

PLEASE LEAVE THIS MANUAL WITH THE AQUAFLOW UNIT AFTER INSTALLATION



# Powermaster Installation Manual

00142221-04

For capacities 120 - 300 litres



*Aquaflow Powermaster front view*

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*Top view 120-250 l.*

*Top view 300 l.*

**Thank-you for purchasing the Aquaflow Powermaster unvented hot water cylinder.**

**Designed to be simple and neat to install, the Powermaster differs from other unvented cylinders in that all of the principle connections, including hot and cold water pipes, expansion vessel and primary heating pipes on indirect units are connected to the top of the cylinder. Full size template is provided to facilitate pipe positioning.**

Aquaflow advise that the connecting pipes and electrical cables are fixed in place prior to the positioning of the cylinder. Moving the cylinder into position should be the last thing done before connection of pipes and commissioning of the cylinder.

This manual gives detailed advice for installation and should be read carefully prior to fitting any unvented unit. Where components are supplied only for indirect units, this is clearly shown. Aquaflow Powermaster cylinders are not suitable for gravity fed primary systems. In known hard water regions, precautions should be taken to prevent limescale formation in hot water cylinders, in accordance with Building Regulation Part L, Domestic Heating Compliance Guide.

This Aquaflow cylinder must be installed by a competent person and be installed in compliance with the Aquaflow Installation and Maintenance Instructions, all current legislation, codes of practice and regulations governing the installation of unvented hotwater cylinders in force at the date of installation.

**PLEASE READ THIS MANUAL BEFORE INSTALLATION AND LEAVE UNDER THE CYLINDER TOP LID. THE MANUAL AND ATTACHED LOGBOOK SERVE AS THE CYLINDER GUARANTEE.**

**Aquaflow**

# 1. General information

## 1.1 Health and Safety regulations.

Handling Operations Regulations 1992 defines manual handling as: “any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force” The Regulations set no specific requirements such as weight limits. However common sense still has to be used based on an ergonomic approach for each individual. The Aquaflow Powermaster should be transported and stored in a vertical position.

## 1.2 Siting the Aquaflow Powermaster

(the cylinder should not be positioned until the connecting pipework and cables are fitted)

There are few restrictions on the siting of the Aquaflow Powermaster, however it should not be sited anywhere open to frost attack. The unit should be placed on a stable flat surface capable of withstanding the weight of the cylinder when full and access must be allowed for maintenance purposes.

If wall mounted with an Aquaflow wall bracket, the wall should be capable of withstanding the forces generated by the weight of the full cylinder. Provision should also be allowed for the routing of the discharge pipe away from the cylinder to an outside point according to building regulation G3. (See page 7 & 11)

## 1.3 Component Check list

Components supplied with the unit in a separate accessory kit for site fitting:

- Expansion vessel with wall bracket (300 l. only).
- Flexible hose for expansion vessel (300 l. only).
- Tundish (including screws).
- Plastic cable clamp.
- Flexible Y-hose.
- Motorised valve (indirect only).
- Elbows (2) for primary heating connections (indirect only).

## Components factory fitted

- Expansion vessels with T piece connector.
- Flexible hose for expansion vessel.
- Combination valve, includes line strainer, pressure reducing valve, balanced cold water connection, (for shower or bidet only), blanking cap for balanced cold water connection, temperature & pressure relief valve and hot water blending valve.
- Immersion heater(s) - (4.5kW).
- Thermostats / thermal cut-out.
- Drain Cock.
- Lid for cylinder.

## Documentation supplied

- Installation manual & benchmark logbook
- Template for connecting pipework
- Adhesive for template
- Guarantee card

## 1.4 Supply requirements

An uninterrupted 22mm cold water mains supply is recommended, however if only a 15mm supply is available, this may be used provided there is sufficient flow rate available.

A minimum standing pressure of 2.5 bar and a flow rate of 20 litres per minute with a 1 bar dynamic pressure is recommended. The cylinder will operate at lower pressures and flow rates however the performance will be compromised. The Aquaflow unvented unit is designed for use with supply pressure up to 10 bar. For pressures over 10 bar an additional pressure reducing valve must be fitted in the supply pipe to the unit.

## 1.5 Expansion vessels - description and product use

*120-250 l.:* Twin expansion vessels (single on 120 litre) are factory fitted to the multifunction valve Part K (see fig 1, page 3) using the supplied flexible hose.

*300 l.:* An expansion vessel is provided to be connected to the multifunction valve Part K (see fig. 1, page 3) using the supplied flexible hose.

The vessel(s) accommodate expanded water when the cylinder is heated and prevents the cylinder reaching its maximum working pressure.

## 1.6 Compatible fittings and components

All thermostatically controlled boilers are compatible with indirect Aquaflow cylinders.

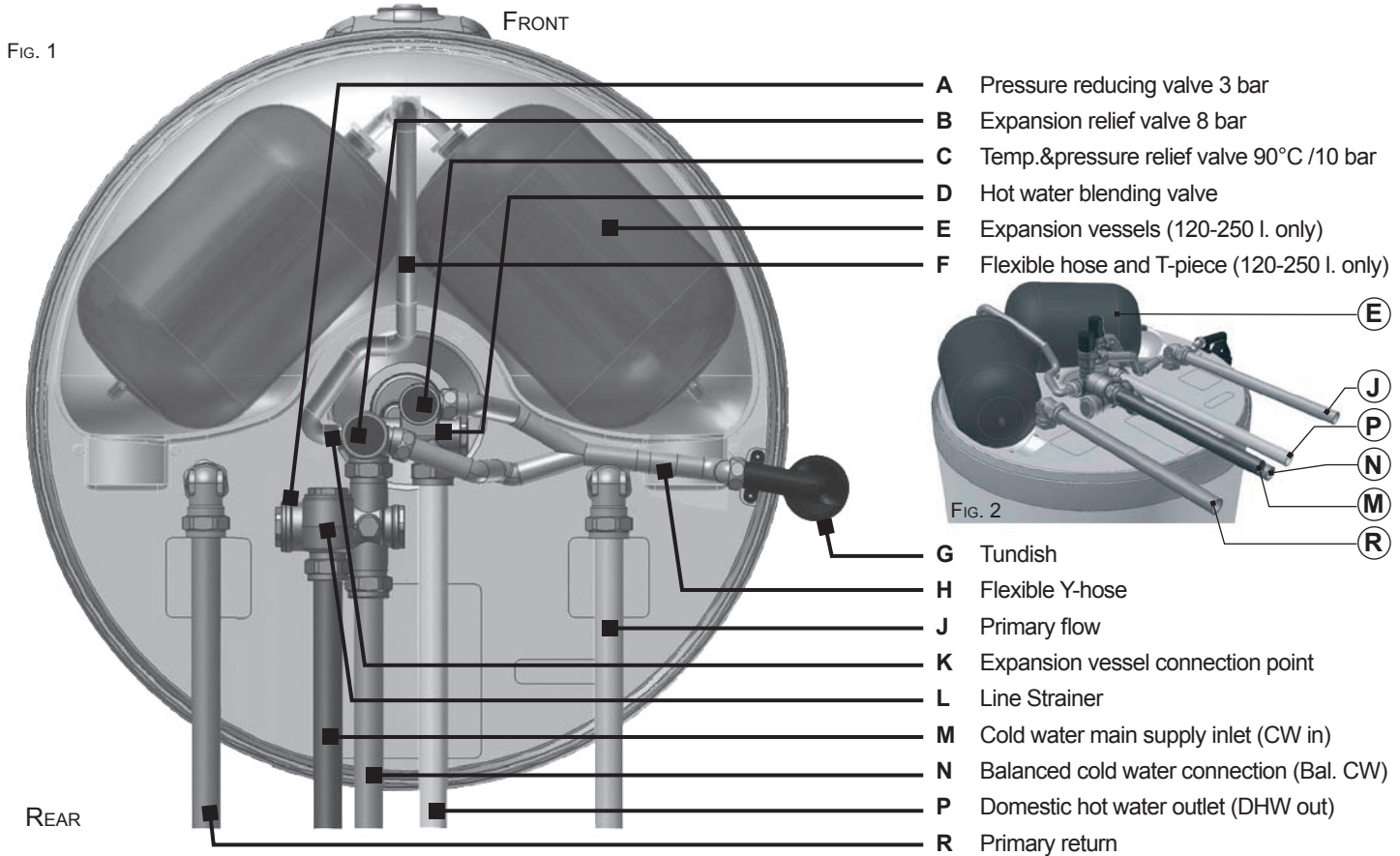
## 1.7 Non-compatible products.

Solid fuel boilers, wood burning stoves and other non-thermostatically controlled heat sources must not be used with unvented cylinders.

## 1.8 Wall mounting

Wall mounting brackets are available for Aquaflow unvented units 120-210 litres capacity.

# 2. Cylinder Specifications



**Important:** 120-250 l. units are factory fitted with expansion vessels (E) and flexible hose and T-piece (F). The 300 l. is supplied with a separate expansion vessel and flexible hose for fitting on the wall next to the unit. The flexible hose for the 300 l. is to be fitted to connection point (K).

# 3. Preparation of installation area

## 3.1 Pipework.

The Aquaflow Powermaster has all pipework connections at the top of the cylinder with these pipes secured to the rear wall. A template is provided to assist in the placement of these pipes. Decide where the cylinder is to be positioned and secure the wall template (using supplied adhesive) with the cross on the back wall at least 326mm from the left wall. Refer to table C to position the cross at the correct height above the base for the appropriate capacity of the cylinder. Please note that if the cylinder will be raised on its feet or on a plinth/higher flooring level, the height of the template above the floor will need to be raised by an equivalent amount. The connecting pipe tails should be fitted so they reach out away from the back wall horizontally, perpendicular to the wall and parallel with each other. Table B shows the exact lengths these tails should be cut from wall to reach the cylinder connections. If pipes are clipped up the back wall behind the cylinder position, the tails should be longer. Use the lengths marked "below". If the pipes approach the template points from above/side, use the lengths marked "above". Aquaflow recommend that the discharge pipe should be located at the left side of the cylinder.

TABLE B

Tail lengths from wall/mm	Above	Below
Cold feed in	202	242
Hot water out	274	314
Balanced cold out	188	228
Primary flow & return	238	278

TABLE C

Capacity	+ above base/mm	Cable tail - indirect (SC) and lower element direct (SX) / mm	Cable tail for upper element of direct (SX) / mm
120	755	550	-
150	935	550	810
180	1045	550	910
210	1185	550	1040
250	1435	550	1170
300	1635	550	1335

## 3.2 Electrical connections.

The Aquaflow Powermaster is provided with two channels in the base to lay electrical cables to the cylinder. The channels run diagonally from the front centre to the rear left and right and allow the installation to be neat with minimum visible cabling. The minimum of two heat resistant 2.5 mm triple core cables are required for each cylinder (only one for SX 120).

Cables should be sufficient length to reach from the junction box, through the base channels and leave the amount of tail from the front of the cylinder shown in table C to be able to reach the electrical connections. When the cylinder is moved into position the cables should be fed up another channel behind the casing at the front of the cylinder into the electrical box. Cables for upper immersion heaters on direct units continue through this box to a higher channel leading to the upper electrical box. When cables are in place they can be secured using the cable clamp supplied in the fittings bag.



# 4. Pipe Connection & Commissioning

Before connecting the cold supply, flush the cold supply pipework of all flux and debris. Lift off the cylinder lid allowing access to the combination valve and other connections.

**4.1 120-250 l.:** Check the expansion vessels and hose connections are tight. **300 l.:** Fit the expansion vessel and bracket on a suitable wall close to the cylinder. Connect the flexible hose to the expansion vessel.

**4.2 Remove the template** and position the cylinder to meet the heating and domestic water pipes.

## 4.3 Combination valve.

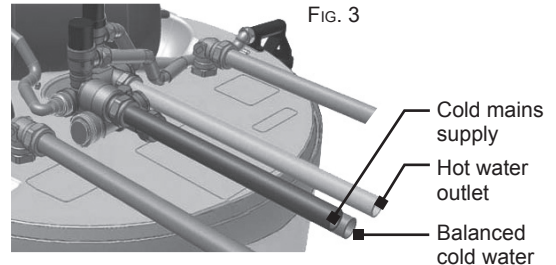
The Combination valve at the top of the cylinder is factory fitted and is water-tight. If necessary it can be rotated in either direction to suit the connecting pipework, up to half a turn without losing its seal.

## 4.4 Cold mains supply.

Connect the cold mains supply to the combination valve cold feed (Fig. 3).

## 4.5 Hot water outlet.

Connect the hot water distribution pipe to the combination valve hot water outlet (Fig. 3).



## 4.6 Balanced cold water supply (optional).

If no balanced cold supply is required, tighten the supplied blanking cap. If a balanced mains pressure cold water supply is required to a shower or bidet (over rim type only, ascending spray type requires type AA,AB or AD air gap), remove blanking cap and connect to the shower or bidet cold supply on the combination valve (2).

(Major shower manufacturers advise fitting a mini expansion vessel in the balanced cold supply pipework to accommodate thermal expansion and prevent tightening of shower controls) Using the balanced cold connection to feed bath taps can reduce the flow available to the unvented cylinder.

## 4.7 Flexible Y-hose

The flexible Y-hose is preformed to the correct shape. Connect the inlet ends to the expansion relief valve and the temperature and pressure relief valve.

## 4.8 Tundish

Recommended position of the tundish is to the left of the cylinder as seen from the front. Connect the tundish inlet to the outlet end of the flexible Y-hose. Tundish should be visible and positioned away from electrical devices. Tundish can be secured with supplied screws.

## 4.9 Discharge pipe

Connect the tundish outlet to the discharge pipe. Install the Tundish in a vertical position within a maximum of 500 mm from the Temperature and Pressure Relief Valve drain connection. Ensure the expansion relief pipework discharges through the tundish. Tundish pipework must be 22 mm with a minimum vertical length of 300 mm below tundish.

Maximum permitted length of 22 mm pipework is 9 m. Each bend or elbow is equivalent to 0.8 m of pipework. All pipework must have continuous fall and discharge in a safe, visible position. If any doubt, refer to Building Regulation G3. Discharge pipe must be dedicated to the cylinder and must not be used for any other purpose.

## 4.10 Primary flow & return and motorised valve (Indirect only)

Fit the elbows supplied to the primary flow & return connections. Make the boiler primary flow and return pipes to the unit. The motorised valve can be connected to either the primary flow or return pipe. Ensure that the direction of flow is correct. It is possible to fit the motorised valve on the flow pipe on its side to fit under the cylinder lid. For electrical connection of the motorised valve and immersion heater, please read Electrical Installation Instructions. (Pages 5-9)

## 4.11 Secondary return (optional)

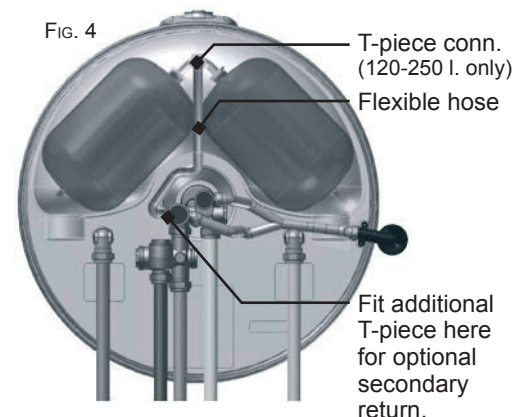
If a secondary return is connected, the cylinder thermostats should be set to a maximum of 60°C. Reduce thermostat settings to 60°C on direct units.

A secondary return can be connected by a T-piece to the combination valve.

Remove the flexible hose from the combination valve and connect T-piece.

Connect the flexible hose to the T-piece and connect 15mm copper secondary return to the remaining T-piece outlet. An additional expansion vessel will be required if the secondary return "loop" exceeds 10% of the cylinder capacity.

1 metre of 22mm pipe holds approximately 1/3 litre of water. 15 mm pipes carry approximately half that volume. Secondary return must be pumped by a bronze pump and fitted with non return valves to ensure correct direction of flow.



## 5. Commissioning and filling up

1. Check all connections for tightness. Open hot water tap furthest away from the Aquaflow water heater.
2. Open the mains stop cock to fill the water heater. When water flows evenly from tap, allow to run for a few minutes to flush through any dirt, swarf or residue, then close the tap. Open successive hot taps to purge any remaining air.
3. Check all water connections for leaks and rectify if necessary.
4. Manually operate Expansion relief valve B (see fig. 1 on page 3) to ensure free water flow through discharge pipe by turning knob counter-clockwise. To close continue to turn counter-clockwise until the valve shuts.
5. Manually operate Temperature and Pressure Relief Valve C (see fig. 1 on page 3) to ensure free water flow through discharge pipe (Turn knob counter-clockwise).
6. Switch electrical power on.
7. Replace the cylinder lid – this is important as the lid prevents heat loss from the cylinder and combination valve, conserving valuable energy. Do not place heavy objects on the lid.

### Draining & flushing out the system.

#### Draining.

Switch off the electrical power (Important to avoid damage to element). Isolate boiler from Aquaflow unit. Turn off the cold water supply valve. Open hot water tap. Open drain at base of cylinder. The unit will drain. Draining process may be speeded up by opening the temperature and pressure relief valve.

**System flushing** will not be necessary under normal circumstances as the line strainer will prevent ingress of foreign materials, however if flushing is required, run at least 50 litres of water from the cylinder at the highest possible flowrate. Close the taps and follow draining procedure.

## 6. Electrical installation - all wiring must conform to current IEE regulations

### 6.1 Immersion heaters

Power to immersion heaters should not be switched on until the unit is filled with water. All indirect units are fitted with one 4.5 kW immersion heater which is located behind the electrical box. With the exception of the 120 litre all direct units have two 4.5 kW immersion heaters. Immersion heaters must be wired through the factory fitted thermostat and thermal cut-out according to diagram on the reverse of the electrical box cover. Alternative thermostats should not be used, regulations require immersion heaters on unvented cylinders to be connected with a thermal cut-out.

#### Direct units

Wiring instructions for the immersion heaters are located on the reverse side of the lid. Follow the wiring instructions connecting the live, neutral and earth as indicated. The unit must be permanently connected to the electrical supply through a double-pole linked switch with a minimum break capacity of 25 amps. All internal wiring is factory mounted. The presence of a blending valve in the main hot water valve means that the direct thermostats are factory set to 70°C. Water will not be delivered to the taps higher than 60°C. This increases the amount of usable hot water available from the cylinder.

Each immersion heater has a working thermostat adjustable between 40°C - 70°C. A safety cut-out is also incorporated within the thermostat and will operate at 85°C ± 3°C. Should this happen, check reasons for thermal cut-out button being released and when satisfied press the reset button.

**Important:** Before resetting the safety cut-out or altering the thermostat setting, isolate electrical supply to the unit prior to removal of the lid. Ensure the lid to the electrical box is replaced correctly and the retaining screw is fitted.

The lower immersion heater should be connected to the off peak supply (if available) whilst the top immersion heater can be connected to the day tariff. The immersion heater can be connected to the mains supply through a water heater controller (Contact your local electricity company if in doubt).

#### Indirect Units

Motorised valve: To comply with regulations governing the installation of indirect unvented cylinders, a motorised valve must be fitted in the primary pipework. Your Aquaflow unit has been supplied with a two port motorised valve, which will act as a positive energy cut-out should the safety cut-out operate. The motorised valve will also control the temperature of the domestic stored water via the cylinder thermostat, which is located in the electrical box. The unit should be installed on an "S" or "Y" plan system. Please follow the wiring instructions carefully.

The working thermostat which controls the temperature of the domestic hot water (see fig. 2) is adjustable between 40°C - 70°C. A safety cut out is also incorporated within the thermostat and will operate at 85°C ± 3°C. Should the safety cut out be brought into operation, the motorised valve will operate and close down the primary flow to the cylinder. To reset the safety cut-out and the motorised valve the reset button must be pressed in. If using a 6-wire 28mm or 1" BSP V4043H on either circuit the white wire is not needed and must be made electrically safe.

**Aquaflow can not be responsible if alternative wiring plans are used. Important:** Before resetting the safety cut-out or altering the thermostat setting isolate electrical supply to the unit before removal of the lid.

# 7. Safety and Servicing

Maintenance must be carried out by a competent person.

## Safety Cut-out

1. The safety cut-out operates if:
  - a. Wiring is incorrect.
  - b. The immersion heater thermostat or cylinder thermostat fails.
  - c. Thermostat is set too high.
2. Remember before resetting the safety cut-out or altering the thermostat setting, isolate electrical supply to the unit prior to removal of the electrical box lid.
3. Reduce thermostat setting and press the reset button. After adjustments are completed, ensure the lid to the electrical box is replaced correctly and the retaining screw is fitted.
4. If still out of operation, contact installer.

## Intermittent or slow discharge from tundish

1. Turn off the electrical supply to the immersion heaters.
2. Turn off cold water supply valve.
3. Open a hot tap.
4. Turn the knob on the Temperature and Pressure Relief Valve (5) to the left and hold in this position for thirty seconds.
5. Attach a foot pump with a schraeder (car type) valve to the expansion vessel.
6. Pump up to 3.5 bar
7. Open cold water supply valve.
8. When water flows through open tap, close tap.
9. Turn on electrical supply to the immersion heaters.

## Continuous very hot water discharge from tundish

This indicates a malfunction of a thermal cut-out, operating thermostat or the combined temperature and pressure relief valve. Turn off the electrical supply to the immersion heater and also isolate an indirect unit from the boiler. Contact the installer or competent engineer.

## Expansion vessel maintenance

The expansion vessels do not require annual maintenance and should not be tampered with unless an intermittent or slow discharge from the tundish occurs when water is being heated. In this situation, maintenance must be carried out by competent person and the precharge pressure must be restored to the original value. An annual visual inspection is recommended. **Important:** To check the precharge the expansion vessel must be completely empty of water. If the precharge pressure is different from the value shown on the label it must be restored to the original value.

*Do not remove expansion vessel without depressurizing the cylinder and draining 10 litres of water from the drain valve at the base of the cylinder.*

## Guarantee

Cylinder should be serviced annually and benchmark logbook should be updated in order to validate guarantee. Logbook and service records act as guarantee document. For terms of guarantee please see Benchmark logbook on page 14.

## Servicing Procedure:

### Line strainer

1. Isolate cold water supply.
2. Unscrew the retaining nut of the valve. The strainer mesh can be removed.
3. Clean the mesh under running water.
4. Replace mesh and reassemble valve.

### Expansion relief valve

Ensure that expansion relief valve works by manually opening to discharge water to tundish.

### Temperature and Pressure relief valve

Ensure that Temperature & Pressure Relief valve works by manually opening to discharge water to tundish.

### Combination valve

The combination valve can be separated into two sections by disconnecting the compression fitting in the middle. The entire valve can be removed by unscrewing from the top connection. When refitting, the valve does not tighten, the seal is created by a double O-ring. To create the seal, the valve should be wound down until it will not go any further, then wound back up less than one full turn to point in the desired direction.

### Drain cock

To remove drain cock, drain cylinder fully. When cylinder has drained, unscrew rear locking ring behind drain cock (turn clockwise). Pull drain cock off. Reverse procedure to refit drain cock. Locking ring only needs to be hand tight, seal comes from double o-ring.

# 8. Aquaflow Fault Finding Guide

FAULT	POSSIBLE CAUSE	SOLUTION
No water flow from hot taps.	<ol style="list-style-type: none"> <li>1. Mains supply off.</li> <li>2. Strainer blocked.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check and open stopcock.</li> <li>2. Turn off water supply. Remove strainer and clean (see Servicing Procedure page 10).</li> </ol>
Water from hot taps is cold.	<ol style="list-style-type: none"> <li>1. Immersion heaters not switched on.</li> <li>2. Immersion heater thermal cut-out has operated</li> <li>3. Programmer set to central heating or not switched on.</li> <li>4. Boiler not working.</li> <li>5. Cylinder thermal cut-out has operated (indirect units only).</li> <li>6. Motorised valve not operating correctly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check and switch on.</li> <li>2. Check and reset button (see thermostat diagram page 8 and safety cut-out on page 5 of installation manual).</li> <li>3. Check and set to hot water.</li> <li>4. Check boiler operation. If fault suspected consult installer or boiler manufacturer.</li> <li>5. As at No. 2.</li> <li>6. Check wiring and/or plumbing connections to motorised valve (see pages 6 - 9 of the installation manual).</li> </ol>
Intermittent water discharge.	<ol style="list-style-type: none"> <li>1. Reduced expansion vessel charge.</li> </ol>	<ol style="list-style-type: none"> <li>1. Follow instruction page 10: "Intermittent or slow water discharge from tundish".</li> </ol>
Continous water discharge.	<ol style="list-style-type: none"> <li>1. Thermal control failure (Note: Water will be hot).</li> <li>2. Cold water inlet Pressure Reducing Valve not working.</li> <li>3. Temperature and pressure relief valve faulty.</li> <li>4. Expansion relief valve not working properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch off power to immersion heater(s) and boiler supply to the unit. When discharge has stopped, check thermal controls, replace if faulty. Contact a competent person.</li> <li>2. Check pressure from valve, if greater than 3 bar replace (see page 10 of installation manual).</li> <li>3. Drain 10 litres from cylinder and replace valve.</li> <li>4. Check and replace if faulty (see page 6 of installation manual).</li> </ol>

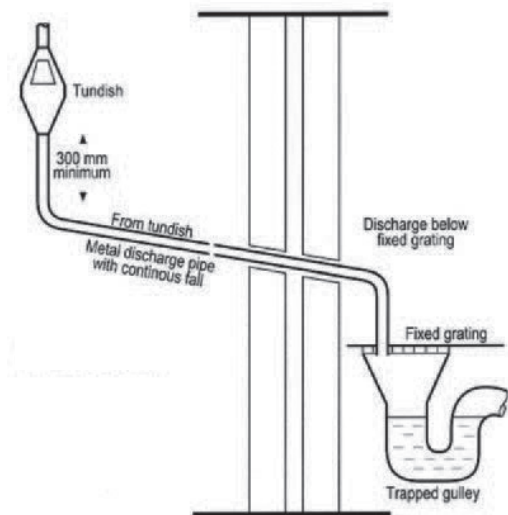
**Important - note:** Disconnect electrical supply before removing any electrical equipment covers.

## Alternative Discharge

Discharge pipes should be in metal and dedicated to the unvented cylinder. The pipe should have a continuous fall and should terminate in a safe and visible place.

Downward discharges at low level, i.e. up to 100 mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children may play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility.

Discharge at high level, i.e. into a metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not) or onto a roof capable of withstanding high temperature discharges of water and 3 m from any plastics guttering system that would collect such discharges (tundish visible).



Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation discharging can be traced reasonably easily. The single common discharge pipe should be at least one pipe size larger than the largest individual discharge pipe to be connected. For further information contact your Building Control Office.

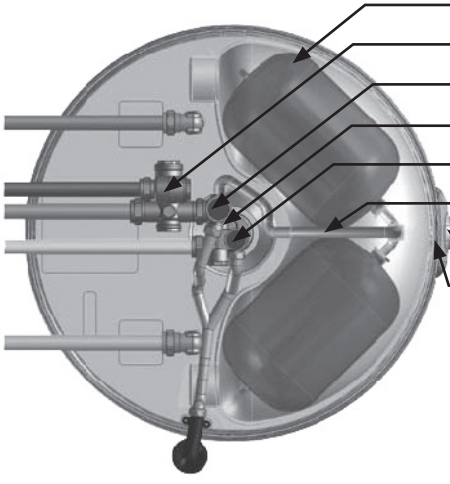
TABLE D

Valve outlet size	Minimum size of discharge pipe D1*	Minimum size of discharge pipe D2*	Maximum resistance allowed, expressed as a length of straight pipe (i.e. no elbows or bends)	Resistance created by each elbow or bend
G1/2	15 mm	22 mm	up to 9 m	0.8 m
		28 mm	up to 18 m	1.0 m
		35 mm	up to 27 m	1.4 m
G3/4	22 mm	28 mm	up to 9 m	1.0 m
		35 mm	up to 18 m	1.4 m
		42 mm	up to 27 m	1.7 m
G1	28 mm	35 mm	up to 9 m	1.4 m
		42 mm	up to 18 m	1.7 m
		54 mm	up to 27 m	2.3 m



# 9. Technical and Performance specifications

Technical specification	
Cylinder material	Duplex stainless steel
Coil construction	Duplex stainless steel, 22mm dia.
Max supply pressure	10 bar
Max primary pressure	8 bar
Min supply flow rate <small>(Cylinder will operate at lower flow rates but performance may be impaired)</small>	20 litres/min at 1 bar dynamic pressure
Thermal cut-out	85°C
Thermostat range	40°C - 70°C
Cylinder thermostat setting (direct)	70°C
Cylinder thermostat setting (indirect)	60°C
Pressure reducing valve	3 bar
Blending valve setting	60°C
Expansion relief valve	8 bar
Temperature & Pressure relief valve	90°C, 10 bar
Immersion heater	Incoloy, 4.5kW, 230V

Spare parts list	Description	Part no.
	Expansion vessels 5.3 l. 1 vessel for 120 l., 2 for 150-250 l.	115800
	Pressure reducing valve	90231
	Expansion relief valve 8 bar	90423
	Combination/mixing valve adapter to cylinder	90232
	Temperature & pressure relief valve	92020
	Expansion vessel flexible hose same for all volumes 120-250 l.	91800
	Drain valve	90412
	Immersion heater, Incoloy 3 kW	71259
	Honeywell valve, indirect only	92000
	Accessory kit Powermaster SXD Direct	157600
	Accessory kit Powermaster SXC Indirect	157601
	Cylinder thermostat, Indirect	80030
	Immersion thermostat, both Direct & Indirect	80020
	Expansion vessel 18 l. 300 l. only	115300
	Expansion package complete for all volumes 120-250 l.	115810
	Expansion vessel flexible hose 300 l. only	91911
Gasket for expansion vessel	73870	

**All replacement parts should be supplied by Aquaflow.**



IT IS THE RESPONSIBILITY OF THE INSTALLER TO COMPLETE THIS LOGBOOK AND PASS IT ON TO THE CUSTOMER. FAILURE TO DO SO MAY INVALIDATE THE CYLINDER GUARANTEE



*The code of practice for the installation, commissioning & servicing of mains pressure hot water storage*

# Installation, Commissioning and Service Record Log Book

## CUSTOMER DETAILS

NAME

ADDRESS

TEL No.

## IMPORTANT

1. Please, keep the Log Book in a safe place for future reference.
2. This Log Book is to be completed in full by the competent person(s) who commissioned the equipment and then handed to the customer. When this is done, the Log Book is a commissioning certificate that can be accepted as evidence of compliance with the appropriate Building Regulations.
3. Failure to install and commission this appliance to the manufacturer's instructions may invalidate the guarantee.

**The above does not affect your statutory rights.**

Benchmark is supported by



© HEATING AND HOTWATER INFORMATION COUNCIL

# INSTALLER & COMMISSIONING ENGINEER DETAILS

## INSTALLER DETAILS

COMPANY NAME \_\_\_\_\_ DATE \_\_\_\_\_

ADDRESS \_\_\_\_\_

INSTALLER NAME \_\_\_\_\_ TEL No. \_\_\_\_\_

### REGISTRATION DETAILS

REGISTERED OPERATIVE ID CARD No.  
(IF APPLICABLE) \_\_\_\_\_

## COMMISSIONING ENGINEER (IF DIFFERENT)

NAME \_\_\_\_\_ DATE \_\_\_\_\_

ADDRESS \_\_\_\_\_

TEL No. \_\_\_\_\_

### REGISTRATION DETAILS

REGISTERED OPERATIVE ID CARD No.  
(IF APPLICABLE) \_\_\_\_\_

## GUARANTEE - AQUAFLOW UNVENTED HOTWATER CYLINDER

The Aquaflow stainless steel inner vessel is guaranteed against material defect or manufacturing faults for a period of 25 years from the date of purchase. All other parts including, but not limited to factory fitted electrical elements (damage caused by lime scale excluded), expansion vessel, thermostats and valves are guaranteed against material defects or manufacturing faults for 2 years from the date of purchase. In the event of a replacement component being required aquaflow will supply such part(s) free of charge and freight paid, on condition that the defective component is delivered, freight paid to Aquaflow within 2 weeks of written notice being given to Aquaflow of the defect. Such replacement parts shall be guaranteed under the terms of this guarantee to the unexpired period of the aforementioned 2 year period.

This warranty is conditional upon the Aquaflow cylinder being installed in compliance with the Aquaflow Installation & Maintenance Instructions, all current legislation, codes of practice and regulations governing the installation of unvented hot water cylinders in force at the date of installation and provided that:

1. The water quality shall be in accordance with European Council Directive 98/83 EC, or revised version at the date of installation, and is not fed with water from a private supply.  
Particular: Chloride content: Max. 250 mg/l  
Sulphate content: Max. 250 mg/l  
Combination Chloride/sulphate: Max. 300 mg/l (in total)
2. The Aquaflow cylinder is filled with water before turning the electricity supply on to the heater elements.
3. The benchmark certificate is completed at the time of installation.
4. The Aquaflow cylinder is serviced and maintained every 12 months and is marked as such in the benchmark logbook provided with the cylinder. Invoices for the maintenance work should be kept as proof of regular maintenance. Care should be taken of the logbook and invoices as they serve as the guarantee certificate for the cylinder.
5. If the newly fitted water heater is not in regular use then it must be flushed through with fresh water for at least 15 minutes. Open at least one hot water tap once per week, during a period of at least 4 weeks.
6. The Aquaflow unvented cylinder has not been modified in any way other than by Aquaflow and is only used for the storage of potable water.
7. No factory fitted parts have been removed for unauthorised repair or replacement.
8. Defects caused by frost, excess pressure, salt dehardner process, transient voltage, lightning strikes or incorrect installation, repair or use, are not covered by this warranty. A laboratory evaluation of possible defects can be ordered by the user, however the user must pay for this where the above mentioned conditions have not been fulfilled. Evidence of the purchase date and the date of supply must also be submitted with your claim.
9. To validate the warranty the user must complete and return the warranty card supplied accompanied by proof of purchase within 60 days of purchase. Evidence of the purchase date and the date of supply / installation must be submitted.

*This guarantee does not confer any rights other than those expressly set out above and does not cover any claims for consequential loss or damage. This guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer.*

**IT IS THE RESPONSIBILITY OF THE INSTALLER TO COMPLETE THIS LOGBOOK AND PASS IT ON TO THE CUSTOMER. FAILURE TO DO SO MAY INVALIDATE THE CYLINDER GUARANTEE**

# APPLIANCE & TIME CONTROL DETAILS

MANUFACTURER AQUAFLOW LTD	MODEL
CAPACITY	litres
TYPE	UNVENTED
TIME CONTROL	PROGRAMMER <input type="checkbox"/> or TIME SWITCH <input type="checkbox"/>

## COMMISSIONING PROCEDURE INFORMATION

### BOILER PRIMARY SETTINGS (INDIRECT HEATING ONLY) ALL BOILERS

IS THE PRIMARY A SEALED OR OPEN VENTED SYSTEM? SEALED  OPEN

WHAT IS THE BOILER FLOW TEMPERATURE?  °C

### ALL MAINS PRESSURISED SYSTEMS

WHAT IS INCOMING STATIC COLD WATER PRESSURE AT THE INLET TO THE PRESSURE REDUCING VALVE?  bar

HAS STRAINER (IF FITTED) BEEN CLEANED OF INSTALLATION DEBRIS? YES  NO

HAS A WATER SCALE REDUCER BEEN FITTED? YES  NO

WHAT TYPE OF SCALE REDUCER HAS BEEN FITTED?

### UNVENTED SYSTEMS

ARE COMBINED TEMPERATURE AND PRESSURE RELIEF VALVE AND EXPANSION VALVE FITTED AND DISCHARGE TESTED? YES  NO

IS PRIMARY ENERGY SOURCE CUT OUT FITTED (NORMALLY 2 PORT VALVE)? YES  NO

WHAT IS THE PRESSURE REDUCING VALVE SETTING (IF FITTED)?  bar

WHERE IS OPERATING PRESSURE REDUCING VALVE SITUATED? YES  NO

HAS THE EXPANSION VESSEL OR INTERNAL AIR SPACE BEEN CHECKED? YES  NO

WHAT IS THE HOT WATER TEMPERATURE AT THE NEAREST OUTLET?  °C

### ALL PRODUCTS

DOES THE HOT WATER SYSTEM COMPLY WITH THE APPROPRIATE BUILDING REGULATIONS? YES

HAS THE SYSTEM BEEN INSTALLED AND COMMISSIONED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS? YES

HAVE YOU DEMONSTRATED THE OPERATION OF THE SYSTEM CONTROLS TO THE CUSTOMER? YES

HAVE YOU LEFT ALL THE MANUFACTURER'S LITERATURE WITH THE CUSTOMER? YES

COMPETENT PERSON'S SIGNATURE	CUSTOMER'S SIGNATURE
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(To confirm demonstrations of equipment and receipt of appliance instructions)

PLEASE FOLLOW THE INSTALLATION AND COMMISSIONING INSTRUCTIONS IN THE INSTALLATION MANUAL SUPPLIED WITH THE EQUIPMENT

# SERVICE INTERVAL RECORD

It is recommended that your hot water system is serviced regularly and that your service engineer completes the appropriate Service Interval Record below.

## SERVICE PROVIDER

Before completing the appropriate Service Interval Record below, please ensure you have carried out the service as described in the manufacturer's instructions and in compliance with all relevant codes of practice.

<b>SERVICE 1</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 2</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 3</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 4</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 5</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 6</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 7</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 8</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 9</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

<b>SERVICE 10</b>	<b>DATE:</b>
ENGINEER NAME	_____
COMPANY NAME	_____
TEL No.	_____
COMMENTS	_____
SIGNATURE	_____

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When all the above services have been completed, please contact your Service Engineer for an additional service interval record sheet.