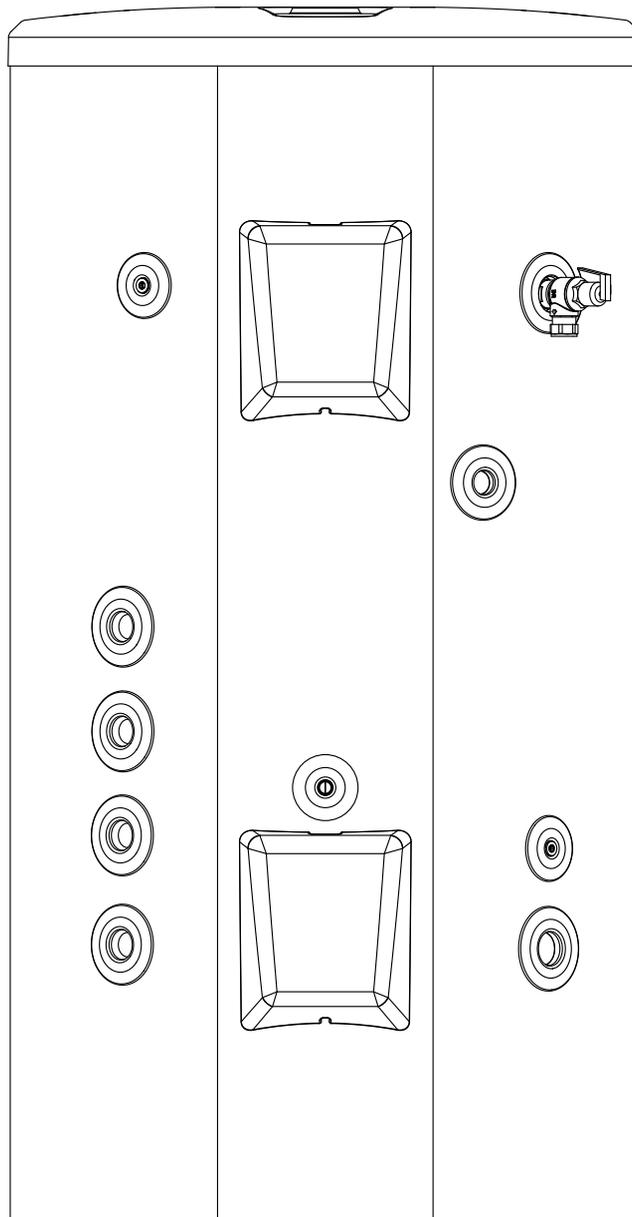




Unvented Solar Hot Water Cylinders (400Si - 2500Si)



Important

Please read & understand all these instructions before commencing installation.
Please leave this manual with the customer for future reference

CONTENTS

Product Specification	3
Introduction	3
General requirements	3
THE BENCHMARK™ SCHEME	3
Checklist	4
Storage and handling	5
Solar Dimensions	6
Technical data	7
ErP data information	7
Immersion allocation table	9
Wiring Schematic	10
Limitations	11
Water supply	11
Installation & Commissioning	12
General Installation	12
Cold Water Supply	12
Installation Schematic	13
Discharge Pipe work	16
Solar heating	18
Auxillary heating	19
Immersion heaters	21
Commissioning	22
Maintenance & Servicing	23
Maintenance requirements	23
Clean the strainer	23
Fault finding	25
Servicing	26
Spares	26
Accessories	27
Spares drawings	28 - 30
Benchmark check list	31
Service Record	32
User Guide	33
Lifetime Guarantee Terms and Conditions	33



PRODUCT SPECIFICATION

Introduction

Congratulations on your purchase of a Megaflo **Commercial Solar** unvented water heater. The Megaflo **Commercial** products are manufactured in the UK from top quality materials and meets all the latest relevant safety and constructional standards. The high grade Duplex stainless steel cylinder offers exceptional strength and corrosion resistance which is backed by a 30 year warranty* Its performance and insulation levels exceed the latest requirements of Building Regulation Part L.

The Megaflo **Commercial** unvented water heater can be fed directly from the cold water mains supply to the property without the need for separate feed cisterns or vent pipes. It is supplied complete with all its necessary inlet and safety controls.

The Megaflo **Commercial** cylinder range all require a separate expansion vessel to accommodate any expanded water.

General Requirements

IMPORTANT: Please read and understand this product guide before installing the Megaflo **Commercial Solar** water heater. Incorrect installation may invalidate the warranty*.

The Megaflo **Commercial Solar** must be Installed, Commissioned and Maintained by a competent installer in accordance with Building Regulation G3 (England and Wales), Technical Standard P3 (Scotland) or Building Regulation P5 (Northern Ireland) and the Water Fitting Regulations (England and Wales) or Water Byelaws (Scotland).

THIS APPLIANCE CAN BE USED BY CHILDREN AGED FROM 8 YEARS AND ABOVE AND PERSONS WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE IF THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE IN A SAFE WAY AND UNDERSTAND THE HAZARDS INVOLVED. CHILDREN SHALL NOT PLAY WITH THE APPLIANCE. CLEANING AND USER MAINTENANCE SHALL NOT BE MADE BY CHILDREN WITHOUT SUPERVISION

WARNING: Do not switch on if there is a possibility that the water in the heater is frozen.

THE BENCHMARK™ SCHEME

Benchmark™ places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. The Benchmark™ Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark™ Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the Scheme. Visit www.centralheating.co.uk for more information.

* See Terms and Conditions of warranty on page 33

Note: This Megaflo **Commercial Solar** cylinder needs a minimum 100L/min water supply at open outlet.



CHECKLIST

Before commencing installation check that all the components for your Megaflo **Commercial Solar** unit are contained in the package. The following components are supplied as standard with your Megaflo **Commercial Solar** unit:

- Table 1: Cold Water Inlet Control Kit (as below, depending on model)

Commercial Cylinder Volume (ltr)	Pressure Reducing Valve	Pressure Relief Valve	Single Check Valve
400 - 500	1" Integrated inlet control valve		
800	1.25" (1.5 - 6 bar) or (5 -10 bar)	1" x 1.25" (8 bar) or (13 bar)	1.25"
1000	1.25" (1.5 - 6 bar) or (5 -10 bar)	1" x 1.25" (8 bar) or (13 bar)	1.25"
1250 - 1450	1.5" (1.5 - 6 bar) or (5 -10 bar)	1" x 1.25" (8 bar) or (13 bar)	1.5"
2000 - 2500	2" (1.5 - 6 bar) or (5 -10 bar)	1.25" x 1.5" (8 bar) or (13 bar)	2"

- Table 2: Expansion Vessel (as below)

Commercial Cylinder Volume (ltr)	Expansion Vessel Size (ltr)	Mounting Kit	Weights
400 - 500	60	Floor Mounted	12kg
800	100	Floor Mounted	17kg
1000 - 1250	150	Floor Mounted	24kg
1450	200	Floor Mounted	38.5kg
2000 - 2500	300	Floor Mounted	41kg

- Factory fitted Temperature & Pressure Relief Valve, set at 90°C / 1 MPa (10bar) or factory fitted Temperature & Pressure Relief valve set at 90°C / 1.5MPa (15bar) Depending on model.
- Connection size 1 1/4" BSP male to cylinder and 1 1/4" BSP female outlet.
- Tundish 1 1/4" inlet, 1 1/2" outlet.
- Thermostat and Thermal cut-out.
- Isolating Valve, 1", 1.25", 1.5" or 2" depending on the model.
- 1" Drain Valve.
- 2-Port Motorised Valve, 1 1/4" or 1 1/2" depending on the model
- All connections BSP female.

Notes:

1" Integrated inlet control valve is not assembled.

STORAGE AND HANDLING

Please take care when handling a packaged Megaflō **Commercial Solar**. The unit is heavy and must only be moved manually within safe working practices. If the unit is to be stored before installation, it must be placed on a secure, level surface and in a dry, frost free environment.

Precautions to be carried out prior to commencement of work:

1. Tidy area ensuring there is safe access and egress to installation place, free from trip hazards.
2. Be aware of other people who may be in the area
3. Operate any machinery in accordance with training and operating instructions
4. Visually inspect the equipment prior to use, do not use damaged equipment.
5. Safe working practices are adopted for manual handling of appliances/parts
6. Correct PPE to be worn.

The Megaflō **Commercial Solar** unit must be vertically floor mounted. It can be placed anywhere convenient provided the discharge pipe(s) from its safety valves can be correctly installed. Areas that are subject to freezing must be avoided. Ensure that the floor is level and of sufficient strength to support the "full" weight of the unit when filled with water (refer to Table 4 for unit weights). Pipe runs should be kept as short as possible for maximum economy. Access to associated controls, immersion heaters and indirect controls should be possible for servicing and maintenance of the system.

To aid installation, the Megaflō **Commercial Solar** is provided with lifting points located at the top of the unit. To access the lifting eyes please remove the red outlet grommet and the top cover. The weights of the units are noted on Table 4.

FIGURE 1: Lifting

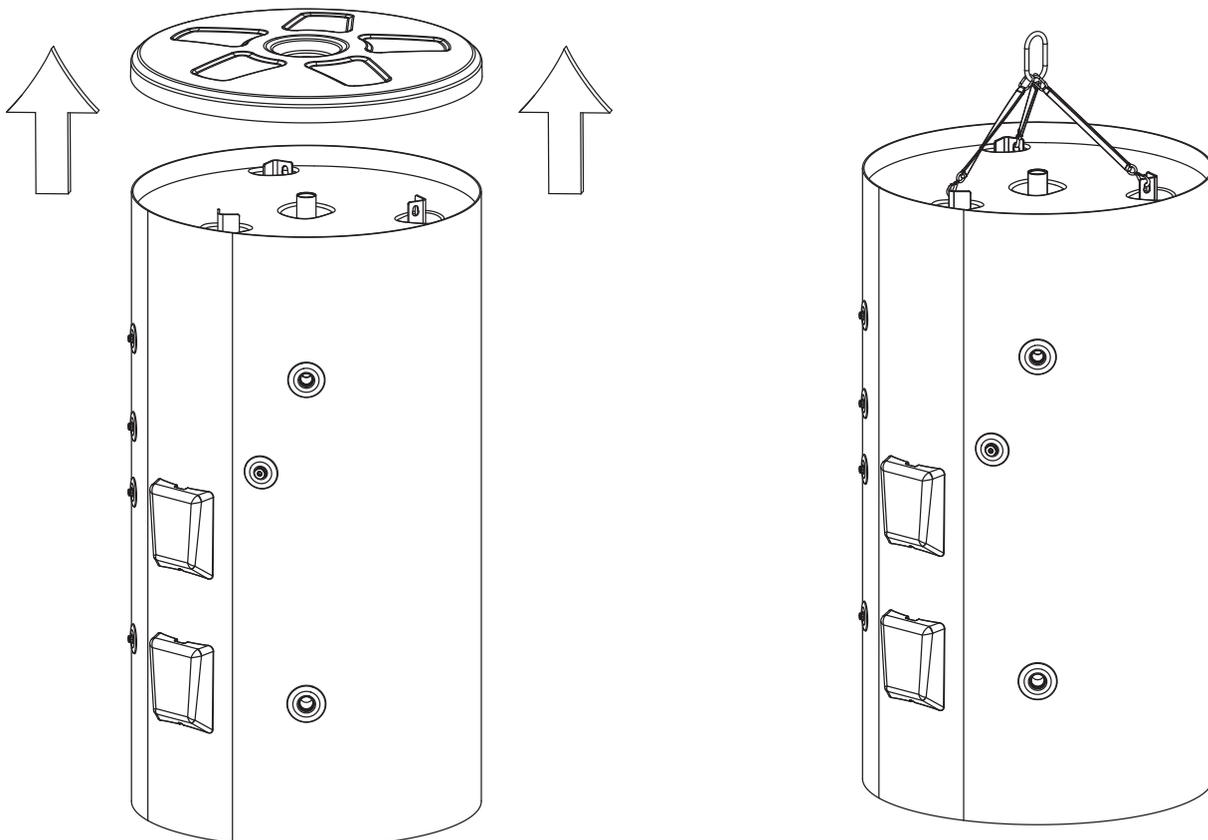


FIGURE 2: Solar Dimensions

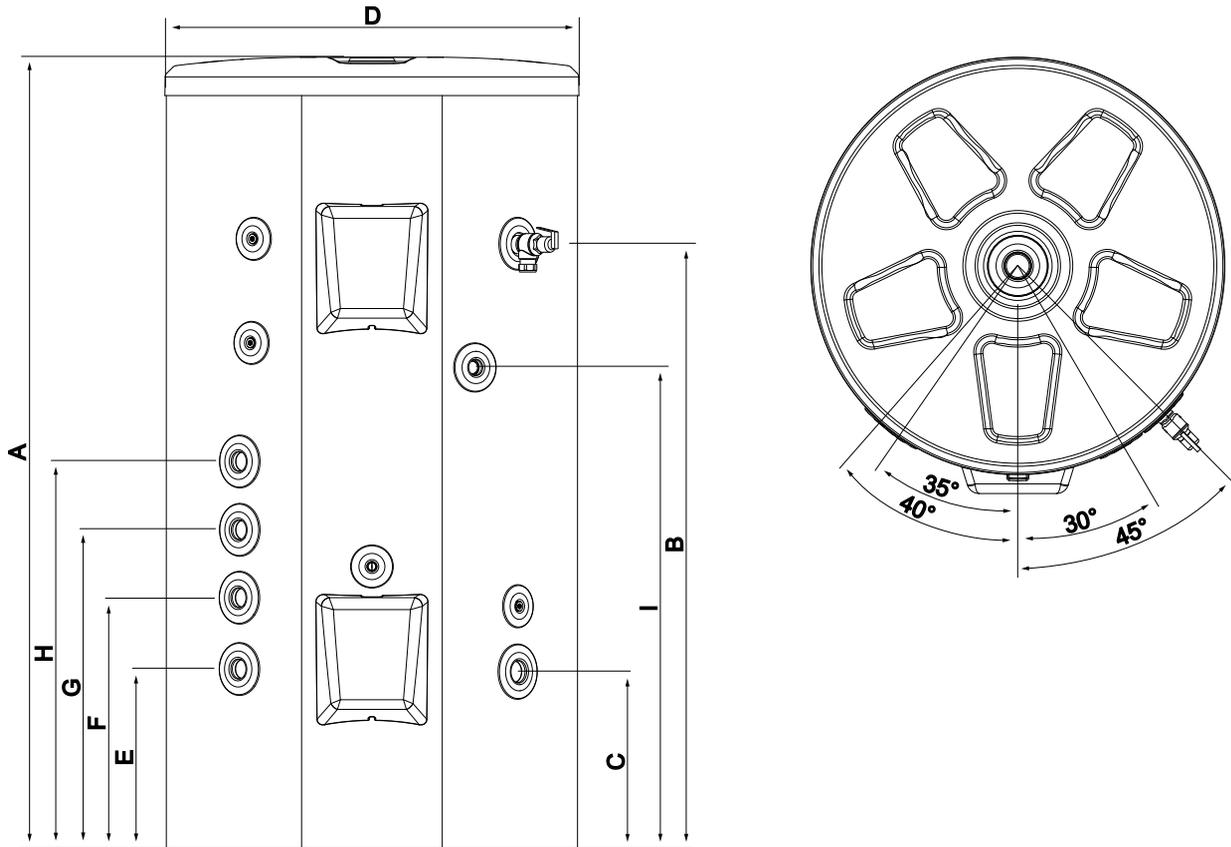


Table 3: Solar measurements

	Connection	400L	500L	Connection	800L	1000L	Connection	1250L	1450L	Connection	2000L	2500L
A	N/A	1651	1804	N/A	1906	2301	N/A	1936	2253	N/A	2014	2419
B	N/A	1261	1413	N/A	1487	1882	N/A	1408	1731	N/A	1410	1815
C	1 1/4"	396	396	1 1/2"	437	437	1 1/2"	523	527	2"	606	606
D	N/A	872	872	N/A	1024	1024	N/A	1224	1224	N/A	1476	1476
E	1 1/4"	415	415	1 1/2"	443	443	1 1/2"	527	527	1 1/2"	599	599
F	1 1/4"	590	590	1 1/2"	618	618	1 1/2"	707	707	1 1/2"	779	779
G	1 1/4"	765	794	1 1/2"	793	793	1 1/2"	887	887	1 1/2"	989	989
H	1 1/4"	965	994	1 1/2"	993	993	1 1/2"	1117	1117	1 1/2"	1229	1229
I	1"	1005	1105	1"	1183	1433	1"	1408	1731	1"	1410	1815

NOTE: All connections BSP female threads

Table 4: Solar weights

Size (litres)	Unit Weight (kg)	
	Empty	Full
400	110	560
500	112	612
800	171	971
1000	195	1195
1250	333	1583
1450	339	1789
2000	465	2465
2500	471	2971

TECHNICAL DATA

Maximum mains water supply pressure	2.5MPa (25 bar)
Operating pressure/PRV (low pressure system)	0.60MPa (6. bar)
Operating pressure/PRV (high pressure system)	1.00MPa (10 bar)
Expansion vessel pressure (low pressure system)	1.0MPa (10 bar max)
Expansion vessel pressure (high pressure system)	1.6MPa (16 bar max)
Expansion relief valve setting (low pressure system)	0.8MPa (8 bar)
Expansion relief valve setting (high pressure system)	1.3MPa (13 bar)
Maximum design pressure (low pressure system)	0.80MPa (8 bar)
Maximum design pressure (high pressure system)	1.3MPa (13 bar)
T&P relief valve setting	1.0MPa/90 °C (10 bar)
T&P relief valve setting	1.5MPa/90 °C (15 bar)
Solar coil ratings	See Table 7
Solar coil operating pressure (max)	0.30MPa (3 bar)
Solar pressure drop across coils	See table 8
Solar coil surface area	See table 6
Auxiliary coil ratings	See Table 7
Auxiliary coil operating pressure - see Notes	1.0MPa (10 bar)
Auxiliary pressure drop across coils	See Table 8
Auxiliary coil surface area	See Table 6
Immersion heater rating (a.c. supply only) single phase	6kW & 9kW 50/60Hz ~
Immersion heater rating (a.c. supply only) 3 phase	12kW - 54kW 50/60Hz ~
(See Accessories on page 27 for full range)	
Storage weights (empty and full)	See Table 4

Notes:

The Auxiliary coil should not be exposed to more than 0.3MPa (3 bar) without the cylinder being full of water and under minimum working pressure.

ErP data

Table 5: ErP Data Information

Direct	Megaflo Commercial 6 / 10 bar						
Supplier's name or trade mark							
Supplier's model identifier	400	500	800	1000	1250	1450	2000
Storage volume V in litres	400.0	500.0	800.0	1000.0	1250.0	1450.0	2000.0
Standing loss in W	72.0	89.0	114.0	139.0	150.0	163.0	179.0
	B	C	C	C	C	C	C

Technical parameters in accordance with European Commission regulations 814/2013 and 812/2013.

TECHNICAL DATA

Table 6: Technical data

Nominal Capacity (litres)	Heatloss Figures		Water delivered to 40°C and above	Coil Surface Area	
	Per Day (kWh/24hr)	Per year (kWh/year)		Auxillary Coil	Solar Coil
400	1.72	627	434	1m ²	2m ²
500	2.14	781	482		
800	2.74	1000	776	1.5m ²	3m ²
1000	3.33	1215	961		
1250	3.60	1314	1206	2.5m ²	5m ²
1450	4.17	1522	1449		
2000	4.30	1569	1930	5m ²	7.5m ²
2500	4.50	1642	2482		

Table 7: Coil kW ratings

Nominal Capacity (litres)	Auxillary Coil			Solar Coil
	Primary Flow Rate (L/min)			Primary Flow Rate (L/min)
	15	30	60	30
400	23.7kW	29.8kW	37.6kW	43.6kW
500	22.7kW	31.0kW	38.2kW	41.8kW
800	25.1kW	37.2kW	47.5kW	52.7kW
1000	26.6kW	38.3kW	45.8kW	51.4kW
1250	TBA	TBA	TBA	63.6kW
1450	TBA	TBA	TBA	61.2kW
2000	TBA	TBA	TBA	98.4kW
2500	39.6	68.9	98.2	86.4kW

Table 8: Pressure drop through coils (bar)

Nominal Capacity (litres)	Primary Flow Rate (L/min)					
	Auxillary Coil			Solar Coil		
	15	30	60	15	30	60
400	0.02	0.04	0.32	0.01	0.02	0.20
500						
800	0.01	0.08	0.44	0.01	0.02	0.17
1000						
1250	0.01	0.06	0.25	TBA	TBA	TBA
1450						
2000	0.01	0.07	0.30	TBA	TBA	TBA
2500						

Table 9: Coil heat-up times (mins) based on a 45°C temperature increase

Nominal Capacity (litres)	Primary Flow rate (L/min)			
	Auxillary Coil			Solar Coil
	15	30	60	30
400	29.5	24.5	15.5	26.8
500	46.5	34.1	27.9	31.5
800	64.2	44.6	34.2	47.3
1000	74.5	54.1	42.8	50.8
1250	TBA	TBA	TBA	TBA
1450	TBA	TBA	TBA	TBA
2000	TBA	TBA	TBA	TBA
2500	159	90.2	63.7	124

Testing is carried out to BS EN12897:2006

Primary flow rates are based on a flow temperature of 80°C +/- 2°C

TABLE 10: IMMERSION ALLOCATION

	6kW	9kW	12kW	18kW	24kW	30kW	36kW	45kW	54kW
	95970155	95970156	95970144	95970145	95970146	95970147	95970148	95970149	95970150
	Upper								
400L	✓	✓	✓	✓	✓				
500L	✓	✓	✓	✓	✓				
800L	✓	✓	✓	✓	✓	✓	✓	✓	
1000L	✓	✓	✓	✓	✓	✓	✓	✓	
1250L	✓	✓	✓	✓	✓	✓	✓	✓	
1450L	✓	✓	✓	✓	✓	✓	✓	✓	
2000L	✓	✓	✓	✓	✓	✓	✓	✓	✓
2500L	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note:

The Immersions are not factory fitted.

The lower flange is only to be used for inspection purposes.

Immersion Installation and Control

All immersion heaters are fitted with a thermostat which is fitted in the centre of the heater plate and a cut-out which is fitted to the side of the thermostat. These MUST be wired as per figures 3, 4 & 5. Maximum working temperature is 70°C/176°F. In very hard water areas limit to 60/65°C (140/150°F).

For optimal working conditions the thermal cut-out is factory set to 80°C and the thermostat should be set to 65°C.

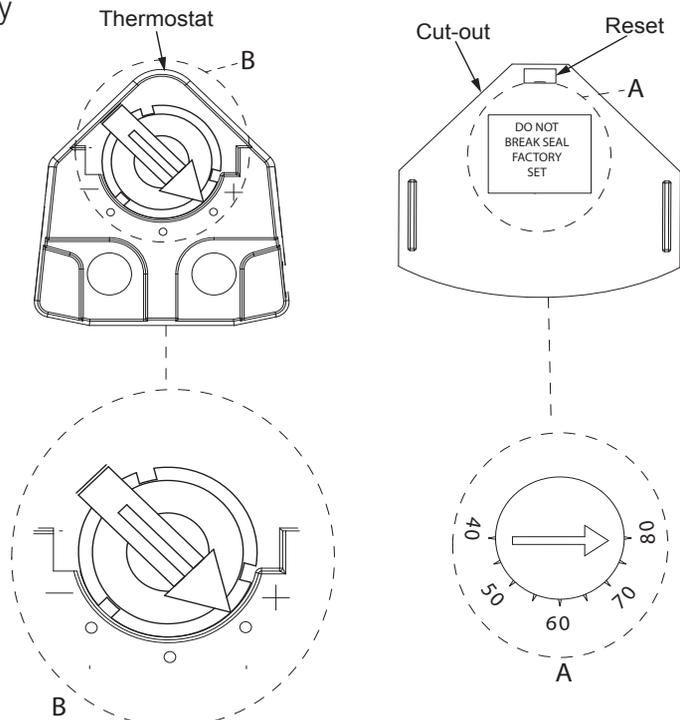
To set the thermostat to 65°C turn the dial to the far right then turn back a little, this will roughly set to 65°C.

If the thermostat is set above 70°C there could be instances of nuisance tripping of the thermal cut-out.

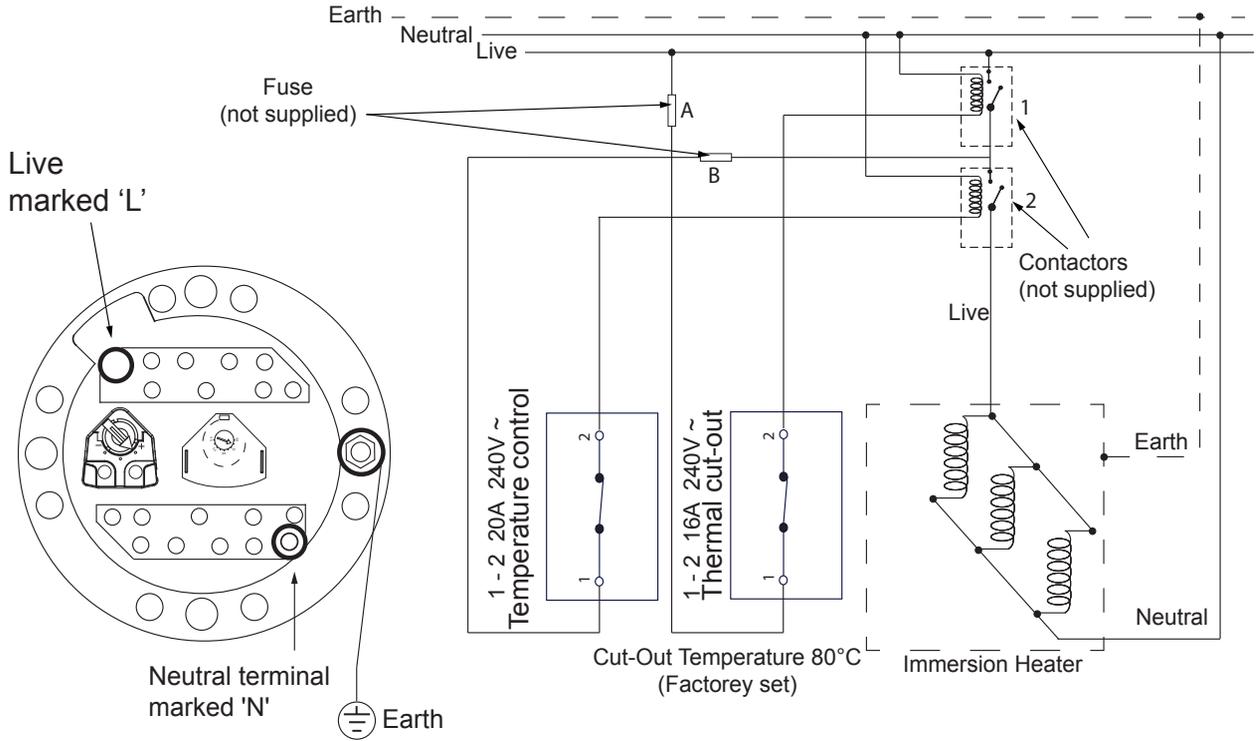
Notes:

The 2 external contactors must be approved components certified for 10,000 cycles of operation for the contactor controlled by the thermostat and at least 30 for the contactor controlled by the non-self-resetting thermal cut-out.

FIGURE 3: Thermostat and thermal cut-out settings



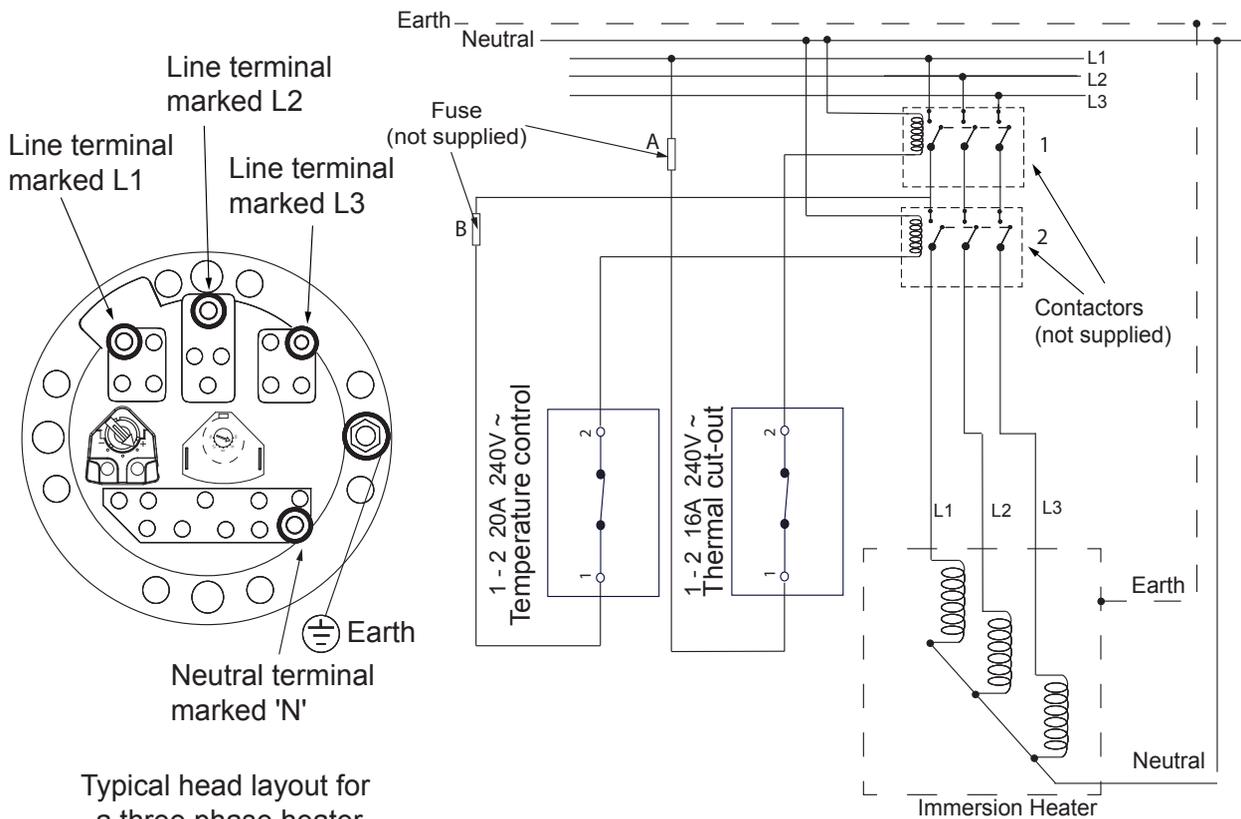
WIRING SCHEMATIC



Typical head layout for a single phase heater

Figure 4: single phase wiring

Note:
The 2 external contactors must be approved components certified for 10,000 cycles of operation for the contactor controlled by the thermostat and at least 30 for the contactor controlled by the non-self-resetting thermal cut-out.



Typical head layout for a three phase heater

Figure 5: three phase wiring

LIMITATIONS

- The Megaflo **Commercial Solar** unvented water heater should not be used in any of the following instances:
- Solid fuel boilers or any other boiler in which the energy input is not under effective thermostatic control unless additional and appropriate safety measures are installed.
- Gravity circulation primaries.
- Steam heating plant unless additional and appropriate safety devices are installed.
- Ascending spray type bidets or any other Class 5 back syphonage risk requiring that a Type AA, AB, AD or AG air gap be employed.
- Water supplies that have either inadequate pressure or where the supply may be intermittent.
- Situations where it is not possible to safely pipe away any discharge from the safety valves.
- Areas where the water consistently contains a high proportion of solids, eg. suspended matter that could block the strainer, unless adequate filtration can be ensured.
- The installation must be carried out in accordance with the relevant requirements of the appropriate Building Regulations: either The Building Regulations (England), The Building Regulations (Scotland) or Building Regulations (Northern Ireland), The Water Fittings Regulations (England and Wales) or Water Byelaws (Scotland).

WATER SUPPLY

Bear in mind that the mains water supply to the property will be supplying both the hot and cold water requirements simultaneously. It is recommended that the maximum water demand be assessed and the water supply checked to ensure this demand can be met. A minimum flow rate of 100l/min is required for the Megaflo **Commercial Solar** range of cylinders

NOTE: A high mains water pressure will not always guarantee high flow rates.

Wherever possible the main supply pipe should be in 28mm. The minimum mains water supply requirements should be 0.15 MPa (1.5 bar) working pressure and minimum 100 litres per minute flow rate. At these values outlet flow rates may be poor if several outlets are used simultaneously, the higher the available pressure and flow rate the better the system performance will be.

The water supply must be of wholesome water quality (Fluid Category 1 as defined by the Water Supply Regulations 1999). The Megaflo **Commercial Solar** is to be used for the storage of wholesome water (max. 250mg/l chloride).

Water container:

Duplex stainless steel. 100% pressure tested to 2.25 MPa (22.5 bar).

INSTALLATION & COMMISSIONING

General installation

Pipe fittings

All pipe connections to the Megaflo **Commercial Solar** are made via BSP female parallel threaded pipe connection directly to the unit.

Cold water supply

A 28mm minimum cold water supply is recommended, however, if a smaller supply exists which provides sufficient flow this may be used. More flow noise may be experienced from small bore pipes due to the increased water velocity through them. A minimum flow rate of 100l/min is required for the Megaflo **Commercial** range of cylinders

High flow cold water control pack 1" & 1½" (Low and high pressure)

The control pack consists of a pressure reducing valve with integral strainer, check valve, core unit and expansion relief valve. The pressure settings are adjustable for the low or high pressure valve sets. For the "low" pressure valve set the pressure reducing valve can be set between 1.5 and 6 bar. For the "high" pressure valve set the pressure can be set between 5 and 10 bar. For optimum performance the following installation instructions should be complied with.

Note: The expansion vessel pressure must be set in accordance with the inlet pressure set on the pressure reducing valve by the installer.

Installation:

Cold water supply to be 28mm minimum. Flush supply pipe work before connection to remove all flux and debris prior to fitting the inlet controls. Failure to do this may result in irreparable damage to the controls and will invalidate the warranty.

The pressure reducing valve can be fitted in any orientation to suit the installation as long as it is fitted in the correct flow direction. Check the flow arrows on the side of the body.

The expansion relief valve should be installed with the discharge pipe work in either the horizontal position or facing downwards, if the discharge pipe is facing upwards debris may be deposited on the seat of the valve when in operation.

The blank plastic plugs in the body of the pressure relief valve are pressure gauge connections to enable pressure monitoring to be carried out, should the system develop a fault. It is recommended that these be accessible (the pressure reducing valve has two – only one need be accessible).

Expansion relief discharge pipe work must be connected to a safe visible discharge point via a tundish and the pipe work must have a continuous fall. If site conditions allow, the expansion relief discharge pipe work can be connected to the T&P valve discharge pipe work before the tundish.

Pressure reducing valve:

The pressure reducing valve can be connected anywhere on the cold water mains supply prior to the Megaflo **Commercial Solar** unit. There is no requirement to site it close to the unit, it can be located at a point where the mains supply enters the premises if this is more convenient but you must install a non-return valve just after the reducing valve for ease of maintenance.

The pressure reducing valve incorporates an adjustable pressure reducer / strainer. The valve can be fitted in any orientation to suit the installation, however, ensure that the valve is installed with the direction of flow arrows (stamped on the side of the brass body) pointing towards the Megaflo **Commercial Solar** heater.

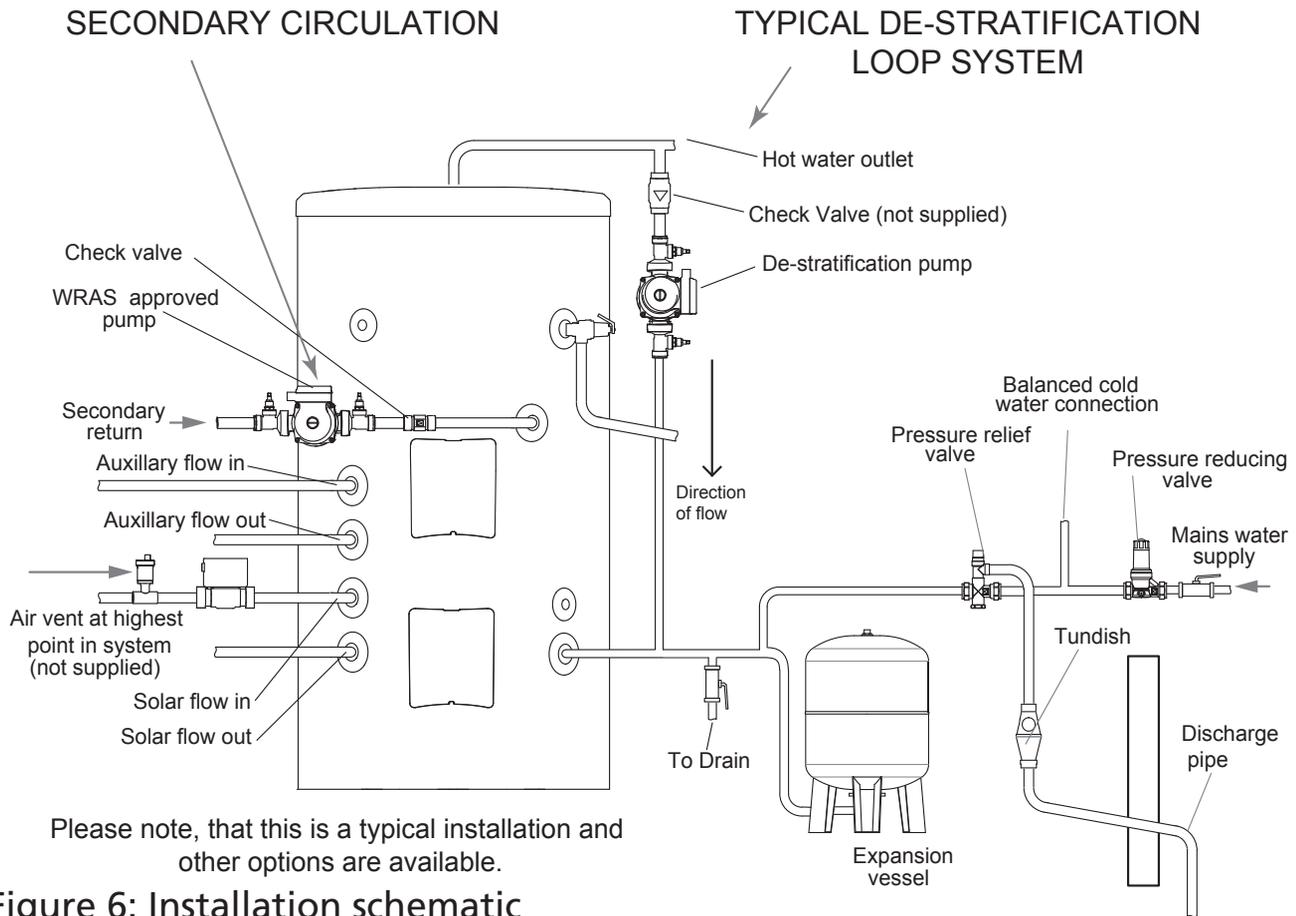


Figure 6: Installation schematic

Pressure Relief Valve

This should be installed between the Pressure Reducing Valve and the Megaflo **Commercial Solar** cylinder. Should a balanced pressure cold water draw off supply be required for the cold water outlets, this should be taken off between the Pressure Reducing Valve and Pressure Relief Valve. Branches to drinking water outlets should be taken before the Pressure Relief Valve to avoid the possibility of warm expanded water being drawn from the tap.

Drain valve

It is recommended that the drain valve (supplied) be incorporated into the cold water inlet system, Fig 06 above. It is recommended that the outlet point of the drain pipe work be at least 1 metre below the level of the heater (this can be achieved by attaching a hose pipe to the drain valve outlet spigot).

Outlet Pipe work

Ideally the pipe work from the Megaflo **Commercial Solar** to the outlet fittings should be in 2" pipe, smaller bore pipe can be used but it could impact on the performance of the unit. Small bore pipe can also be used to suit some taps, but runs should be of minimum length. Pipe sizes may vary due to system design.

Secondary Circulation

If a secondary circulation system is required it is recommended that it be connected to the Megaflo **Commercial Solar** as shown in Figure 6 above. The secondary return pipe should be in 28mm pipe and incorporate a check valve to prevent back flow. A suitable WRAS approved bronze circulation pump will be required. On large systems, due to the increase in system water content, it may be necessary to fit additional expansion volume to the secondary system by fitting an external expansion vessel to the circuit. This should be done if the capacity of the secondary circuit exceeds 10 litres.

Pipe capacities (copper)

22mm o/d = 0.38 litres per metre run (10 litres = 26m)

28mm o/d = 0.55 litres per metre run (10 litres = 18m)

35mm o/d = 0.83 litres per metre run (10 litres = 12m)

42mm o/d = 1.23 litres per meter run (10 litres = 8m)

Warnings

1. Under no circumstances should the factory fitted Temperature /Pressure Relief Valve be removed other than by authorised Heatrae Sadia personnel. To do so will invalidate any guarantee or claim.
2. The Cold Water Combination Valve must be fitted to the mains water supply to the Megaflo **Commercial Solar** unit.
3. No control or safety valves should be tampered with or used for any other purposes.
4. Water may drip from the discharge pipe of the pressure relief device (Expansion Valve) and this pipe must be left open to atmosphere. The discharge pipe should not be blocked or used for any other purpose.
5. The tundish must be installed so that it is visible to the end user.
6. The tundish, drain valve and motorised valves (indirect units only) must be installed away from any electrical components.
7. No valve should be fitted between the 8 bar or 13 bar pressure relief valve and the Megaflo **Commercial Solar** unit.

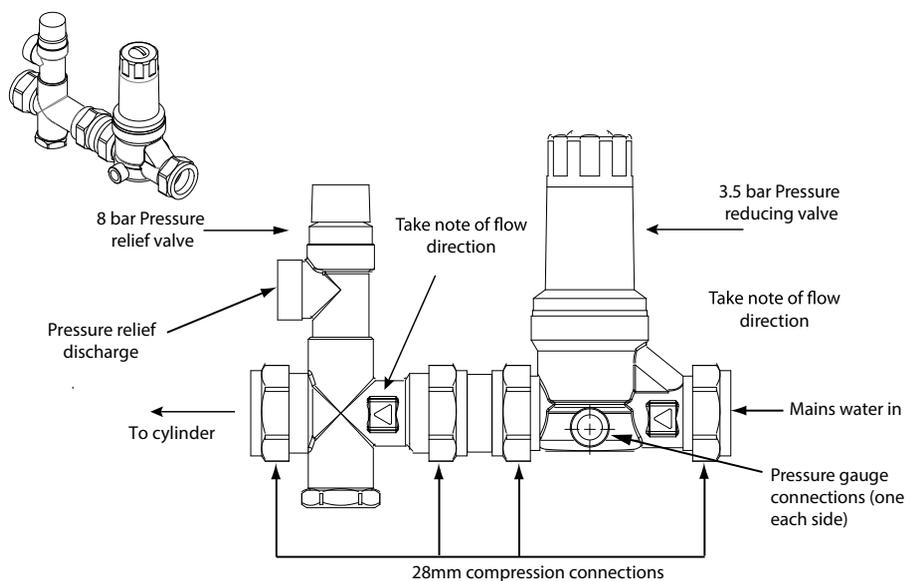


Figure 07: Cold water combination valve (for 400 & 500ltr)

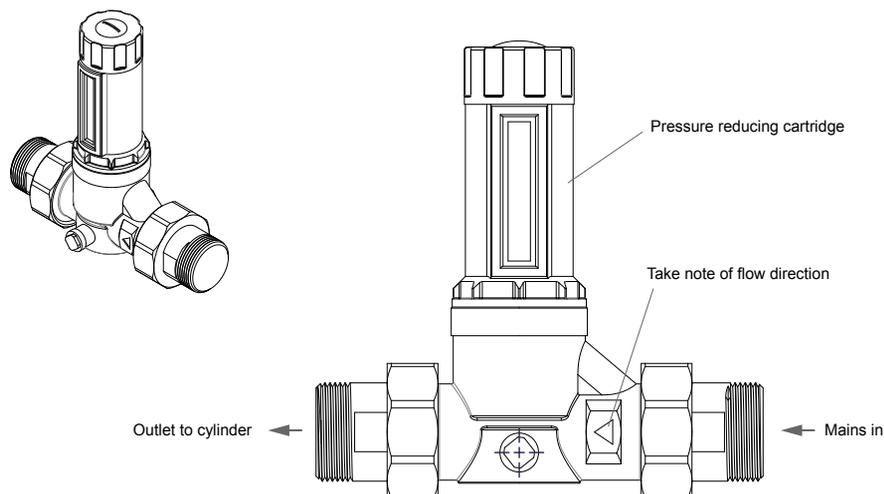


Figure 08: Pressure reducing valve - 800L - 2500L

The following extract is taken from the latest G3 Regulations

Discharge pipes from safety devices

Discharge pipe D1

- 3.50 Safety devices such as **temperature relief valves** or **combined temperature and pressure and pressure relief valves** (see paragraphs 3.13 or 3.18) should discharge either directly or by way of a manifold via a short length of metal pipe (D1) to a **tundish**.
- 3.51 The diameter of discharge pipe (D1) should be not less than the nominal outlet size of the **temperature relief valve**.
- 3.52 Where a manifold is used it should be sized to accept and discharge the total discharge from the discharge pipes connected to it.
- 3.53 Where valves other than the **temperature and pressure relief valve** from a single unvented hot water system discharge by way of the same manifold that is used by the safety devices, the manifold should be factory fitted as part of the **hot water storage system unit** or package.

Tundish

- 3.54 The **tundish** should be vertical, located in the same space as the unvented **hot water storage system** and be fitted as close as possible to, and lower than, the valve, with no more than 600mm of pipe between the valve outlet and the **tundish** (see Diagram 1).

Note: To comply with the Water Supply (Water Fittings) Regulations, the **tundish** should incorporate a suitable air gap.

- 3.55 Any discharge should be visible at the **tundish**. In addition, where discharges from safety devices may not be apparent, e.g. in dwellings occupied by people with impaired vision or mobility, consideration should be given to the installation of a suitable safety device to warn when discharge takes place, e.g. electronically operated.

Discharge pipe D2

- 3.56 The discharge pipe (D2) from the **tundish** should:
- (a) have a vertical section of pipe at least 300mm long below the **tundish** before any elbows or bends in the pipework (see Diagram 1); and
 - (b) be installed with a continuous fall thereafter of at least 1 in 200.
- 3.57 The discharge pipe (D2) should be made of:
- (a) metal; or
 - (b) other material that has been demonstrated to be capable of safely withstanding temperatures of the water discharged and is clearly and permanently marked to identify the product and performance standard (e.g. as specified in the relevant part of BS 7291).
- 3.58 The discharge pipe (D2) should be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long, i.e. for discharge pipes between 9m and 18m the equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device; between 18 and 27m at least 3 sizes larger, and so on; bends must be taken into account in calculating the flow resistance. See Diagram 1, Table 1 and the worked example.

Note: An alternative approach for sizing discharge pipes would be to follow Annex D, section D.2 of BS 6700:2006 Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

- 3.59 Where a single common discharge pipe serves more than one system, it should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected.
- 3.60 The discharge pipe should not be connected to a soil discharge stack unless it can be demonstrated that that the soil discharge stack is capable of safely withstanding temperatures of the water discharged, in which case, it should:
- (a) contain a mechanical seal, not incorporating a water trap, which allows water into the branch pipe without allowing foul air from the drain to be ventilated through the **tundish**;
 - (b) be a separate branch pipe with no **sanitary appliances** connected to it;
 - (c) if plastic pipes are used as branch pipes carrying discharge from a safety device they should be either polybutalene (PB) to Class S of BS 7291-2:2006 or cross linked polyethylene (PE-X) to Class S of BS 7291-3:2006; and
 - (d) be continuously marked with a warning that no **sanitary appliances** should be connected to the pipe.

Note:

1. Plastic pipes should be joined and assembled with fittings appropriate to the circumstances in which they are used as set out in BS EN ISO 1043-1.
2. Where pipes cannot be connected to the stack it may be possible to route a dedicated pipe alongside or in close proximity to the discharge stack.

Termination of discharge pipe

- 3.61 The discharge pipe (D2) from the **tundish** should terminate in a safe place where there is no risk to persons in the vicinity of the discharge.
- 3.62 Examples of acceptable discharge arrangements are:
- b) to a trapped gully with the end of the pipe below a fixed grating and above the water seal;
 - (c) downward discharges at low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility; and
 - (d) discharges at high level: e.g. into a metal hopper and metal downpipe with the end of the discharge pipe clearly visible or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering system that would collect such discharges.
- 3.63 The discharge would consist of high temperature water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

DISCHARGE PIPE WORK

It is a requirement of Building Regulations that any discharge from an unvented system is conveyed to where it is visible, but will not cause danger to persons in or about the building. The tundish and discharge pipes should be fitted in accordance with the requirements and guidance notes of Building Regulations. Building Regulation G3 Requirements and Guidance section 2 (page 17) are reproduced in the previous sections.

For discharge pipe arrangements not covered by G3 Guidance advice should be sought from your local Building Control Officer. Any discharge pipe connected to the pressure relief devices (Expansion Valve and Temperature / Pressure Relief Valve) must be installed in a continuously downward direction and in a frost free environment.

The water may drip from the discharge pipe of the pressure relief device and that this pipe must be left open to the atmosphere. The pressure relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.

G3 Requirement

"...there shall be precautions...to ensure that the hot water discharged from safety devices is safely conveyed to where it is visible but will not cause danger to persons in or about the building".

Worked example of discharge pipe sizing (Taken from Building Regulations 2000, G3, 2010 edition)

The example below is for a G1" temperature relief valve with a discharge pipe (D2) having 4 No. elbows and length of 7m from the tundish to the point of discharge.

From Table 5:

Maximum resistance allowed for a straight length of 35mm copper discharge pipe (D2) from a G1" temperature relief valve is 9m.

Subtract the resistance for 4 No. 35mm elbows at 1.4m each = 5.6m

Therefore the permitted length equates to: 3.4m

3.4m is less than the actual length of 7m therefore calculate the next largest size.

Maximum resistance allowed for a straight length of 42mm pipe (D2) from a G1" temperature relief valve equates to 18m.

Subtract the resistance of 4 No. 42mm elbows at 1.7m each = 6.8m

Therefore the maximum permitted length equates to: 11.2m

As the actual length is 7m, a 42mm (D2) copper pipe will be satisfactory.

Note:

The tundish must be installed away from any electrical devices

Notes:

- 1) Discharge pipe-work D2 can now be a plastic pipe but only pipes that have been tested to a minimum 110°C must be used.
- 2) Discharge pipe D2 can now be plumbed in the soil stack but only soil stacks that can handle temperatures of 99°C or greater should be used.

VALVE OUTLET SIZE	MINIMUM SIZE OF DISCHARGE PIPE D1	MINIMUM SIZE OF DISCHARGE PIPE D2 FROM TUNDISH	MAXIMUM RESISTANCE ALLOWED, EXPRESSED AS A LENGTH OF STRAIGHT PIPE (I.E. NO ELBOWS OR BENDS)	RESISTANCE CREATED BY EACH ELBOW OR BEND
G 1/2	15mm	22mm 28mm 35mm	UP TO 9m UP TO 18m UP TO 27m	0.8m 1.0m 1.4m
G 3/4	22mm	28mm 35mm 42mm	UP TO 9m UP TO 18m UP TO 27m	1.0m 1.4m 1.7m
G 1	28mm	35mm 42mm 54mm	UP TO 9m UP TO 18m UP TO 27m	1.4m 1.7m 2.3m

Table 12 Sizing of copper discharge pipe "D2" for common T&P Relief Valve sizes.

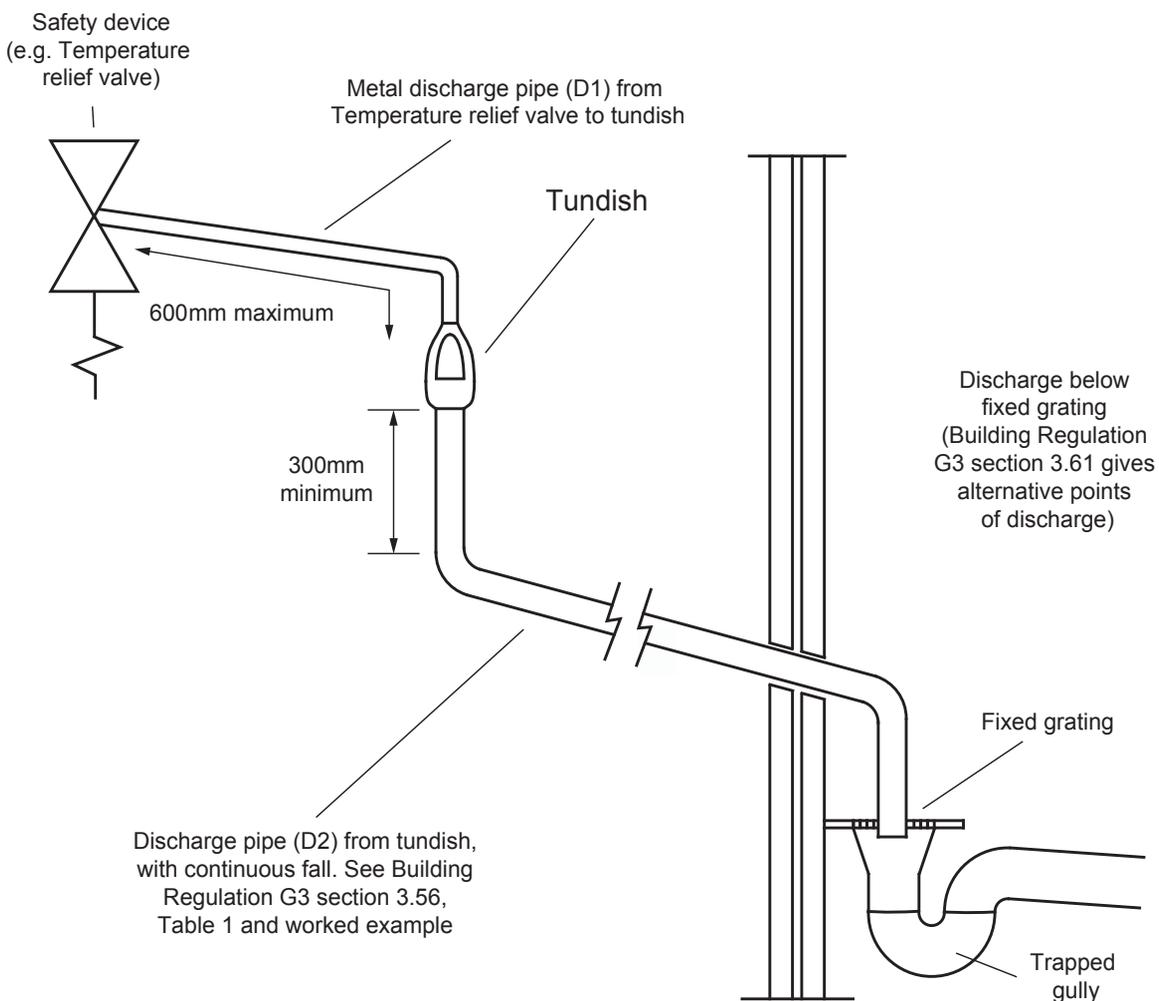


Figure 9: Typical discharge pipe arrangement (Extract from Building Regulations G3, Guidance section 3.5 to 3.63)

SOLAR HEATING

CONNECTION TO THE SOLAR PRIMARY CIRCUIT

The lower (Solar) coil of the cylinder must be connected to a fully pumped solar primary circuit. The connections are suitable for a copper pipe direct to compression fittings. The connections are threaded BSP female parallel .

The solar primary circuit must have its own dedicated circulating pump, thermal and safety controls which must be installed as per the manufacturer's instructions.

CONTROL OF SOLAR PRIMARY CIRCUIT

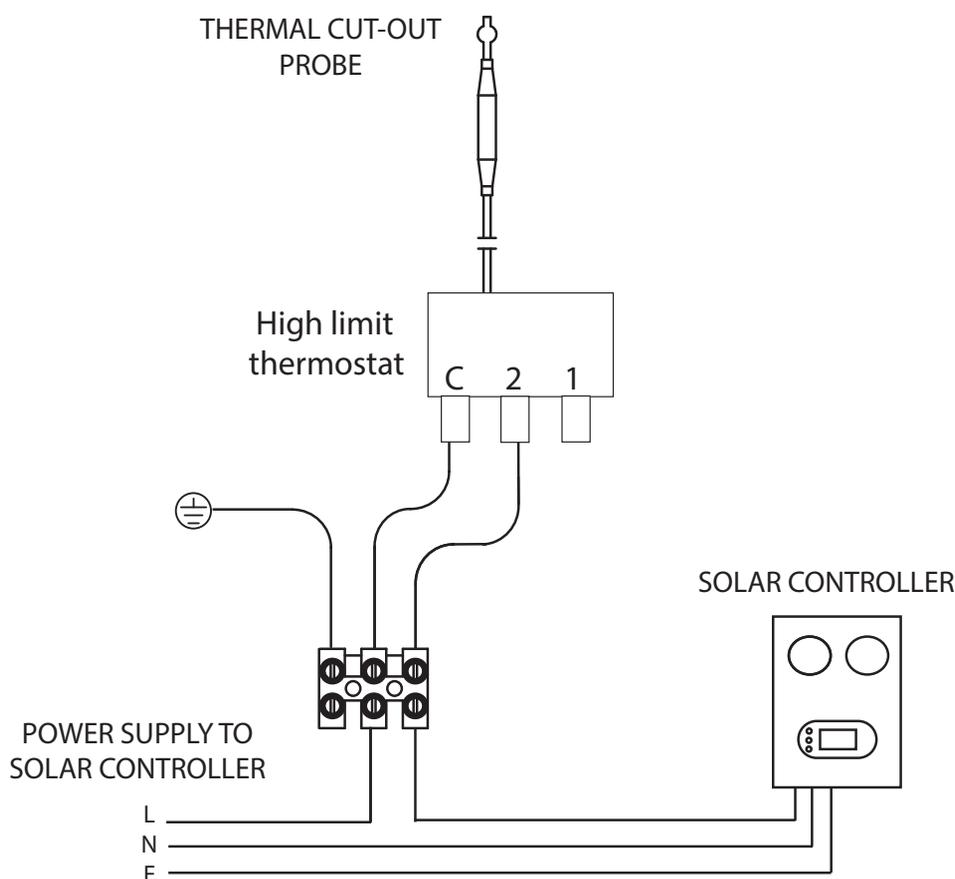
Temperature control of the Solar cylinder must be carried out using a suitable proprietary solar differential temperature controller. The cylinder temperature sensing probe (usually supplied with the solar differential temperature controller) should be inserted into the pocket provided on the Solar cylinder and its cable secured using the cable clamp supplied.

The solar controller and solar primary circulation pump must be wired via the over-temperature cut-out mounted in the lower solar controls housing (see figure 10, below). This will ensure that the heat input to the solar coil is interrupted in the event of the cylinder over-heating. There must also be suitable Check (non-return) valves installed in the solar primary flow and return to prevent the possibility of any thermo-syphoning if the solar circulation is stopped.

Connection to the solar differential temperature controller should be in accordance with the manufacturer's instructions. The controller should be set to give a recommended cylinder temperature of approx. 60°C otherwise nuisance operation of the thermal cut-outs may occur.

The Solar cylinders are fitted with sensor pockets for use with solar controllers.

Figure 10: Solar thermal cut-out



AUXILLARY HEATING

Boiler Selection

The Megaflo **Commercial Solar** models are suitable for use with most gas or oil fired boilers compatible with unvented systems i.e. fitted with a temperature control thermostat and thermal cut-out. If in doubt consult the boiler manufacturer. Solid fuel boilers or any other boiler in which the energy input is not under effective thermostatic control, unless additional and appropriate safety measures are installed, **SHOULD NOT** be used. The boiler used can either be a sealed system or open vented type, maximum primary circuit pressure 10 bar. The primary flow from the boiler **MUST** be pumped. Gravity circulation will not work due to the special design of the primary heat exchanger. It is recommended that an air bleed point or automatic air vent is incorporated in the primary return pipework close to the Megaflo Commercial Solar. The boiler flow temperature should usually be set to 82°C (maximum flow temperature to primary heat exchanger 89°C). The boiler cannot be vented through the Megaflo Commercial Solar cylinder.

Auxillary Thermal Cut-Out And 2-Port Motorised Valve

To comply with Building Regulations, and to prevent the Megaflo **Commercial Solar** cylinder from overheating the 2-port motorised valve supplied **MUST** be fitted to the primary flow to the indirect coil. It must be wired such that in the event of the cylinder over heating it will close the primary circuit.

Wiring

All electrical wiring should be carried out by a competent electrician and be in accordance with the latest I.E.E. Wiring Regulations BS 7671 , current edition.

IT IS RECOMMENDED THAT ALL WIRING TO THE IMMERSION HEATERS IS OF A FIXED TYPE.

DO NOT OPERATE THE IMMERSION HEATER(S) UNTIL THE Megaflo **Commercial Solar** CYLINDER HAS BEEN FILLED WITH WATER.

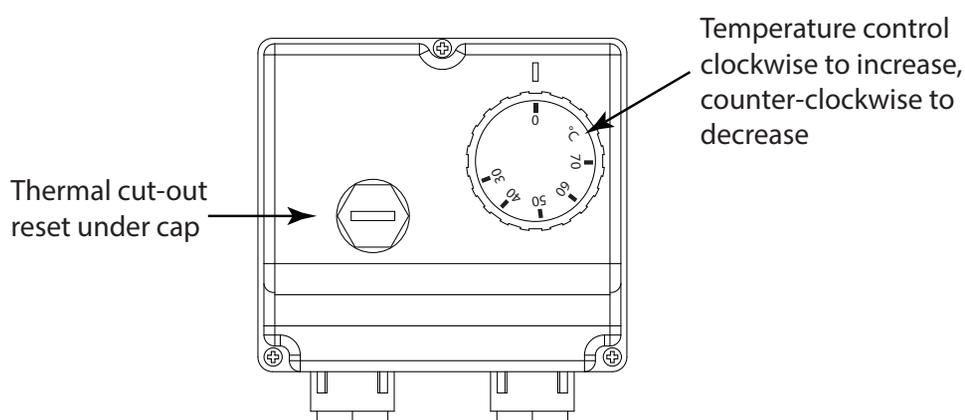
Safety

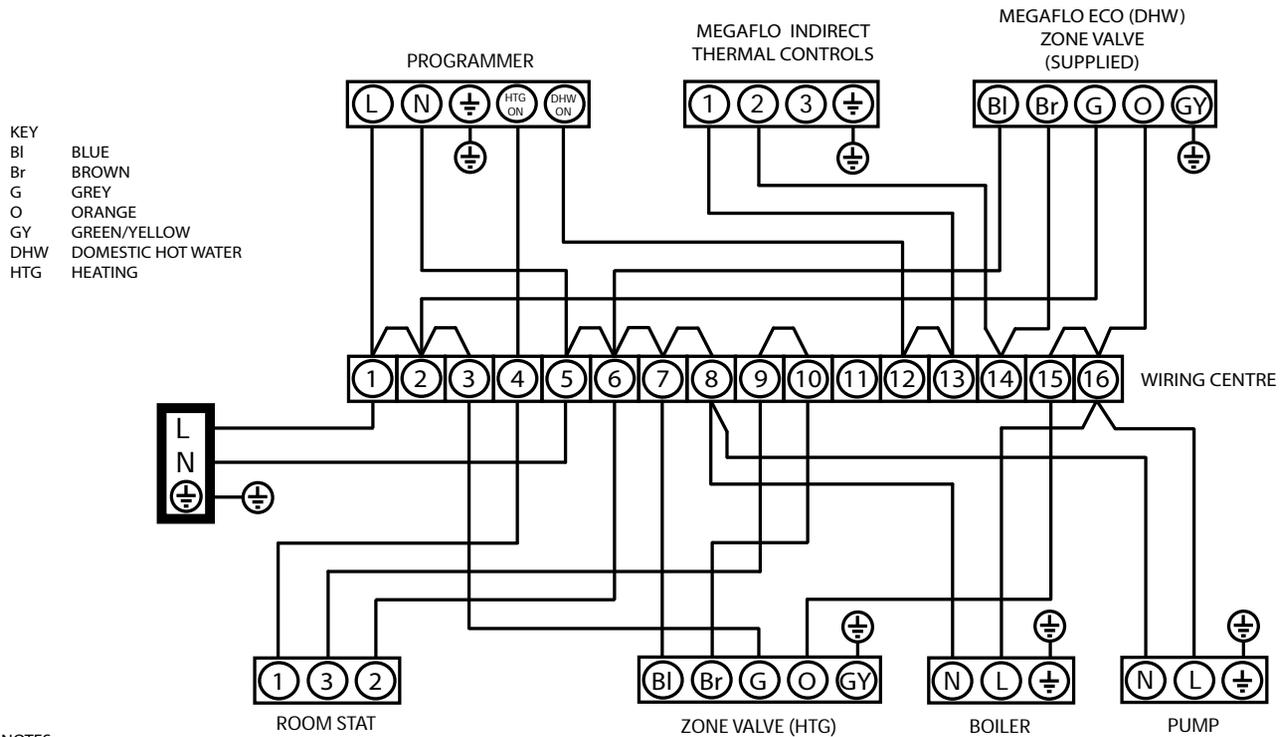
DO NOT BYPASS THE THERMAL CUT-OUT(S) IN ANY CIRCUMSTANCES

DISCONNECT FROM THE MAINS SUPPLY BEFORE REMOVING ANY COVERS

NEVER ATTEMPT TO REPLACE AN IMMERSION HEATER OTHER THAN WITH THE RECOMMENDED SPARE PART

Figure 11: Auxillary controls

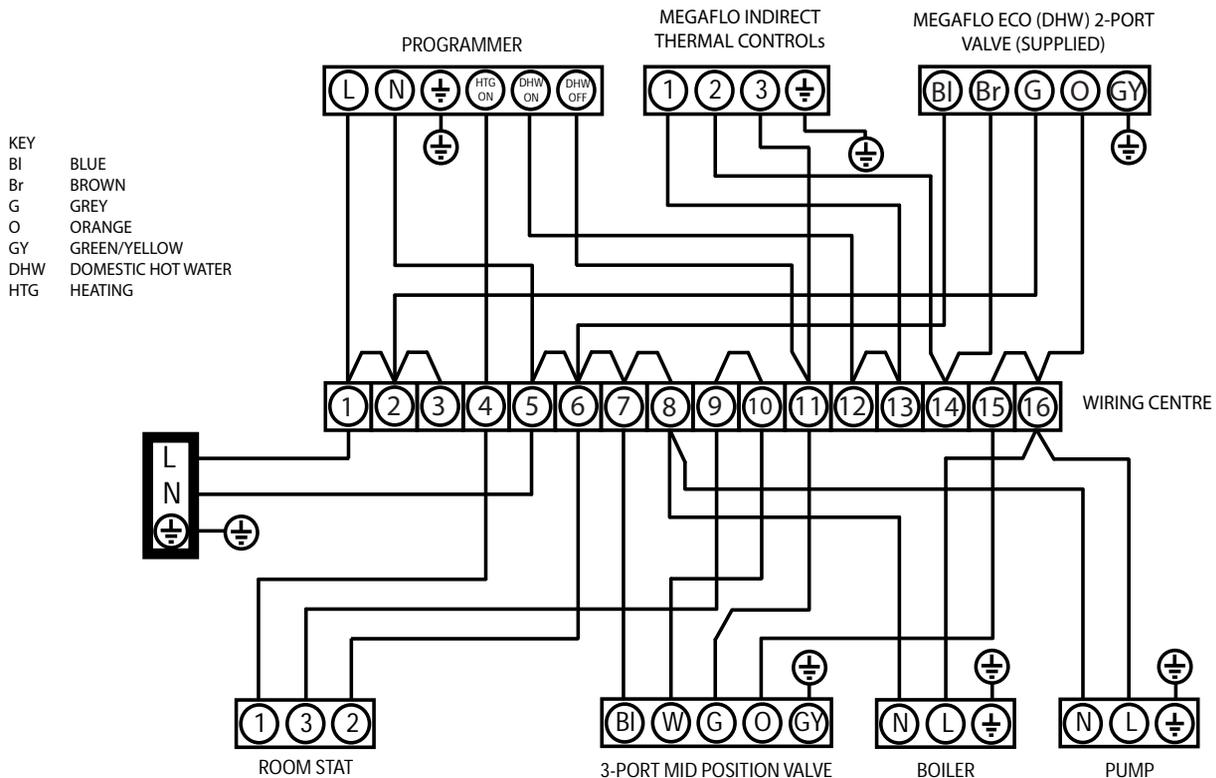




NOTES:

1. A DOUBLE POLE ISOLATING SWITCH MUST BE INSTALLED IN THE MAINS SUPPLY.
2. ALL EARTH CONNECTIONS MUST BE LINKED BACK TO THE MAINS EARTH SUPPLY.
3. DO NOT MOUNT WIRING CENTRE ON CYLINDER.
4. THE ABOVE DIAGRAM IS FOR GUIDANCE ONLY, HEATRAE SADIA ACCEPT NO LIABILITY FOR ANY LOSS OR DAMAGE ARISING FROM ANY ERRORS OR OMISSIONS. THAT MAY BE INADVERTENTLY CONTAINED WITHIN THIS DIAGRAM. THE VARIOUS EQUIPMENT MANUFACTURERS SHOULD BE CONSULTED TO CONFIRM THE CORRECT OPERATION OF THEIR PRODUCTS WITHIN THE SYSTEM.

Figure 12: 2 port valve in conjunction with a 3 port mid-position valve system ("Y" Plan)



NOTES:

1. A DOUBLE POLE ISOLATING SWITCH MUST BE INSTALLED IN THE MAINS SUPPLY.
2. ALL EARTH CONNECTIONS MUST BE LINKED BACK TO THE MAINS EARTH SUPPLY.
3. ASSUMES BASIC BOILER WITH EXTERNAL PUMP.
4. DO NOT MOUNT WIRING CENTRE ON CYLINDER.
5. THE ABOVE DIAGRAM IS FOR GUIDANCE ONLY, HEATRAE SADIA ACCEPT NO LIABILITY FOR ANY LOSS OR DAMAGE ARISING FROM ANY ERRORS OR OMISSIONS. THAT MAY BE INADVERTENTLY CONTAINED WITHIN THIS DIAGRAM. THE VARIOUS EQUIPMENT MANUFACTURERS SHOULD BE CONSULTED TO CONFIRM THE CORRECT OPERATION OF THEIR PRODUCTS WITHIN THE SYSTEM.

Figure 13: 2 x 2 port valve system ("S" Plan)

DIRECT HEATING

Immersion Heater(s)

The Megaflo Commercial Solar can be fitted with a selection of single phase and three phase immersion heaters (see Table 9, page 9 for details). The immersion heaters must be installed in accordance with the installation instructions supplied with the immersion heater (supplied separately) Warning: Before starting any work on the Megaflo commercial immersion heaters switch off all electrical supplies to such immersion heaters including thermostatic controls, these may be on a separate circuit.

To remove the immersion heater:

Drain down the cylinder before any work is carried out on the Immersion heaters. Remove the immersion heater cover and disconnect all wiring from the immersion and thermostatic controls. Remove the 8 nuts (or bolts) and withdraw the immersion heater from the cylinder. Take care when lifting the immersion out of the cylinder and work within safe working practices.

Replacement:

Make sure the Immersion heater gasket face is clean and if necessary replace the gasket (spare part number 95611026). Replace the Immersion heater and make sure the 8 nuts (or bolts) are correctly torqued (20Nm or 14.75 ft/lbf) as per the Commercial immersion heater fitting instructions (36006161). Wire up the immersion heater as per fig 4 or fig 5, page 10 or immersion heater fitting instructions. Refill the cylinder and check for leaks. Turn on the supply and set the thermostat temperature to the desired water temperature (60°C - 65°C is recommended).

NOTE: The gasket should be pre-soaked in ambient temperature water for 30 mins before installation and the 8 securing nuts are diametrically tightened to 20 Nm or 0.42psi

Wiring (See Figures 3, 4 & 5)

All electrical wiring should be carried out by a competent electrician and be in accordance with the latest I.E.E. Wiring Regulations BS 7671.

DO NOT OPERATE THE IMMERSION HEATER(S) UNTIL THE Megaflo Commercial HAS BEEN FILLED WITH WATER.

Operation

See Fig 3, page 9 for details on how to adjust the temperature setting of the heater. DO NOT BYPASS THE THERMAL CUT-OUT IN ANY CIRCUMSTANCES.

Benchmark™ Log Book

On completion of the installation and commissioning procedures detailed in this Product Guide the Benchmark™ "Installation, Commissioning and Service Record Log" should be completed and signed off by the competent installer or commissioning engineer in the relevant sections. The various system features, location of system controls, user instructions and what to do in the event of a system failure should be explained to the customer. The customer should then countersign the Benchmark™ commissioning checklist to accept completion. The Service Record should be filled in when any subsequent service or maintenance operation is carried out on the Megaflo **Commercial Solar** unit. See pages 31 and 32 for Benchmark™ logbook and service record

Commissioning

Filling and flushing the Megaflo Commercial Solar

Ensure that all fittings and immersion heaters are correctly fitted and tightened.

1. Open a hot tap furthest from the Megaflo **Commercial Solar**.
2. Open the mains stop cock to fill the unit. When water issues from the tap, allow to run for a few minutes to thoroughly flush through any residue, dirt or swarf, then close tap.
3. Open successive hot taps to purge any air from the system.
4. Check all connections for leaks and rectify as necessary.
5. The Strainer housed within the Pressure Reducing Valve should be cleaned to remove any debris that may have been flushed through the main supply pipe.

Check the operation of the Safety Valves

1. Slowly, manually open for a few seconds, the Temperature and Pressure Relief Valve (T&P Valve) situated on the Megaflo **Commercial Solar** unit. Check water discharged runs freely away through the tundish and discharge pipe work. Close valve, ensure water flow stops and valve reseats correctly.
2. Repeat for the Pressure Relief Valve.

NOTE: The water discharged may be very hot.

Immersion heater

Switch on electrical supply to the immersion heater and allow the cylinder to heat up to normal working temperature (60 - 65°C recommended). If necessary the temperature can be adjusted by inserting a flat bladed screwdriver in the adjustment spindle on front of the immersion heater thermostat and rotating. The adjustment represents a temperature range of 15°C to 70°C. Check the operation of thermostat and that no water has issued from the expansion relief valve or temperature/pressure relief valve during the heating cycle.

Indirect Control

Fill the indirect (auxiliary) circuit following the boiler manufacturer's commissioning instructions. To ensure the cylinder auxiliary heat exchanger is filled, the 2 port motorised valve (supplied) should be manually opened by moving the lever on the motor housing to the MANUAL setting. When the auxiliary circuit is full return the lever to the AUTOMATIC position. Switch on the boiler, ensure the programmer is set to Hot Water and allow the cylinder to heat up to a normal working temperature (60 - 65°C recommended).

Solar Control

Fill the solar primary circuit following the instructions provided with the solar hydraulic controls. The cylinder temperature control sensor probe supplied with the solar differential temperature controller must be inserted into the pocket in the lower controls housing and its cable securely clamped. Heating by the solar primary circuit is controlled by the solar differential temperature controller, refer to the manufacturer's installation instructions for details of how to set up and commission the solar primary circuit.

The solar controller should be programmed to give a maximum storage temperature in the cylinder of 70°C although 65°C is recommended to minimise scaling.

Maintenance & Servicing

Maintenance requirements

To ensure the continued optimum performance of the Megaflo **Commercial Solar** it should be regularly maintained. This is of particular importance in hard water areas or where the water supply contains particulate matter. Maintenance should be carried out by a competent person and any replacement parts used should be authorised Megaflo **Commercial Solar** spare parts. It is recommended that maintenance is carried out every 12 months and includes the checks detailed below.

In hard water areas consideration should be given to periodically descaling the immersion heater elements. To do this the Megaflo **Commercial Solar** unit will need to be drained.

Check operation of Safety Valves

Slowly open the Temperature and Pressure Relief Valve by twisting its cap for a few seconds. Check water is discharged and that it flows freely through the tundish and discharge pipe work. Check valve reseats correctly when released.

NOTE: The water discharged may be very hot.

Repeat the procedure for the Pressure Relief Valve.

Inspection

The immersion heater boss can be used as an access for inspecting the cylinder internally.

Clean the strainer

The strainer is incorporated within the Pressure Reducing Valve housing of the Valve. To inspect and clean the strainer:

1. Turn off the isolating valve prior to the Pressure Reducing Valve or the main stop cock to the system.
2. Open the lowest hot tap in the system to relieve the system pressure.
3. Using a spanner unscrew the pressure reducing cartridge and remove the moulded housing. The strainer will be removed with the cartridge.
4. Wash any particulate matter from the strainer under clean running water.
5. Replace the strainer and screw the Pressure Reducing Valve cartridge into the moulded housing.
6. Close hot tap, turn on isolating valve or main stop cock to the system. Check for leaks.

Draining the Megaflo **Commercial Solar** unit

Switch off the electrical supply to the immersion heater(s) and shut down the boiler on indirect units. Turn off the mains water supply to the Megaflo **Commercial** unit. Attach a hosepipe to the drain valve having sufficient length to take water to a suitable discharge point below the level of the unit, at least one metre below the unit is recommended. Open hot water tap nearest to the Megaflo **Commercial Solar** to relieve the system pressure. Open drain valve. If water fails to drain from the Megaflo **Commercial Solar** vent the unit by manually opening the Temperature / Pressure Relief Valve.

Refilling system

DO NOT switch on the immersion heater(s) or boiler until the system has been completely refilled. Close the drain valve. With the hot tap open, turn on mains water supply. When water flows from the hot tap allow to flow for a short while to purge air and to flush through any disturbed particles. Close hot tap and then open successive hot taps in system to purge any air. The electrical supply can now be switched on.

Benchmark™

On completion of any maintenance or service of the Megaflo **Commercial Solar**, the Benchmark™ “Installation, Commissioning and Service Record”, Pages 31 & 32, should be filled in to record the actions taken and the date the work was undertaken.

Maintenance

Under normal circumstances the control valves should not require any maintenance. However, annual inspection and/or cleaning of the integral strainer, pressure reducing valve cartridge, expansion relief valve cartridge and seating may be necessary depending on local water conditions.

Pressure reducing valve

Isolate cold water supply and drain system if necessary

Unscrew the retaining nut of the valve. The complete operating mechanism, including the strainer can be removed. Clean the filter mesh and cartridge ensuring that the strainer is correctly located and reassemble the unit.

Expansion Valve

Isolate cold water supply

Unscrew expansion relief cartridge from body and clean the filter mesh and cartridge.

Clean valve seat face and seating – do not scratch or damage either seal face or seating,

Refit in reverse order. Do not over tighten.

Warnings

IF WATER DISCHARGES FROM THE TEMPERATURE / PRESSURE RELIEF VALVE ON THE Megaflo COMMERCIAL UNIT REFER TO FAULT FINDING TABLE FIRST FOR GUIDANCE. IF THIS DOES NOT RECTIFY THE FAULT SWITCH OFF ELECTRICAL SUPPLY TO THE IMMERSION HEATER(S) [DIRECT UNITS] OR SHUT DOWN THE BOILER [INDIRECT UNITS]. DO NOT TURN OFF THE WATER SUPPLY. CONTACT A COMPETENT INSTALLER FOR UNVENTED WATER HEATERS TO CHECK THE SYSTEM.

DO NOT TAMPER WITH ANY OF THE SAFETY VALVES FITTED TO THE Megaflo COMMERCIAL SYSTEM, IF A FAULT IS SUSPECTED CONTACT A COMPETENT INSTALLER.

Fault finding

The Fault Finding chart will enable operational faults to be identified and their possible causes rectified. Any work carried out on the Megaflo **Commercial Solar** unvented water heater and its associated controls **MUST** be carried out by a competent installer for unvented water heating systems. In case of doubt contact the Megaflo **Commercial Solar** Service Department.

Table 18: Fault Finding guide

Fault	Possible Cause	Remedy
No hot water flow	Mains water supply off	Check and open stop cock/isolating valve
	Strainer blocked	Turn off water supply, remove strainer and clean
	Cold water combination valve incorrectly fitted	Check and refit as required
Water from hot tap is cold	Direct immersion heater not switched on	Check and switch on
	Direct immersion heater thermal cut-out has operated	Check, reset by pushing button on thermal cut-out
	Indirect programmer set to central heating only	Check, set to domestic hot water programme
	Indirect boiler not working	Check boiler operation. If fault is suspected consult boiler manufacturer's instructions
	Indirect thermal cut-out has operated	Check, reset by pushing button on thermal cut-out Check operation of indirect thermostat
Water discharges from overflow visual indicator (tundish)	INTERMITTENTLY	Incorrect pre-charge pressure for expansion vessel
	CONTINUALLY	Check pressure from pressure reducing valve
		Remove expansion relief cartridge from pressure relief valve and check seating. If necessary fit new cartridge
Water discharges from the T&P relief valve intermittently	Expansion relief valve faulty	Check valve and replace if necessary
Water discharges from the T&P relief valve continually	Thermal control failure NOTE: Water will be very hot	Switch off power to immersion heater(s) and shut down boiler. DO NOT turn off water supply. When discharge stops check all thermal controls, replace if faulty
Performance has deteriorated	GRADUALLY	Check for scale build up in the DHW heat exchanger

SERVICING

Important

1. Servicing should only be carried by an authorised Engineer, Agents or by installers competent in the installation and maintenance of unvented water heating systems.
2. Any spare parts used MUST be authorised Megaflo **Commercial Solar** parts.
3. Disconnect the electrical supply before removing any electrical equipment covers.
4. NEVER bypass any thermal controls or operate system without the necessary safety valves.
5. Water contained in the Megaflo **Commercial Solar** unit may be very hot, especially following a thermal control failure. Caution must be taken when drawing water from the unit.

SPARES

Spare parts

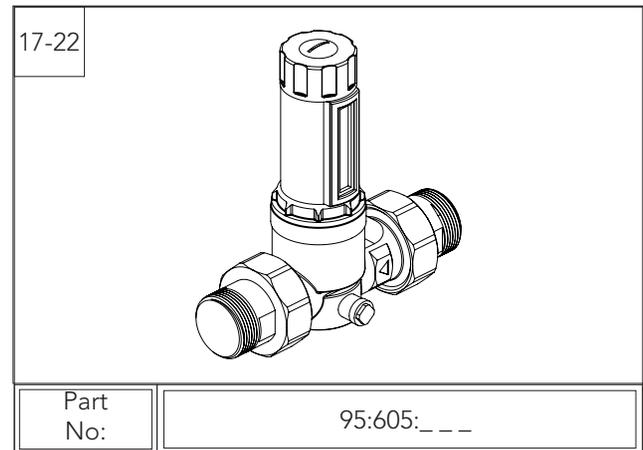
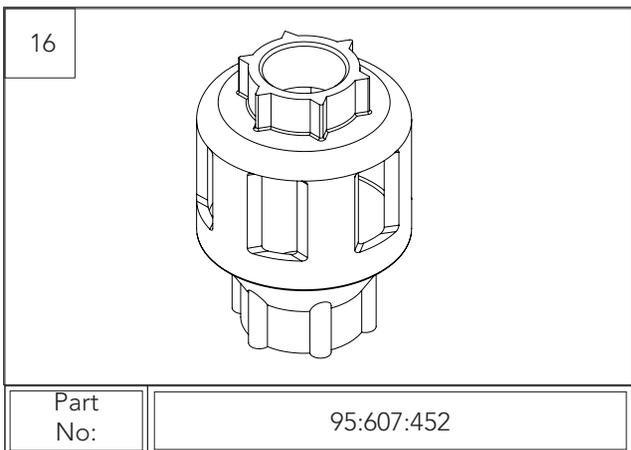
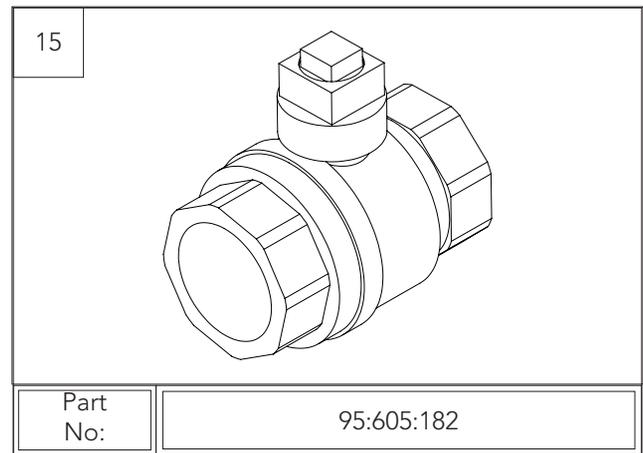
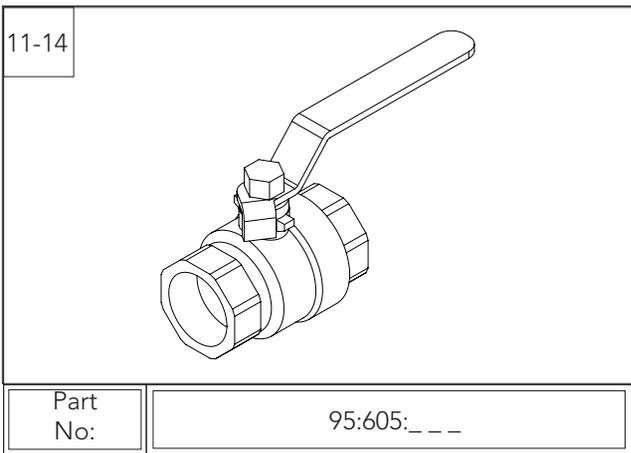
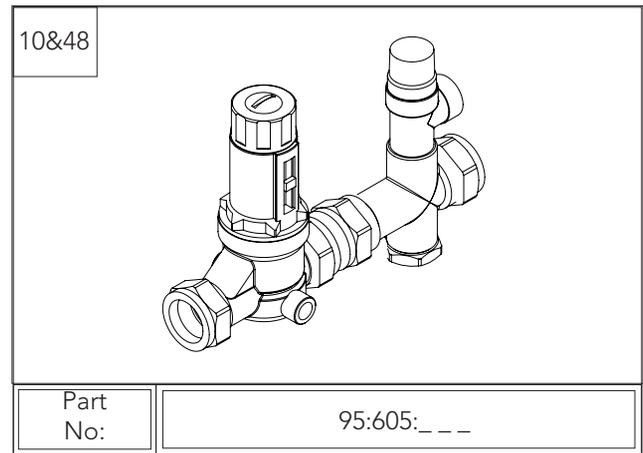
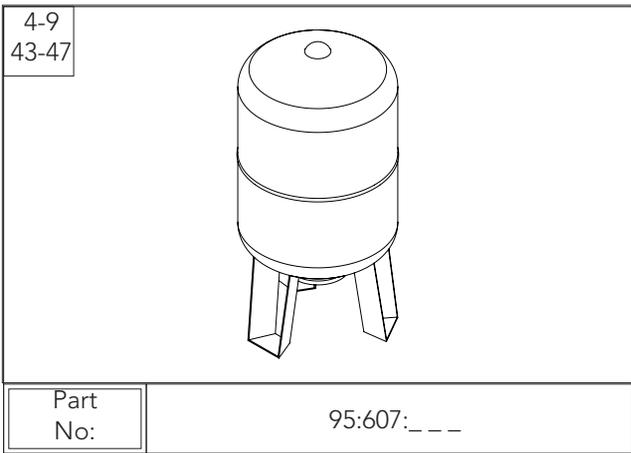
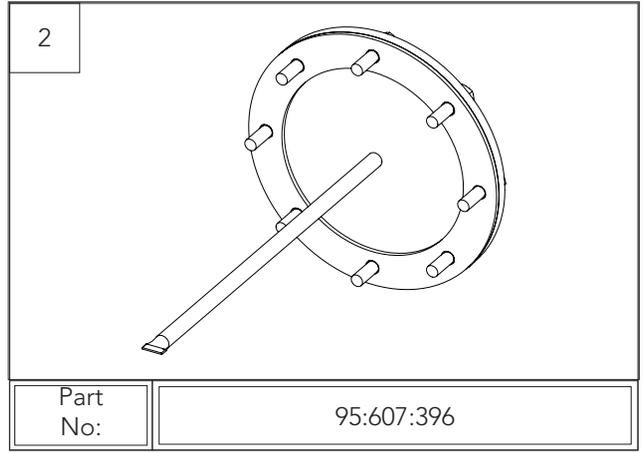
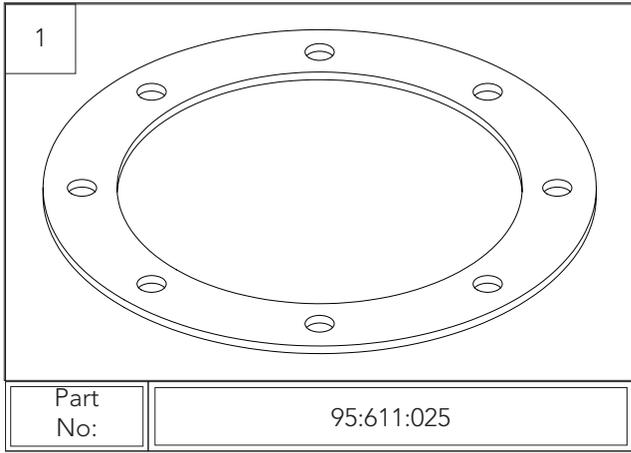
A full range of spare parts are available for the Megaflo **Commercial Solar** range. Refer to the Technical Data label on the unit to identify the model installed and ensure the correct part is ordered.

KEY	DESCRIPTION	SPARES NUMBER
1	IMMERSION HEATER GASKET	95611025
2	BLANKING PLATE KIT	95607396
4	EXPANSION VESSEL 60L 6 BAR	95607445
6	EXPANSION VESSEL 100L 6 BAR	95607458
7	EXPANSION VESSEL 150L 6 BAR	95607461
8	EXPANSION VESSEL 200L 6 BAR	95612723
9	EXPANSION VESSEL 300L 6 BAR	95612724
10	1" INTEGRATED INLET CONTROL VALVE 5-10BAR	95605176
11	ISOLATING BALL VALVE 1"	95605178
12	ISOLATING BALL VALVE 1 1/4"	95605179
13	ISOLATING BALL VALVE 1 1/2"	95605180
14	ISOLATING BALL VALVE 2"	95605181
15	ISOLATING DRAIN VALVE 1"	95605182
16	TUNDISH 1 1/2" x 2"	95607452
17	PRV 1 1/4" SET PRESSURE 1.5 TO 6 BAR MAX IP 16 BAR	95605183
18	PRV 1 1/4" SET PRESSURE 5 TO 10 BAR MAX IP 16 BAR	95605184
19	PRV 1 1/2" SET PRESSURE 1.5 TO 6 BAR MAX IP 16 BAR	95605185
20	PRV 1 1/2" SET PRESSURE 5 TO 10 BAR MAX IP 16 BAR	95605186
21	PRV 2" SET PRESSURE 1.5 TO 6 BAR MAX IP 16 BAR	95605187
22	PRV 2" SET PRESSURE 5 TO 10 BAR MAX IP 16 BAR	95605188
23	SINGLE CHECK VALVE 1 1/4"	95605189
24	SINGLE CHECK VALVE 1 1/2"	95605190
25	SINGLE CHECK VALVE 2"	95605191
26	EXPANSION RELIEF VALVE 1" x 1 1/4" SET PRESSURE 8 BAR	95605192
27	EXPANSION RELIEF VALVE 1" x 1 1/4" SET PRESSURE 13 BAR	95605193
28	EXPANSION RELIEF VALVE 1 1/4" x 1 1/2" SET PRESSURE 8 BAR	95605194
29	EXPANSION RELIEF VALVE 1 1/4" x 1 1/2" SET PRESSURE 13 BAR	95605195
30	TEMPERATURE AND PRESSURE RELIEF VALVE - SET PRESSURE 10 BAR	95605196
31	TEMPERATURE AND PRESSURE RELIEF VALVE - SET PRESSURE 15 BAR	95605197
32	DUAL CONTROL THERMOSTAT	95612650
33	CUT-OUT THERMOSTAT	95612652
34	ROD THERMOSTAT	95980025
35	2 PORT MOTORISED VALVE (DN 32)	7031564
36	2 PORT MOTORISED VALVE (DN 40)	7031565

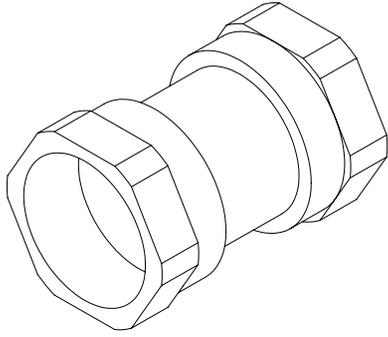
37	PUMP 3 SPEED CIRCULATION UP 20-30N	95607366
38	PUMP 3 SPEED CIRCULATION UPS 15-50N 130	95607404
39	28mm PUMP ISOLATING VALVE	95605177
40	1/2" BLANKING STAT POCKET	95607690
41	1" BLANKING STAT POCKET	95607691
43	EXPANSION VESSEL 60L 10 BAR	95607446
44	EXPANSION VESSEL 100L 10 BAR	95607459
45	EXPANSION VESSEL 150L 10 BAR	95607462
46	EXPANSION VESSEL 200L 10 BAR	95612725
47	EXPANSION VESSEL 300L 10 BAR	95612726
48	1" INTEGRATED INLET CONTROL VALVE 1-6BAR	95605109
49	OVER TEMPERATURE ROD THERMOSTAT	95980009
50	PUMP ISOLATION VALVE 28mm COMPRESSION TO 1 1/2"	95605110
51	2 PORT MOTORISED VALVE BODY DN 32	7031586
52	2 PORT MOTORISED VALVE BODY DN 40	7031587
53	ACTUATOR 24V	7031588
54	ACTUATOR 230V	7035971
55	DN32 CONNECTOR	7031595
56	DN40 CONNECTOR	7031596

Accessories

6kW Commercial Immersion - Single phase	95970155
9kW Commercial Immersion - Single phase	95970156
12kW Commercial Immersion - Three phase	95970144
18kW Commercial Immersion - Three phase	95970145
24kW Commercial Immersion - Three phase	95970146
30kW Commercial Immersion - Three phase	95970147
36kW Commercial Immersion - Three phase	95970148
45kW Commercial Immersion - Three phase	95970149
54kW Commercial Immersion - Three phase	95970150
Busbar Conversion Kit	94970110
De-Stratification loop kit - 400-500 litre	95970140
De-Stratification loop kit - 800-1450 litre	95970157
De-Stratification loop kit - 2000-2500 litre	95970158
Temperature gauge	95970141
Pressure gauge	95970142
Temperature gauge (calibrated)	95970017
Pressure gauge (calibrated)	95970016



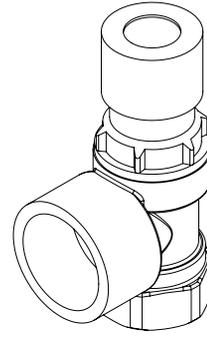
23-25



Part No:

95:605:___

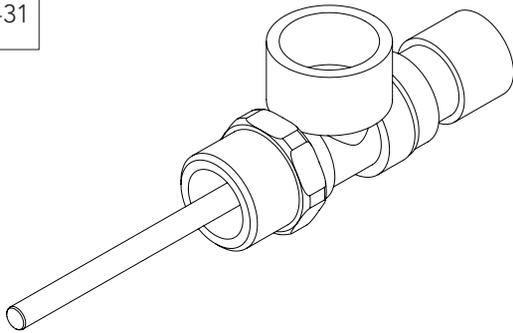
26-29



Part No:

95:605:___

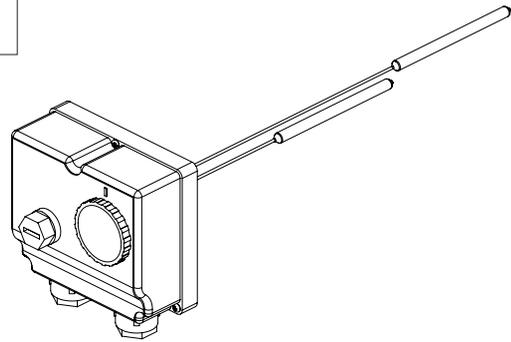
30-31



Part No:

95:605:___

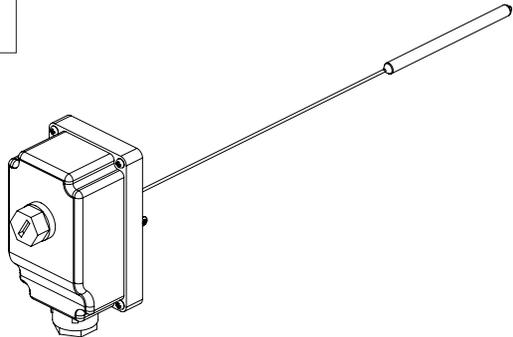
32



Part No:

95:612:650

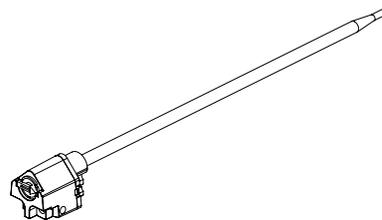
33



Part No:

95:612:652

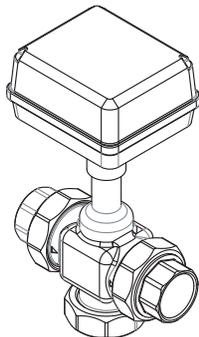
34



Part No:

95:980:053

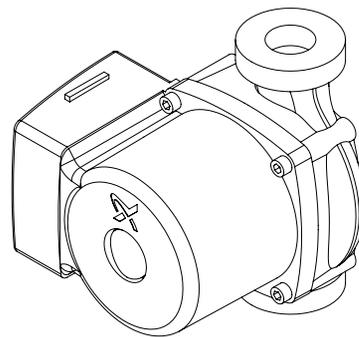
35&36



Part No:

7031564 & 7031565

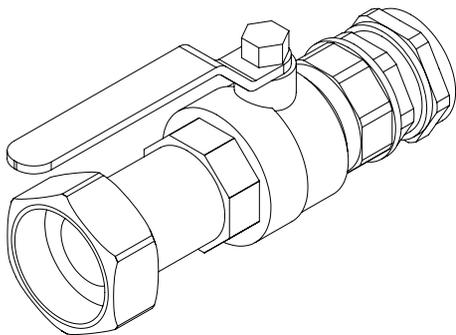
37&38



Part No:

95:607:___

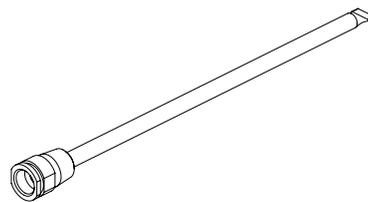
39



Part
No:

95:605:177

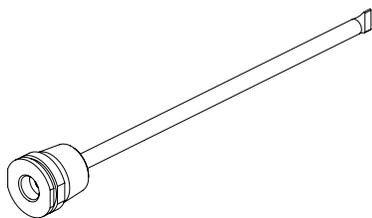
40



Part
No:

95:607:690

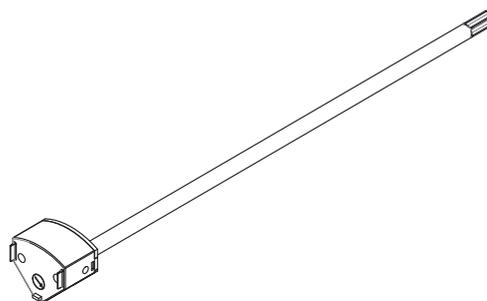
41



Part
No:

95:607:691

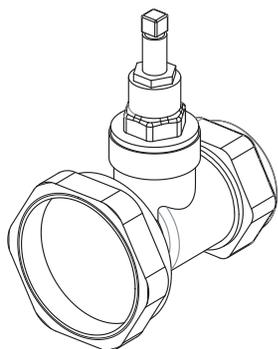
49



Part
No:

95:980:009

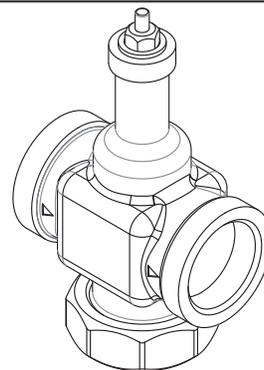
50



Part
No:

95:605:110

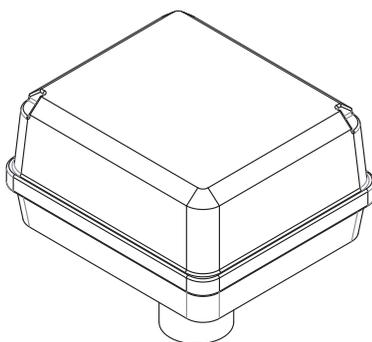
51-52



Part
No:

7031586 & 7031587

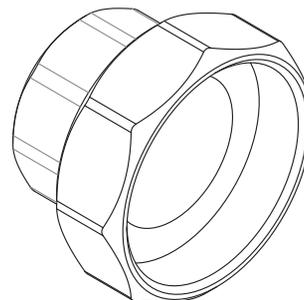
53-54



Part
No:

7031588 & 7035971

55-56



Part
No:

7031595 & 7031596

SERVICE RECORD

It is recommended that your hot water system is serviced regularly and that the appropriate Service Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

SERVICE 1 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 2 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 3 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 4 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 5 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 6 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 7 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 8 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 9 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

SERVICE 10 Date _____
Engineer Name _____
Company Name _____
Telephone Number _____
Comments _____

Signature _____

LIFETIME WARRANTY*

The Megaflo Lifetime Warranty provides unrivalled levels of customer support and peace of mind in the unlikely event that a problem arises from a manufacturing defect. It is supported by a large nationwide team of company-employed field-based engineers and our own call centre, which is open 363 days a year.

This Lifetime Warranty applies in relation to the following Megaflo products:

- Megaflo cylinders
- Megaflo calorifiers

The Megaflo Domestic Lifetime* Warranty

The Megaflo Domestic Lifetime* Warranty covers Megaflo cylinders installed in domestic properties against corrosion for the lifetime* of the owner.

The cold water combination valve (and expansion vessel, where supplied) is covered by a five year warranty from the date of purchase of the Megaflo product that includes both parts and labour. All other components, including any other valves, fittings and controls are covered by a two year warranty from the date of purchase of the Megaflo product that includes both parts and labour. In the case of the Megaflo Systemready, Megaflo Systemfit and Megaflo SolaReady units the supplied pumps and motorized valves (where fitted) are also covered by this two year warranty. Incalloy immersion heaters (where fitted) are covered by a two year warranty. Titanium Immersion heaters (where fitted) are covered by a five year warranty.

The Megaflo Commercial Lifetime* Warranty

The Megaflo Commercial Lifetime Warranty covers Megaflo cylinders and calorifiers installed in non-domestic properties^ against corrosion for a period of 30 years from the date of purchase.

All other components, including valves, expansion vessels, immersion heaters, fittings and controls are covered by a two year warranty from the date of purchase of the Megaflo product that includes both parts and labour.

Accessories

Shower heat recovery units are covered against manufacturing defects for a period of two years. Flat plate solar collectors are covered against manufacturing defects for a period of 10 years from the date of purchase of the Megaflo product. Evacuated tube solar collectors are covered against manufacturing defects for a period of five years from the date of purchase of the Megaflo product. All other solar accessories are covered against manufacturing defects for a period of two years from the date of purchase of the Megaflo product.

Outside of the UK

These warranties are valid for installations within the United Kingdom.

For installation in the Republic of Ireland please contact Potterton Myson (Ireland) Limited on 00353 (0) 1 4590870

For installations outside of the United Kingdom and the Republic of Ireland, please telephone Megaflo Export on +44 1603 420271 for further details of the warranty terms and conditions applicable.

These warranties are valid provided that:

- The Megaflo product has been installed by a competent installer in accordance with the instructions contained in the installation instructions and in compliance with all relevant laws, guidance, codes of practice and regulations in force at the time of installation.
- The Megaflo product has not been modified or tampered with in any way, other than by a Heatrae Sadia or Baxi Customer Support approved engineer.
- The Megaflo product has not been subject to damage by scale.
- The Megaflo product and any part or parts of the Megaflo product (whether factory fitted or otherwise) have not been repaired or replaced other than by a Baxi Customer Support approved engineer and any replacement parts used on the Megaflo product are authorised Megaflo spare parts.
- The factory fitted temperature and pressure relief valve have not been tampered with or removed.
- The Megaflo product has not been subject to misuse or neglect.
- The Megaflo product has only been used for the storage of wholesome water. Should another substance be put through the product, the warranty will be invalid unless it is part of a disinfectant procedure carried out in accordance with BS EN 806.
- The Megaflo product has not been subjected to frost or freezing temperatures (except for solar collectors which are designed for external installation).
- The Benchmark™ commissioning checklist service record, included in the Megaflo installation instructions has been completed.
- Regular maintenance has been carried out by a competent person/, an approved engineer from Heatrae Sadia or any other part of the Baxi Group Baxi Customer Support approved engineer in accordance with the requirements set out in the maintenance section of the installation instructions.
- Access is available, at reasonable times and upon reasonable notice, to the Megaflo product to allow for any inspection repair or replacement.
- The product is registered within 60 days of purchase. This can be done by telephone, online or by using the registration form provided with the product.
- Evidence of purchase (for example a receipt or delivery note) and date of supply is submitted when making a claim.
- The Megaflo product has not been affected by any cause beyond our reasonable control including, without limitation: an act of God, explosion, flood, fire or accident; war or civil disturbance; strike, industrial action or stoppages of work; any form of government intervention; a third party act or omission including theft or malicious damage; failure by you to give us a correct delivery address or notify us of any change of address.

If any of the following situations occur, the Megaflo Lifetime Warranty* will not apply:

- Any wilful or accidental damage caused by your negligence
- Damage caused as a result of scale.
- Installation not in line with the installer and user manuals provided,
- Failure to comply with installation instructions (whether oral or in writing),
- Misuse of the Megaflo product or alteration of the Megaflo product not in accordance with the requirements set out above.
- Defects which are not reported to us outside of the warranty period on 0345 0701058 or customer.support@baxi.co.uk
- Any third party repair or replacement costs unless those costs have been agreed and authorised by Baxi Customer Support or Heatrae Sadia in writing prior to incurring the costs.
- In relation to the Megaflo Commercial Lifetime Warranty only, we will not be liable for any indirect and consequential losses and any loss of earnings, loss of business, or losses in relation to stress and inconvenience, howsoever caused.

Claims

Defects should be reported to us as soon as you are aware of them. Please report defect to us by contacting 0345 0701058 or commercialservice@baxiheating.co.uk

Notes

We are only able to carry out warranty repair/replacement to Megaflo solar collectors which have safe access and that meet current Health & Safety working at heights requirements. The customer will cover the cost of any safety equipment including but limited to scaffolding and lifting equipment that is required to meet this standard and will appoint a contractor to carry this work out.

Heatrae Sadia accepts no liability for any third party damage.

These warranties do not affect your statutory rights and remedies in relation to the Megaflo products.

Annual service

Annual services are available from Baxi Customer Support, the service division of Heatrae Sadia.

Please contact Baxi Customer Support on 0345 0701058 for details.

*In domestic† properties, lifetime is the period during which the first owner of the Megaflo or new build home continues to own the property. Should the property be sold, the new owner and any subsequent owners will receive a 30 year warranty from the date the original owner purchased the Megaflo or new home with a Megaflo installed. In non-domestic properties lifetime is a period of 30 years from the date of purchase by the original owner and is transferable to any new owner of the property.

†Domestic is any premises not being, or ever having been, wholly or partly utilised for business purposes.

^Non-domestic premises are any premises other than those defined as Domestic.†

All Megaflo warranties are conditional on the installation being carried out in accordance with the installation instructions supplied with the product. These warranties do not affect your statutory rights. Full terms and conditions of these warranty packages are available on request or via www.heatraesadia.com/Megaflo

Heatrae Sadia*, Hurricane Way, Norwich, Norfolk, NR6 6EA

Megaflo may introduce modifications to their products from time to time. Consequentially the details given in this brochure are subject to alteration without notice.

Contacts

Specification Advice Hotline

T: 01603 420220

F: 01603 420229

E: specifier@heatraesadia.com

www.heatraesadia.com

* Heatrae Sadia is a trading name of Baxi Heating UK Limited, Brooks House, Coventry Road, Warwick, CV34 4LL.



For installations outside of the United Kingdom, please contact either the Megaflo Export Department on Tel: +44 1603 420271 or Baxi International on Tel: +44 1926 478323 for further details of the guarantee terms and conditions applicable. This guarantee does not affect your statutory rights. The unit is not guaranteed against damage due to frost. This guarantee does not affect your statutory rights.

The Environment

This product is made from many recyclable materials, therefore at the end of its useful life it should be disposed of at a Local Authority Recycling Centre in order to realise the full environmental benefits. Insulation is by means of an approved HCFC/CFC free polyurethane foam.

Spares Stockists

Megafloservice@heateam.co.uk
Electric Water Heating Co.
2 Horsecroft Place
Pinnacles
Harlow
Essex
CM19 5BT
Tel: 0845 0553811
E-Mail: sales@ewh.co.uk

SPD
Special Product Division
Units 9 & 10
Hexagon Business Centre
Springfield Road
Hayes
Middlesex
UB40 0TY
Tel: 0208 5730574

Parts Center
Network 65 Business Park
Bentley Wood Way
Burnley
Lancashire
BB11 5ST
Telephone
0844 8711535 (option 5)
Facsimile
0844 8711528
E mail
Tel: 01282 834403
www.partscenter.co.uk.

Newey & Eyre
Specialist Products Division
Please Contact your Local Branch

UK Spares Ltd
Unit 1155
Aztec West
Almondsbury
Bristol
BS32 4TF
Tel: 01454 620500

William Wilson Ltd
Unit 3A
780 South Street
Whiteinch
Glasgow
G14 0SY
Tel: 0141 434 1530
Customer Service

Telephone
0345 070 1058
Facsimile
0345 070 1059
E mail
commercialservice@baxiheating.co.uk

Megaflo
Hurricane Way
Norwich
Norfolk
NR6 6EA

PART OF BDR THERMEA © 2016