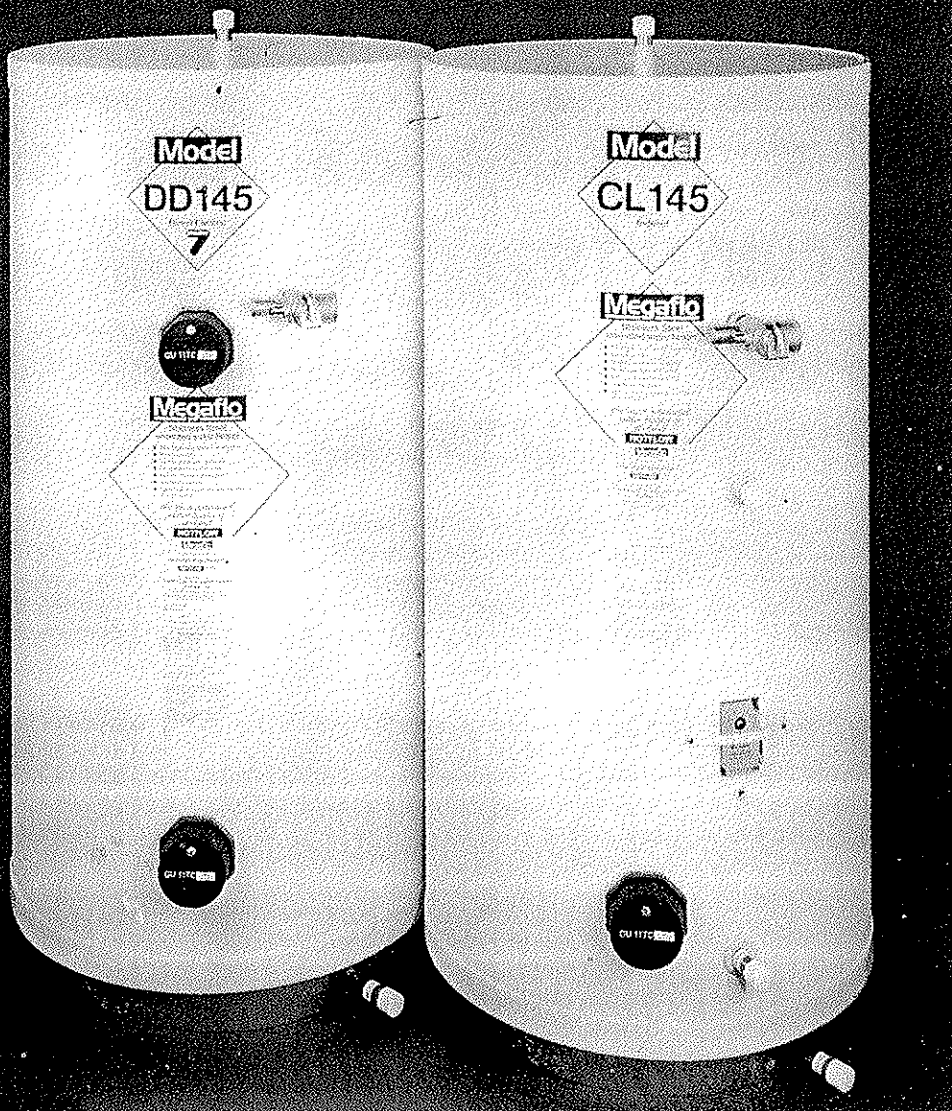


TECHNICAL DATA & INSTALLATION INSTRUCTIONS

Megaflo[®] Mk III

UNVENTED
MAINS
PRESSURE
WATER
HEATER

In pursuit of perfection...



MEGAFLO is one of the world's leading Unvented Water Heaters.

Your MEGAFLO is made from Duplex - one of the finest grades of stainless steel available.

Each unit has been individually tested with the inspector's name on the label attached to each unit.

You are in good company with MEGAFLO as they are installed by the premier housebuilders in the U.K. - Berkeley Homes, McCarthy & Stone, Cala Homes, Crest Homes, Croudace, Fairclough, Ward Homes, Fairbriar, Michael Shanly and David Wilson Homes to name but a few.

Your MEGAFLO is quite simply an advanced version from the same family of 200 million Unvented Mains Pressure units in operation worldwide.

POSITIVELY no other type of Hot Water System can provide all of the performance or the benefits that can be achieved from Unvented units such as MEGAFLO.

'Unvented' is the accepted worldwide method of heating water. Always insist that your property has one A MEGAFLO Unvented!

Manufactured By
FABDEC LTD.



1992
THE QUEEN'S AWARD FOR
EXPORT ACHIEVEMENT

*Registered Trademark of Holflow Limited

No external expansion vessel required



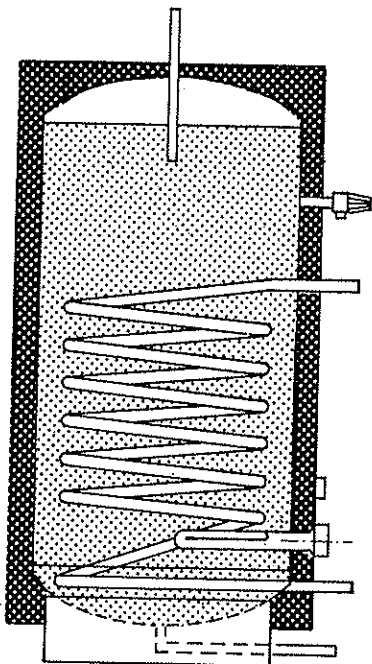
BEAB
Approved



Made in the U.K.

IMPORTANT Now that you have fitted a MEGAFLO You automatically qualify for a 10% Discount on a HOME CONTENTS POLICY underwritten by GRE (UK) Ltd. Simply complete the attached form and return by post.

INSTALLATION INSTRUCTION MANUAL TO BE LEFT WITH THE UNIT



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Megaflo[®] SPECIFIER'S GUIDE

THE LAW AND UNVENTED

It IS legal to fit an Unvented unit into any property. U.K. water bye-laws were amended to allow this change. There is no longer a requirement to have the old fashioned 'Tank-in-the-Roof' system.

THE BENEFITS OF UNVENTED SYSTEMS

- * A real power shower without a noisy pump.
- * No tanks in the roof - No Ballcocks to jam or leak - No noise from the tank filling.
- * All your water - hot and cold - is direct from the mains.
- * Site Megaflo wherever convenient.
- * Megaflo fills your bath in minutes and will run two at the same time (subject to good plumbing and flow rates).
- * Megaflo works off Electricity (Economy 7) or any Oil or Gas fired boiler.

THE BENEFITS OF MEGAFLO

- * No expansion vessel needed.
- * No servicing required.
- * Operates at 3 bar, which is much higher than most other unvented units.
- * Has a finish as good as any appliance.
- * Has one of the lowest heat losses for maximum economy.

MEGAFLO vs THERMAL STORE

Thermal Store Systems should not be compared to Unvented units.

Thermal Store unit is a cylinder full of water from a boiler heating a coil carrying the domestic hot water supply. Flow rates are half approximately that of a MEGAFLO.

Unvented units, such as MEGAFLO, can deliver up to 55 litres per minute and the above units cannot match this.

Manufacturers of Thermal Store units measure the performance of their units in temperature rise and flow rates. Unvented units are not dependant upon flow rates versus temperature rise and will deliver, without restriction, full mains pressure and flow at whatever temperature the thermostat setting on the unit is programmed for. The result is that an Unvented unit, subject to good plumbing practice, has a much higher flow rate and will feed more than one outlet at the same time very comfortably.

MEGAFLO vs THE COMBI BOILER

Combi Boiler flow rates are similar to, or even lower than, Thermal Store units and again cannot be compared to the flow rates and pressure available from a MEGAFLO.

EXPANSION VESSELS - EXPANSION OF HOT WATER

No expansion vessel is required with your MEGAFLO Mk III. and No servicing is required.

A built-in air gap replaces the external expansion vessel. The lower point of the hot water outlet (as can be seen from the diagram) is extended down into the cylinder and below the top of the water level. The area above the water level is the Air Gap

and accommodates the expansion of water.

Discharge pipe from the Tun Dish must be 28mm copper or high temperature plastic.

STANDARD ENERGY LOSSES (1)

The heat loss of each Megaflo model while maintaining the temperature of the stored water at 65°C.

MODEL (CL/D/DD)	HEAT LOSS (W) PER HOUR	ENERGY LOSS (2) MAX. DAILY (kWh)
125	75	1.80
145	80	1.91
170	85	2.05
210	95	2.27
250	104	2.50
300	116	2.78

- 1) Tests carried out by BBA. Slight variations may occur with changes in water mains supply pressure.
- 2) These figures relate to a 45°C differential between the stored water and ambient temperature.

WITH A MEGAFLO THE FOLLOWING PARTS ARE SUPPLIED AS STANDARD

3 kW Incolloy 825 heating element incorporating thermostat to 75°C and resettable safety cut-out set at 80°C.

- 1 Element on CL Indirect models up to 170 litre
- 2 Elements on CL Indirect models 210-300 litres (available on request)
- 1 Element on D Electric models
- 2 Elements on DD Electric Economy 7 models

Cold Water Control Valve - 22mm LPNT 75S, a one piece valve comprising -

Line Strainer - Non-Return Valve (check valve), Pressure Limiter (set at 3 bar) and Cold Water Balancing Port.

Tun Dish 3/4" x 1" F x F

Temperature/Pressure Relief Valve factory fitted and set at 95°C/10 bar (Model T575W or 21748).

ON 'CL' INDIRECT MODELS THE FOLLOWING ARE ALSO STANDARD.

Danfoss Motorised Valve - 2 Port.

Cylinder Thermostat - factory fitted to cylinder, maximum setting 85°C.

Thermal Cut-Out set to operate at 87°C ± 3°C.

See Pages 5-9 for the operational details of each component.

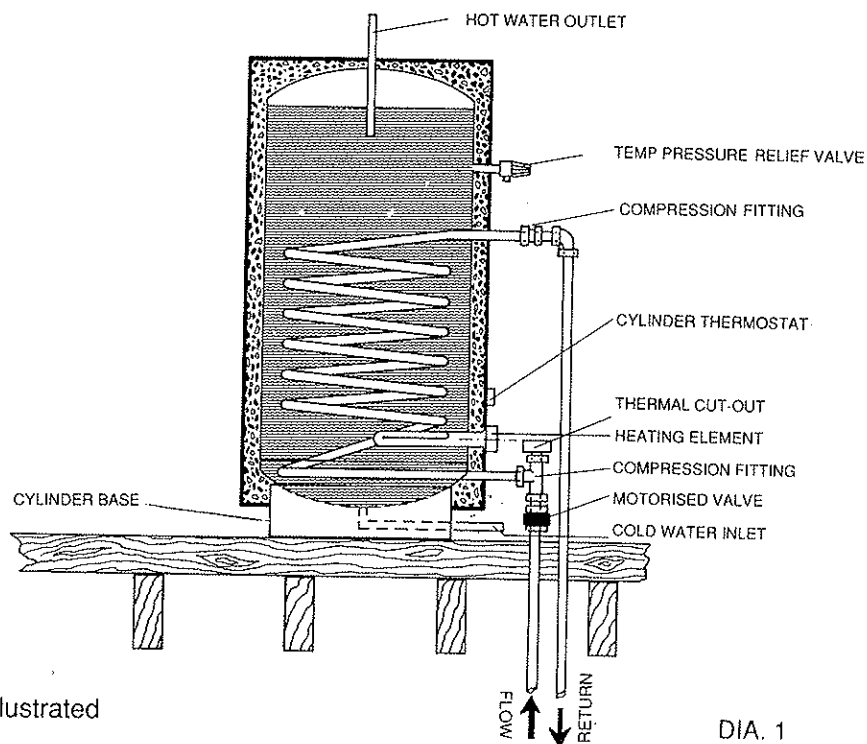
WALL MOUNTING

A wall mounting bracket kit is available for Megaflo models 125 and 145. This is manufactured from mild steel angle which has been white plastic coated.

TAPS

We suggest thermostatic mixertaps are used for economy and safety. Kwikot make a complete range - Thermostatic Bath/Shower Mixers, Sink Mixers, Basin Mixers and Shower Mixers.

Megaflo Mk III Installation Instructions



'CL' Indirect Model Illustrated

DIA. 1

IMPORTANT

PLEASE READ THESE INSTALLATION INSTRUCTIONS CAREFULLY BEFORE INSTALLING THE MEGAFLO WATER HEATER. INCORRECT INSTALLATION MAY INVALIDATE GUARANTEE.

COMPONENT CHECK LIST

Before commencing installation check that all the components for your MEGAFLO unit are contained in the kit.

The following components are supplied as standard with your MEGAFLO unit:-

- Heating Element
- Combined Line strainer/non return valve and pressure limiting valve with cold water balancing facility
- Factory fitted temperature/pressure relief valve 95°C/10 Bar
- Motorised valve - 2 port (CL units only)
- Cylinder thermostat (CL units fitted)
- Thermal cut-out/wiring box (CL units only)
- Tun Dish

SITING THE MEGAFLO

The unit can be placed anywhere convenient. Because it is connected directly to the mains water supply it is equally efficient on any floor - ground, first or second. Avoid areas that may be subjected to frost. Try to keep pipe runs as short as possible for maximum economy, especially hot water discharge pipes running down from the MEGAFLO.

The unit can be fitted into a conventional airing cupboard and does not require any additional insulation.

ALL MEGAFLO UNITS MUST BE INSTALLED VERTICALLY

CHECK WATER PRESSURE AND FLOW RATES

We suggest that 1.5 bar pressure and 22 litres per minute flow

rate be the minimum requirements for satisfactory operation. Less than this the unit will still operate but you will not be able to run two, or more, outlets at the same time. 85% of all U.K. homes have more than 2 bar pressure.

The mains water supply must not exceed 20 bar. If it does a special pressure reducing valve will be required.

IMPORTANT NOTE:- COMPRESSION FITTINGS

As all pipes on the MEGAFLO are in stainless steel brazing is difficult therefore **ONLY USE COMPRESSION FITTINGS** when connecting up your pipework to the MEGAFLO.

CONNECTING THE WATER SUPPLY

Pipework is not supplied.

All pipework should be installed using good plumbing practice. We recommend 22mm mains cold supply be used. Refer to Dia. 8 for suggested installation layout.

Install a Stop Cock Valve between the cold water mains-in supply and the MEGAFLO so that the unit can be isolated if required.

COLD WATER COMBINATION VALVE

The LPNT 75S Combined Cold Water Valve can be connected anywhere on the cold water mains prior to the unit. There is no requirement to site it close to the unit. It can even be located at a point near to where the mains supply enters the premises if this is more convenient. See Dia. 8.

The LPNT 75S is a complete one-piece unit, ensure that the

arrow is pointing in the same direction as the mains water supply flow when connecting.

The Cold Water Balancing Port, on the valve, allows you to connect the cold water mains to the rest of the property thus giving balanced pressure throughout. If this facility is not required leave capped off.

DRAIN TAP

A Drain Tap to drain the unit, must be fitted to the cold water inlet pipe somewhere between the MEGAFLO unit and the Cold Water Combination Valve and at as low a level as possible, see Dia. 8.

PIPEWORK TO TAPS

Ideally a 22mm piperun should supply the outlets throughout the property with short lengths (max. 1 metre) runs of 15mm piping to baths, showers and basin taps. Smaller bore pipe can be used to suit taps.

TUN DISH

See Dia. 8 for fitting details.

The Tun Dish supplied must be fitted visible to the occupier. The discharge pipe can be either 28mm copper or a plastic which withstands high temperatures. Regulations do not permit more than 3 x 90° bends between the MEGAFLO unit and the outflow. Between the Temperature/Pressure Relief Valve and the first 90° bend there must be a fall of at least 300mm (12 inches). The fall of the pipework must be continuous and the pipe should terminate in a gully or be bent backwards onto an outside wall, in a place where discharge cannot be injurious to persons.

If you need to site the MEGAFLO in the middle of the house your discharge pipe to the tun dish can be as far away as 9m., which in most cases is enough to run the final discharge point. After 9m. increase pipe size to a greater diameter than 28mm and accordingly for subsequent 9m. lengths.

SECONDARY CIRCULATION

This is particularly easy to fit on MEGAFLO units, a Sweep Tee (not supplied) is needed for all 'CL' (Indirect) Models if Secondary Circulation is required. See Dia. 8 for fitting. A Non-Return Valve (not supplied) must be fitted to prevent backflow. You will need a pump to circulate the hot water (not supplied). The return feed is in 15mm pipe and all work can be done on site.

On 'DD' Models a Secondary Return is factory fitted and must be specified when ordering.

WARNING

Under no circumstances must the factory fitted Temperature and Pressure Relief Valve be removed. This will totally invalidate any guarantee or claim.

The Cold Water Combination Valve LPNT 75S must be fitted or the MEGAFLO unit will not perform satisfactorily.

DO NOT ATTEMPT TO VENT THE PRIMARY CIRCUIT THROUGH THE MEGAFLO UNIT.

All boilers should be installed to manufacturers' instructions, and the primary circuit through the MEGAFLO must be pumped.

WIRING

All electrical wiring should be carried out by a registered electrical contractor and must conform to the latest IEE Wiring Regulations.

Refer to Diagrams 2, 4 & 7 for full wiring instructions.

Do not switch the power on until the unit has been filled with water and all wiring has been earthed.

FITTING IMMERSION HEATERS

These are supplied as standard.

An 'O' ring is supplied as the seal and must be fitted against the flange of the element. Take care not to cross thread and **DO NOT USE** an other type of seal.

As our heating element is Incolloy 825 and is fitted with a cut-out and thermostat for safety, a non-standard 1 $\frac{3}{4}$ " boss is fitted to the unit. Replacements can only be obtained from us or your authorised dealer.

All our heating elements have a built-in manual reset cut-out. This will operate if the immersion heater thermostat fails.

WARNING: Ensure that the immersion heater thermostat is set to 60-65°C.

FITTING THE THERMAL CUT-OUT & PRIMARY CONNECTIONS

Refer to Dia. 2 and/or 4 for wiring.

The Motorised Valve supplied and the Thermal Cut-Out (Hi-Limit stat) must be fitted to the primary flow.

Use compression fittings only.

OPERATION OF THE CUT-OUT AND MOTORISED VALVE

To comply with BBA regulations and to prevent the temperature reaching 100°C the thermal cut-out supplied must be fitted as shown in diagram 1.

The thermal cut-out is wired in series to the cylinder thermostat. When the thermal cut-out senses an abnormal rise in temperature in the primary flow the electrical supply to the motorised valve will be cut, and the valve will be in the closed position thus cutting off the primary water from the boiler to the indirect coil in the cylinder. If this occurs it must be reset manually. If the thermal cut-out operates check the cylinder stat and/or boiler stat.

FILLING THE MEGAFLO WITH WATER

Ensure that all fittings, including immersion heaters, are tight.

1. Open a hot tap furthest from the unit.
2. Open the mains stop cock to fill the unit. When the water comes out of the tap the air gap in the top of the cylinder is generated automatically to take up the expansion of heated water.
3. Allow the hot water tap to run for a few minutes to flush out the system of swarf and dirt, then close.
4. Check the connections to the MEGAFLO for any leaks.
5. Your unit is now ready to use.

COMMISSIONING THE MEGAFLO

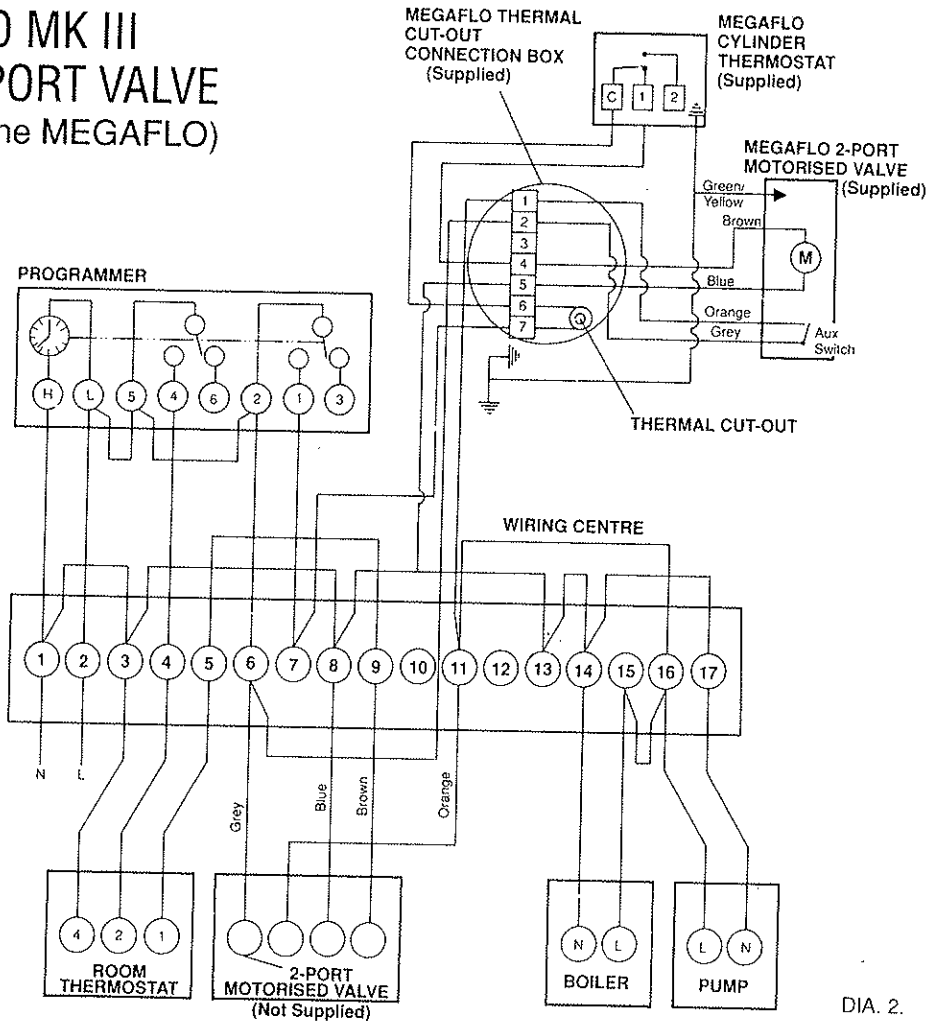
Switch on electricity to the immersion heater(s) (Direct system) or switch on the boiler (Indirect system). Refer to boiler manufacturers' instructions on commissioning.

Bring the unit to its maximum temperature setting of approx. 65°C. You should, on opening the water taps, have a good flow of hot and cold water assuming adequate water is supplied to the MEGAFLO.

Check that water does not discharge via the Tun Dish pipework during heating.

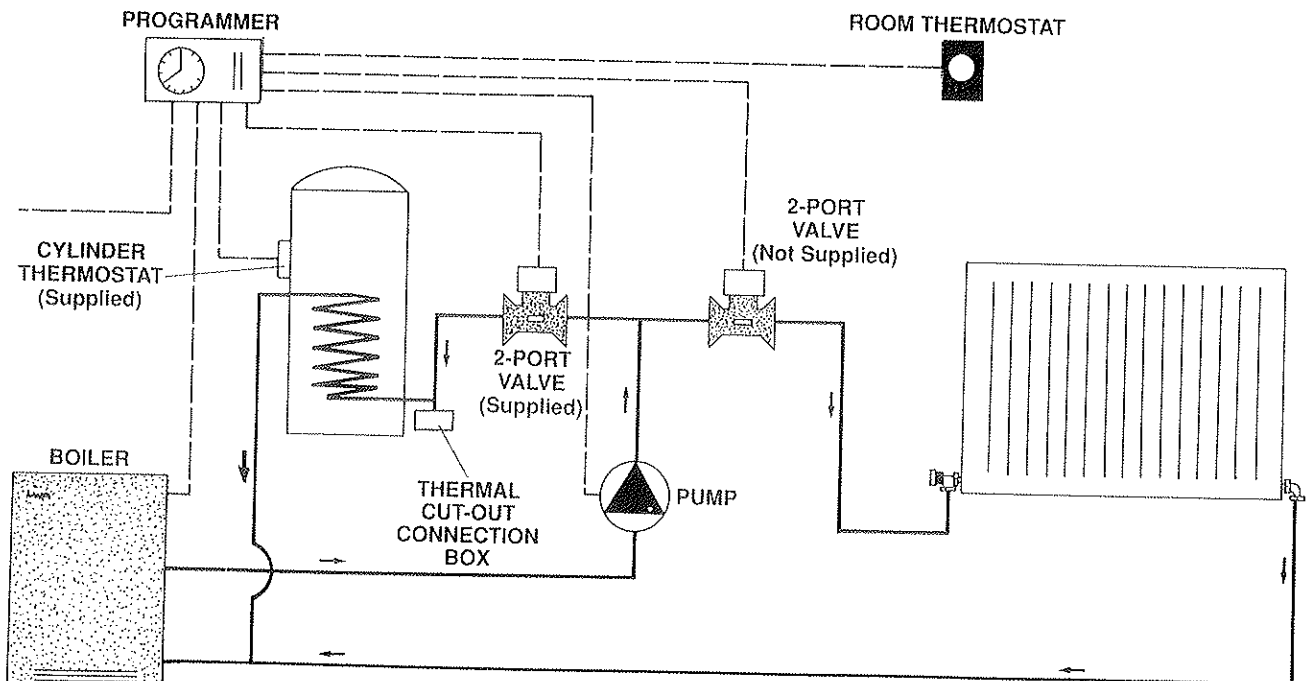
Recheck all fittings/joints for possible leaks.

WIRING DIAGRAM FOR MEGAFLO MK III USING 2 X 2 PORT VALVE (1 Supplied with the MEGAFLO)



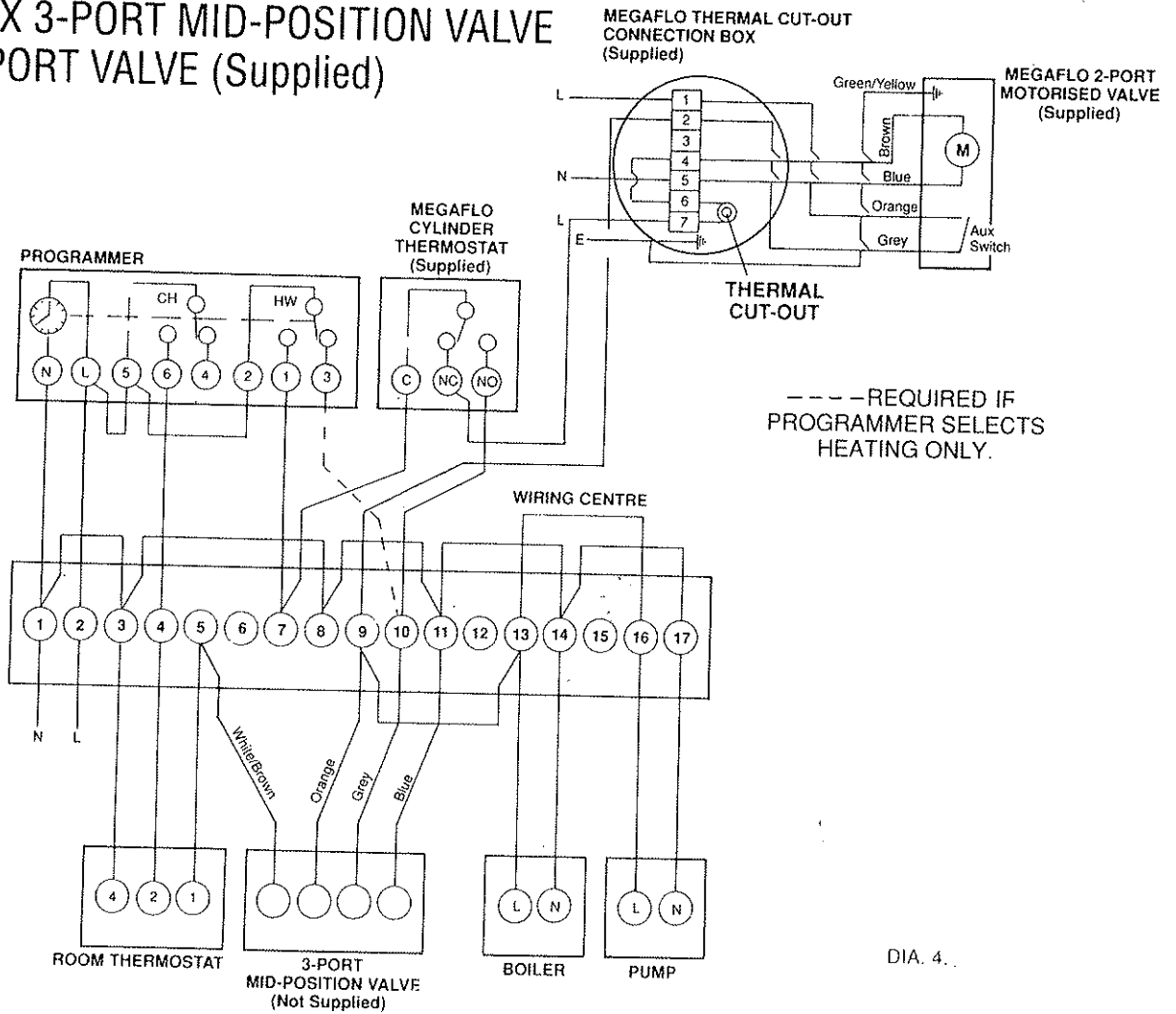
DIA. 2.

TWO 2-PORT ZONE VALVE SYSTEM

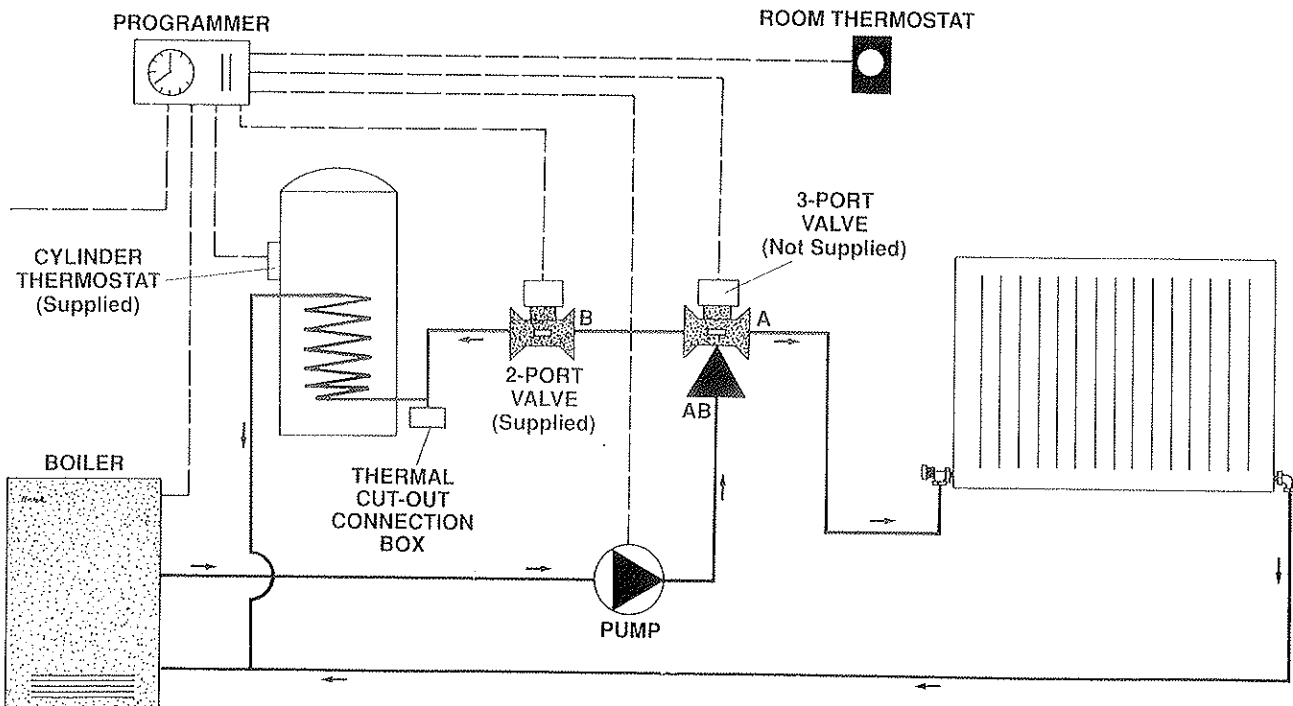


NOTE: OBSERVE FLOW DIRECTION ARROW ON ALL VALVES

1 WIRING DIAGRAM FOR MEGAFLO
 1 USING 1 X 3-PORT MID-POSITION VALVE
 & 1 X 2-PORT VALVE (Supplied)



2-PORT & MID-POSITION VALVE SYSTEM



SCALE

In hard water areas lower water temperatures can result in less scale being deposited.

If a water softener is used it should be capable of flows of approx. 50 lt/min. This will maintain maximum performance of the MegaFlo.

If no descaler or softener is used then the Heating Element(s) will need descaling periodically for maximum efficiency.

DRAINING

Switch-off electrical power to immersion heaters and/or shut down the boiler.

Close the Stop Cock Valve to isolate the MEGAFLO unit.

Attach hosepipe to the Drain Cock having sufficient length to take water to a suitable discharge point.

Open Drain Cock.

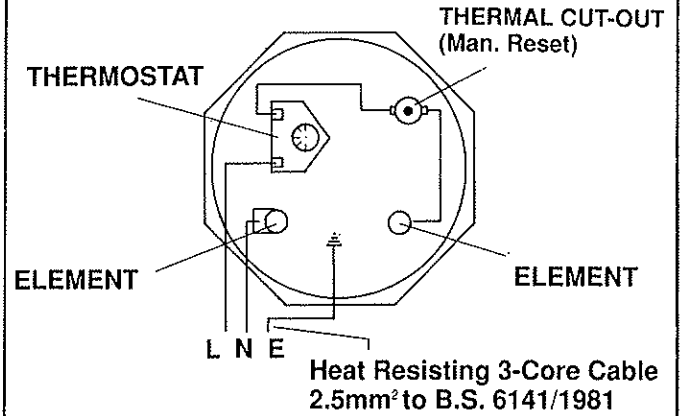
Open hot water tap nearest to the MEGAFLO.

If water fails to drain from MEGAFLO vent system by opening the Temperature/Pressure Relief Valve.

IMPORTANT DO'S AND DON'TS ON BOILER TYPES

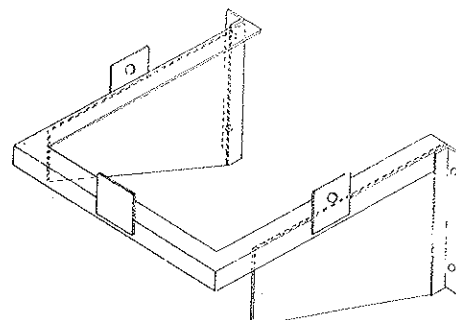
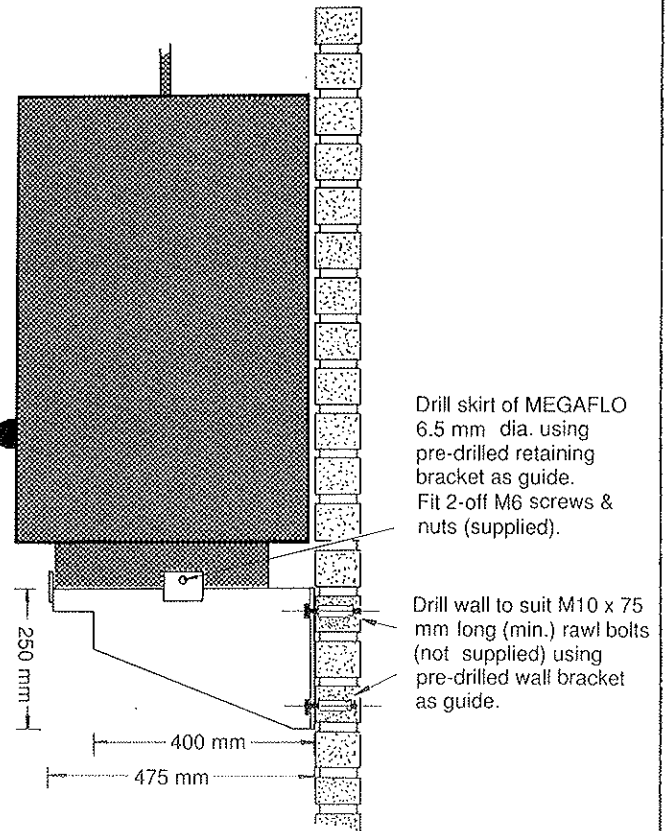
- * Do not use a coal or wood burning boiler.
- * However, virtually any boiler, oil or gas, can be used whether it is a sealed system or open vent type.
- * You cannot vent a boiler through the MEGAFLO.

IMMERSION HEATER WIRING

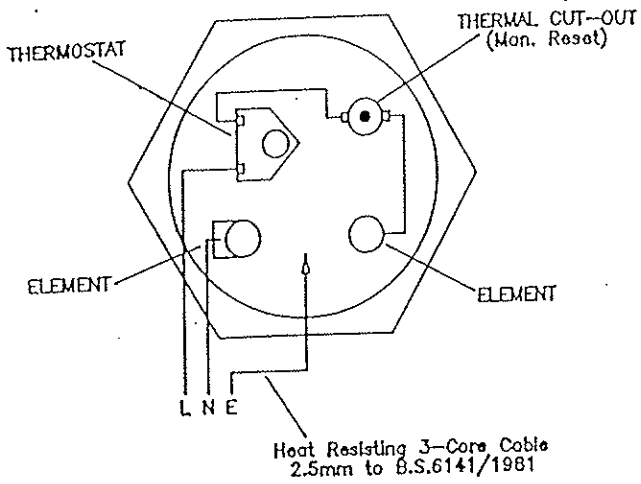


DIA. 7.

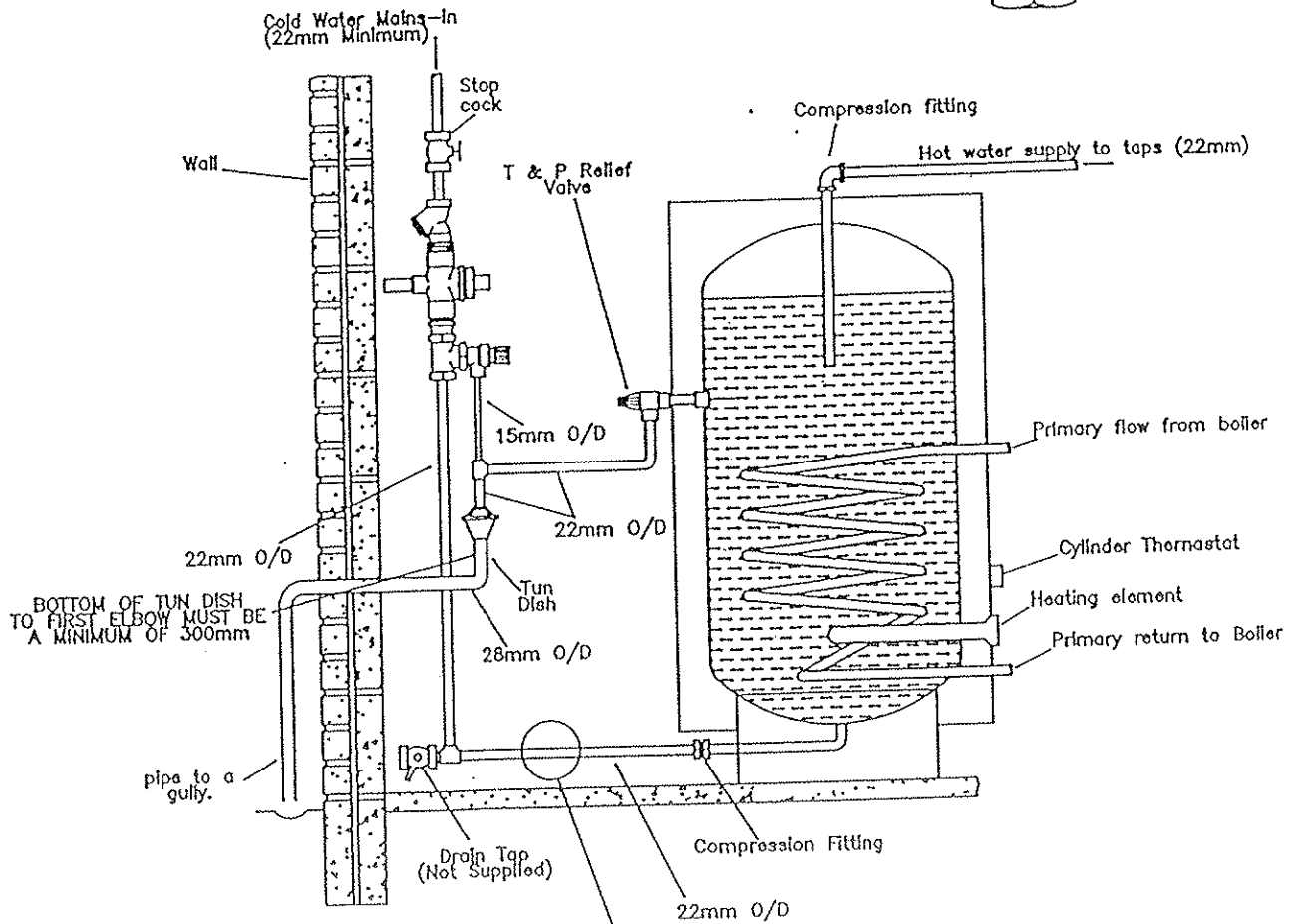
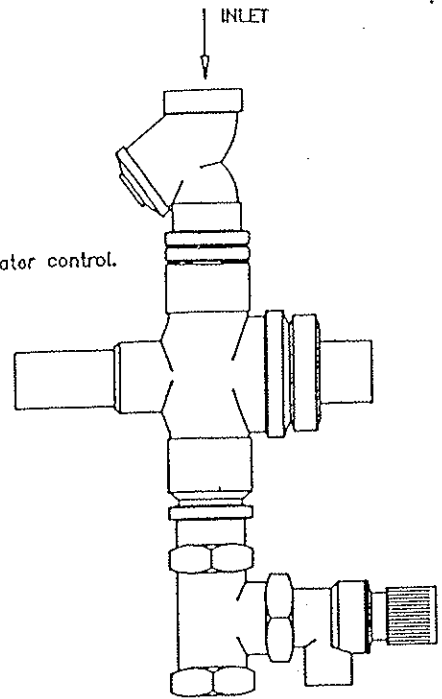
WALL MOUNTING BRACKET - Models 125 & 145



PIPEWORK INSTALLATION FOR MEGAFLO MKIII

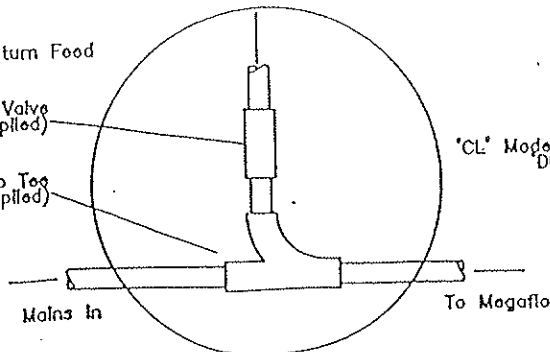


One piece cold water control.



SECONDARY CIRCULATION.

Return Feed
 15mm Non-return Valve (Not Supplied)
 22 x 22 x 15mm Sweep Tee (Not Supplied)

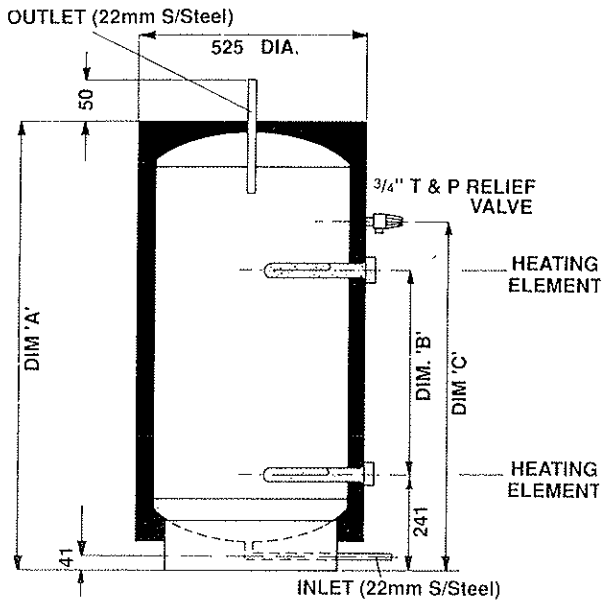


Secondary Return Tee
 'CL' Models - Fitted here as shown
 'DD' Models - Factory Fitted (On Request)

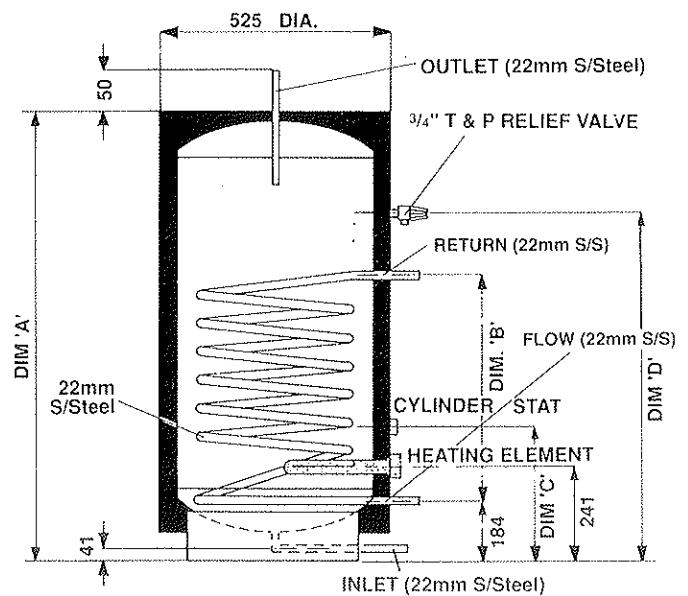
DIMENSIONS FOR DIRECT D AND DD UNITS

SIZE	UNIT WEIGHT KGS		A	B	C	MODEL D WITH 3 kW Heat up	MODEL DD ECON 7 MODELS TO HEAT FOR BOOST
	EMPTY	FULL					
125	26	150	988	—	752	111 mins	n/a
145	28	171	1114	337.5	853	137 mins	60 mins to heat top 55 litres
170	33	200	1271	469.5	979	174 mins	60 mins to heat top 55 litres
210	42	250	1522	681.5	1179	215 mins	60 mins to heat top 55 litres
250	49	296	1774	891.5	1381	257 mins	60 mins to heat top 55 litres
300	58	355	2088	1152.5	1632	308 mins	85 mins to heat top 55 litres

DIRECT UNITS



INDIRECT UNITS



DIMENSIONS FOR INDIRECT CL UNITS

SIZE	UNIT WEIGHT KGS		A	B	C	D	COIL CAP LITRES	COIL SURFACE (m ²)	COIL RATING	HEAT UP TIMES (mins)
	EMPTY	FULL								
125	28	152	988	450	371	752	2.60	.521	15.43 kW	21.0
145	31	174	1114	500	416	853	2.91	.586	16.68 kW	23
170	36	203	1271	600	466	979	3.54	.716	17.00 kW	23.5
210	47	255	1522	650	549	1179	3.85	.782	19.72 kW	27.5
250	54	302	1774	650	633	1381	3.85	.782	19.72 kW	32
300	64	361	2088	650	738	1632	3.85	.782	19.72 kW	41.5

PROBLEM SOLVING

1. No water at the tap from MEGAFLO
 - a) Check that the mains supply is on.
 - b) Check that the line strainer is not blocked.
 - c) Check that the combination valve has been fitted so that the arrows on it faces in the direction of the water flow.
2. If the water at the hot tap is cold
 - a) Boiler (indirect): Ensure that the boiler has been switched on and working correctly.
 - b) That no air locks have occurred in the primary system.
 - c) Check the following are all connected correctly
 - Cylinder stat.
 - Megaflor Thermal cut out (Reset by pushing red button)
 - Megaflor motorised valve
 - Boiler thermostat (max. setting 82°C)
 - Boiler thermal cut out (if fitted) (Reset by pushing red button)

SPARES

When ordering replacement parts serial number on unit should be quoted.

Part/Component references:-

Heating Element Assy	– Megaflor 3kW Element	950232
Cylinder Stat	– Megaflor TH300	950030
Thermal Cut-Out	– Megaflor TCO 310	950036
Motorised Valve	– Megaflor MV320	950040
Tun Dish		950206
Temp./Pressure Relief Valve		950347
Cold Water Combination Valve – LPNT 75S		950325

DIRECT (ELECTRIC) MODELS

WARNING:- ISOLATE UNIT AT MAINS ELECTRIC SUPPLY BEFORE OPENING HEATING ELEMENT COVER.

Ensure that power is available to the element from the electric mains and that the isolator is on. If there is power to the element but the element fails to operate check as follows:-

- a. Check that the thermal cut-out on the elements have not operated. If they have, reset by pressing the red button. If they cut out again as the water heats up the cylinder thermostat has failed and needs replacing. Fit a new thermostat and re-set the thermal cut-out.
- b. With power on and the thermal cut-out reset check the output terminal on the thermostat. If the circuit cannot be completed the thermostat and/or cut-out needs replacing.
- c. Check current amps drawn by heater, should be approx. 15 amps. If heating element fails to operate, change the complete heating element assembly.

Important:- In the event of an over heat situation reset all thermal cut-outs.

IF HOT WATER DISCHARGES FROM TUN DISH:

WARNING:- DO NOT TURN THE MAINS WATER SUPPLY OFF - SWITCH OFF (1) POWER TO IMMERSION HEATERS (DIRECT) OR (2) SHUT DOWN HEATING BOILER (INDIRECT).

If hot water discharges from the tun dish on CL Models there could be a fault with the thermal cut-out, cylinder thermostat or temperature/pressure relief valve.

On an electric DD model unit the fault could lie with the heating element thermostat.

We recommend that you call your installer or Megaflor on 0691 622811

WARNING: Should the factory-fitted Temperature & Pressure Relief Valve be tampered with or removed your guarantee will be invalidated neither the Distributor or Manufacturer shall be responsible for any consequential damage howsoever caused.

GUARANTEE

FABDEC LTD guarantee that should this water heater prove to be faulty in manufacture or materials during its first 5 years of operation then the vessel will be exchanged free of charge provided that:-

1. It has been installed by a competent installer and as per the instructions contained in this manual.
2. It has not been modified in any way other than by Fabdec Limited.
3. It has been used only for potable water.
4. It has not been installed outside or in a location liable to be subjected to frost, nor has it been tampered with or been subjected to misuse or neglect.
5. No factory fitted parts have been removed for unauthorised repair or replacement.

The immersion heater and all controls are guaranteed for a period of 12 months from date of purchase - Scaling excepted.

Evidence of purchase and date of supply must be submitted.

This guarantee does not effect your statutory rights.

FABDEC LTD., Grange Road, Ellesmere, Shropshire SY12 9DG Tel.: (0691) 622811

SERVICE

Contact your local approved
Installer

SALES & TECHNICAL

Sole Distributor:-

HOTFLOW LTD.
P.O. Box 121
STANMORE
Middlesex HA7 3PX
Tel.: 081 954 2242
Fax: 081 954 0572

AFTER INSTALLATION SERVICE

Manufactured By:-

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Grange Road
ELLESMERE
Shropshire SY12 9DG
Tel.: (0691) 622811
Fax: (0691) 622816