shower control in position.

2.27 Install the hot and cold supply pipes 38 mm from the finished wall at 150-155 mm centres. Use the installation template to ensure the pipes are in the right position.

2.28 Follow the installation instructions 2.11. to 2.15. inclusive.

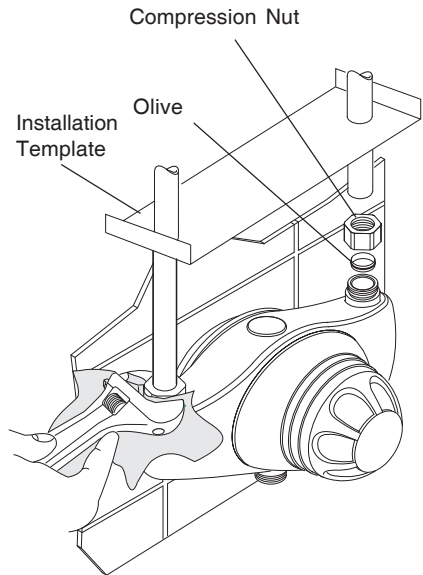
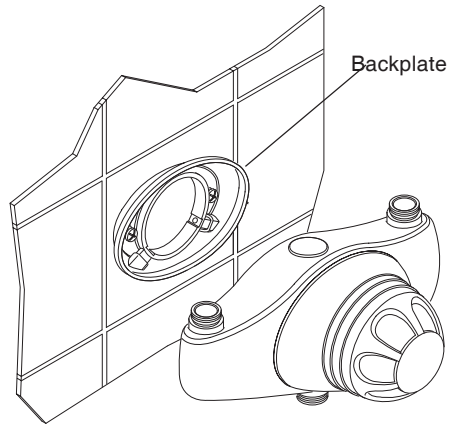
2.29 Refer to section: **Reversed Inlet Connections** and follow the installation instructions 1.2. to 1.10. inclusive. This will put the cartridge assembly, the indicator trim and the temperature knob in the correct orientation for **hot left** and **cold right** inlet supplies.

Note! For falling supplies where the hot and cold inlet pipes have been reversed, only the indicator trim and the temperature knob need to be removed and reinstalled the correct way up. Refer to section: **Reversed Inlet Connections**.

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

Shower fittings

2.31 Install the shower fittings. Refer to the Installation and User Guide for the shower fittings.



Excel B

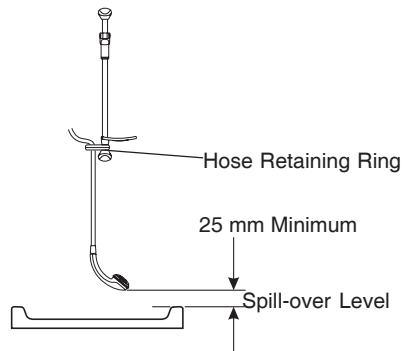
3. Solid and dry-lined walls

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

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.

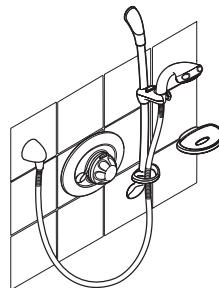
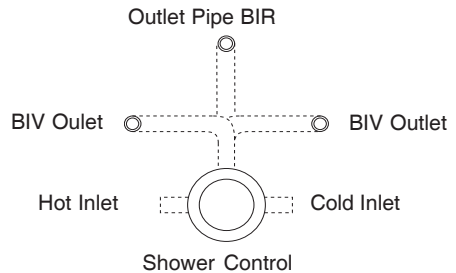
A foam seal is fitted to the concealing plate assembly to seal the bracket to the wall surface (i.e. tiles). This will provide a sufficient seal for most installations to prevent ingress of water into the wall cavity.

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 back-siphonage.



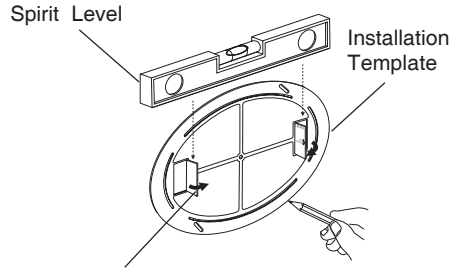
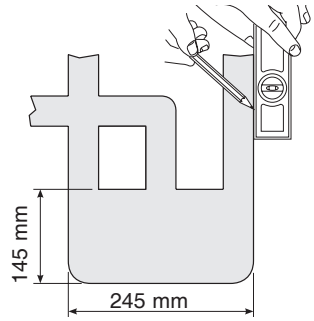
3.2 Determine the route for the incoming hot and cold supply pipework.

3.3 Determine the route for the outlet pipework. When connecting to the biv 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 and User Guide.



3.4 If installing the shower into a solid wall, mark an opening sufficient to accommodate the shower control approximately 245 mm x 145 mm on the surface of the wall.

Alternatively, if installing the shower into a dry-lined wall, use the installation template and mark around the outside edge.



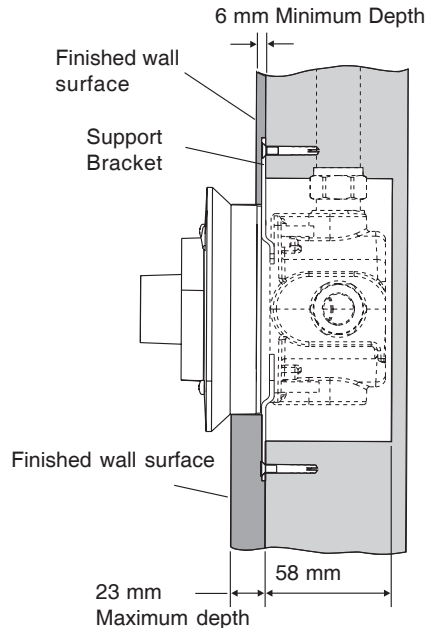
Bend tabs outwards and place the spirit level on tabs to level the template

3.5 Mark the route of the supply and outlet pipes.

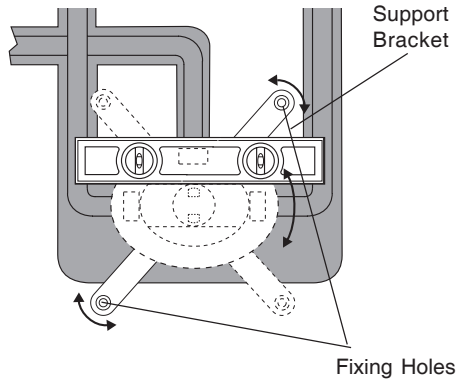
3.6 Remove the plaster and brick/block for the shower control to a depth between **64 and 81 mm** from the finished surface of the wall. The shower body requires a clearance depth of **58 mm**, with a finished wall surface thickness between **6 and 23 mm**.

Note! The maximum and minimum depth levels are indicated on the outer sections of the building-in shroud.

3.7 Remove the plaster and brick/block for the supply and outlet pipes.



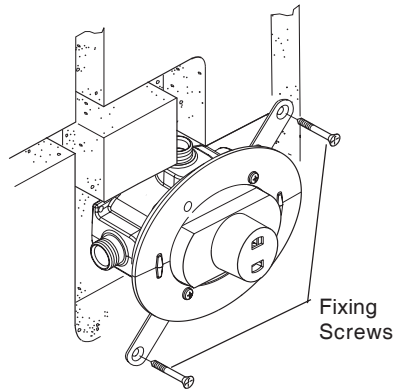
3.8 Mark the support bracket fixing hole positions. **The support brackets should be positioned so that the valve can be fitted level and the compression fittings can be easily tightened.**



3.9 Drill a 6.0 mm diameter hole at each of the marked positions and insert the wall plugs (supplied).

Note! For stud partition installations alternative fixings may be required. Alternatively the shower body can be secured to the rear face of the wall cavity or to a timber noggin.

3.10 Align the holes in the support brackets with the holes in the wall and secure the unit with the two fixing screws (supplied).

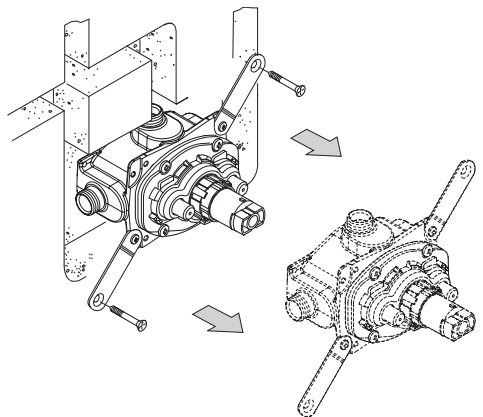


3.11 Remove all three sections of the building-in shroud. Align the hot and cold supply and top outlet pipes with the valve but do not connect to the valve.

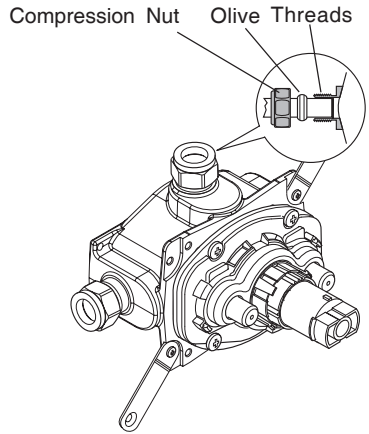
3.12 Remove the support bracket and valve unit from the wall and thoroughly flush the hot and cold water supply pipes.

Note! The supplies must be clean and free from debris before connecting the shower control. Failure to do so may result in product malfunction.

Note! The Excel B is supplied with inlet connections **hot left, cold right** and **top outlet** as standard. For installations with reversed hot and cold refer to section: **Reversed inlet connections.**



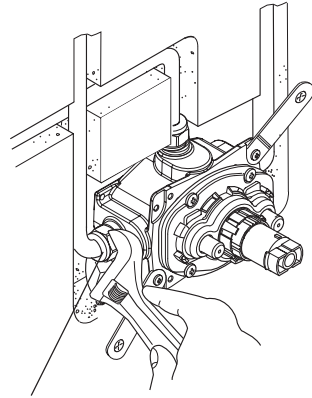
3.13 Loosely attach the compression nuts and olives.



3.14 Fit the support bracket and valve unit in to the wall with the two fixing screws.

3.15 Insert the hot and cold supply and top outlet pipes through the compression nuts and olives. **Ensure that each pipe is pushed fully into the valve.**

Note! For falling inlet supplies the outlet pipe may have to be set deeper into the wall.



3.16 Hold each pipe in position and use a suitable spanner to tighten the compression nuts.

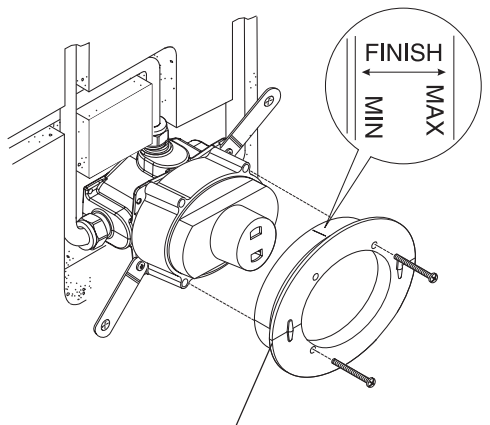
3.17 Turn on the water supplies and check for any leaks.

Compression Nut

3.18 Refit the three building-in shroud sections that you removed earlier. Secure the shroud in position with the screws.

3.19 Plaster and tile as necessary up to the sides of the building-in shroud.

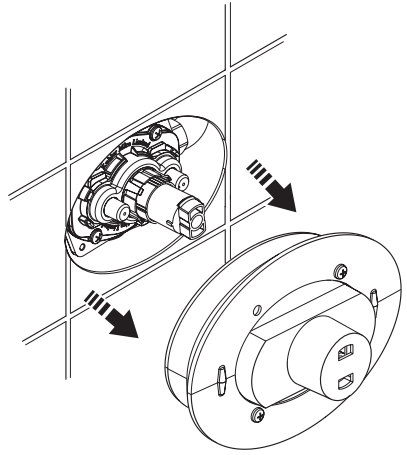
Make sure that the finished tiled wall surface is within the FINISH arrow on the building-in shroud.



Separate these two parts

3.20 When the plaster/tiles have set, remove the screws and pull the entire building-in shroud away.

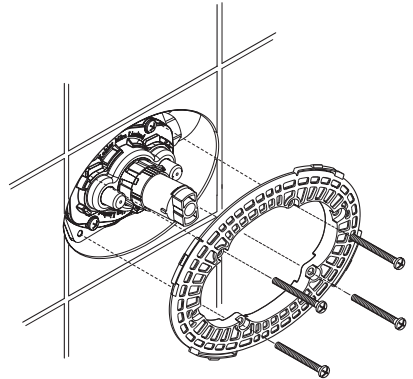
Note! Retain the screws for later use.



3.21 Remove the backplate from the concealing plate. Remove the protective film from foam seal and fit in position with the four fixing screws (supplied).

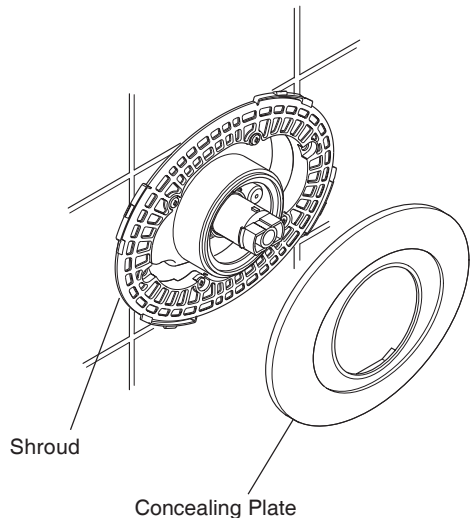
Do not overtighten the screws.

Note! If the finish is particularly uneven (i.e. due to grout lines), apply a small amount of silicone sealant to ensure a seal .



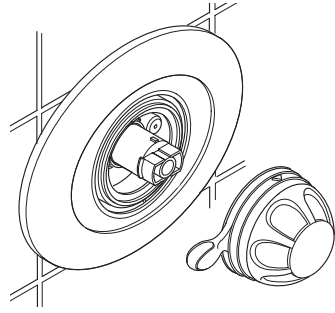
3.22 Fit the shroud and concealing plate over the backplate.

Firmly push the concealing plate until it clips into position.



3.23 Fit the control assembly, refer to section: **Control Assembly Fitting Instructions.**

3.24 Install the shower fittings. Refer to the shower fittings Installation and User Guide.



4. Stud Partitions and Shower Enclosures (Front Face)

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

The built-in shower control is supplied with a support bracket that can be used to install the shower control into the front face of a stud partition wall structure or shower enclosures. The front face installation of the support bracket is only practical where an applied surface finish e.g. plaster or tiles can conceal flanges of the bracket.

A foam seal is fitted to the concealing plate assembly to seal the bracket to the wall surface (i.e. tiles). This will provide a sufficient seal for most installations to prevent ingress of water into the wall cavity.

4.1 Refer to section: **Installation, 3. Solid and dry-lined walls** and follow steps 3.1. to 3.3.

4.2 Use the installation template (supplied) to mark the size of the hole required on the panel.

Bend the tabs outwards and use a spirit level to ensure that the hole is marked symmetrically.

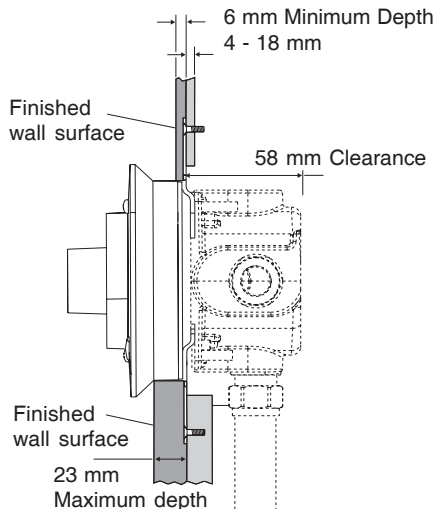
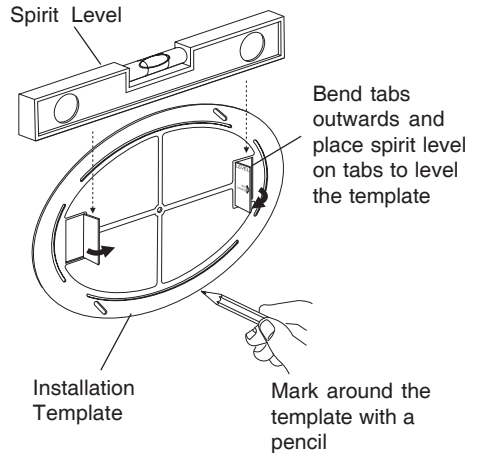
Mark around the **outside edge** of the template.

4.3 Carefully cut the hole in the panel.

Note! The support bracket requires a clearance depth of **58 mm**, with a panel/wall thickness of between **4 and 18 mm**.

The raised portion on the building-in shroud can be used as a depth gauge. Panel/wall thicknesses in excess of 18 mm can be accommodated, but a clearance will be required around the inlet and outlet connections to allow insertion of pipe and tightening of the compression nuts.

4.4 To complete the installation, refer to section: **Installation, 3. Solid and dry-lined walls** and follow steps 3.5 to 3.24.



5. Laminated Panels and Shower Enclosures (Rear Face)

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

The built-in shower control is supplied with a support bracket that can be used to install the shower control onto the rear face of a laminated panel or preformed shower cubicle.

A foam seal is fitted to the concealing plate assembly to seal the bracket to the wall surface (i.e. tiles). This will provide a sufficient seal for most installations to prevent ingress of water into the wall cavity.

Note! This installation is only possible with a finished wall thickness between **6 and 21 mm**.

5.1. Refer to section: **Installation, 3. Solid and dry-lined walls** and follow instructions 3.1. to 3.3.

5.2. Use the installation template (supplied) to mark the size of the hole required on the panel.

Bend the tabs outwards and use a spirit level to ensure that the hole is marked symmetrically.

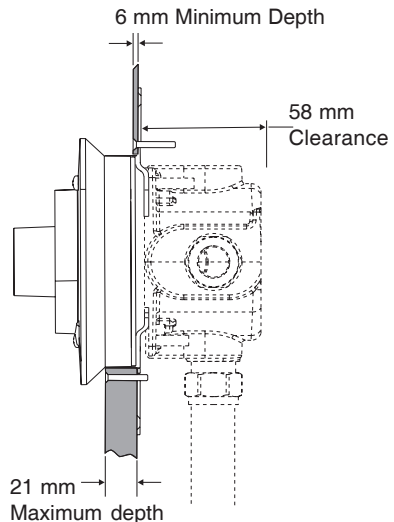
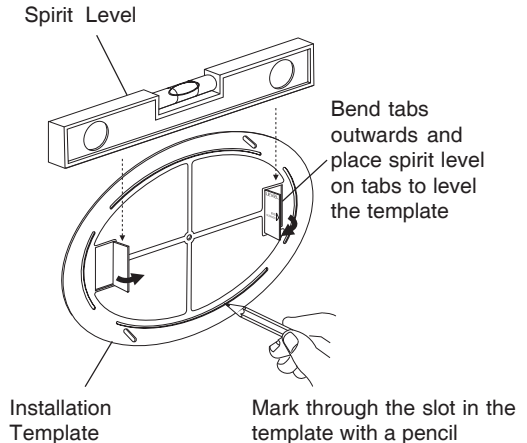
Mark through the **inner slots** of the template.

5.3. Carefully cut the hole in the panel.

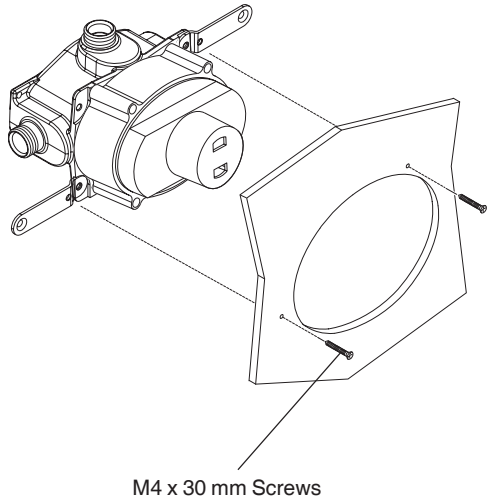
Note! The support bracket requires a clearance depth of **58 mm**, with a finished wall thickness between **6 and 21 mm**.

5.4. Fit the valve in position and mark the position of the holes for the support brackets.

5.5. Drill a 5.0 mm diameter hole at each of the marked positions.



5.6. Remove the outer sections of the building-in shroud and fix the support bracket and valve in position using the two M4 x 30 mm screws (supplied).

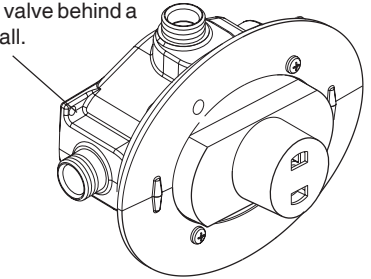


5.7. Align the hot and cold supply and top outlet pipes with the valve but do not secure the pipes.

5.8. To complete the installation, refer to Section: **Installation , 3. Solid and dry-lined walls** and follow steps 3.12 to 3.24.

Note! The shower body has two fixing holes in the back face for securing to the rear face of the wall cavity or timber noggin.

Two holes in the back face to secure to a wooden noggin. This will help to secure the valve behind a partition wall.



CONTROL ASSEMBLY FITTING INSTRUCTIONS

The procedure below details the steps required to fit the control assembly. The procedure is applicable to both the exposed and built-in versions.

1. Make sure that the temperature hub is turned to the position illustrated and that the flow stop is at the bottom.

Note! If the red and blue pillars are reversed (due to reversed inlet connections) the flow stop will be positioned at the top.

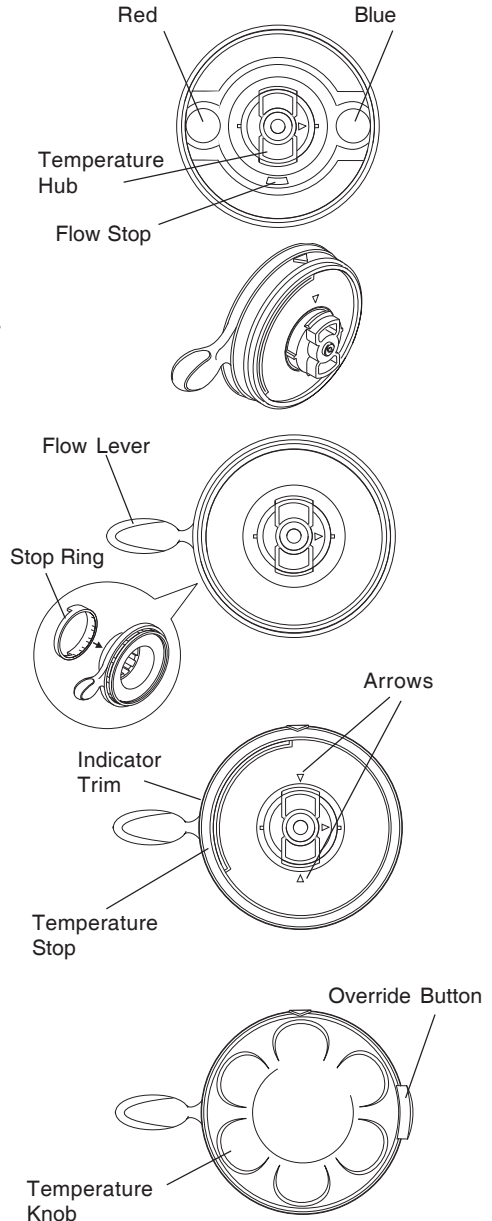
2. Make sure that the flow control lever carrier is turned fully clockwise to the off position.

3. Fit the flow lever in the position shown. Make sure that the stop ring is fitted to the flow lever as shown on the inset diagram.

Note! If the red and blue pillars are reversed (due to reversed inlet connections) remove the stop ring, rotate 180° and refit. Check the free movement of the flow lever, **DO NOT FORCE** (Refer to the section **Operation** for details)

4. Fit the indicator trim making sure that the arrows line up with the hub and the stop is positioned as shown.

5. Fit the temperature knob making sure that the override button is opposite the flow lever as shown.

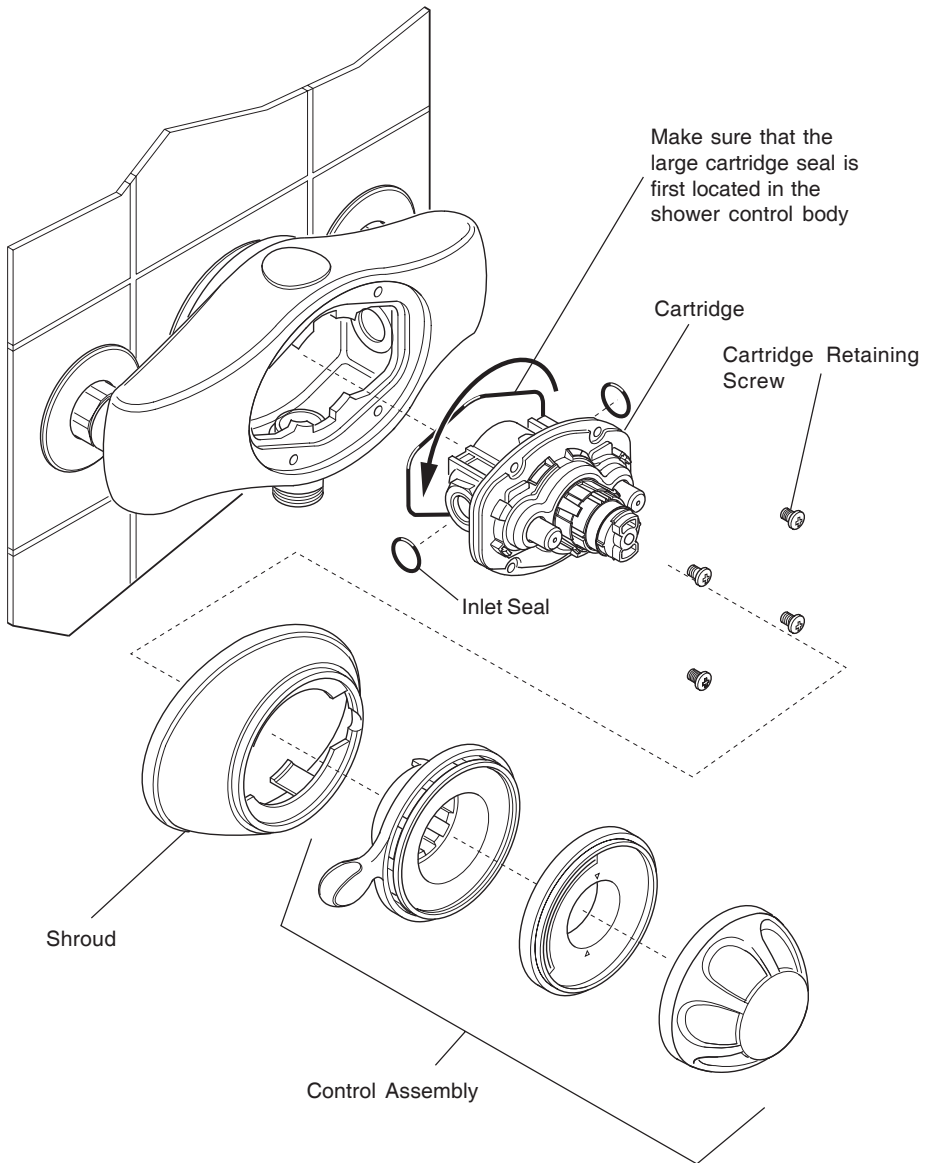


REVERSED INLET CONNECTIONS

The Excel is supplied with inlet connections **hot left, cold right** and **bottom outlet**. The Excel 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, indicator trim and flow lever. Remove the shroud.
Note! The red and blue pillars identify the correct hot and cold inlets for the cartridge.
- 1.4 Remove the four cartridge retaining screws.
- 1.5 Pull out the cartridge. **Do not remove the metal plate from the cartridge assembly.** Any residual water will drain from the body.

Caution! Take care not to damage the two inlet seals or the large cartridge seal.
- 1.6 Rotate the cartridge through half a turn (180°) and insert it back into the shower control body. **The blue pillar should now be on the left side of the shower control.** When re-inserting the cartridge, make sure that the large cartridge seal is **first located** in the shower control body.
- 1.7 Fit the four screws that retain the cartridge.
- 1.8 Refit the shroud.
- 1.9 Refit the controls. Refer to section: **Control Assembly Fitting Instructions.**
- 1.10 Restore the hot and cold water supplies and check for any leaks.



COMMISSIONING

1. Maximum temperature setting

All Mira Excel shower controls are fully performance tested and the maximum temperature has been set under ideal installation conditions at the factory. The temperature stop is set to 41 °C and depressing the override will increase the temperature by 5 °C to approximately 46 °C. 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. **Do not depress the override button.**

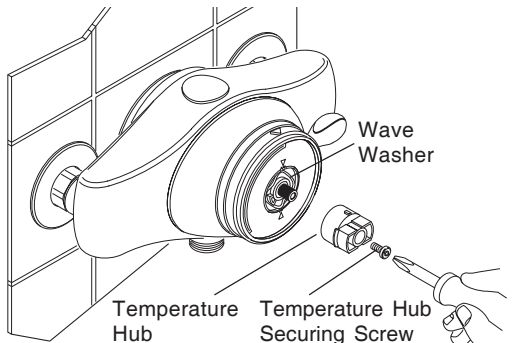
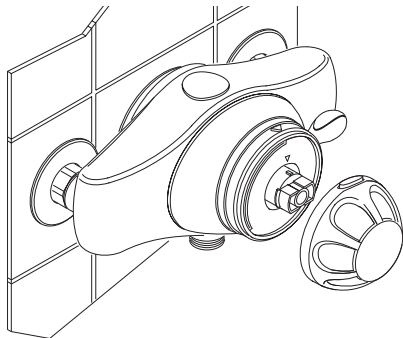
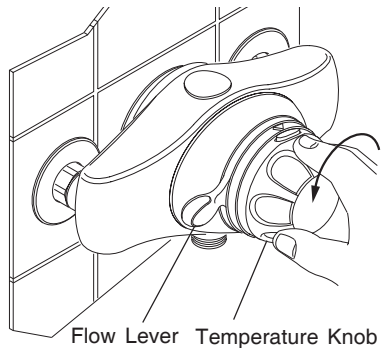
1.2 Adjust the flow control to give a typical shower force and allow the temperature to stabilise.

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.

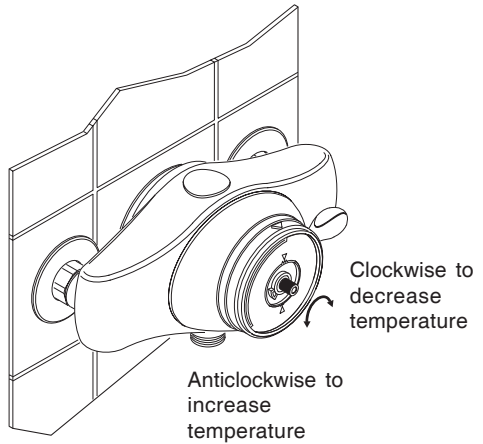
1.4 Turn the shower off and carefully pull off the temperature knob.

1.5 Remove the temperature hub securing screw.

1.6 Carefully remove the temperature hub. Make sure that the wave washer remains in position.



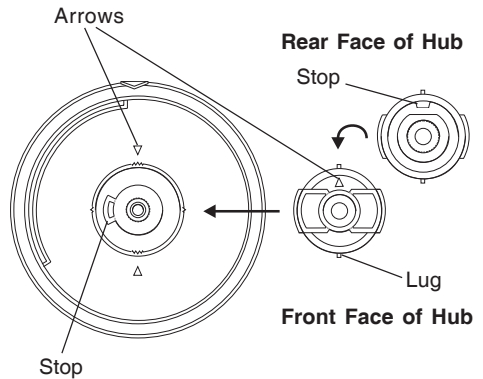
1.7 Turn the shower on. Rotate the temperature spindle until the required temperature is obtained. Turn the temperature spindle anticlockwise to increase the temperature or clockwise to decrease the temperature. If resistance is felt **DO NOT USE FORCE** to rotate the spindle as this is the **maximum obtainable temperature** from the shower control with the available hot water supply temperature. **FORCE** will **DAMAGE** the internal components of the cartridge assembly.



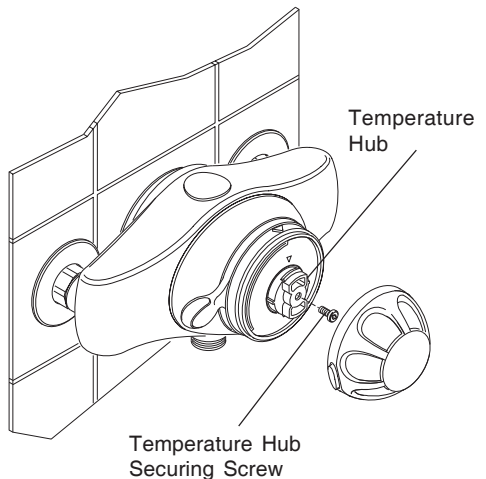
Note! It may be easier to put the hub back onto the spindle to enable you to turn it.

1.8 Turn off the shower.

1.9 Refit the temperature hub so that the two small lugs on its front, align with the arrows on the top and bottom on the temperature indicator trim as shown, ensuring that the stop on the rear of the hub is at the 12 O'clock position.



1.10 Rotate the temperature hub clockwise approximately 90 degrees as shown and refit the securing screw and the temperature knob. Check that the temperature knob can be rotated fully in both directions, approximately 3/4 of a full turn (i.e. full cold to hot set temperature).



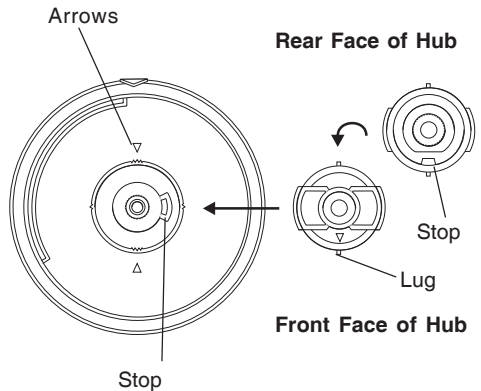
1.11 Turn the shower on. Check the temperature is correct and the override functions correctly. If necessary repeat the procedure until the correct temperature is achieved.

2. Maximum Temperature Settings for Reversed Inlet Connections

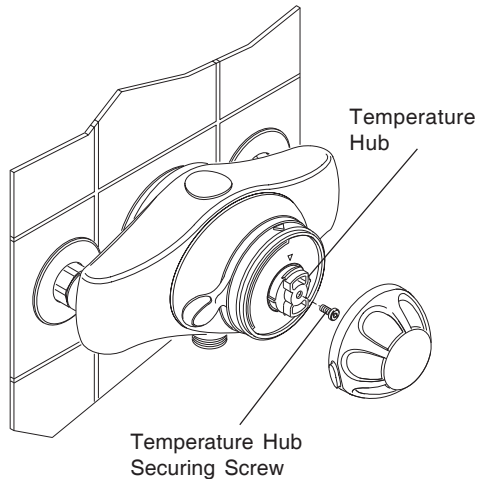
Refer to section: **Commisioning, 1. Maximum temperature setting**, sections 1.1 to 1.8 for the initial setting.

2.1 Refit the temperature hub so that the two small lugs on the front, align with the arrows on the top and bottom on the temperature indicator trim, ensuring that the stop on the rear of the hub is at the 6 O'clock position.

2.2 Rotate the temperature hub clockwise approximately 90 degrees as shown and refit the securing screw and the temperature knob. Check that the temperature knob can be rotated fully in both directions, approximately 3/4 of a full turn (i.e. full cold to hot set temperature).



2.3 Turn the shower on. Check the temperature is correct and the override functions correctly. If necessary repeat the procedure until the correct temperature is achieved.



3. Temperature override button - disable

The Excel incorporates a temperature override button that allows the user to override the preset maximum temperature. The following procedure can be used to disable the override button, limiting the maximum temperature available to the preset value. This setting is recommended for the young, the elderly, the infirm, or anyone inexperienced in the correct operation of the controls.

3.1 Carefully pull off the temperature knob.

3.2 Unclip the concealed end of the override button from the temperature indicator trim and carefully remove the override button.

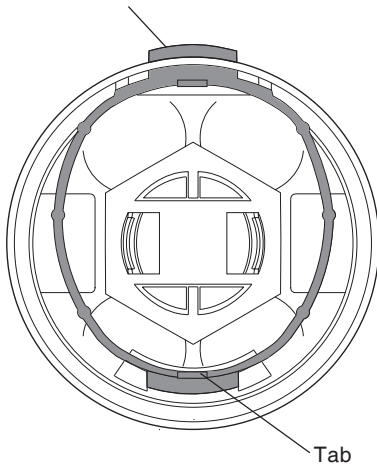
Note! Using the tab will help with the removal of the override button.

3.3 Rotate the override button through half a turn (180°) and refit. Make sure that the override button locates correctly in the temperature knob.

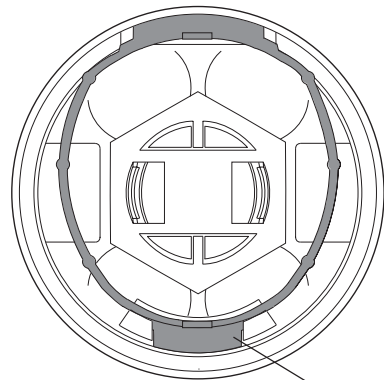
3.4 Refit the temperature knob with the scale adjacent to the indicator on the indicator trim.

3.5 Reversing the above procedure will enable the override button.

Override Button
(in enabled position)



View from the rear of the temperature knob



View from the rear of the temperature knob

OPERATION

1. Excel and Excel B

The Excel incorporates a temperature override button that allows the user to override the preset maximum temperature. It is recommended that this facility is disabled for the young, the elderly and the infirm, or anyone inexperienced in the correct operation of the controls. Refer to Section: **Commissioning, 3. Temperature override button - disable.**

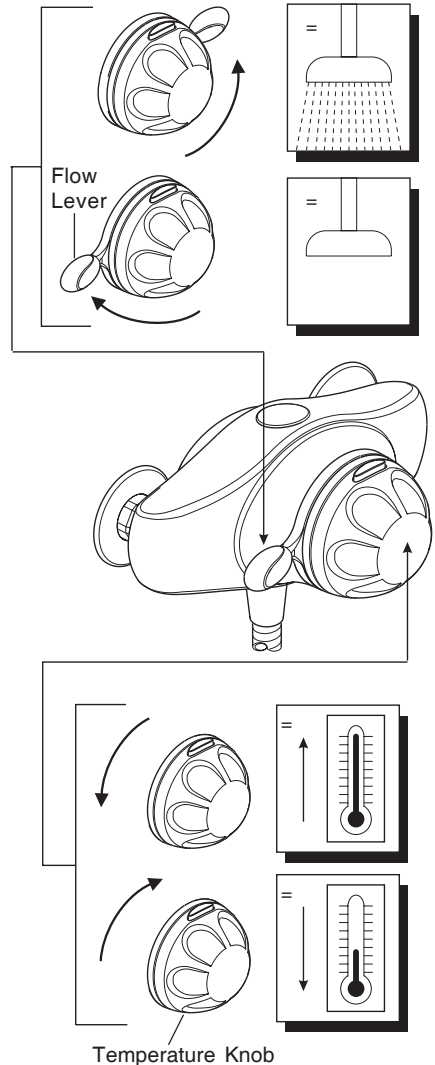
- 1.1** Turn the flow lever anticlockwise until the desired force of water is obtained.

Note! When the Excel 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 make sure 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 section: **Commissioning, 1. Maximum temperature setting"**.

Warning! Operation of the override button will allow a shower temperature above the preset maximum.

- 1.3** To override the preset maximum temperature depress the override button and turn the temperature knob anticlockwise.



FAULT DIAGNOSIS

1. Fault diagnosis

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

Provided that 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 make sure that the underlying cause of the malfunction has been identified.

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.	✓	✓	✓

Malfunction	Cause	Remedy	A	B	C
	<p>Other hot or cold draw off being used causing wide pressure changes or instantaneous boiler temperature changes.</p> <p>Supply pressures unequal.</p>	<p>Do not use other outlets whilst showering.</p> <p>Refer to Section 6, Installation Requirements.</p>	✓		
<p>Drip from handset spray plate assembly or bir spray plate</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 lever 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 Section 10, Commissioning: "Maximum Temperature Setting".</p>	✓	✓	✓

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.	✓	✓	✓
	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 lever 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.	✓	✓	

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.	✓	✓	
Excel noisy during operation.	Unbalanced inlet supply pressures.	Balance Excel 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 Section 9, Reversed Inlet Connections.	✓	✓	✓
	Inlet strainer blocked.	Clean or renew.	✓	✓	✓
Unable to turn off flow. Unable to rotate flow knob.	Control knobs fitted incorrectly.	Refer to Section 8, Control Assembly Fitting Instructions.	✓	✓	✓

MAINTENANCE

The Mira Excel is designed to be maintenance free, as such there are no serviceable parts in the cartridge. However regular cleaning will keep the shower in pristine condition, refer to **1. Cleaning**. Strainers are fitted to the inlets of the mixer to protect the cartridge and will give many years of trouble free showering. Strainers should be checked at yearly intervals and cleaned or replaced to maintain optimum shower performance. Refer to **3. Cartridge assembly 'O' seals/inlet strainers - renewal**.

1. Cleaning

Many household cleaners contain abrasive 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

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

- 2.1** Refer to section: **Reversed Inlet Connections** and follow the instructions to remove the cartridge assembly. Note the orientation of the red and blue pillars on the cartridge assembly that identify the hot and cold inlets. Normally the red pillar 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 sections: **Reversed Inlet Connections** and **Commissioning**. Follow the instructions to complete the installation of the new the cartridge assembly.

3. Cartridge assembly 'O' seals/inlet strainers - renewal

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

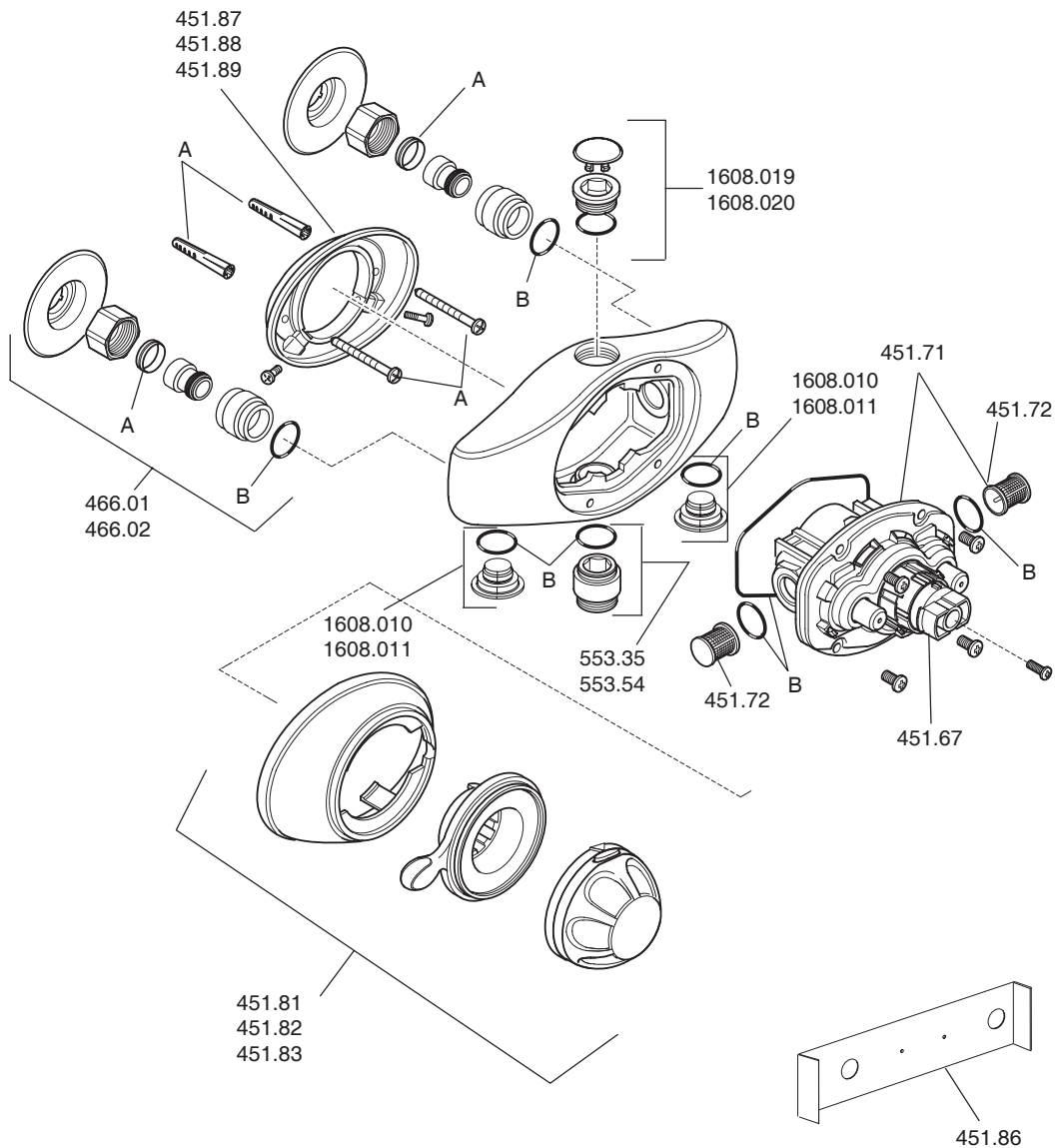
- 3.1** Refer to section: **Reversed Inlet Connections**. Follow the instructions to remove the cartridge assembly. Note the orientation of the red and blue pillars on the cartridge assembly that identify the hot and cold inlets. Normally the red pillar will be on the left unless the cartridge assembly has been rotated for reversed supplies.
- 3.2** Renew the 'O' seals as necessary.
- 3.3** Use a suitable tool to remove the inlet strainers and clean or renew as necessary. The inlet strainers must be fitted squarely and flush in the valve body. If necessary, flush the supply pipework to remove any residual debris.
- 3.4** Insert the cartridge assembly into the shower control body.
- 3.5** Refer to section: **Reversed Inlet Connections** and follow the instructions to complete the installation of the cartridge assembly.

SPARE PARTS

1. Excel spare parts list

451.67	Hub Pack
451.71	Cartridge Assembly/Inlet Filters
451.72	Inlet Filters
451.74	Component Pack - components identified 'A'
451.76	Seal Pack - components identified 'B'
451.77	Screw Pack - not illustrated
451.81	Temperature Knob/Flow Lever Assembly - chrome
451.82	Temperature Knob/Flow Lever Assembly - satin chrome
451.83	Temperature Knob/Flow Lever Assembly - white/gold
451.86	Installation Template
451.87	Backplate - white
451.88	Backplate - chrome
451.89	Backplate - satin chrome
553.35	Outlet Nipple - chrome
553.54	Outlet Nipple - light golden
466.01	Compression Fitting Kit - chrome
466.02	Compression Fitting Kit - light golden
1608.010	Blank Plug Pack - chrome
1608.011	Blank Plug Pack - gold
1608.019	Outlet Blank Plug - chrome
1608.020	Outlet Blank Plug - gold

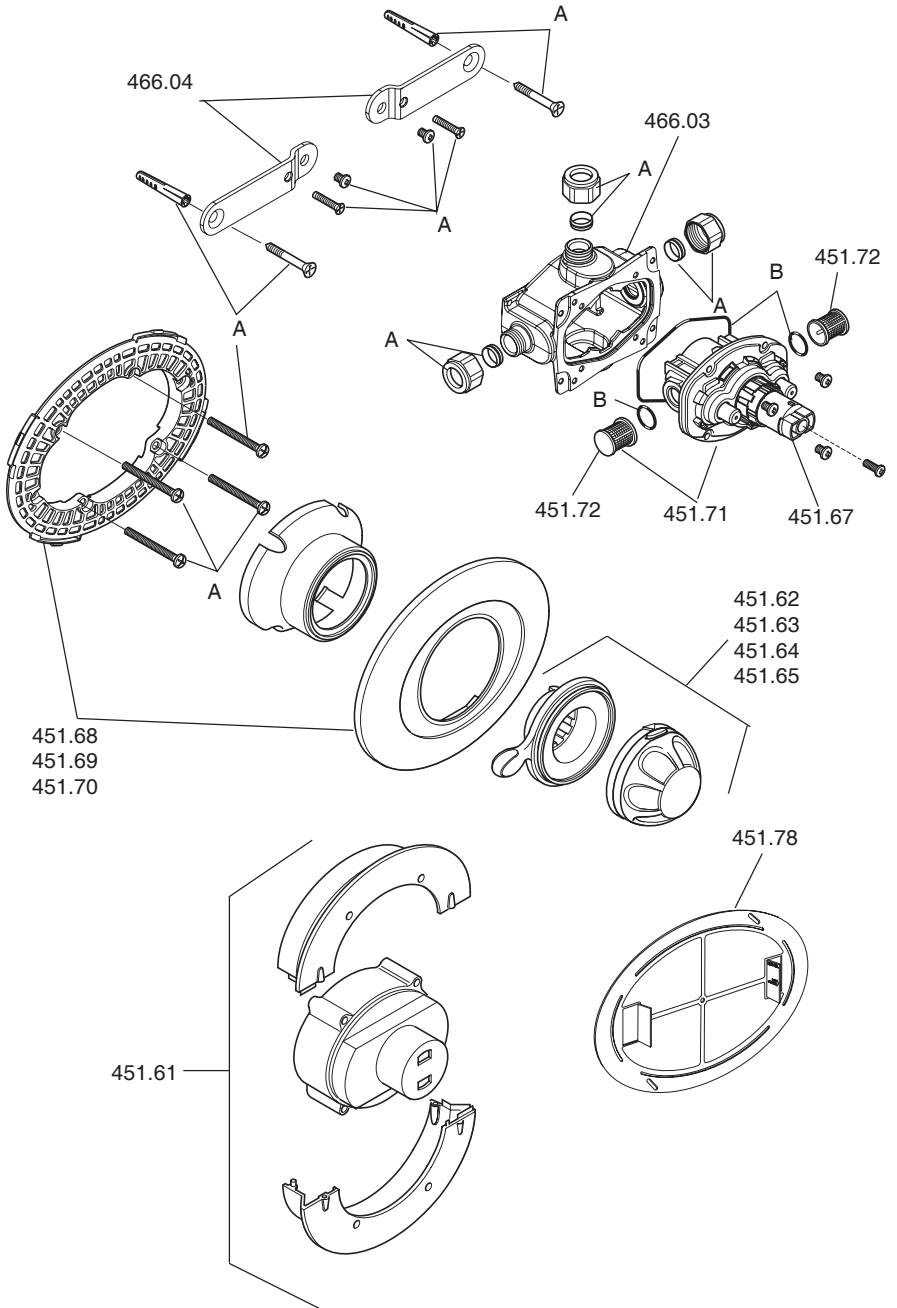
2. Excel spare parts diagram



3. Excel B spare parts list

451.61	Building-in Shroud
451.62	Temperature Knob/Flow Lever Assembly - white
451.63	Temperature Knob/Flow Lever Assembly - chrome
451.64	Temperature Knob/Flow Lever Assembly - satin chrome
451.65	Temperature Knob/Flow Lever Assembly - white/gold
451.67	Hub Pack
451.68	Concealing Plate - white
451.69	Concealing Plate - chrome
451.70	Concealing Plate - gold
451.71	Cartridge Assembly/Filters
451.72	Inlet Filters
451.73	Component Pack - components identified 'A'
451.76	Seal Pack - components identified 'B'
451.77	Screw Pack - not illustrated
451.78	Installation Template
466.03	Body
466.04	Support Bracket

4. Excel 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 in Northern Ireland and Republic of Ireland.

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 person not authorised by Mira Showers or our approved agents.

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

Before using your shower

Please take the time to read and understand the operating and safety instructions detailed in this manual.

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 who will give every assistance, and if necessary arrange for our service engineer to visit.

If later the performance of your shower declines, consult this manual to see whether simple home maintenance is required. Please call our Customer Services to talk the difficulty through, request 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 have functional parts available for ten years from the date of final manufacture of the product.

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.

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 spares, and a 12 month guarantee on the repair.

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

To contact us

England, Scotland & Wales

Mira Showers Customer Services

Telephone: 0870 241 0888

8:30 am to 5:00 pm Working days (4:30 pm Friday)

8:30 am to 12.30 pm Saturday

E-mail: technical@mirashowers.com

Fax: 01242 282595

By Post: Cromwell Road
Cheltenham
Gloucestershire
GL52 5EP

Northern Ireland

Wm H Leech & Son Ltd

Telephone: 028 9044 9257 – Mon to Fri 9 am-5pm

Fax: 028 9044 9234

Post: Maryland Industrial Estate

Ballygowan Road

Moneyreagh, Co Down

BT23 6BL

Republic of Ireland

Modern Plant Ltd

Telephone: 01 4591344 – Mon to Fri 9am to 5pm

Fax: Dublin 01 4592329

Post: Otter House

Naas Road

Clondalkin

Dublin 22

Mira Showers

Kohler Mira Ltd
Cromwell Road,
Cheltenham GL52 5EP.

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