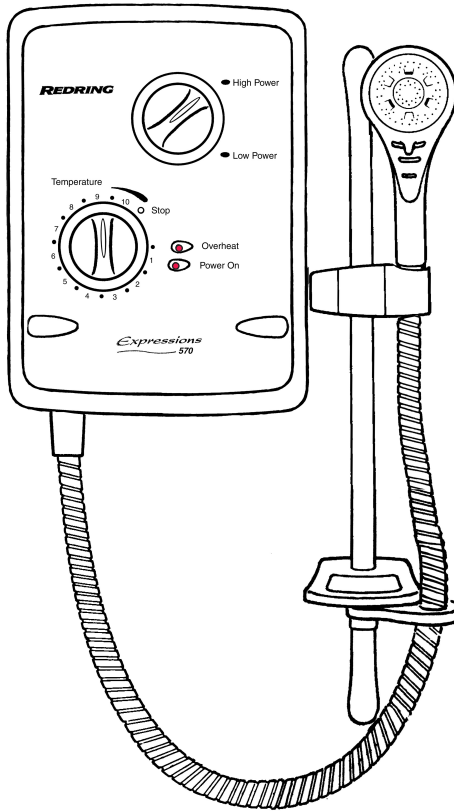


REDRING

Expressions 570



Pumped Electric Shower ***Installation instructions & User guide***

IMPORTANT: This booklet should be given to the customer after installation and demonstration.

WARNING: Under no circumstances should this unit be connected to the mains cold water supply.

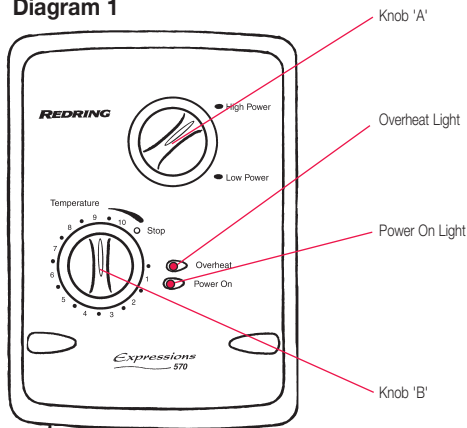
Thank you for choosing a quality 'Redring' product manufactured in Peterborough, England.

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IMPORTANT SAFETY INSTRUCTIONS

1. The Redring Expressions 570 pumped electric shower is designed to **heat and boost the flow of stored domestic cold water, which is gravity fed from a static cold water cistern.**
Under no circumstances should this unit be connected directly to the mains cold water supply.
2. The cold water cistern should have a minimum capacity of 114 Litres (25 gallons). There must be a **minimum head of water of 8.0 cm (3") and a maximum head of 10 Metres (33ft)** between the bottom of the cold water cistern and the top of the shower unit.
Under no circumstances should any of the pipework supplying the shower unit rise above the level of the bottom of the cold water cistern.
3. **WARNING! DO NOT SWITCH THE SHOWER ON IF YOU SUSPECT IT OF BEING FROZEN. WAIT UNTIL YOU ARE SURE IT HAS THAWED OUT.**

Diagram 1



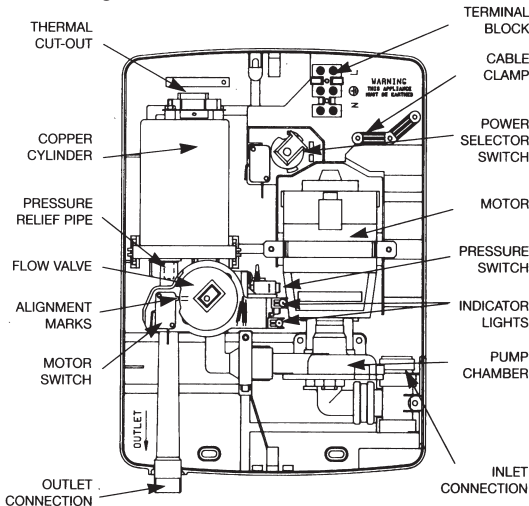
HOW TO USE YOUR 'REDRING' SHOWER

1. Ensure the electricity and water supplies are turned on to the unit.
 2. Your shower has 2 power settings selected by turning knob 'A'. The most popular setting is 'HIGH' indicated by '● high power'. There is also a 'LOW' power option indicated by '● low power'. (See note 7).
For this example turn knob 'A' to '● high power'.
 3. To start the shower turn knob 'B' anti-clockwise. Water will start flowing at around 15° knob rotation (position 10 on the temperature scale) and the motor will switch on at around 30° (position 9 on the temperature scale). The 'power on' light will illuminate at this stage.
 4. Continue turning knob 'B' anti-clockwise until the required temperature of water is achieved, allowing time for the temperature of the water to stabilise.
- Note: It is advisable to test the temperature of the water with your hand before stepping under the showerhead.**
5. If the water is **too hot** increase the flow of water by **turning knob 'B' anti-clockwise** to a lower number on the temperature scale.
 6. If the water is **too cold** decrease the flow of water by **turning knob 'B' clockwise** to a higher number on the temperature scale.
 7. The '● low power' setting of knob 'A' reduces the power giving a cooler shower or

the option of reduced water flow. This option is mainly for summer usage and if this is used then knob 'B' must be re-adjusted.

8. When you have finished showering turn knob 'B' fully clockwise to the '• Stop' position. The motor will switch off and water will stop flowing. The 'POWER ON' light will also switch off.
9. Switch off the electricity at the ceiling switch or local isolator.

Diagram 2



10. During normal operation if an overheated water temperature is sensed by the shower the thermal cut-out will switch off the power to the heating elements. The 'overheat' light will illuminate to provide a visual indication that this has taken place. Water will continue to flow and as the water temperature falls the heating elements will be switched back on. If the 'overheat' light continues to cycle turn knob 'B' anti-clockwise to a lower number on the temperature scale and check that the handset does not require de-scaling (see page 4). If the 'overheat' light still continues to cycle turn knob 'A' to the '• low power' setting (knob 'B' will need adjusting). If the shower is operated after it has recently been used the 'overheat' light may illuminate for a few seconds. This indicates there is still some hot water left in the shower. Either, wait a few moments for the light to go out or turn

knob 'B' anti-clockwise to a lower number on the temperature scale.

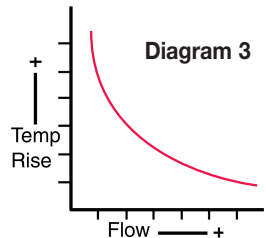
WARNING! DO NOT SWITCH THE SHOWER ON IF YOU SUSPECT IT OF BEING FROZEN. WAIT UNTIL YOU ARE SURE IT HAS THAWED OUT.

HOW YOUR 'REDRING' SHOWER WORKS

Your Redring shower is designed for convenience, economy and safety of use.

1. Water is heated instantaneously as it flows over the heating elements in the copper cylinder assembly.

2. The required water temperature is achieved by adjusting the rate of water flow. Diagram 3 shows the principle involved in relating



- temperature rise to flow rate. The higher the water flow the lower the temperature rise and vice versa. The temperature of the water supplied from the cold water storage cistern can vary considerably throughout the year from as low as 5° to as high as 30°C. This means that in the winter, the flow rate will be less than in the summer to achieve the same outlet temperature. In summer the '• low power' setting may give adequate hot water.
3. Your shower incorporates a pump which boosts the incoming water pressure to a level more suitable for showering. The motor is controlled by a switch connected to knob 'B'.
4. The heaters are only switched on when sufficient water is flowing. This will happen when the motor is switched on, and is done automatically with a switch which works on water pressure.
5. The water is turned on and off by a tap that is built into the shower.
6. If the water supply falls below a set limit, the pressure switch will operate and switch off the power to the elements.
7. As a further safeguard, a thermal cut-out switches the power off if the water

temperature climbs above a set limit and the **'overheat'** light will come on. This cut-out which gives an audible click, may also operate due to residual heat when the shower is switched off. It will reset itself if cold water is run through the shower for 10 to 20 seconds and the **'overheat'** light will go out.

8. A pressure relief device is fitted to safeguard against extreme abuse conditions.
9. There are three defined plate spray settings adjustable by rotating the spray plate (see diagram 4). If desired many combinations between the 3 can be achieved.

Diagram 4

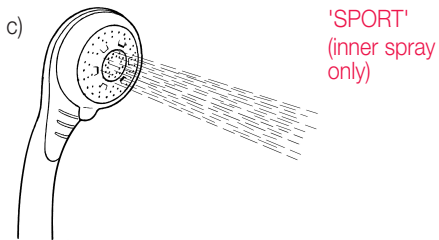
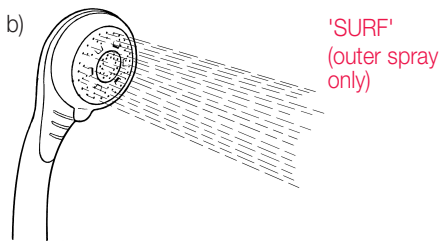
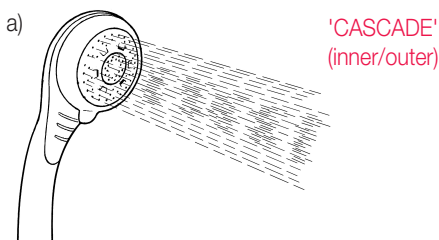
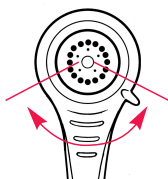


Diagram 5



The spray head rotates through approximately 140°

IN ORDER TO MAINTAIN THE PERFORMANCE OF YOUR SHOWER YOU MUST CLEAN THE SHOWERHEAD.

HOW TO MAINTAIN YOUR 'REDRING' SHOWER

All water contains particles of lime which build up in the showerhead and unit reducing the performance. It is therefore important to clean the showerhead by regularly dipping it in a suitable de-scaling solution. The frequency of this will vary from weekly to quarterly.

Check the sprayplate is then free to rotate to give the three settings. In some winter conditions, when incoming water from the cold water storage cistern is particularly cold it may be necessary to select the inner or outer spray pattern only. This will ensure correct operation of the shower with a slightly lower water flow rate.

NOTE:

After use it is normal for some water to drip from the shower head for a few moments.

Cleaning

It is recommended that the shower unit and accessories are cleaned using a soft cloth.

DO NOT use powerful abrasive or solvent cleaning fluids. It is advisable to switch off the shower at the isolating switch to avoid the shower accidentally switching on.

WHAT TO DO IF THINGS GO WRONG

Self Help

If the performance of the shower does deteriorate in service make the following checks before calling out the contractor. Any one of these simple adjustments could restore the performance.

a) Water too HOT

Increase water flow by adjusting the temperature control (knob B) anti-clockwise to a lower number on the temperature scale.
Clean the showerhead.
Switch power to **'● low power'** setting .
Select outer or combination spray pattern.
Increase pressure of water supply e.g. fully open service valve.
Check hose is not kinked restricting the water flow.

<p>b) Water too COLD</p>	<p>Check power is on (indicated by 'power on' light). Decrease water flow by adjusting the temperature control (knob 'B') clockwise to a higher number on the temperature scale. Switch power to 'high power' setting. Select inner or outer spray patterns only .</p>
<p>c) Pump operates but no water is delivered</p>	<p>Water starvation. Stop pump immediately by turning knob 'B' fully clockwise to the 'Stop position'. Check the cold water cistern is full. Ensure water supply pipe is not blocked or air-locked. Re-prime shower unit (see commissioning) with power to shower switched off.</p>
<p>d) Pump fails during shower</p>	<p>Thermal trip inside motor has operated. Wait for motor to cool down (approx 30 mins).</p>
<p>e) Spray pattern poor</p>	<p>Clean showerhead (see page 4) and flush heater. Select an outer/inner spray pattern.</p>
<p>f) Water takes longer to heat up</p>	<p>Thermal cut-out has operated after previous use ('overheat' light is on). Switch power to 'high power' setting.</p>
<p>f) Water goes cold while using shower</p>	<p>Thermal cut-out has operated ('overheat' light is on) Wait for cut-out to reset. Check power is on (indicated by 'power on' light).</p>
<p>f) Broken parts</p>	<p>Please contact our spares department on 01733 456700.</p>

Professional Service

If the previous checks fail to restore the performance, you should seek professional help.

The person who installed the shower is probably the best one to repair it and is certainly the person to contact if you have a problem in the guarantee period.

The following additional checklist is provided for the benefit of the qualified serviceman.

Warning! Switch off the electricity at the isolating switch before removing the cover to make checks.

<p>a) Water too HOT</p>	<p>Water flow restricted by blockage in filter. Switch off water at service valve and fully isolate electricity supply. Remove shower from wall. Remove filter (see diagram 9) clean and replace.</p>
<p>b) Water too COLD</p>	<p>Check circuit through thermal cut-out. Check circuit through microswitches on the pressure switch. Check each element circuit. Check tightness of electrical connections.</p>
<p>c) Pump fails to operate</p>	<p>If the 'power on' light is lit, possible motor failure. Replace motor. If the 'power on' light remains off, check motor switch. Replace if necessary.</p>
<p>d) Pump operates but no water is delivered</p>	<p>Faulty motor switch (short circuit). Replace. Incorrect alignment of motor switch camdrive. In off position, the alignment marks on the cam drive (see diagram 2) should be centred about motor switch actuator. Water flow restricted by blockage in filter. Switch off water and remove shower from wall. Remove filter (see diagram 9), clean and replace.</p>

e) Water leaks from burst pressure relief valve

Check for cause of high pressure and remove it. Blockage on outlet i.e: blocked spray plate etc. Replace the pressure relief disc.

REDRING AFTER SALES SERVICE

We offer a technical advisory service on the telephone to contractors and other customers with problems in the field.

Ring 0870 9000 430 (Normal Office Hours)
Spare parts can be supplied against any VISA or Access cards.

Ring 0870 9000 420 (Normal Office Hours)
Remember to quote the exact type of shower, as written on the front of the shower and on this leaflet. It may also be of use to have a note of the Catalogue Number as stated on the rating plate inside the shower.

A) Fixing the shower to the wall

The Redring Expressions 570 Pumped Electric Shower is fitted with a motor and some mechanical noise can be expected when in use. The type of wall structure will affect the noise levels. Solid walls will provide quieter operation than panel or stud partition walls.

Diagram 7a

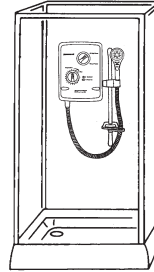


Diagram 6

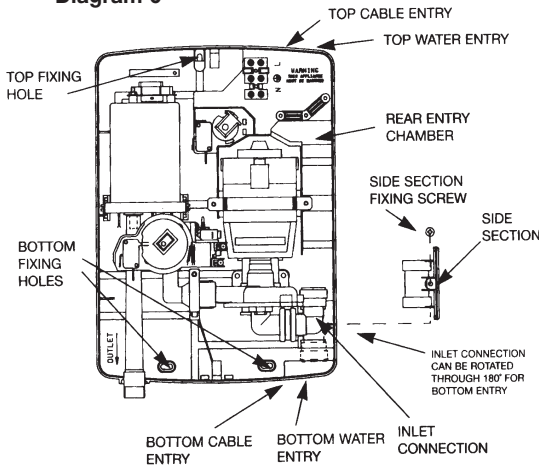
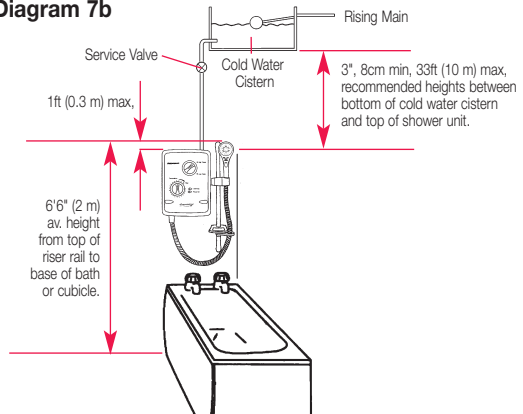


Diagram 7b



INSTALLATION INSTRUCTIONS

The installation should be done by qualified personnel and checked by the Electricity Board.

WARNING: DO NOT INSTALL THE SHOWER IN A ROOM WHERE IT MAY BE SUBJECT TO FREEZING.

We recommend that the installation is done in the following sequence :-

- A) Fixing the shower to the wall.
 - B) Plumbing.
 - C) Electrical connections.
1. Place the riser rail at the height recommended in diagram 7b and mark its position.
 2. Position the heater so that the sides of the unit are vertical and the top is level with, **or up to 0.3m (1ft) maximum below the top of the riser rail**. Choose a flat piece of wall to avoid the possibility of distorting the backplate thus making the front cover a poor fit.
 3. Adjust the positions to get the most convenient arrangement taking the following into account :-
 - a) The possible need to use the handset over the sink for hair washing etc.

- b) **The heater must not be mounted in the direct spray from the handset.**
 - c) The handset must not be able to come into contact with the used water in the cubicle, bath or basin. If it can, even after the hose has been retained by the hose retainer (see diagram 12), then a vacuum breaker must be fitted. It should be noted that these devices are liable to minor leakage so they must be positioned so that any drips are not detrimental.
4. Fix the riser rail with screws provided. The fixing holes at the base of the brackets will be revealed by removing the plastic fronts. Assemble as shown in diagram 12.
 5. Decide the position of the electrical cable to the unit. If top or bottom entry is chosen, carefully cut away the relevant walls of the backplate as shown in diagram 6.
 6. Decide the position of the cold water pipe into the unit. If top or bottom entry is chosen, carefully cut away the relevant walls of the backplate as shown in diagram 6. If bottom entry is chosen refer to note 4 in the plumbing section.
 7. If you have not yet done so, remove the front cover (complete with knobs) by undoing the retaining screws at the top and bottom of the unit. Your shower is provided with three fixing positions in the backplate (see diagram 6). The top fixing hole is a key-hole slot and should be marked and drilled first. Tighten top screw with head protruding about 10mm from wall and hook the backplate over the screw head. This allows for correct and accurate alignment of your shower before marking and fixing the bottom positions. You may not wish to tighten up the screws at this stage as the holes are elongated to allow for adjustment after other connections have taken place.

B) Plumbing

WARNING : - UNDER NO CIRCUMSTANCES SHOULD THIS UNIT BE CONNECTED TO THE MAINS COLD WATER SUPPLY.

The heater should be connected to a cold water supply gravity fed from a static cold water cistern with a minimum capacity of 114 litres (25 galls). There must be a minimum head of water of 8 cm (3") and a maximum head of 10 metres (33ft).

It is strongly advised to install the shower unit using an independent supply from the cold water storage cistern. The shower would then be totally unaffected by other draw off points elsewhere in the system and thus the pressure and temperature will remain more stable. Therefore the cold water supply should be taken directly from the cold water cistern.

Under no circumstances should any of the pipework supplying the shower unit rise above the level of the bottom of the cold water cistern.

Before connecting the pipework to the shower ensure that the pipework is flushed out.

1. It is recommended that a water council listed isolating valve is fitted between the cold water storage cistern and the shower unit. This will allow the shower unit to be serviced without turning off the cold water at the water stop valve and draining the cold water cistern.

2. 15mm copper pipe should be used. **Ensure all burrs have been removed from the pipes before inserting into the push fit inlet ports.** Diagram 8 illustrates the correct procedure for inserting and removing the pipes from the inlet ports.

Take care to line up the inlet pipe correctly with the inlet port to avoid straining the internal 'O' ring seal.

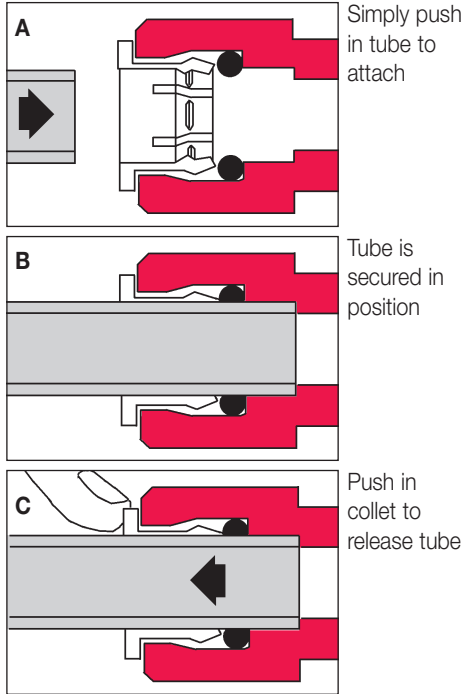
DO NOT use solder fittings within 300mm of plastic fittings.

3. To maintain the optimum performance, the pipe runs should be kept as short as possible, using sweeping bends rather than right angles or restrictive fittings.
4. If bottom entry has been chosen, the inlet port must be rotated through 180° into the required position. To do this unscrew the side section from the shower unit (see diagram 6). Rotate inlet connection ensuring that a snug fit into the cradle is achieved, replace side section retaining screw and remove the side section and tighten screw.
5. With an isolating valve connecting, **flush the pipework through to remove particles etc.** before making the final connection to the shower. A blockage in the waterways (particularly the spray rings and filter) will prevent the shower unit working properly.

6. The shower is designed to have an open outlet and should only be used with Redring recommended fittings.

WARNING: DO NOT FIT A TAP ON THE SHOWER OUTLET. TAKE CARE TO AVOID RESTRICTING THE OUTLET OF THE PRESSURE RELIEF DEVICE. (SHOWN IN DIAGRAM 2).

Diagram 8



C) Electrical

The electrical installation must be in accordance with current BS. 7671 (I.E.E. regulations) and/or local regulations.

1. The shower is designed for a single phase A.C. electrical supply of:

Model	Variant	Rated Voltage
Expressions 570 (8.5 kW)	8.5 / 7.8 kW	240 / 230 V
	8.5 kW	230 V
Expressions 570 (9.5 kW)	9.5 / 8.7 kW	240 / 230 V
	9.5 kW	230 V

Please check the rating plate on the unit to see what details apply to your unit.

2. Cable Sizes

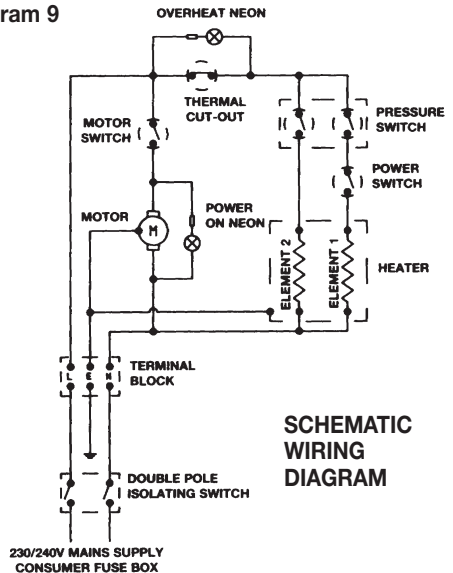
Model	Cable Sizes	Fuse Type
Exp. 570 (8.5 kW)	6mm ²	40 A Cartridge Fuse Type 'A' MCB
	10mm ²	45 A Cartridge Fuse
Exp. 570 (9.5 kW)	10mm ²	45 A Cartridge Fuse

Expressions 570 9.5/8.7kW, 240/230V, version may be able to use 6mm² cable if BS 7671: Method 1 (clipped direct) is used. The maximum cable run for all models above will depend upon site conditions.

REMEMBER TO UPRATE THE CABLE IF IT RUNS IN THERMAL INSULATION IN A LOFT.

- In order to provide a means of isolation, the heater **MUST BE** permanently connected to the electricity supply through a double pole linked switch with a contact gap of 3mm mounted in a convenient position. We recommend ceiling switches.
- Cut back cable as in diagram making sure that all the retaining screws are **VERY** tight and that no cable insulation is trapped under the screws.

Diagram 9



WARNING: FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN A FAILURE OF THE TERMINAL BLOCK.

5. A dual position cable clamp is provided. For top cable entry use retaining bar in horizontal position supplied. For bottom cable entry rotate retaining bar to the angled position.

6. **WARNING: THIS APPLIANCE MUST BE EARTHED.**

7. The earth continuity conductor of the electrical installation **MUST BE** effectively connected

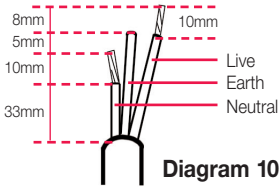


Diagram 10

electrically to all exposed parts of the appliances and services in the room in which the water heater is to be installed in conformity with the current BS. 7671 (I.E.E. wiring regulations).

FINAL INSTALLATION PROCEDURE AND COMMISSIONING

WARNING : DO NOT SWITCH ON THE ELECTRICITY SUPPLY UNTIL THE FOLLOWING PROCEDURE HAS BEEN COMPLETED. FAILURE TO DO SO COULD CAUSE THE PUMP TO RUN DRY AND INVALIDATE THE GUARANTEE.

1. Fit the front cover back into position, ensuring that both the control knobs are correctly aligned with the flow valve and power selector. Secure with top and bottom screws.
2. Fit hose and prime the shower first without the handset to flush out any remaining debris. To prime the shower ensure that the electricity supply is switched off. Turn control knob 'B' fully anti-clockwise. Water should start to flow with motor switched off allowing all the air to be purged out of the shower unit.

It may be necessary to lower the hose below the level of the shower unit whilst priming.

Stop water flow by turning knob 'B' fully clockwise. Attach handset, switch on electrical supply and then operate the shower as on page 2 and check–

- a) That the water gets to a satisfactory temperature
- b) Water flow can be adjusted by knob 'B'

- c) Power selection operates in both positions, giving a change in water temperature
 - d) Check again for leaks
 - e) That the holes in the spray plate are not blocked
 - f) That the motor turns off and water stops flowing in the '**STOP**' position
3. **DEMONSTRATE OPERATION TO THE USER**
Please leave these instructions with the user for future reference.

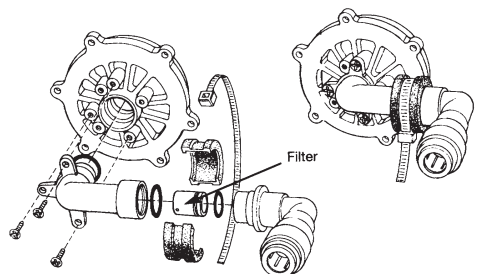
ADDITIONAL ACCESSORIES

	Cat. No.
White 2 metre shower hose	83-593529
1 metre riser rail	83-593530
Water control tap	93-792452
Shower de-scaling powder	95-711015
Curtain and rail pack	83-792802
Curtain and rail pack with non slip bath mat	83-792801

Spare parts/accessories can be supplied against any Visa or Access cards from Redring Sales 01733 456700.

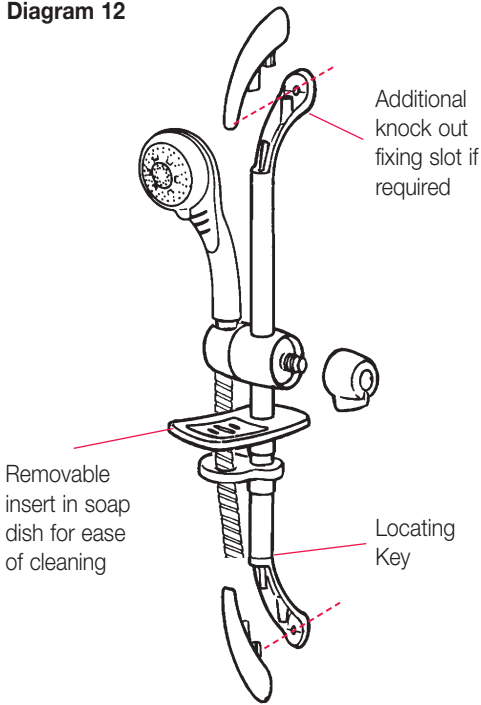
INLET ASSEMBLY SHOWING FILTER POSITION

Diagram 11



ASSEMBLY OF RISER RAIL, HANDSET AND SOAP DISH

Diagram 12



Guarantee

We, GDA Applied Energy, guarantee that should this instant water heater prove to be defective by reason of faulty workmanship or material within 24 months (12 months outside the U.K.) of the date of purchase or commencement of hire purchase we will replace the defective parts **FREE OF CHARGE** on condition that:

- The appliance has been correctly installed and used only on the supply circuit or voltage stamped on the rating plate.
- The appliance has been used in accordance with these instructions and has not been tampered with or otherwise subjected to misuse, neglect or accident.
- The appliance has not been taken apart, modified or repaired except by a person authorised by us.
- Evidence of the date of purchase in the form of an invoice, receipt (or hire purchase documents) is included with the appliance if returned under guarantee.

'This Guarantee does not affect your statutory rights'

Full details of Terms and Conditions of Guarantee are available on request from : -

REDRING®

GDA APPLIED ENERGY LTD, MORLEY WAY, PETERBOROUGH PE2 9JJ.

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