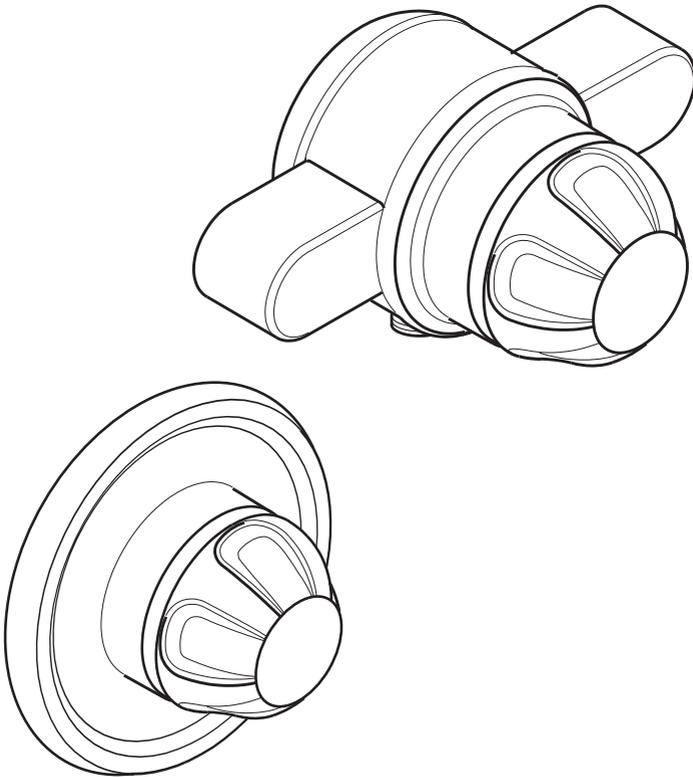


mira
Combiforce
415



PRESSURE BALANCING

MIXING VALVE

Installation and 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 CombiForce 415 is a pressure balanced shower control which maintains a constant **outlet temperature** irrespective of changes in **inlet pressures** as long as the **inlet water temperatures** remain the same. Therefore, inlet water temperatures and pressures especially the hot, should be relatively constant in order to maintain a stable showering temperature.

The Mira CombiForce 415 can be installed with the following packages:

- Fully modulating multipoint gas water heaters.
- Fully modulating combination boilers.
- Unvented mains pressure systems.
- Mains pressurised, instantaneous hot water heated from thermal store, systems.
- Pumped systems.

Showering temperature is adjusted by the shower control. The flow rate is determined by the supply pressures available at the inlets, and the output rating of the heater appliance.

Shower controls covered by this guide:

Mira CombiForce 415

Surface mounted pressure balanced shower control for connection to **exposed pipework**, for **high pressure** applications (**1.0 – 5.0 bar**). Available in white/chrome, white/light golden or all chrome finish.

Mira CombiForce 415B

Built-in shower control for connection to **concealed pipework**, for **high pressure** applications (**1.0 – 5.0 bar**). Available in white, white/chrome, white/light golden 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.

Guarantee

For domestic installations, Mira Showers guarantee the Mira Combiforce 415 against any defect in materials or workmanship for a period of **one** year from the date of purchase (shower fittings for one year).

For non-domestic installations, Mira Showers guarantee the Mira Combiforce 415 against any defect in materials or workmanship for a period of **one** year from the date of purchase.

For terms and conditions refer to the back cover of this guide.

Recommended Usage

| Application | Valve only | Valve with Fittings |
|------------------|------------|---------------------|
| Domestic | ✓ | ✓ |
| Light Commercial | ✓ | ✓ |
| Heavy Commercial | ✓ | ✗ |

SAFETY : WARNINGS

This Combiforce 415 Pressure Balanced Shower Control is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

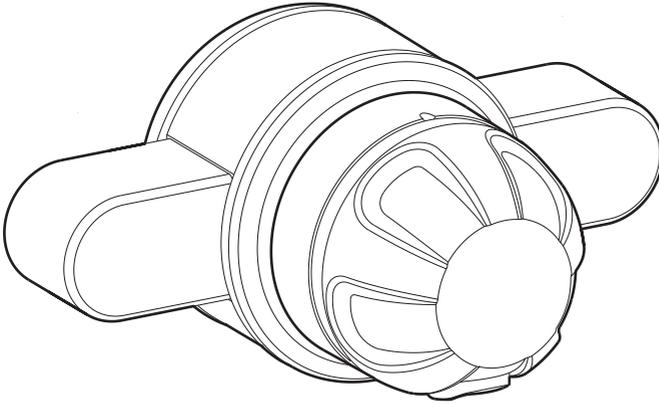
Caution!

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 it's serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

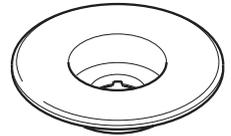
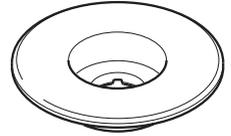
PACK CONTENTS CHECKLIST

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

1. Mira CombiForce 415 Surface Mounted Shower Control



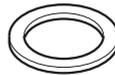
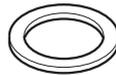
1 x CombiForce 415 Shower Control



2 x Pipe Concealing Plates



2 x 1/2" BSP Inlet Connector Nipples



2 x Fibre Gaskets



2 x Olives



2 x Compression Nuts



1 x Outlet Nipple



1 x 2.5 mm A/F
Hexagon Wrench



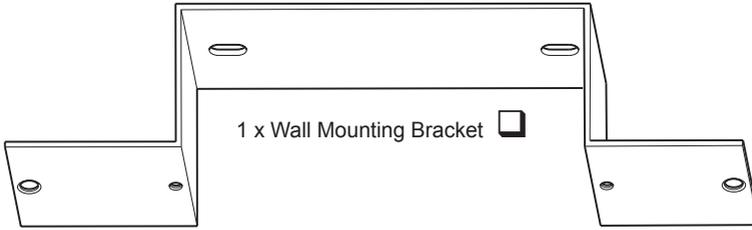
2 x 1 3/4" Fixing Screws

2 x Wallplugs



1 x 'O' Seal

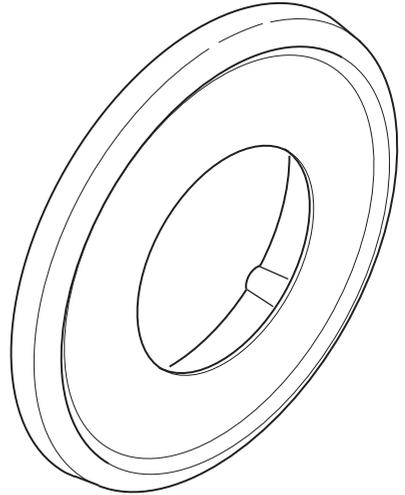
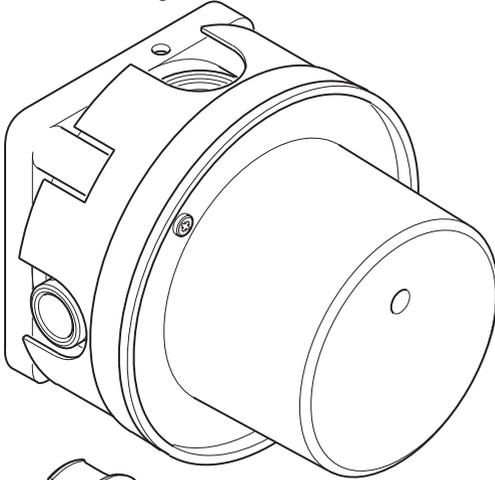
2. Mira CombiForce 415B Built-in Shower Control



1 x Wall Mounting Bracket

1 x CombiForce 415 Shower
Control with Building-in Shroud

1 x Concealing Plate, Circular Mounting
Bracket and Foam Seal



1 x Control
Knob Cap

1 x Outlet Nipple

2 x M4 x 16 mm Screws

3 x Compression Nuts



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



1 x 2.5 mm A/F
Hexagon Wrench



2 x Wallplugs



3 x Olives



1 x 'O' Seal



2 x M4 x 30 mm Screws



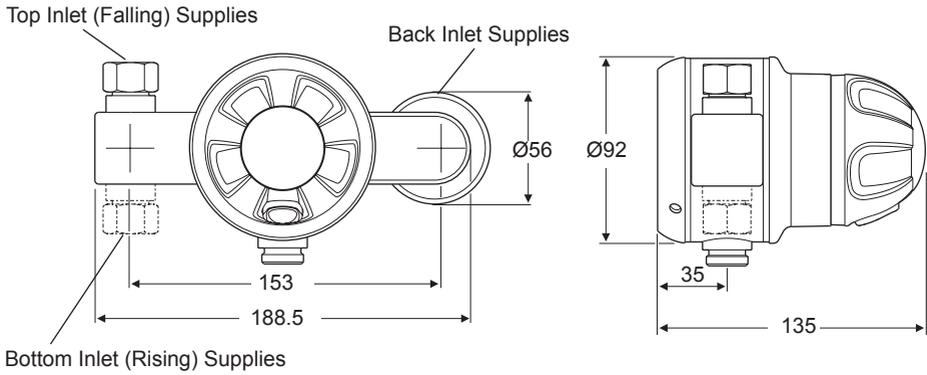
1 x Foam Seal

3. Documentation

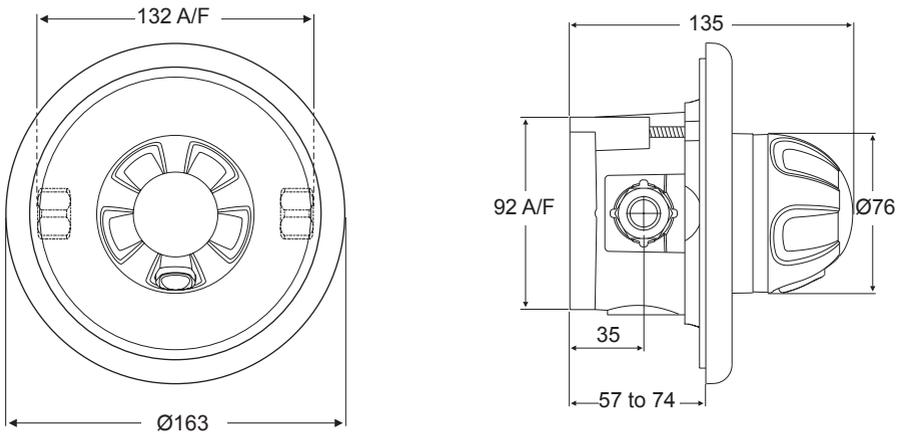
1 x Installation and User Guide

1 x Customer Support Brochure

DIMENSIONS



Mira CombiForce 415



Mira CombiForce 415B

All dimensions are nominal and in millimetres

SPECIFICATIONS

Mira CombiForce 415 and 415B

Pressures

Minimum maintained pressure: **1 bar**

Maximum maintained pressure: **5 bar**

Maximum static pressure: **10 bar**

Note! For optimum performance, the initial supply pressures should be nominally equal.

Temperatures

Hot and cold water supply temperatures **MUST** remain relatively constant.

Maximum hot water temperature: **85 °C**

Ideally the hot water temperature should never exceed 65 °C. A water temperature of 60 °C is considered sufficient to meet all normal requirements and will minimize the deposition of scale in hard water areas.

Connections

Inlet

15 mm Compression or 1/2" BSP male (**CombiForce 415**).

15 mm Compression (**CombiForce 415B**).

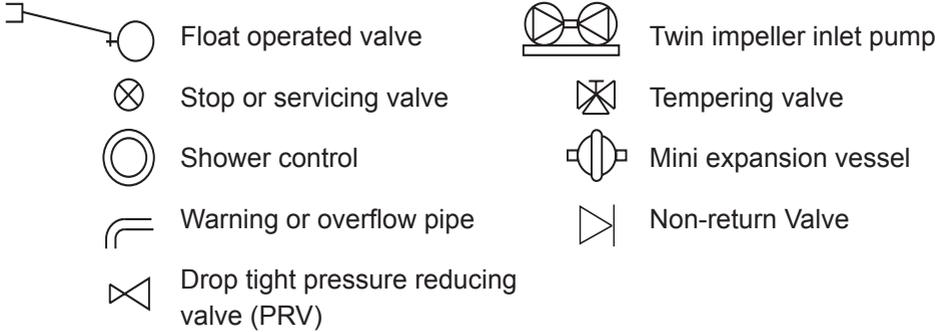
Outlet

1/2" BSP male (**CombiForce 415**).

15 mm Compression or 1/2" BSP male (**CombiForce 415B**).

INSTALLATION REQUIREMENTS

Key to symbols

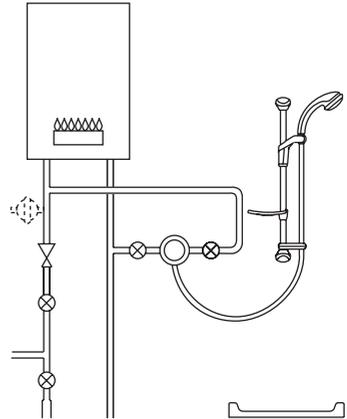


Note! The Shower Control is compatible with the following installations.

Gas heated system

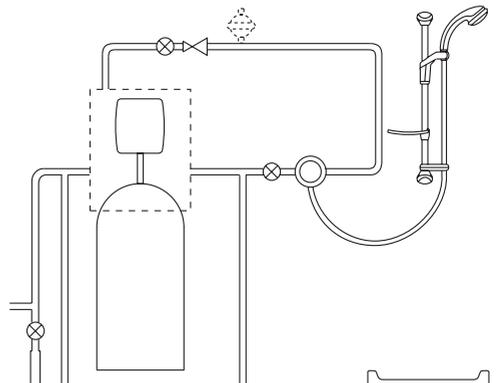
The shower **MUST** be installed with a gas water heater or combination boiler of a **fully modulating** design.

Note! Flow regulator recommended to be installed. However, it is possible following installation of a flow regulator that the flow rate is reduced too much for the boiler to ignite. If this is the case remove the flow regulator.



Unvented mains pressure system

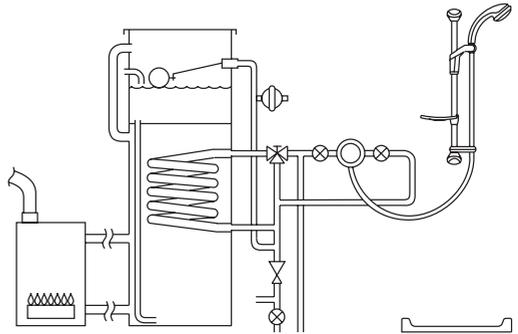
The shower can be installed with a unvented, stored hot water cylinder.



Mains pressurised instantaneous hot water system (thermal store)

The shower can be installed with systems of this type with balanced pressures.

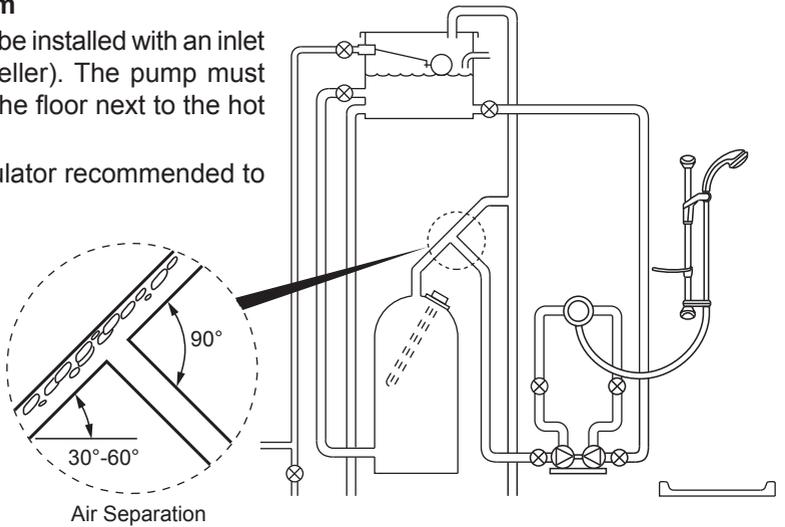
Note! Flow regulator recommended to be installed.



Pumped system

The shower can be installed with an inlet pump (twin impeller). The pump must be installed on the floor next to the hot water cylinder.

Note! Flow regulator recommended to be installed.



Measuring System Pressures

1. General

It is important that the system pressures are within the range specified for the Mira CombiForce 415 (refer to section: '**Specifications**').

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 make sure that water pressures do not drop below or exceed the minimum/maximum required (refer to section: '**Specifications**').

2. To measure static pressure (refer to Illustration).

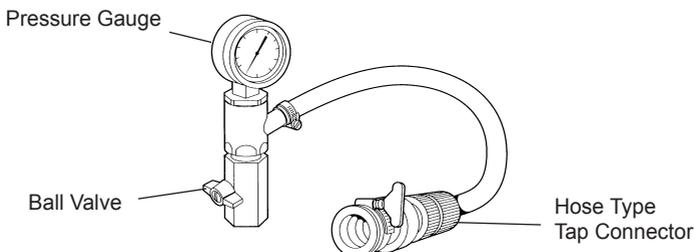
Connect the pressure testing device to a tap drawing from one of the proposed feed pipes. With the outlet from the device in the off position, turn on the tap and measure the static pressure.

3. To measure maintained pressure (refer to Illustration).

Connect the pressure testing device as above, turn on the taps and the outlet from the device, 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 draw-off being turned on when the shower is in use. Having checked the maintained pressure as above, 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 and should be above the minimum maintained pressure recommended by the manufacturer.



Pressure Testing Device

INSTALLATION

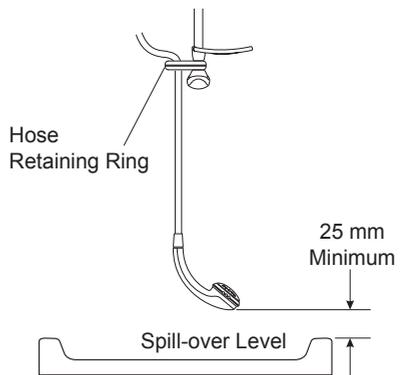
General

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

The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices, specified by the local water company or water undertakers.

1. **Caution!** The shower must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings (not supplied) may be required.
3. Isolating valves must be installed close to the Shower Control for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Supply pipework layout should be arranged to minimise the effect of other outlet usage upon the dynamic pressures at the valve inlets.
7. Inlet and outlet threaded joint connections should be made with PTFE tape or liquid sealant. Do not use oil-based, non-setting joint compounds.
8. To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before final connection.
9. All pipework must be checked for leaks before the product installation is completed. The product should be pressurised & the inlet & outlet connections inspected.
10. 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. For further information on the installation of your shower fittings, refer to the Fittings Installation and User Guide.

Note! No form of outlet flow control should be fitted, only use shower fittings recommended by the manufacturer or supplier.



11. Layout and sizing of pipework must be such that when other services are used, pressures at the shower control inlets do not fall below the recommended minimum (pressure balancing performance is impaired below 1 bar). When fitted with some heater appliances the minimum maintained pressure may be above 1 bar, refer to section: '**Commissioning, Multipoint gas water heaters or Combination boilers**'.

12. The Mira CombiForce 415 is **not suitable** for installation as part of a gravity-fed plumbing system (i.e. with a hot water cylinder and cold water storage cistern), unless used with an inlet pump producing a maintained pressure of at least 1 bar.
13. When used with a **fully modulating** multipoint or combination boiler **above 5 bar maintained pressure**, a pressure reducing valve will be necessary. For information on measuring system pressures refer to section: '**Installation Requirements, Measuring System Pressures**'. For further information on pressure reducing valves consult your local plumbing stockist.
14. 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).

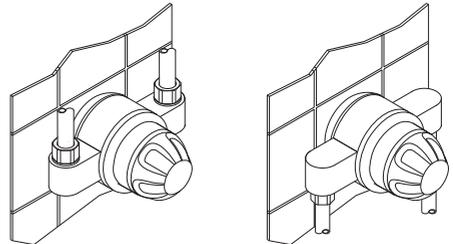
Mira CombiForce 415 Surface Mounted Shower Control

Note! The Mira CombiForce 415 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: 'Installation, Reversed Inlet Supplies'.

DO NOT overtighten grub screws as product damage may occur, use hexagonal wrench provided and hand tighten only, do not use power tools.

1. Rising or Falling Inlet Supplies

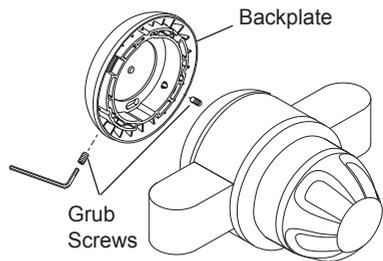
1.1 Determine whether the hot or cold water services will be connected to the shower control from the bottom (rising) or from the top (falling).



Falling Supplies

Rising Supplies

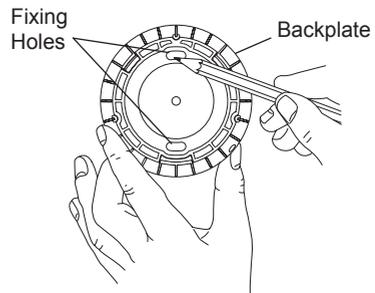
1.2 Loosen the two Grub Screws with the 2.5 mm hexagonal wrench (supplied) and remove the Backplate from the Shower Control.



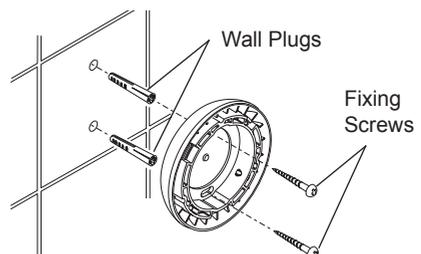
1.3 Mark the position of the two Backplate fixing holes on the finished wall surface using the Backplate as a template.

Note! Make sure that the two holes are vertical, as illustrated.

Warning! Make sure there are no buried cables or pipes in the wall before drilling.



1.4 For solid walls drill the Backplate holes with a 6 mm drill and fit the Wall Plugs (supplied). For other types of wall structure alternative fixings (not supplied) may be required.



1.5 Secure the Backplate to the Wall with the Fixing Screws (supplied).

1.6 Loosen the two Grub Screws that retain the Inlet Elbows, using the 2.5 mm hexagon wrench (supplied) and pull off the Inlet Elbows.

Note! Make sure that the 'O' Seal is correctly located on the smaller diameter shoulder of the brass inlet connector, and not in the 'V' groove.

1.7 Fit the Shower Control Body onto the Backplate and secure with the two recessed grub screws, using the 2.5 mm hexagon wrench (supplied).

1.8 Refit and secure the elbows in the required position, i.e. rising or falling supplies.

Note! Make sure that the Grub Screws locate into the 'V' groove.

1.9 Fit the Fibre Gasket against the shoulder of the Connector Nipple and screw into the Inlet Elbow. Make sure that the compression taper faces uppermost, and tighten using a 12 mm hexagon wrench (not supplied).

1.10 Fit the Compression Nut, Olive and pipework to the Inlet Connector Nipples.

Note! To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before final connection.

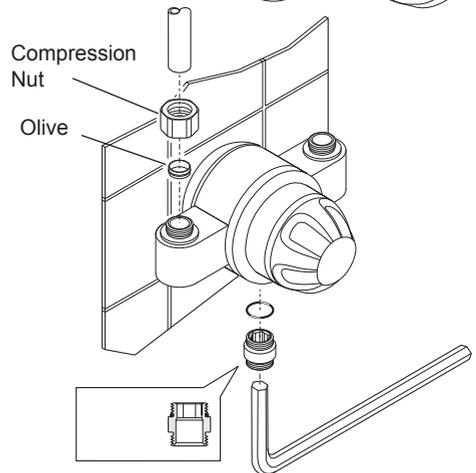
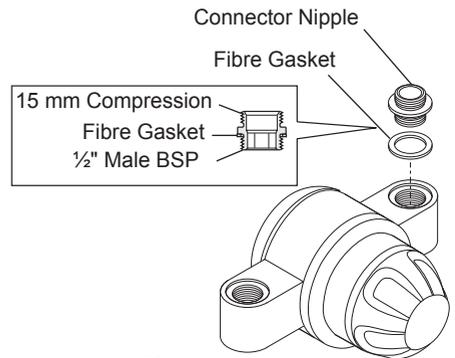
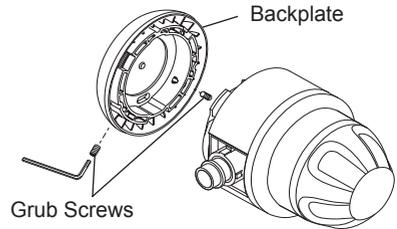
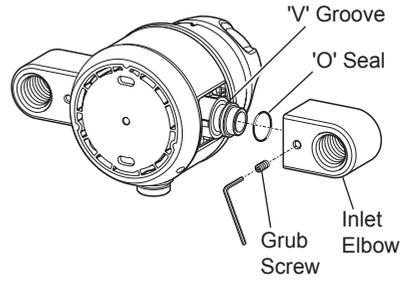
1.11 Tighten the Compression Nuts using a suitable spanner.

Caution! Use a cloth to protect the plated surfaces.

1.12 Turn on the water supplies and check for leaks.

1.13 Fit the 'O' seal to the tapered end of the outlet nipple and screw it into the shower control outlet using a 12 mm hexagon wrench (not supplied). This will leave the flat face for connection to the shower hose.

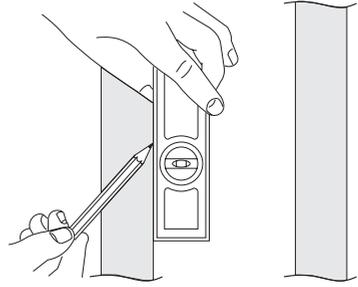
1.14 Refer to '**Commissioning**'.



2. Rear Inlet Supplies

2.1 Refer to section: '**Rising and Falling Inlet Supplies**' and follow instructions 1.2 to 1.5.

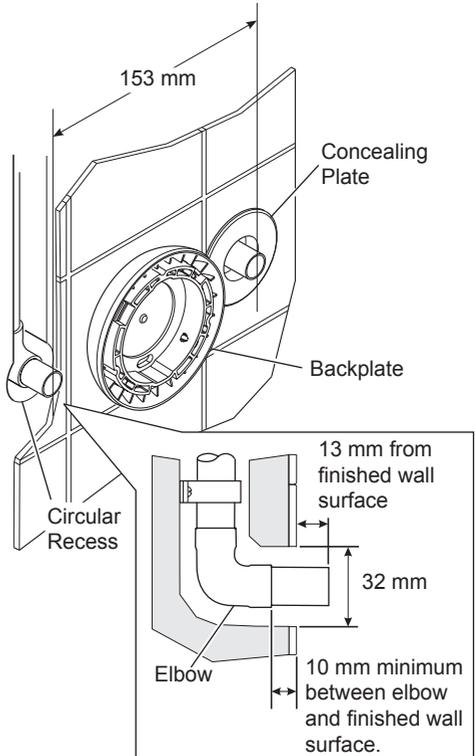
2.2 Using a spirit level, mark the route of incoming hot and cold water supply pipes at **153 mm** centres.



2.3 Remove the plaster and brickwork to the required depth to conceal the supply pipework.

Note! Depth must be sufficient to prevent pipe Concealing Plates fouling on the plumbing elbows.

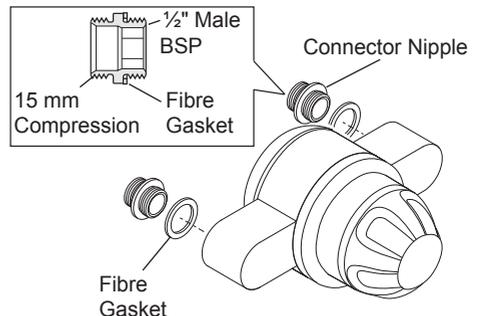
2.4 Install the hot and cold water supply pipework, make sure that the pipe ends emerge from the wall surface at **153 mm** centres, and project from the finished wall surface by **13 mm**. Allow for two circular recesses measuring **32 mm** diameter x **10 mm** depth, to allow for the two pipework Concealing Plates.



2.5 Finish the wall surface.

Fit the pipework concealing plates over hot and cold water supply pipework.

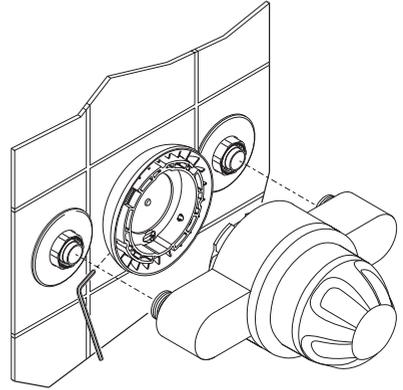
2.6 Fit the Fibre Gasket against the shoulder of the Connector Nipple and screw into the Inlet Elbow. Make sure that the compression taper faces uppermost, and tighten using a 12 mm hexagon wrench (not supplied).



2.7 Fit the Compression Nuts and Olives onto the pipework.

Note! To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before final connection.

2.8 Locate the Shower Control Body onto the Backplate and inlet supply pipework and secure with the two recessed grub screws, using the 2.5 mm hexagon wrench (supplied).

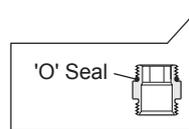
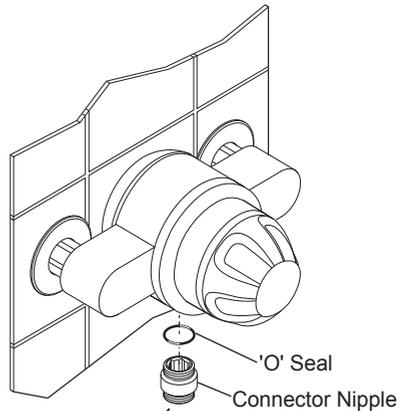


2.9 Tighten the Compression Nuts using a suitable spanner.

Caution! Use a cloth to protect the plated surfaces.

2.10 Turn on the water supplies and check for leaks.

2.11 Fit the 'O' seal to the tapered end of the outlet nipple and screw it into the shower control outlet using a 12 mm hexagon wrench (not supplied). This will leave the flat face for connection to the shower hose.



2.12 Refer to '**Commissioning**'.

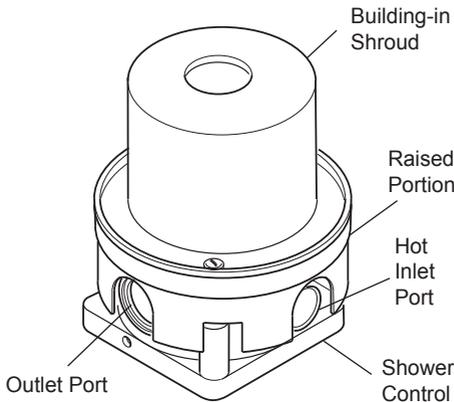
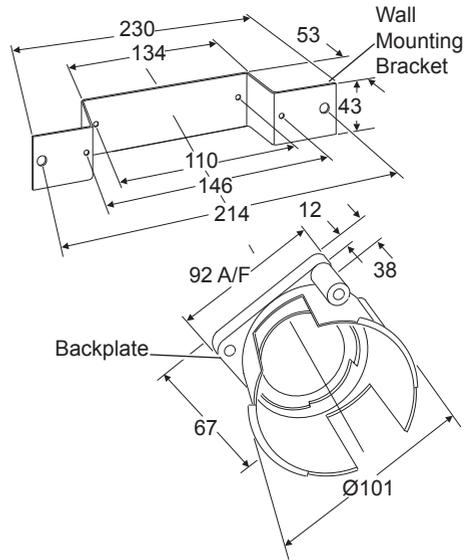
Mira CombiForce 415B Built-in Shower Control

The built-in shower control incorporates an integral wall mounting bracket assembly which can be used to install the shower into a solid, dry-lined, stud partition or dry partition wall structure, shower cubicle or laminated panel. 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 integral wall mounting bracket assembly 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 control knob will be visible through the concealing plate when the installation is completed.

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 supplied with a nipple terminating in a 1/2" BSP male or 15 mm compression fitting.



1. Solid, Dry-lined, Stud Partition or Dry Partition Wall Structures

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

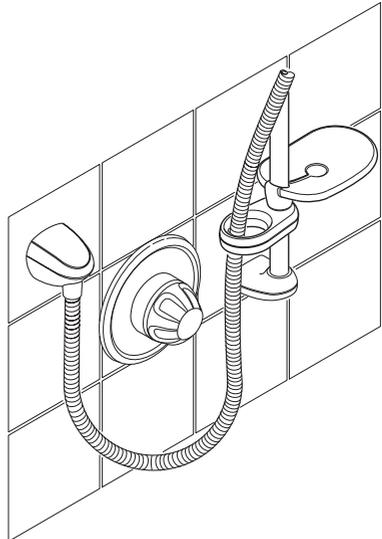
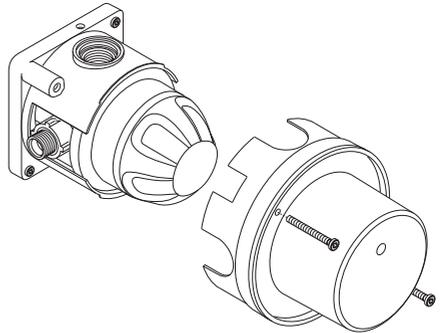
1.2 Remove the plastic building-in shroud. The two M5 x 50 mm building-in shroud retaining screws should be screwed temporarily into the base of the shower control for use later.

1.3 Familiarise yourself with the hot and cold water inlet ports and outlet port. The Mira CombiForce 415B is supplied with inlet connections **hot left, cold right** and **top outlet** as standard.

To change the position of the outlet, refer to section: '**Reversed Outlet Connection**' and complete instructions 1 to 8.

1.4 Determine the route for the inlet and outlet pipework.

Note! The outlet pipework to a flexible shower fitting is best positioned above and to one side of the shower control to prevent the hose from interfering with the Control Knob (refer to illustration).

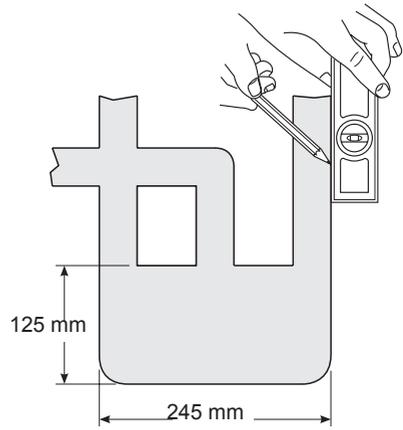


- 1.5** Mark the wall surface for an opening measuring approximately **245 mm x 125 mm**.

Mark the route of the incoming and outgoing pipework services.

Using the building-in shroud as a guide remove the plaster and brickwork/dry-lining to the required depth of concealment.

Note! The depth of concealment must be such that the final wall surface (e.g. plaster and tiles etc.) finishes on the raised portion of the plastic building-in shroud.



- 1.6** Mark the final position on the wall of the two larger outer diameter fixing holes in the flanges of the wall mounting bracket. This bracket must be fixed at 45°.

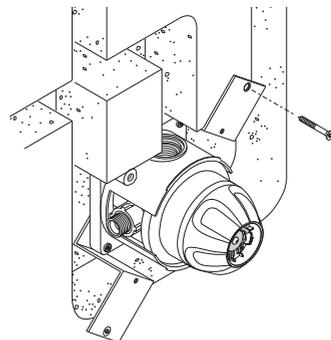
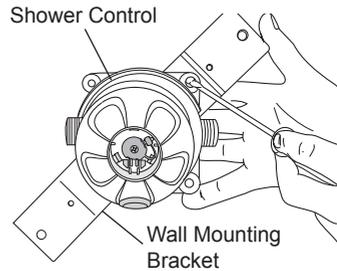
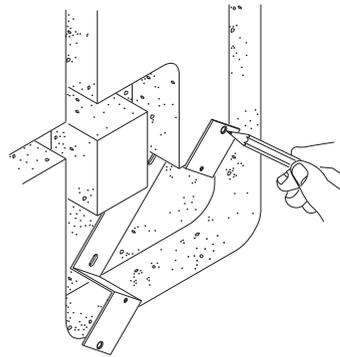
- 1.7** Drill and suitably plug the two marked fixing holes.

- 1.8 Thoroughly flush the incoming hot and cold water supply pipes before connecting the shower control.**

- 1.9** Fix the shower control to the wall mounting bracket using the two M4 x 16 mm screws provided.

- 1.10** Install the shower control aligning the two flange holes of the wall mounting bracket assembly with the pre-drilled fixing holes.

Secure the shower control with the two No. 8 x 1 1/4" fixing screws supplied.



1.11 Connect the incoming hot and cold water supply pipes.

1.12 Slide the compression nut, then the olive over the pipe end. If necessary, sparingly smear liquid jointing on the pipe end and the outside of the olive.

1.12 Insert the pipe end into the opening of the inlet connector then slide the olive and compression nut into place.

1.14 Finally, carefully tighten, clockwise, the compression nuts.

1.15 Connect the outlet pipe.

1.16 Place the 'O' seal and foam seal on to the nipple, as shown. Locate the hexagon towards the shower control outlet port. Screw the nipple, clockwise, into the outlet port using a 12 mm A/F hexagon wrench (not supplied).

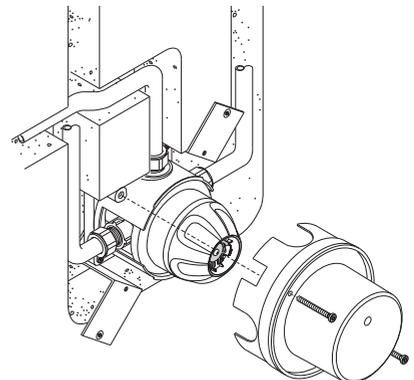
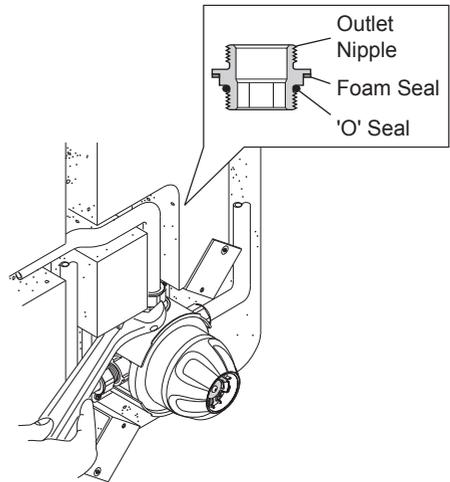
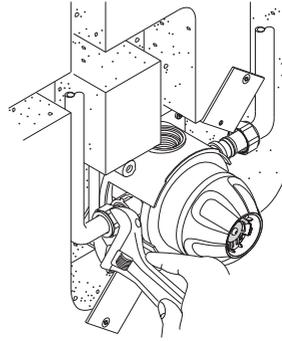
1.17 Slide the compression nut, then the olive, over the pipe end. If necessary, sparingly, smear liquid jointing on the pipe end.

1.18 Insert the pipe end into the opening of the outlet nipple then slide the olive and compression nut into place.

1.19 Finally, carefully tighten the compression nut.

Turn on the water supplies and check the pipework for any leaks!

1.20 Refit the plastic building-in shroud over the shower control and secure with the two M5 x 50 mm shroud retaining screws.



1.21 Plaster and tile up to the tapered sides of the plastic building-in shroud and, when set remove the shroud. The two M5 shroud retaining screws should be screwed temporarily into the base of the shower control for use later.

1.22 Push the control knob cap on to the shower control knob.

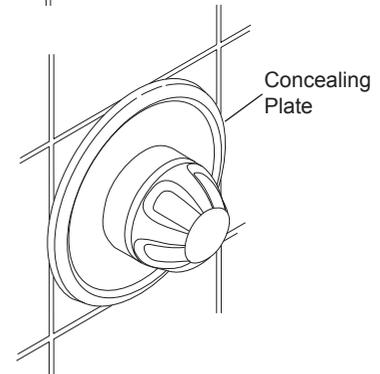
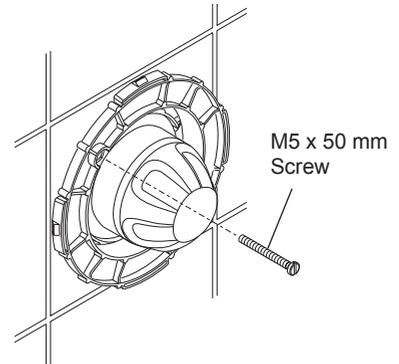
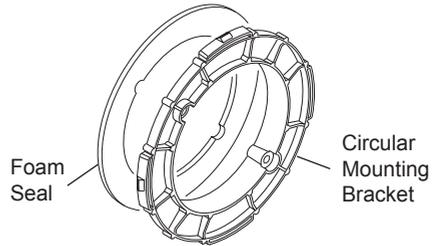
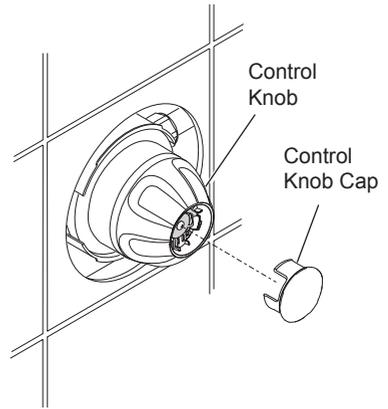
1.23 Fit the foam seal over the reverse side of the circular mounting bracket.

1.24 Fix the circular mounting bracket to the shower control body using the two M5 x 50 mm screws used to retain the plastic building-in shroud.

Note! The bracket has been designed with semicircular knock outs which may need to be relieved to accommodate the supply pipework under minimum building-in depth conditions.

1.25 Push the concealing plate firmly over the circular mounting bracket until it locates on the four clips.

1.26 This completes the installation of the **Mira CombiForce 415B** for installation into “**Solid, Dry-lined, Stud Partition or Dry Partition Wall Structures**”.



2. Shower Cubicle or Laminated Panel

The built-in shower control incorporates an integral wall mounting bracket assembly which can be used to install the shower into the front or back face of a shower cubicle or laminated panel.

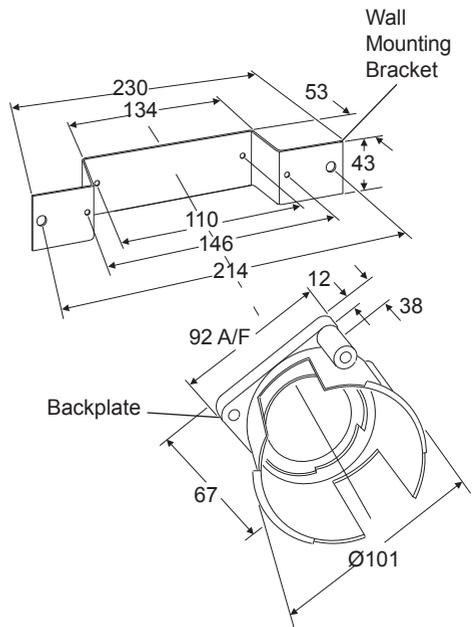
2.1 Installation on to the Front Face of a Shower Cubicle or Laminated Panel

Depending on the structure of the shower cubicle or laminated panel it may be possible to conceal the flanges of the integral wall mounting bracket assembly into the front face of the wall surface then cover over the fixings with plaster and tiles. The building-in depth for the integral wall mounting bracket assembly is **58 mm**. The thickness of plaster and tiles which conceal the integral wall mounting bracket assembly flanges must be between **6 and 23 mm**.

2.1.1 Follow the shower control installation procedure as for “**Solid, Dry-lined, Stud partition or Dry Partition Wall Structures**”: instructions 1.1 to 1.4 inclusive.

2.1.2 Cut a circular hole in the panel measuring **145 mm** in diameter.

2.1.3 Follow the shower control installation procedure as for “**Solid, Dry-lined, Stud Partition or Dry Partition Wall Structures**”: instructions 1.6 to 1.26 inclusive to complete the installation.



2.2 Installation onto the Back Face of a Shower Cubicle or Laminated Panel

The building-in depth for the integral wall mounting bracket assembly is **58 mm**. The integral wall mounting bracket assembly can be used to install the shower control into a shower cubicle or laminated panel of between **4** and **21 mm**. The building-in depth calculation must include the final thickness of plaster and tiles.

2.2.1 Follow the shower control installation procedure as for “**Solid, Dry-lined, Stud Partition or Dry Partition Wall Structures**”: **instructions 1.1 to 1.4** inclusive.

2.2.2 Cut a circular hole in the panel measuring **124 mm** in diameter.

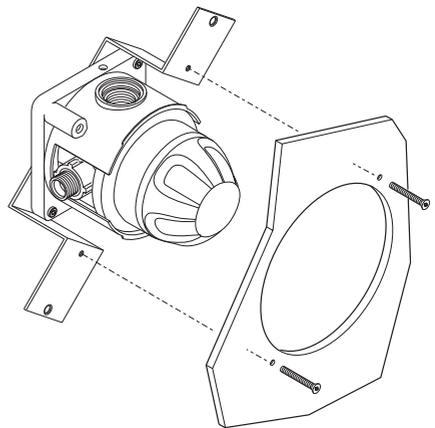
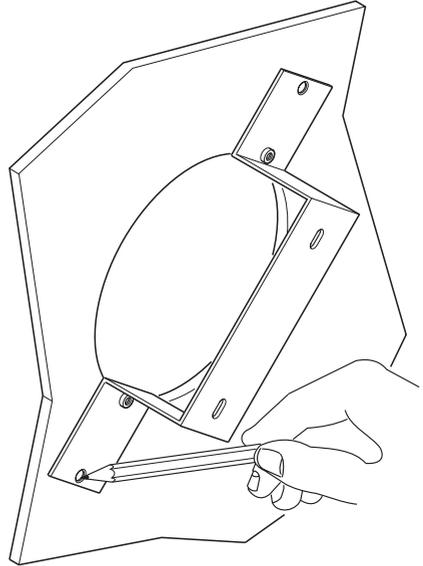
2.2.3 Using the wall mounting bracket as a template, mark the position of the two smaller diameter fixing holes on the flanges of the bracket. These should be at an angle of **45°**.

2.2.4 Drill the two fixing holes.

2.2.5 Fix the shower control to the wall mounting bracket using the two M4 x 16 mm screws provided.

2.2.6 Feed the shower control through the opening in the panel and fix to the panel with the two M4 x 30 mm fixing screws.

2.2.7 Follow the shower control installation procedure as for “**Solid, Dry-lined, Stud Partition or Dry Partition Wall Structures**”: **instructions 1.11 to 1.26** inclusive to complete the installation.

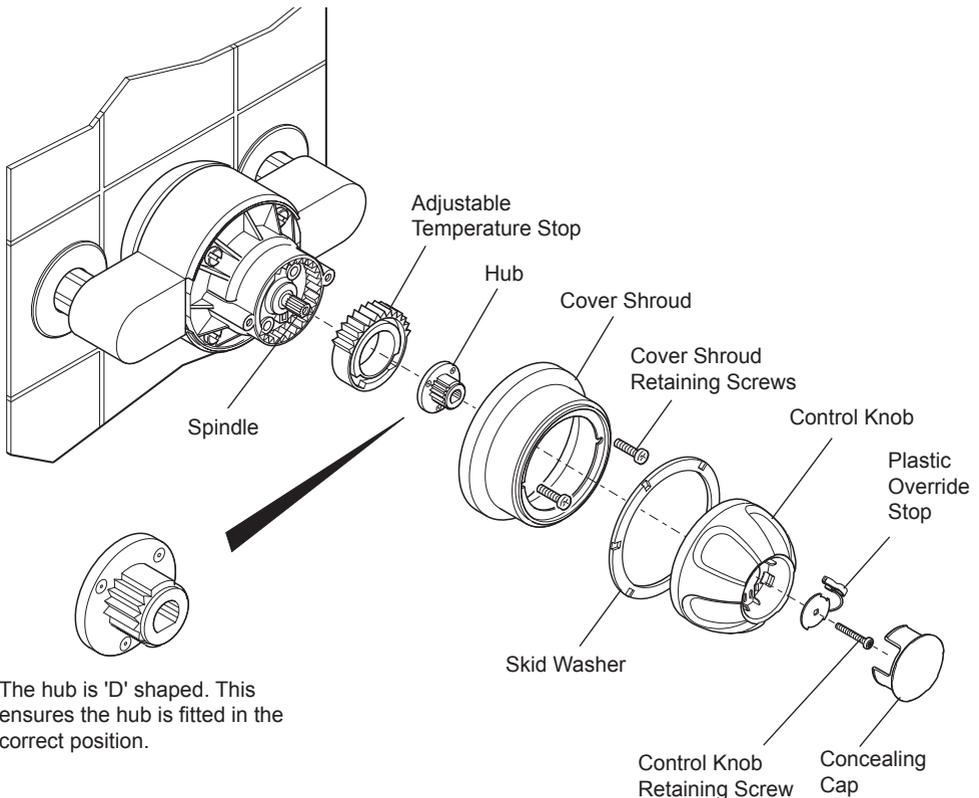


Reversed Outlet Connection

Mira CombiForce 415 shower controls are supplied with inlet connections **hot left, cold right** and **bottom outlet**. The Mira CombiForce 415B is supplied with inlet connections **hot left, cold right** and **top outlet** as **standard**.

To reverse the outlet position:

1. Rotate the shower control body through 180° and install the shower control.
2. Prise off the concealing cap, unscrew the control knob retaining screw and remove the temperature override stop and control knob.
3. Remove the D-shaped hub fitted to the spindle. Rotate the spindle one full turn (360°) and refit the hub.
4. Remove the adjustable temperature stop and turn over. Make sure that the **Max °C** with the indentations side is uppermost. Adjust the maximum temperature stop (refer to section: '**Commissioning**').
5. Refit the control knob assembly (with the override button at the bottom) and turn the knob fully clockwise to the shut off position.
6. This completes the procedure for "**Reversed Outlet Connection**".



Reversed Inlet Supplies

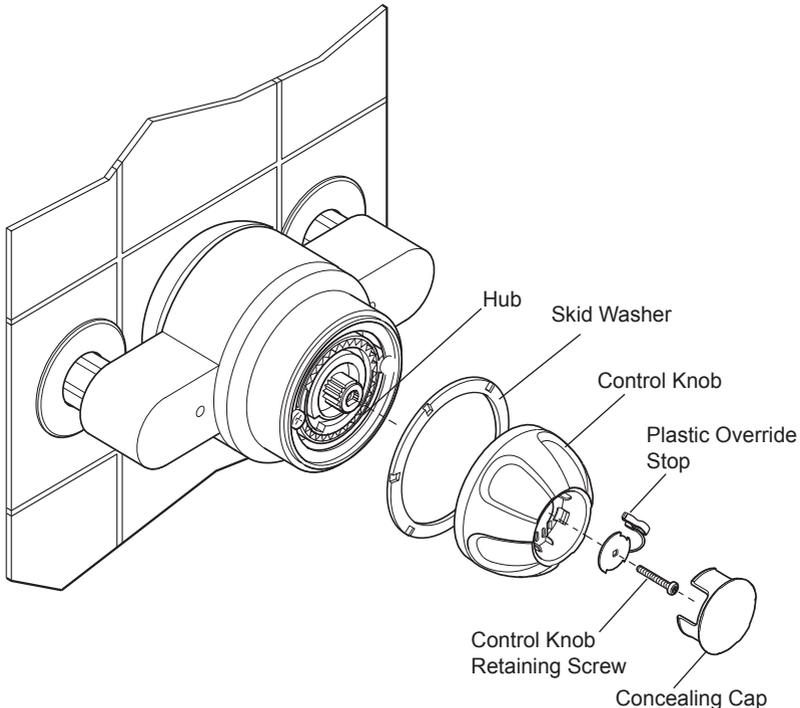
Mira CombiForce 415 shower controls are supplied with inlet connections **hot left, cold right** and **bottom outlet**. The Mira CombiForce 415B is supplied with inlet connections **hot left, cold right** and **top outlet** as **standard**.

Both shower controls are fitted with a single sequential control knob.

The shower control is turned off by turning the control knob fully clockwise. The correct sequence of operation is anticlockwise movement of the control knob followed by: Cold → Warm → Hot water. If the sequence is: Hot → Warm → Cold water, then the hot and cold water supplies have been reversed.

To correct reversed hot and cold inlet supplies proceed as follows:

1. Prise off the concealing cap, remove the control knob retaining screw/plastic temperature override stop and the control knob.
2. Remove the hub. Turn the spindle one full turn (360°). Refit the hub.
3. Refit the control knob, (with the override button at the bottom), the control knob retaining screw/plastic override stop and the concealing cap.
4. Check the maximum temperature. Adjust if necessary (refer to **Commissioning**).
5. Turn the knob fully clockwise to the shut off position.
6. This completes the procedure for "**Reversed Inlet Supplies**".



COMMISSIONING

All heater appliances **must have a fully modulating heat output for the domestic hot water**, to provide a constant temperature of hot water to the Mira CombiForce 415 shower control.

Multipoint Gas Water Heaters

These notes are based on a heater with an effective output power of 23.5 kW. Heaters with higher or lower effective output powers will proportionally affect the following information.

The Mira CombiForce 415 range does not compensate for water temperature changes.

1. Use the heater appliance on a “high” or “winter” setting only.
2. A minimum maintained water **supply** pressure of 1.5 bar is required to the water heater. This allows for a 0.5 bar pressure loss in the heater and ensures the maintained inlet pressure at the shower is above 1 bar.
3. The maintained water supply pressure should not exceed 5 bar. A pressure reducing valve will be needed for pressures over 5 bar to improve the system operation. It should be installed to reduce both the cold feed pressure to the heater and the cold feed pressure to the Mira CombiForce 415 to approximately 3.5 bar.

Additional benefits may be obtained by fitting the pressure reducing valve after the premises internal stop valve, drain valve and if fitted, outside tap. The valve should be correctly sized for the duty.

4. If the minimum modulating output of the heater appliance exceeds 14 kW with a reducing hot flow rate, then the maintained minimum supply pressure will need to be increased. This is to keep the flow rate through the heater sufficiently high in order to ensure that the gas flame stays ignited. An extinguished flame will produce a cold shower after a short period of time.

Combination Boilers

1. This information is based on a heater appliance fitted with an internal flow regulator rated at 10 l/min hot water.
2. Use the heater appliance on a “high” or “winter” setting only.
3. Should it not be possible to get a hot enough shower it may be necessary to fit a 9 l/min flow regulator (available from Kohler Mira Customer Services) between the shower control and hose to further reduce the flow. The “top hat” regulator should fit into the hose recess such that the black ‘O’ seal is visible before attaching the hose to the shower control.
4. A minimum maintained water **supply** pressure of 1.5 bar is required. This allows for a 0.5 bar pressure loss in the heater.

5. The maintained water supply pressure should not exceed 5 bar. A pressure reducing valve will be needed for pressures over 5 bar to improve the system operation. It should be installed to reduce both the cold feed pressure to the heater appliance and the cold feed pressure to the Mira CombiForce 415 to approximately 3.5 bar.
Additional benefits may be obtained by fitting the water pressure reducing valve after the premises internal stop valve, drain valve and if fitted, outside tap. The valve should be correctly sized for the duty.
6. The minimum maintained water supply pressure will need to be raised if the minimum heater output power is greater than 7.5 kW on a reducing flow with a hot temperature of 62.5°C.

Adjustable Maximum Temperature Setting

Mira CombiForce 415 shower controls are fully performance tested. The adjustable maximum temperature (maximum angular movement prior to override) has been preset under ideal installation conditions at the factory. Site conditions and personal preference may dictate that the maximum temperature needs to be reset.

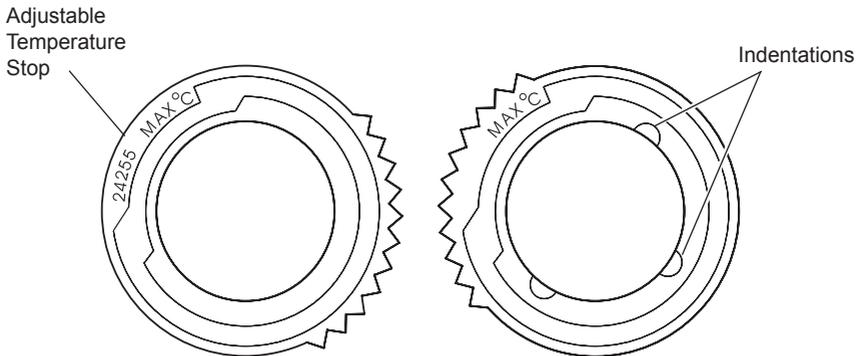
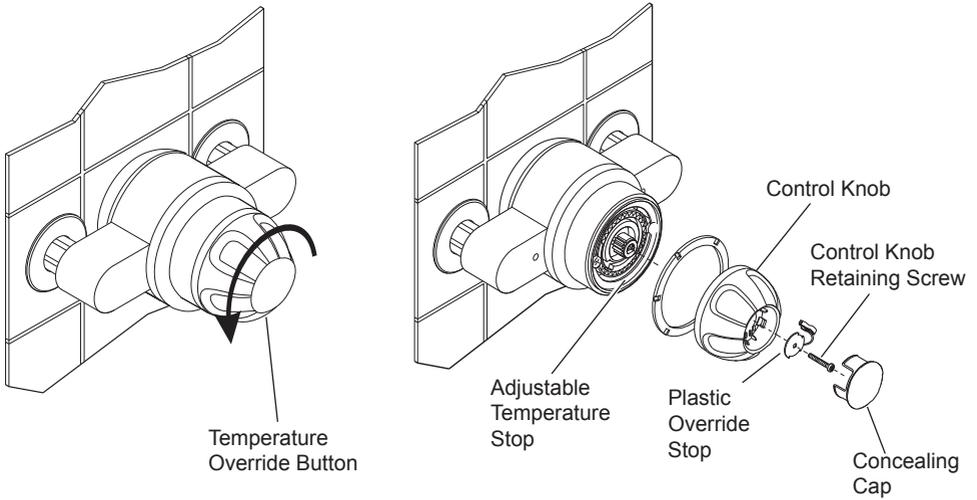
To reset the adjustable maximum temperature stop ensure that an adequate supply of hot water is available in excess of that required from the shower control. Turn the control knob fully anticlockwise. Check the temperature at the discharge point (allow hot water to reach the shower). If incorrect, adjust the temperature as follows:

1. Turn the control knob anticlockwise until the desired maximum temperature is achieved. It may be necessary to press the override button and continue to rotate anticlockwise, past the preset maximum temperature setting. Note the final position of the button, e.g. 11 O'clock.
2. Turn the control knob fully off.
3. Remove the concealing cap.
4. Remove the control knob retaining screw/plastic temperature override stop and pull off the control knob.
5. Locate the adjustable temperature stop (identified by a part number and a "MAX °C" symbol or a "MAX °C" symbol and component indentations).
Note! Ensure that the original face identified, is uppermost after adjustment.
6. With reference to the diagrams, carefully remove the adjustable temperature stop. Reposition the stop so that the "MAX °C" symbol is aligned with the noted button position, e.g. 11 O'clock.
7. To check the desired maximum temperature setting has been correctly set, refit the hub and control knob, turn fully anticlockwise and check the temperature of the water at the outlet. If still incorrect:

To **increase** the temperature, reposition the stop one serration **anticlockwise**.

To **decrease** the temperature, reposition the stop one serration **clockwise**.
Repeat the check as necessary.

8. Refit the control knob (with the override button at the bottom), control knob retaining screw and concealing cap. Make sure that the plastic override stop is correctly seated.
- Note!** Do not overtighten the control knob retaining screw. Internal components may be damaged if the screw is overtightened.
9. This completes the procedure for **Commissioning: "Adjustable Maximum Temperature Setting"**.

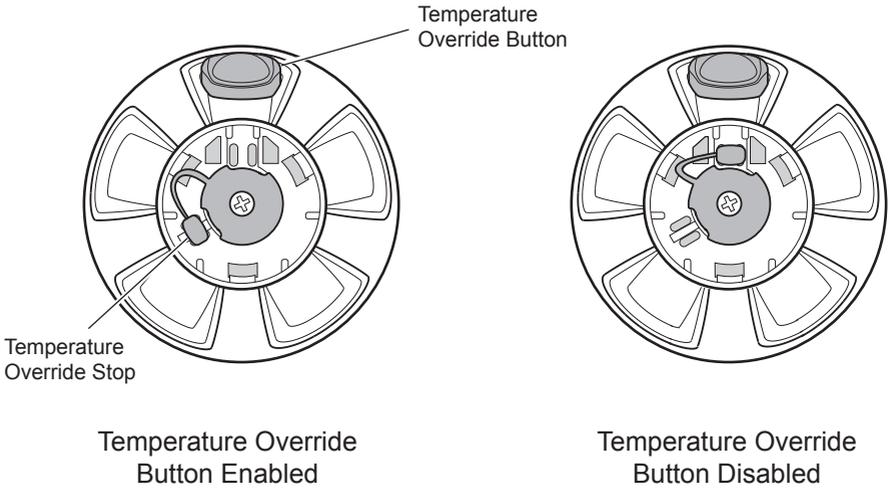


Temperature Override Button Disable

The Mira CombiForce 415 incorporates a safety feature which prevents the temperature override button from being depressed, enabling the user to access a higher shower temperature. The shower control is despatched from the factory with the button in the “enabled” position. The following sequence will allow the installer to “disable” the temperature override button if required.

Note! By disabling the Temperature Override the temperature control can be turned from FULL HOT to FULL COLD. As such, turning the control to full hot will deliver water at the hot water storage temperature.

1. Make sure that the shower control is turned off and remove the concealing cap.
2. Locate the plastic temperature override stop.
3. Pull out the temperature override stop and reposition it in the slot adjacent to the red temperature override button.
4. Reversing the above procedure will “enable” the temperature override button movement.



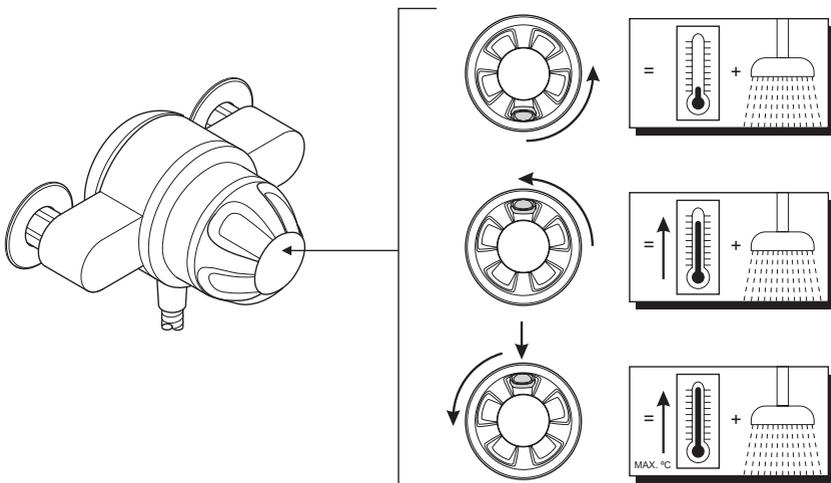
OPERATION

Mira CombiForce 415 shower has a single control knob which turns the shower control on/off and adjusts the water temperature.

Turn the control knob **anticlockwise** to start the flow of water and **clockwise** to stop. To increase the showering temperature turn the control anticlockwise and clockwise to decrease the water temperature. Starting from the off position and turning the control knob anticlockwise the sequence is:

Off → Cold water → Warm water → Preset maximum temperature

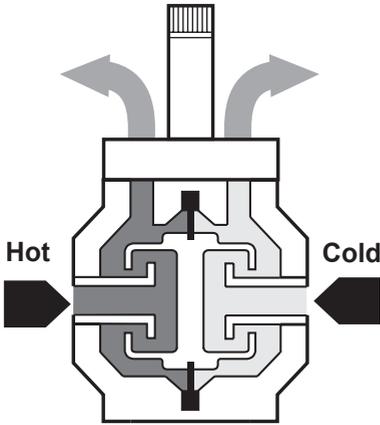
1. Initial anticlockwise movement turns the water on at full flow of cold water, further anticlockwise movement increases the temperature. The flow rate is determined by the supply pressures at the shower control inlets, or by the effective output power of the heater appliance. Flow rates for gas heater appliances can vary typically between **8 l/min (winter)** and **15 l/min (summer)**.
2. The control knob is fitted with a button which allows you to override the maximum temperature stop. This can be used when the initial hot water supply temperature has fallen due to increased demand or when a hotter shower is required. The override mechanism self cancels when the knob is returned to the off position.
3. For safety reasons this product is fitted with an adjustable maximum temperature stop. This setting must be checked and adjusted as necessary to suit both site conditions and user's comfort. Refer to section: '**Commissioning, Adjustable Maximum Temperature Setting**'.



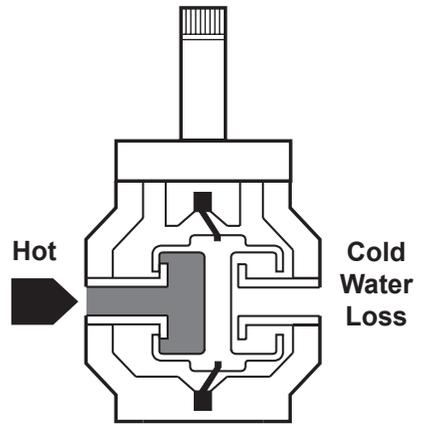
How the pressure balancing principle operates

Mira CombiForce 415 pressure balanced shower controls automatically adjust for variations in **inlet pressures**. This will maintain a constant outlet temperature provided the **inlet water temperatures** remain stable.

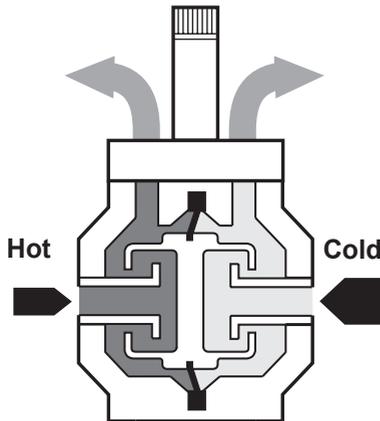
The Mira CombiForce 415 is **not** a thermostatic shower control and does not sense supply temperature variations. Therefore, inlet water temperatures especially the hot, must remain relatively constant.



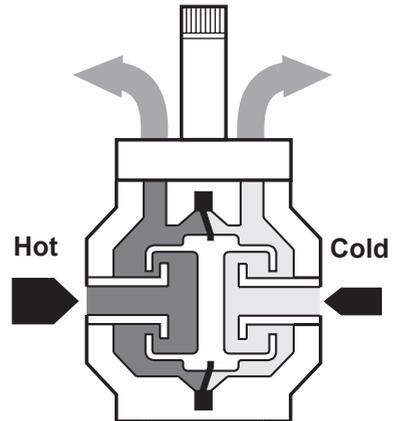
Equal Hot and Cold Pressure
The diaphragm is in the centre.



Cold Water Pressure Loss
Diaphragm moves to close hot inlet.



Low Hot and High Cold Pressure
Diaphragm deflects towards hot inlet and restricts cold entry.



High Hot and Low Cold Pressure
Diaphragm deflects towards cold inlet and restricts hot entry.

FAULT DIAGNOSIS

Customer Fault Diagnosis

The trouble shooting information tabled below gives details on what you can do as a user should you encounter difficulties whilst operating the shower.

Note! Should these remedies prove to be unsuccessful in solving your problem, contact your installer for further advice.

Key for applicability column

A - Instantaneous gas heated showers.

B - Unvented mains pressure showers.

C - Mains pressurised, instantaneous hot water, heated from thermal store showers.

| Malfunction | Cause | Remedy | A | B | C |
|---|---|--|---|---|---|
| Shower insufficiently hot. | (a) Maximum temperature incorrectly set. | Reset adjustable maximum temperature. | ✓ | ✓ | ✓ |
| | (b) Heater not set on maximum hot. | Consult heater instructions or contact a CORGI registered installer. | ✓ | | |
| | (c) Flow rate still too high. | Fit 9 l/min flow regulator between shower control and hose. | | ✓ | ✓ |
| Wide temperature fluctuations from shower when no other draw-off is being made. | (a) Insufficient flow rate causing the heater to cycle on and off. | Check and clean inlet strainers. | ✓ | | |
| | (b) Insufficient water pressure causing the heater to cycle on and off. | Contact your local water supplier or a CORGI registered installer. | ✓ | | |
| | (c) Heater not fully modulating. | Contact a CORGI registered installer. See Installation Requirements . | ✓ | | |
| | (d) See also “Shower insufficiently hot”. | | ✓ | | |

| Malfunction | Cause | Remedy | A | B | C |
|---|--|---|----------|----------|----------|
| Shower pattern collapses when another hot tap is turned on. | (a) The heater is not capable of supplying several outlets at the same time. | Reduce the simultaneous demand. | ✓ | | ✓ |
| | (b) Inlet strainer blocked. | Check and clean inlet strainers | ✓ | ✓ | ✓ |
| Shower pattern collapses when another cold tap is turned on. | (a) Property water supply pipe partially blocked or undersized. | Contact the local water supplier or your installer. | ✓ | ✓ | ✓ |
| | (b) Property stop or servicing valve not fully open. | Open valve. | ✓ | ✓ | ✓ |
| | (c) Insufficient mains cold water pressure. | Contact the local water supplier or your installer. | ✓ | ✓ | ✓ |
| | (d) Inlet strainer blocked. | Check and clean inlet strainers. | ✓ | ✓ | ✓ |
| Shower control operating sequence is "off, hot, cool". | Hot and cold water supplies have been connected in reverse. | Refer to the section Installation: "Reversed Inlet Supplies" . | ✓ | ✓ | ✓ |
| Shower insufficiently hot without pressing red button and rotating further. | Adjustable maximum temperature incorrectly set. | Refer to the section Commissioning: "Adjustable Maximum Temperature Setting" . | ✓ | ✓ | ✓ |
| Shower control "drums" whilst in use . | (a) Inlet strainer blocked creating an excessive imbalance in inlet pressures. | Check and clean inlet strainers. | ✓ | ✓ | ✓ |
| | (b) Supply pressure in excess of 5 bar maintained. | Contact your installer. | ✓ | ✓ | ✓ |
| Shower control "thumps" when another tap is suddenly turned off. | Inlet check valve faulty. | (a) Remove cartridge and if possible clear check valve obstruction. | ✓ | ✓ | ✓ |
| | | (b) Renew cartridge. | ✓ | ✓ | ✓ |

| Malfunction | Cause | Remedy | A | B | C |
|--|--|---|---|---|---|
| Shower force too strong. | High pressure supplies. | Fit 9 l/m flow regulator. | | ✓ | ✓ |
| No hot water available | (a) Heater appliance not igniting due to insufficient mains pressure. | Contact the local water supplier or a CORGI registered installer. | ✓ | | |
| | (b) Heater appliance not igniting due to appliance fault. | Contact a CORGI registered installer. | ✓ | | |
| | (c) Product hot or cold isolating valve not fully open. | Open valve. | ✓ | ✓ | ✓ |
| | (d) Hot water run out. | Wait until reheated. | | ✓ | ✓ |
| | (e) Inlet strainer blocked. | Check and clean inlet strainers. | ✓ | ✓ | ✓ |
| Shower starts warm and then runs cool. | (a) Insufficient flow rate. | Refer to “ Wide temperature fluctuations ”. | ✓ | | |
| | (b) Hot water supply temperature dropped. | Wait for hot water to reheat. | | ✓ | ✓ |
| Shower control cannot be shut off. | (a) Pipework not flushed before connecting shower control. (Internal ‘O’ seals damaged). | Renew cartridge. Refer to the section Maintenance: “Cartridge Renewal” . | ✓ | ✓ | ✓ |
| | (b) Cartridge or inlet strainer ‘O’ seals damaged. | Renew ‘O’ seals with Service Pack. | ✓ | ✓ | ✓ |
| No flow or low flow from shower head. | (a) Supply stop valve turned down or off. | Open valve. | ✓ | ✓ | ✓ |
| | (b) Inlet Strainers blocked. | Clean or renew. | ✓ | ✓ | ✓ |
| | (c) Hose or handset blocked. | Clear blockage. If necessary renew hose or handset. | ✓ | ✓ | ✓ |
| | (d) Spray plate blocked. | Remove and clean. | ✓ | ✓ | ✓ |

Installer Fault Diagnosis: refer to appliance diagram and customer fault diagnosis. Read the section “**Important Safety Information**” first. Providing the shower 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. To work on gas heater appliances an installer **MUST** be CORGI registered. Before replacing any parts ensure that the underlying cause of the malfunction has been resolved.

Key for applicability column

A - Instantaneous gas heated showers.

B - Unvented mains pressure showers.

C - Mains pressurised, instantaneous hot water, heated from thermal store showers.

| Malfunction | Cause | Remedy | A | B | C |
|---|---|---|----------|----------|----------|
| Shower insufficiently hot. | (a) Maximum temperature incorrectly set. | Reset adjustable maximum temperature. | ✓ | ✓ | ✓ |
| | (b) Heater not set on maximum hot. | Consult heater instructions for further instructions. | ✓ | | |
| | (c) Flow rate still too high. | Fit 9 l/min flow regulator between shower control and hose. | | ✓ | ✓ |
| Wide temperature fluctuations from shower when no other draw-off is being made. | (a) Insufficient flow rate causing the heater to cycle on and off. | Check and clean inlet strainers. | ✓ | | |
| | (b) Insufficient water pressure causing the heater to cycle on and off. | Increase supply pipe size to premises. | ✓ | | |
| | (c) Heater not fully modulating. | Refer to Installation Requirements . | ✓ | | |
| | (d) See also “ Shower insufficiently hot ”. | | ✓ | | |

| Malfunction | Cause | Remedy | A | B | C |
|---|--|---|----------|----------|----------|
| Shower pattern collapses when another hot tap is turned on. | (a) The heater is not capable of supplying several outlets at the same time. | Reduce the simultaneous demand. | ✓ | | ✓ |
| | (b) Inlet strainer blocked. | Check and clean inlet strainers | ✓ | ✓ | ✓ |
| Shower pattern collapses when another cold tap is turned on. | (a) Property water supply pipe partially blocked or undersized. | Contact the local water supplier or increase supply pipe size to premises. | ✓ | ✓ | ✓ |
| | (b) Property stop or servicing valve not fully open. | Open valve. | ✓ | ✓ | ✓ |
| | (c) Insufficient mains cold water pressure. | Contact the local water supplier or increase supply pipe size to premises. | ✓ | ✓ | ✓ |
| | (d) Inlet strainer blocked. | Check and clean inlet strainers. | ✓ | ✓ | ✓ |
| Shower control operating sequence is "off, hot, cool". | Hot and cold water supplies have been connected in reverse. | Refer to the section Installation: "Reversed Inlet Supplies" . | ✓ | ✓ | ✓ |
| Shower insufficiently hot without pressing red button and rotating further. | Adjustable maximum temperature incorrectly set. | Refer to the section Commissioning: "Adjustable Maximum Temperature Setting" . | ✓ | ✓ | ✓ |
| Shower control "drums" whilst in use . | (a) Inlet strainer blocked creating an excessive imbalance in inlet pressures. | Check and clean inlet strainers. | ✓ | ✓ | ✓ |
| | (b) Supply pressure in excess of 5 bar maintained. | Fit pressure reducing valve. Refer to Installation Requirements . | ✓ | ✓ | ✓ |
| Shower control "thumps" when another tap is suddenly turned off. | Inlet check valve faulty. | (a) Remove cartridge and if possible clear check valve obstruction. | ✓ | ✓ | ✓ |
| | | (b) Renew cartridge. | ✓ | ✓ | ✓ |

| Malfunction | Cause | Remedy | A | B | C |
|--|--|---|---|---|---|
| Shower force too strong. | High pressure supplies. | Fit 9 l/m flow regulator. | | ✓ | ✓ |
| No hot water available | (a) Heater appliance not igniting due to insufficient mains pressure. | Contact the local water supplier or increase supply pipe size to premises. | ✓ | | |
| | (b) Heater appliance not igniting due to appliance fault. | Refer to heater appliance instructions. | ✓ | | |
| | (c) Product hot or cold isolating valve not fully open. | Open valve. | ✓ | ✓ | ✓ |
| | (d) Hot water run out. | Wait until reheated. | | ✓ | ✓ |
| | (e) Inlet strainer blocked. | Check and clean inlet strainers. | ✓ | ✓ | ✓ |
| Shower starts warm and then runs cool. | (a) Insufficient flow rate. | Refer to “ Wide temperature fluctuations ”. | ✓ | | |
| | (b) Hot water supply temperature dropped. | Wait for hot water to reheat. | | ✓ | ✓ |
| Shower control cannot be shut off. | (a) Pipework not flushed before connecting shower control. (Internal ‘O’ seals damaged). | Renew cartridge. Refer to the section Maintenance: “Cartridge Renewal” . | ✓ | ✓ | ✓ |
| | (b) Cartridge or inlet strainer ‘O’ seals damaged. | Renew ‘O’ seals with Service Pack. | ✓ | ✓ | ✓ |
| No flow or low flow from shower head. | (a) Supply stop valve turned down or off. | Open valve. | ✓ | ✓ | ✓ |
| | (b) Inlet Strainers blocked. | Clean or renew. | ✓ | ✓ | ✓ |
| | (c) Hose or handset blocked. | Clear blockage. If necessary renew hose or handset. | ✓ | ✓ | ✓ |
| | (d) Spray plate blocked. | Remove and clean. | ✓ | ✓ | ✓ |

MAINTENANCE

Mira products are precision engineered to provide satisfactory performance provided they are installed and operated in accordance with the recommendations contained in this guide.

The shower control is designed for the minimum of maintenance in normal domestic use. If a malfunction occurs then this will probably necessitate a complete cartridge replacement.

Important! The cartridge contains no internally serviceable parts.

When installed in very hard water areas (above 200 p.p.m. temporary hardness) your installer may advise the installation of a water treatment device to reduce the effects of limescale formation in the heating appliance and spray plates.

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 using a mild washing up detergent or soap solution, and then wiped dry using a soft cloth.

The light golden colour finish is softer than the chrome finish and its abrasive resistance much less. When cleaning or using tools during maintenance extra care must be taken.

Component Interchangeability

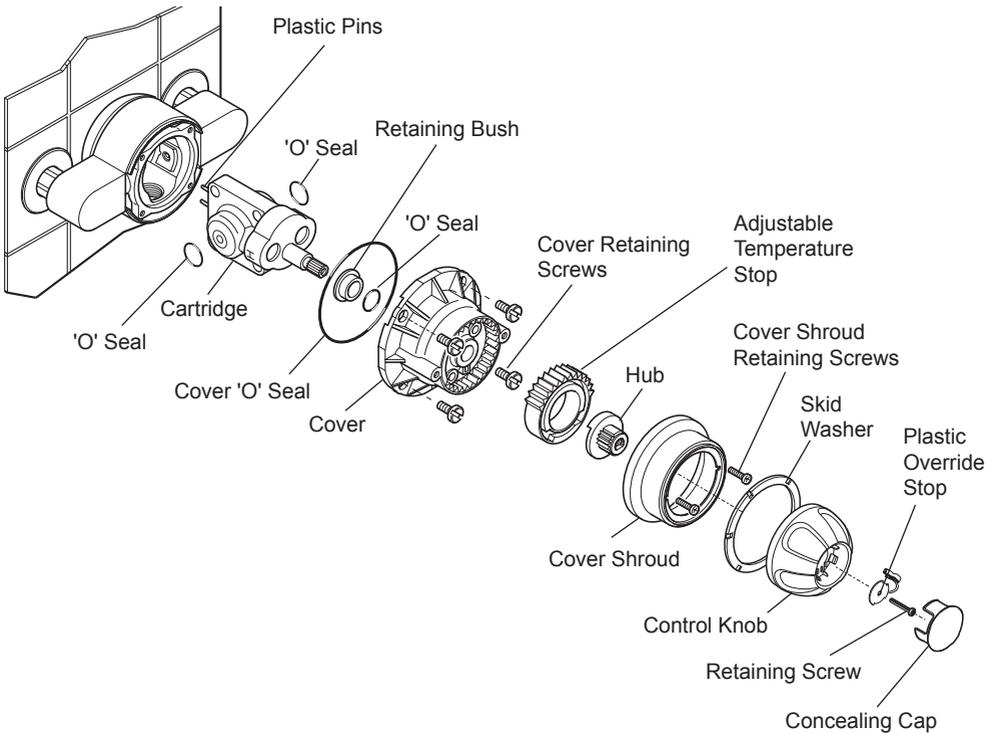
Some parts of the latest Mira CombiForce 415 are not interchangeable with earlier models of the Mira range. Spare parts, where different, are available for earlier models. Refer to the specific Installation Guide supplied with your shower or contact customer services for further information (telephone and fax numbers can be found on the back cover of this guide).

Cartridge Renewal

Should the cartridge require renewal then the following procedure should be followed:

Important! Use only silicone based lubricants when reassembling.

1. Turn off the water supplies and open the shower control to relieve the trapped water pressure.
2. Prise off the concealing cap, remove the control knob retaining screw/plastic override stop and the control knob.
3. Remove the two shroud retaining screws and the cover shroud. Note the position of the adjustable temperature stop then remove. Remove the hub.
4. Undo the four cover retaining screws and remove the cover. (A quantity of water will be discharged).
5. Pull the pressure balancing cartridge from the shower control body.
6. Identify which is the hot inlet of the shower control and fit the new cartridge accordingly. The inlets on the new cartridge are marked “H” for Hot, “C” for Cold.



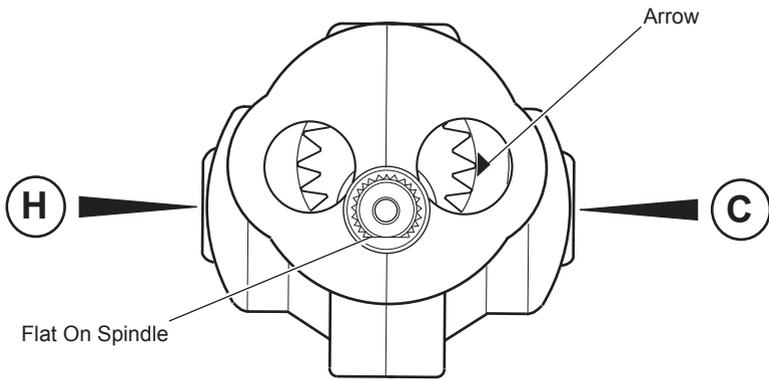
7. Push the cartridge fully into the shower control body. Make sure that the two plastic pins locate in the brass body recess.

Note! Make sure that the arrow on the end face of the cartridge points to the letter "C".

Important! Make sure that the two inlet seals are well-lubricated and correctly located before refitting the cartridge.

8. Make sure that the cover "O" seal is correctly located on the cover.
9. Refit the cover, and secure with the four cover retaining screws. Make sure that the flat on the spindle is lowermost.

Note! There is a one-way cartridge location feature on the cover which ensures the cover is correctly fitted.



End View Of Cartridge

10. Push the hub onto the spindle.
11. Turn on the water supplies, and check for any leaks.
12. Refit the adjustable temperature stop in its original position.
13. Temporarily fit the control knob (with the override button at the bottom). Rotate the control knob anticlockwise until the desired temperature is achieved. Note the final position of the override button, e.g. 11 O' clock. Rotate the control knob to the "off" position.
14. The maximum temperature will now require resetting, refer to section: '**Commissioning, Adjustable Maximum Temperature Setting**'.

'O' Seal/Inlet Strainer Renewal

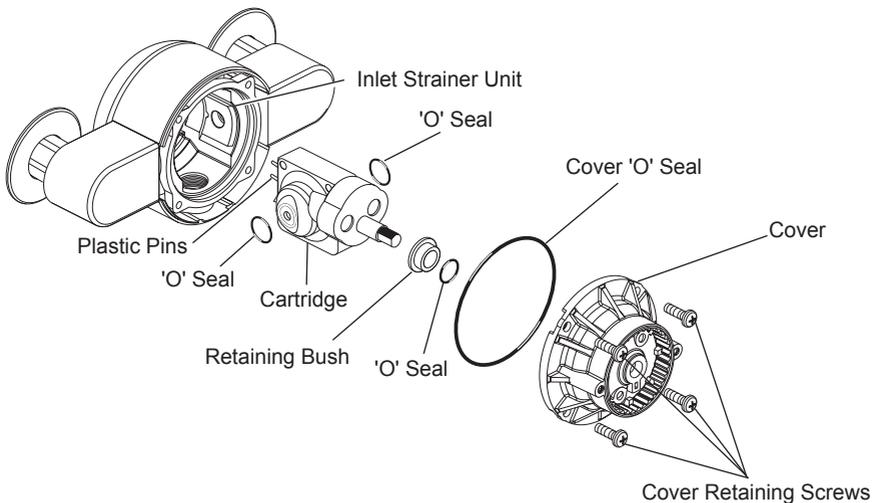
Should the 'O' seals require renewing then follow the procedure below:

Important! Use only silicone based lubricants when reassembling.

1. Follow instructions 1 to 5 in section: **'Maintenance, Cartridge Renewal'** to dismantle the shower control.
2. Check the 'O' seals on the cartridge hot and cold inlets for any signs of damage and renew if necessary.
3. Remove the inlet strainers and check for damage, renew if necessary. Follow instructions 2 to 4 in section: **'Maintenance, Inlet Strainer Cleaning'**.
4. Push the cartridge fully into the shower control body. Make sure that the two plastic pins locate in the brass body recess.

Important! Make sure that the two inlet seals are well-lubricated and correctly located before refitting the cartridge.

5. Check the cartridge spindle 'O' seal (fitted in the cover) for signs of damage and renew if necessary. Fit the spindle 'O' seal and retaining bush into the cover.
6. Check the cover 'O' seal for signs of damage and renew if necessary.
7. Follow instructions 8 to 14 in section: **'Maintenance, Cartridge Renewal'** to reassemble the shower control.



Inlet Strainer Cleaning

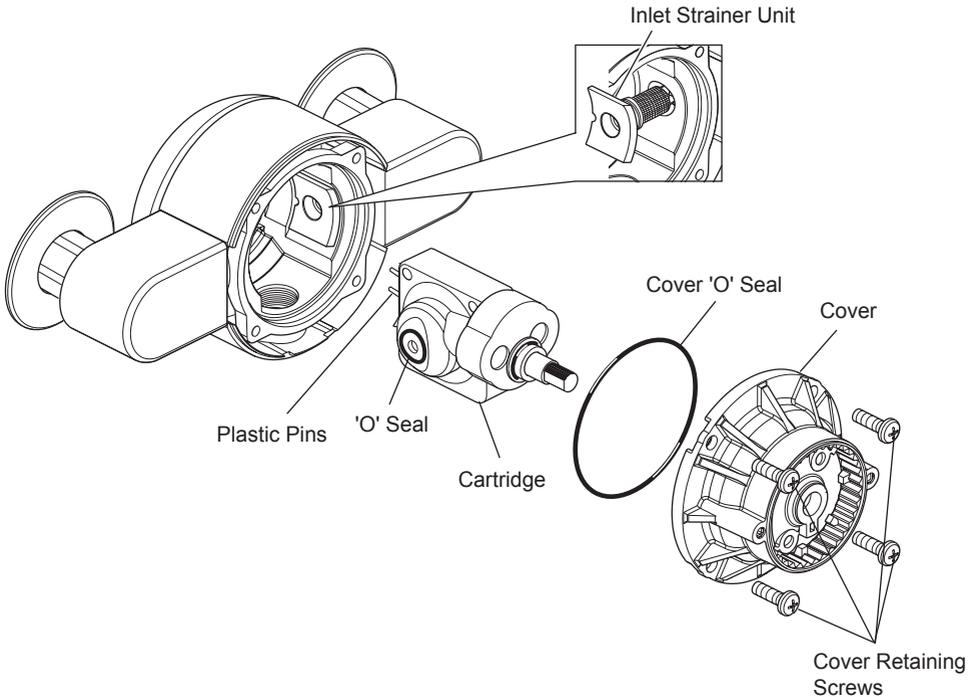
Should the inlet strainer units require cleaning or renewal then follow the procedure below:

Important! Use only silicone based lubricants when reassembling.

1. Follow instructions 1 to 5 in section: '**Maintenance, Cartridge Renewal**' to dismantle the shower control.
2. Pull the inlet strainer units from the valve body.
3. Clean the complete strainer unit under running water. Check for damage and renew the whole unit if necessary.
4. Refit the strainer units. The strainer units can only be fitted one way (refer to illustration).

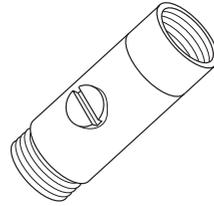
Important! Make sure that the 'O' seals on the inlet strainers are well-lubricated before refitting.

5. Follow instructions 7 to 14 in section: '**Maintenance, Cartridge Renewal**' to reassemble the shower control.

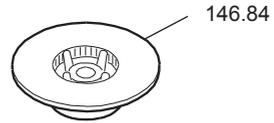


ACCESSORIES

DCV-H: An outlet double check valve, requiring a minimum inlet supply pressure of 0.5 bar, which has been designed to prevent the backflow or backsiphonage of potentially contaminated water, through shower controls which are fitted with a flexible hose as part of the outlet shower fitting.



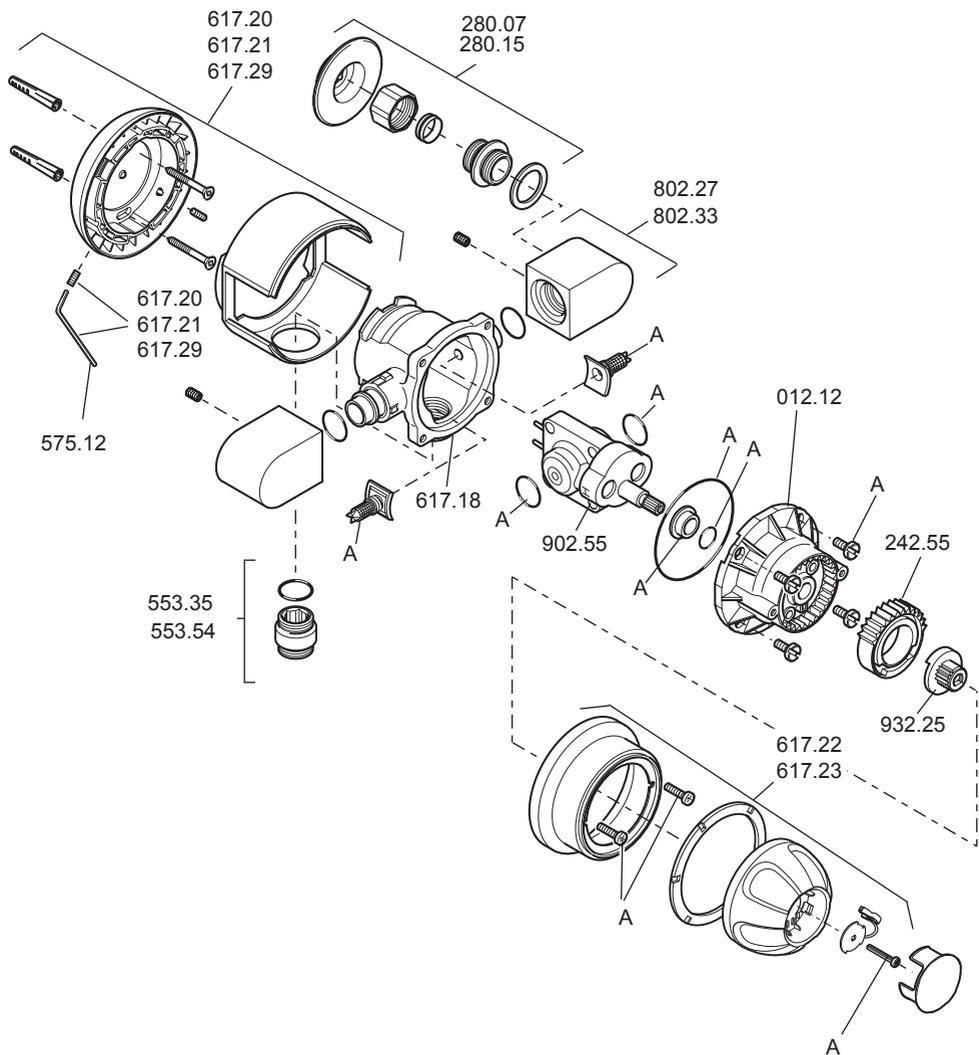
9 litre/min Outlet Flow Regulator: Designed to limit the flow rate in high pressure installations. If the maximum obtainable water temperature at the shower outlet is not sufficiently hot, fitting a flow regulator may increase the outlet water temperature and may also reduce the shower force at the outlet (refer to section: '**Commissioning**').



SPARE PARTS

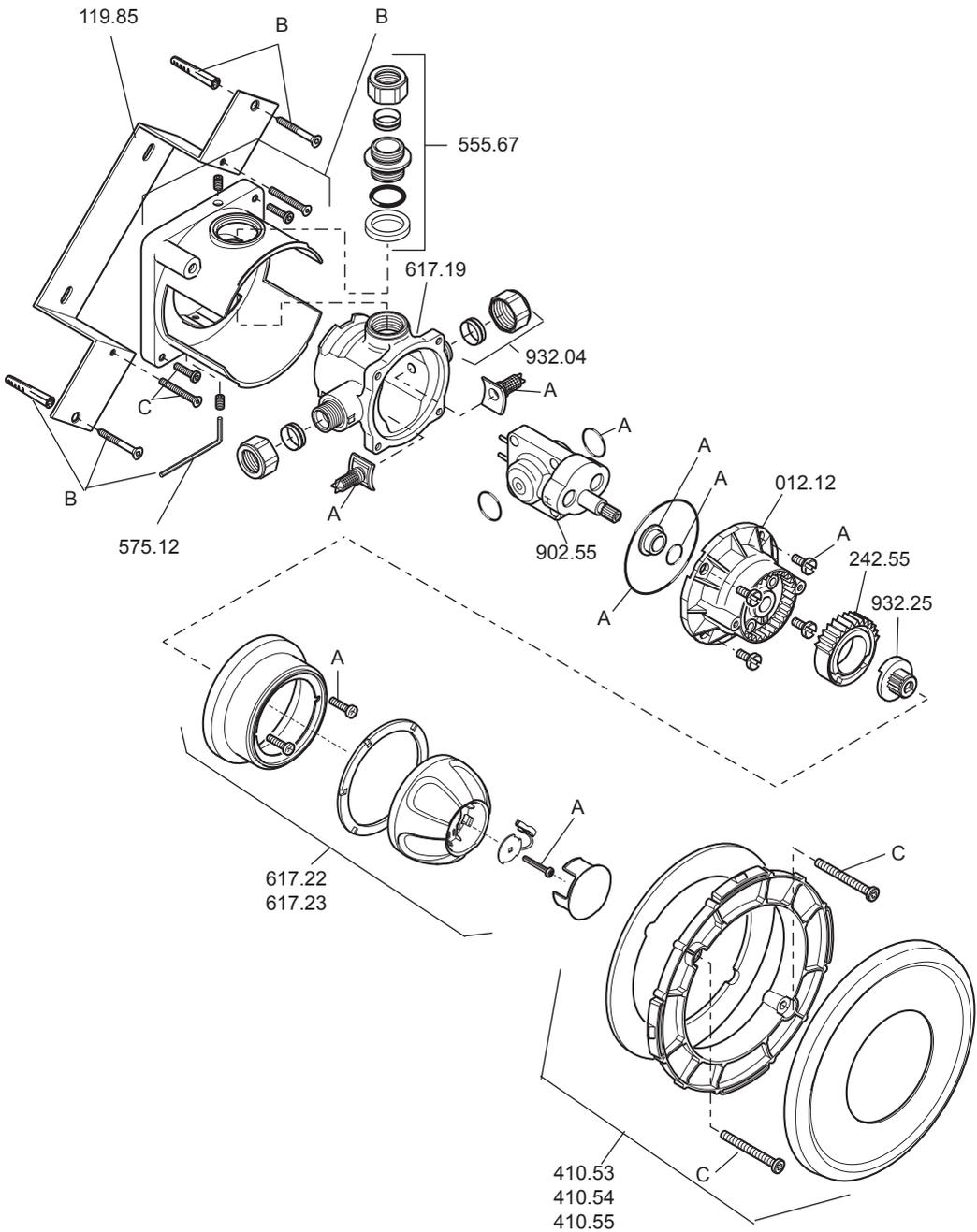
Mira Combiforce 415

| | |
|--------|---|
| 012.12 | Cover |
| 242.55 | Adjustable Temperature Stop |
| 280.07 | Inlet Compression Fitting - chrome |
| 280.15 | Inlet Compression Fitting - light golden |
| 553.35 | Outlet Nipple Assy - chrome |
| 553.54 | Outlet Nipple Assy - light golden |
| 575.12 | 2.5 mm Hexagon Wrench |
| 617.18 | CombiForce 415 Body (including strainers) |
| 617.20 | Shroud Pack CombiForce 415 - white |
| 617.21 | Shroud Pack CombiForce 415 - chrome |
| 617.22 | Control Knob Assembly CombiForce 415 - white |
| 617.23 | Control Knob Assembly CombiForce 415 - chrome |
| 617.29 | Shroud Pack CombiForce 415 - white/light golden |
| 802.27 | Inlet Elbow Assembly - chrome |
| 802.33 | Inlet Elbow Assembly - light golden |
| 902.55 | Cartridge Assembly |
| 932.25 | Hub Pack |
| 936.22 | CombiForce 415 Service Pack - components identified 'A' |



Mira CombiForce 415B

| | |
|--------|---|
| 012.12 | Cover |
| 119.85 | Wall Mounting Bracket |
| 242.55 | Adjustable Temperature Stop |
| 410.53 | Concealing Plate - white |
| 410.54 | Concealing Plate - chrome |
| 410.55 | Concealing Plate - light golden |
| 555.67 | Outlet Nipple |
| 575.12 | 2.5 mm Hexagon Wrench |
| 617.19 | CombiForce 415B Body (including strainers) |
| 617.22 | Control Knob Assembly - white |
| 617.23 | Control Knob Assembly - chrome |
| 807.28 | Backplate Assembly - components identified 'B' |
| 902.55 | Cartridge Assembly |
| 932.04 | Inlet Compression Fitting |
| 932.25 | Hub Pack |
| 936.22 | CombiForce 415 Service Pack - components identified 'A' |
| 937.59 | Screw Pack - components identified 'C' |



CUSTOMER SERVICE

Guarantee

Your product has the benefit of our manufacturer's guarantee which starts from the date of purchase.

To activate this guarantee, please return your completed registration card, visit our website or free phone 0800 0731248 within 30 days of purchase (UK only).

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

This guarantee is in addition to your statutory rights and is subject to the following conditions:

- The product must be installed and maintained in accordance with the instructions given in this user guide.
- Servicing must only be undertaken by us or our appointed representative. **Note!** if a service visit is required the product must be fully installed and connected to services.
- Repair under this guarantee does not extend the original expiry date. The guarantee on any replacement parts or product ends at the original expiry date.
- For shower fittings or consumable items we reserve the right to supply replacement parts only.

The guarantee does not cover:

- Call out charges for non product faults (such as damage or performance issues arising from incorrect installation, improper use, lack of maintenance, build up of limescale, frost damage, corrosion, system debris or blocked filters) or where no fault has been found with the product.
- Water or electrical supply, waste and isolation issues.
- Compensation for loss of use of the product or consequential loss of any kind.
- Damage or defects caused if the product is repaired or modified by persons not authorised by us or our appointed representative.
- Routine maintenance or replacement parts to comply with the requirements of the TMV 2 or TMV 3 healthcare schemes.

What to do if something goes wrong

If your product does not function correctly when you first use it, contact your installer to check that it is installed and commissioned in accordance with the instructions in this manual.

Should this not resolve the issue, contact our Customer Services Team who will offer you or your installer advice and if applicable arrange for a Service Technician to call.

If the performance of your product declines, check in this manual to see if simple home maintenance is required. If you require further assistance call our Customer Services Team.

Extended Guarantees

A selection of protection plans are available that enable you to cover repair bills for the life of your policy (excludes Eire). Ring 01922 471763 for more details.

Helpdesk Service

Our dedicated Customer Services Team is comprehensively trained and can offer help and advice, spare parts, accessories or a service visit. We will need you to have your model name or number, power rating (if applicable) and date of purchase. As part of our quality and training programme calls may be recorded or monitored.

Mira Showers Website (www.mirashowers.co.uk)

From our website you can register your guarantee, download additional user guides, diagnose faults, purchase our full range of accessories and popular spares, refer to our FAQ's and request a service visit.

Spares and Accessories

We maintain extensive stocks of genuine spares and accessories and aim to provide support throughout the product's expected life. Payment can be made by phone at time of order using most major Credit or Debit cards and we aim to despatch orders within two working days. Items purchased from us are guaranteed for 12 months from date of purchase. For safety reasons spares exposed to mains voltages should only be fitted by competent persons.

Returns – items can be returned within one month of date of purchase, providing that they are in good condition and the packaging is unopened. Please obtain authorisation from our Customer Services Team before return. We reserve the right to apply a 15% restocking charge.

Service / Repairs

We have a nationwide team of Service Technicians who can carry out all service or repair work to your product within the guarantee period and beyond. You have the assurance of a fully trained Mira Technician, genuine Mira spare parts and a 12 month guarantee on any chargeable work done.

Payment should be made directly to the Service Technician who will accept most major Credit or Debit cards.

To Contact Us

UK

Telephone: 0844 571 5000

Mon to Fri 8:00 am - 5:30 pm, Sat 8:30 am - 3:30 pm

E-mail: technical@mirashowers.com

Fax: 01242 282595

By Post: Mira Customer Services Dept, Cromwell Road, Cheltenham, Gloucestershire, GL52 5EP

Eire

Telephone: 01 459 1344

Mon to Fri 9:00 am - 5:00 pm

E-mail: sales@modernplant.ie

Fax: Dublin 01 459 2329

By Post: Modern Plant Ltd (Dublin), Otter House, Naas Road, Clondalkin, Dublin 22

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SHOWERS