

# ALBION

## Aerocyl

### Unvented Copper Hot Water Cylinders

#### **IMPORTANT NOTE TO THE INSTALLER**

The Albion Aerocyl Cylinder is specifically designed to be installed in conjunction with a Heat Pump, or a Solar thermal system and additional input from a Heat Pump. Connection to any other form of heat appliance or boiler is not acceptable.

Read these instructions before commencing installation. Unvented cylinders are a controlled service as defined in the latest edition of the building regulations and should only be fitted by a competent person.

The relevant regulations are: England and Wales – Building Regulation G3, Scotland – Technical Standard P3, N Ireland – Building Regulation P5

After installation the Benchmark Log Book must be completed and left, with these instructions, with the householder for future reference.



## **INSTALLATION INSTRUCTIONS FOR ALBION AEROCYL UNVENTED COPPER CYLINDERS: HEAT PUMP ONLY OR HEAT PUMP AND SOLAR INPUT MODELS**

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## INTRODUCTION

The Aerocyl Unvented cylinder is made from Copper for excellent corrosion resistance. Aerocyl has a strong rust-proofed steel case and is highly insulated with environmentally friendly foam.

It is available in 5 capacities from 150 – 300 litres in Heat Pump Only versions. Solar input models are available in 4 capacities from 180 - 300 litres.

Aerocyl is supplied complete with all the necessary safety and control devices needed to connect to the cold water mains. All are pre-adjusted. High quality controls have been selected to combine high flow rate performance with minimum pressure drop to make Aerocyl perform well in all areas, even those with poor water pressure. Aerocyl is WRAS approved to show compliance with Building Regulations G3+L.

## STORAGE PRIOR TO INSTALLATION

Aerocyl should be stored in its original packaging in an upright position in an area free from excessive damp.

## UNPACKING THE UNIT



Expansion Vessel

150 ltr units - 12 ltr vessel  
180, 210 & 250 ltr units - 19 ltr vessel  
300 ltr units - 24 ltr vessel



15/22mm Tundish

## AEROCYL COMES COMPLETE WITH ALL THE FITTINGS YOU NEED TO COMPLETE THE INSTALLATION:

### Heat Pump Only Models

- Inlet control set.
- Temp & Pressure relief valve.
- 15mm / 22mm Tundish.
- Expansion vessel.
- Wall mounting bracket.
- Expansion vessel hose.
- 1 x 3kW Immersion Heater (2 x 3kW on 250 & 300 litre units).
- Two port zone valve.
- Dual Thermostat.
- Installation & Maintenance Instructions.
- Benchmark Log Book.

### Heat Pump and Solar Input Models

- Inlet Control set.
- Temp & Pressure relief valve.
- 15mm / 22mm Tundish.
- Expansion vessel.
- Wall mounting bracket.
- Expansion vessel hose.
- Immersion Heater.
- 2 x Two port valves.
- 1 x Dual Thermostat.
- 1 x Single Control stat.
- 1 x Single High limit stat.
- Installation & Maintenance Instructions.
- Benchmark Log Book.
- 2 x Sensor pocket retaining bungs.



Expansion Vessel Hose



Wall Mounting Kit for Expansion Vessel



Temperature and Pressure Relief Valve



Dual Thermostat



High Flow Rate Inlet Control Set



Two Port Valve



Incoloy long life 240V x 3kW Immersion Heater



Installation & Maintenance Instructions



Benchmark Log Book

# WATER SUPPLY

Aerocyl operates at 2.1 bar (controlled by the inlet control set) and is capable of delivering over 50 litres per minute. The high quality inlet control set has been designed to make the most of the flow rates available however the performance of any Unvented system is only as good as the mains water supply. The maximum possible water demand should be assessed taking into consideration that both hot and cold services are supplied simultaneously from the mains.

The water supply should be checked to ensure it can meet these requirements. If necessary consult the local water company regarding the likely pressure and flow rate availability.

If measuring the water pressure note that a high static (no flow) mains pressure is no guarantee of good flow availability. In a domestic installation 1.5 bar and 25 l/min. should be regarded as the minimum. The maximum mains pressure the inlet control set can cope with is 16 bar.

Consideration should be given to upgrading existing 1/2" (15mm) cold mains pipework to a larger size if the recommended minimum pressure/flowrate is not being achieved.

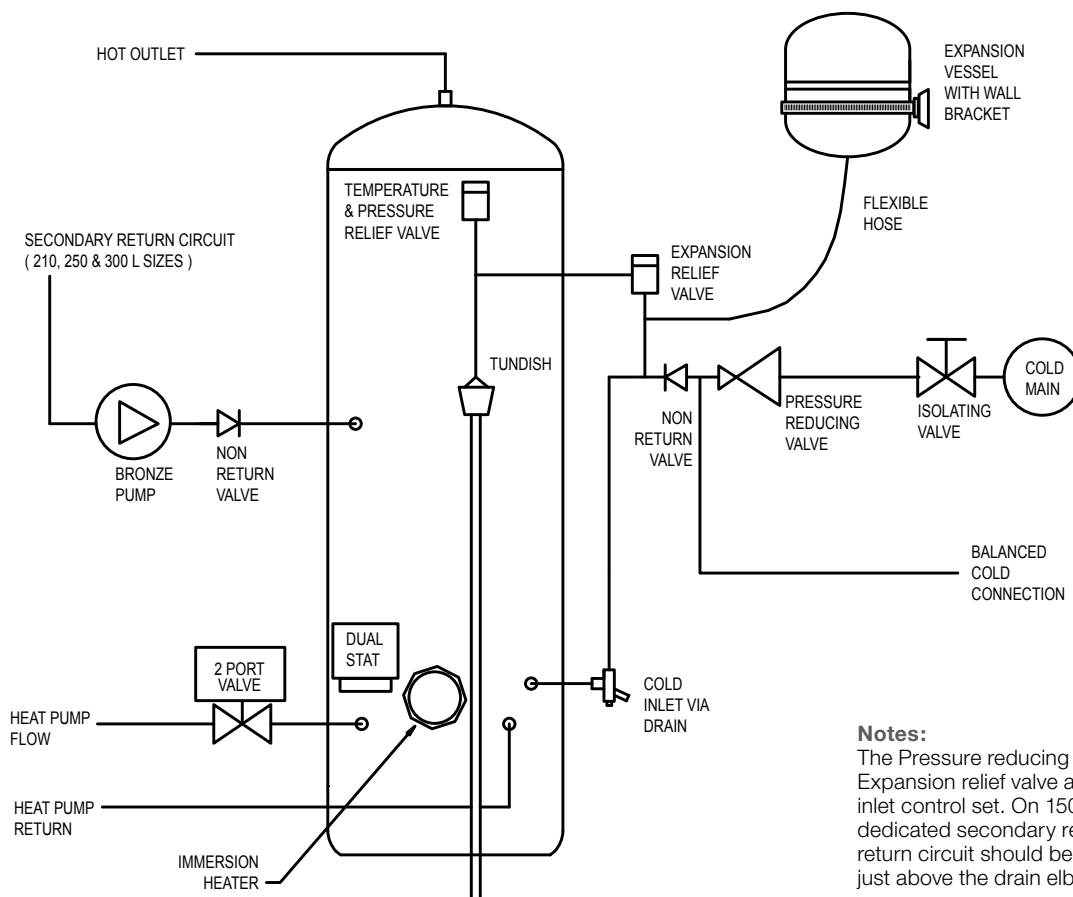
# SITING THE UNIT

Aerocyl can supply outlets above it or at some distance from it. Site the unit to minimise "dead leg" distances especially to the point of most frequent use.

Outlets above the Aerocyl will reduce the outlet pressure available by 0.1 bar for every 1m of height difference. The unit should be protected from frost. Particular care is needed if siting in a garage or outbuilding. All exposed pipework should be insulated. Aerocyl must be installed VERTICALLY on a flat base capable of supporting the weight of the cylinder when full (see technical specification section for weights). The minimum recommended cupboard size is 650mm square.

Access for maintenance of the valves should be considered. The immersion heaters are 375mm long and care should be taken that they can be withdrawn for servicing if required. The discharge pipework from the safety valves should fall continuously and terminate safely.

# SCHEMATIC DIAGRAM



**Notes:**  
The Pressure reducing valve, Non return valve and Expansion relief valve are combined together in the inlet control set. On 150 – 180 litre sizes there is no dedicated secondary return boss and the secondary return circuit should be tee'd into the cold feed pipe just above the drain elbow

# GENERAL INSTALLATION

## COLD MAINS PIPEWORK

Run the cold main through the building to the place where the Aerocyl is to be installed. Take care not to run the cold pipe near hot water or heating pipe work so that the heat pick-up is minimized. Identify the cold water supply pipe and fit an isolating valve (not supplied) A 22mm BS1010 stopcock can typically be used but a 22mm quarter turn full bore valve would be better as it does not restrict the flow as much. Do not use "screwdriver slot" or similar valves. Make the connection to the cold feed of the cylinder and incorporate a drain valve. Position the inlet control just ABOVE the Temperature & Pressure Relief Valve (TPRV) mounted on the side of the cylinder. This ensures that the cylinder does not have to be drained down in order to service the inlet control set. Ensure that the arrow points in the direction of the water flow. Select a suitable position for the expansion vessel. Mount it to the wall using the bracket provided. Use the hose to connect to the inlet control group.



## CONNECTING TO THE CYLINDER

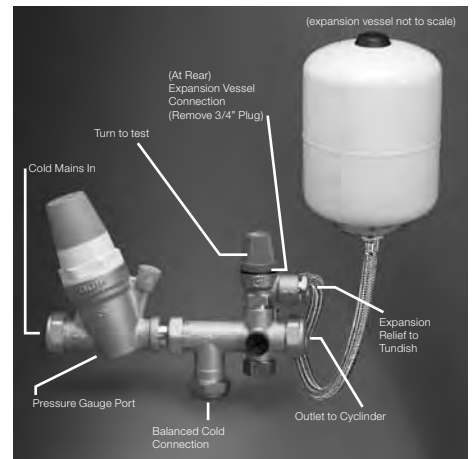
All of the pipework connections on the cylinder are 22mm compression and supplied complete with gland nuts and olives, in the Accessory Kit Box. Only connect 22mm Table X copper tube to these connections.

Cut the tube with a pipe cutter and ensure no sharp edges or burrs protrude. Slide both gland nut and olive onto the tube and push tube fully home into the connection, ensuring the tube end fully bottoms on the connection recess.

Smear the outer wall of the olive with plumbing paste and tighten gland nut in the prescribed manner. Upon filling/commissioning, ensure all connections are completely watertight. Note: No control or isolation valve should be fitted between the expansion relief valve and the storage cylinder. The relief valve connections should not be used for any other purpose.

## BALANCED COLD CONNECTION

If there are to be showers, bidets or monobloc taps in the installation then a balanced cold supply is necessary. There is a 22mm balanced connection on the inlet control set.



## HOT WATER PIPEWORK

Run the first part of the hot water distribution pipework in 22mm. This can be reduced to 15mm and 10mm as appropriate for the type of tap etc. Your aim should be to reduce the volume of the hot draw off pipework to a practical minimum so that the time taken for the hot water is as quick as possible. Do not use monobloc mixer tap or showers if the balanced cold connection is not provided. Outlets of this type can back pressurize the unit and result in discharge. Select a suitable position for the expansion vessel. Mount it to the wall using the bracket provided and connect to the inlet control set with the flexible hose provided. Ensure that the top of the vessel is accessible for servicing.

## PRIMARY COIL CONNECTIONS

**For Solar input models refer to pages 10-13 before making any connections.**

Connect the primary connections using the compression connections provided. The primary circuit must be positively pumped. Gravity circulation is not suitable. Either primary connection may be used as the primary flow. Reheat times are identical either way. The primary circuit can be open vented or sealed with up to a maximum pressure of 3.5 bar. If you seal the primary circuit an additional expansion vessel and safety valve is required. The Heat Pump must operate under effective thermostatic control. Uncontrolled heat sources are NOT SUITABLE. Please contact our technical department for guidance. Connect the two port zone valve into the primary flow pipework. The direction of flow arrow should be towards the primary flow connection. On twin coil solar input cylinders we have provided an extra thermostat boss should you wish to use it. Again a two port zone valve should be fitted (supplied).

## SECONDARY CIRCULATION

Aerocyl can be used with secondary circulation. An appropriate WRAS approved bronze circulator should be used in conjunction with a non return valve to prevent backflow. On large secondary circulation systems it may be necessary to incorporate an extra expansion vessel into the circuit to accommodate the increased system water volume.

A secondary return boss is fitted as standard on 210, 250 & 300L. On smaller sizes tee into the cold feed pipe above the drain.

## IMMERSION HEATERS

Only immersion heaters with a thermal cutout may be used. To help ensure this the immersion heaters have a special 2¼" BSP thread. They are rated at 3 kW at 240 V and are of a low noise Incoloy construction. They have both a thermostat and a high limit cutout. Please order the correct replacement via ourselves, fitting non-approved immersions may affect your guarantee. When fitting, ensure the 'O' ring is positioned correctly on the head of the immersion heater and lubricate before fitting. Fit it by hand until almost home then tighten gently as the 'O' rings will seal easily. The electrical supply to each immersion heaters must be fused at 13A via a double pole isolating switch to BS 3456. The cable must be at least 2.5mm<sup>2</sup> heat resistant (85°C HOFr) sheathed flex complying to BS 6141:1981 Table 8. Do not operate the immersion heater/s until the unit is full of water. Do not operate the immersion heater/s if any sterilisation liquid is in the cylinder as this will cause premature failure. Fit the immersion thermostat into the thermostat pocket. Complete the wiring – use the appropriate wiring diagrams on page 6.

# DISCHARGE ARRANGEMENT

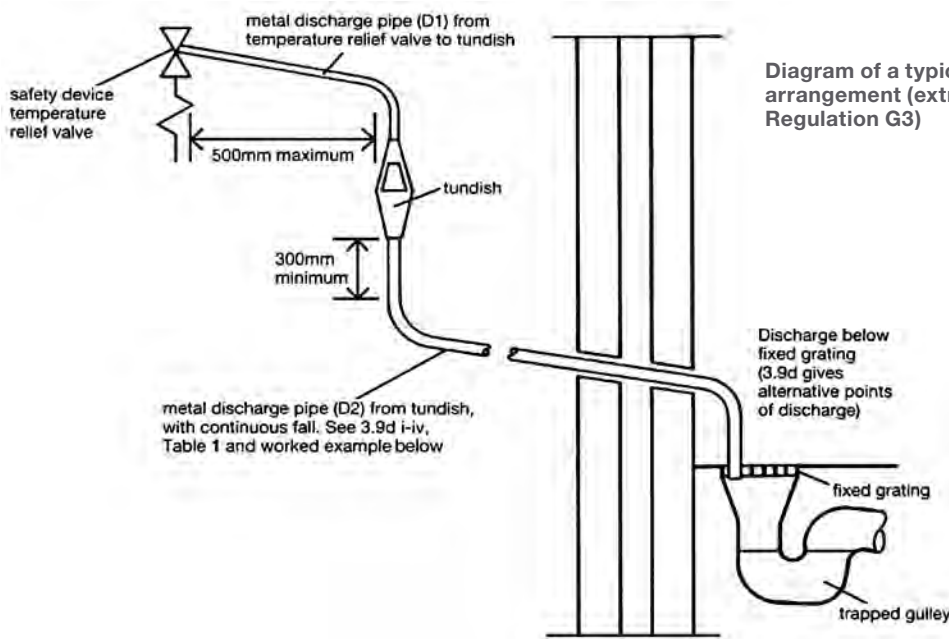


Diagram of a typical discharge pipe arrangement (extract from Building Regulation G3)

**Note:** The discharge will consist of scalding water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

**Note:** It is not acceptable to discharge straight into a soil pipe.

Position the inlet control group so that the discharge from both safety valves can be joined together via a 15mm end feed Tee (see diagram above). Connect the Tundish and route the discharge pipe. The discharge pipework must be routed in accordance with Part G3 of schedule 1 of the Building Regulations. The information that follows is not exhaustive and if you are in doubt you should seek advice. The two safety valves will only discharge water under fault conditions. When operating normally water will not be discharged. The tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible and within 500mm of the safety device e.g. the temperature relief valve. 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, be of metal and:

- A)** 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. discharge pipes between 9m and 18m 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. Refer to diagram 1, Table 1 and the worked example. An alternative approach for sizing discharge pipes would be to follow BS6700 Specification for design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.
- B)** Have a vertical section of pipe at least 300mm long, below the tundish before any elbows or bends in the pipework.
- C)** Be installed with a continuous fall.
- D)** It is preferable for the discharge to be visible at both the tundish and the final point of discharge but where this is not possible or practically difficult there should be clear visibility at one or other of these locations. Examples of acceptable discharge arrangements are:

1. Ideally below the fixed grating and above the water seal in a trapped gully.
2. Downward discharges at a low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact whilst maintaining visibility.
3. Discharges at a high level; e.g. in to 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 3m from any plastic guttering systems that would collect such discharges (tundish available).
4. 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 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. If unvented hot water storage systems are installed where discharges from safety devices may not be apparent i.e. in dwellings occupied by blind, infirm or disabled people, consideration should be given to the installation of an electronically operated device to warn when discharge takes place.

## WORKED EXAMPLE

The example below is for G1/2 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 1:

Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G1/2 temperature relief valve is: 9.0m. Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m. Therefore the maximum permitted length equates to: 5.8m. 5.8m is less than the actual length of 7m therefore calculate the next largest size. Maximum resistance allowed for a straight length of 28mm pipe (D2) from a G1/2 temperature relief valve equates to: 14m. As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

### Table 1

Sizing of copper discharge pipe 'D2' for a temperature relief valve with a G1/2 outlet size (as supplied).

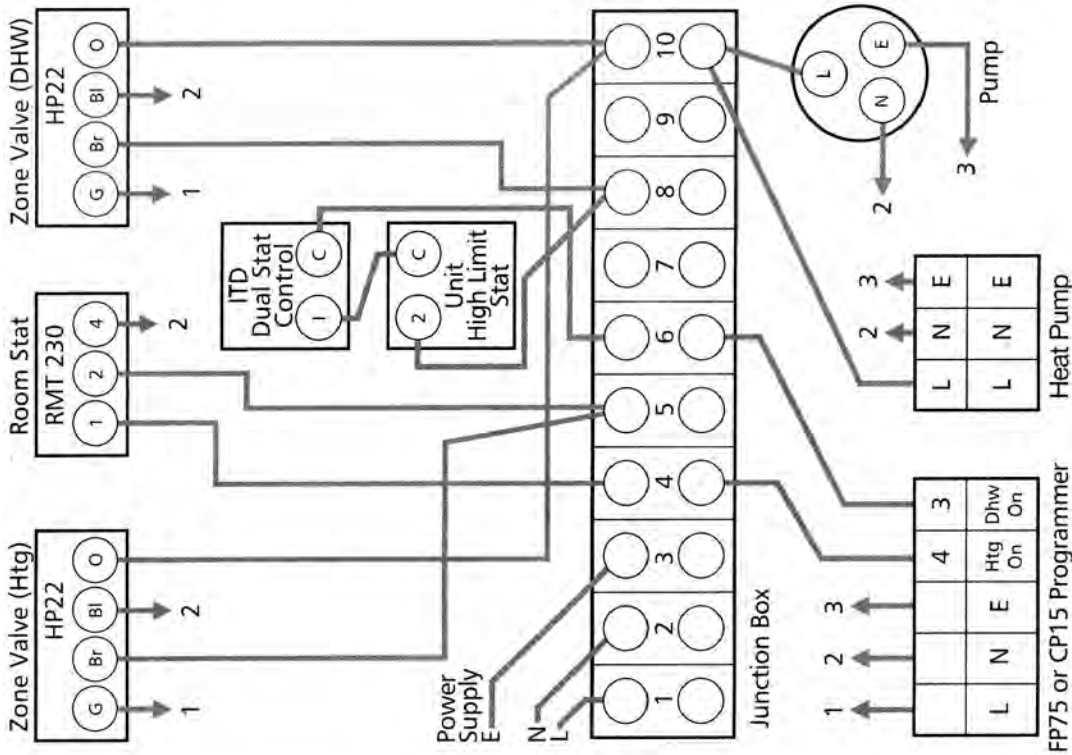
Size of discharge pipework	Maximum length of straight pipe (no bends or elbows)	Deduct the figure below from the maximum length for each bend or elbow in the discharge pipe
22mm	Up to 9m	0.8m
28mm	Up to 18m	1m
35mm	Up to 27m	1.4m

# TYPICAL SCHEMATIC WIRING DIAGRAM

The diagrams shown relate to the components listed. Other components and other manufacturers' components may vary in their wiring requirements, particularly thermostats. Always refer to manufacturers' instructions which may override this detail in order to function correctly.

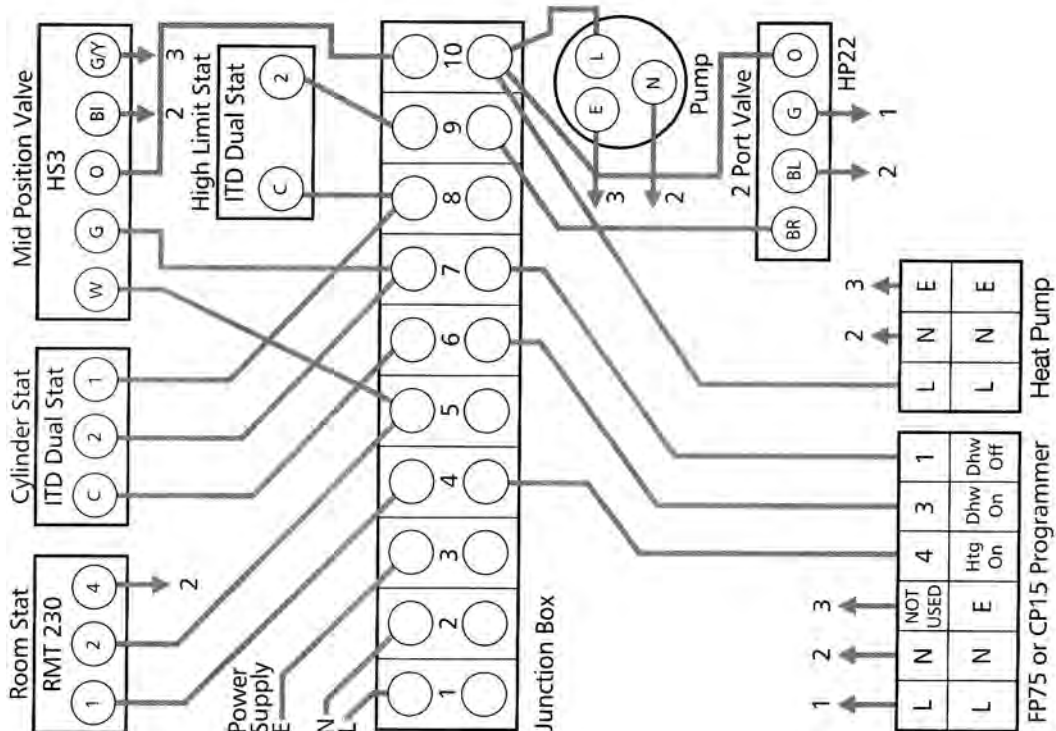
## WIRING DIAGRAM 2 x TWO PORT ZONE VALVES (S-PLAN)

VARIANT DUAL THERMOSTAT WIRING



## WIRING DIAGRAM THREE PORT MID POSITION VALVE (Y-PLAN) + TWO PORT VALVE

VARIANT DUAL THERMOSTAT WIRING



WHERE THE PROGRAMMER IS IN-BUILT TO THE HEAT PUMP REFER TO MANUFACTURERS WIRING DETAIL

# COMMISSIONING

## FILLING THE CYLINDER

Check the pressure in the expansion vessel is 2.1 bar (30PSI), i.e. the same as the setting of the pressure reducing valve. The valve is of the car tyre (Schrader) type. Check all the connections for tightness including any factory made connections such as the immersion heater and the temperature and pressure relief valve. Before filling, open the hot tap furthest away from the Aerocyl to let air out. Open the cold main isolation valve and allow the unit to fill. When water flows from the tap allow it to run for a short while to flush through any dirt, swarf or flux residue. Close the tap and open every other hot tap in turn to purge all remaining air.

## PRIMARY CIRCUIT

Consult the Heat Pump manufacturers commissioning instructions and fill the primary circuit. Ensure the lever on the two port valve is set to the filling position. When full, move the lever back. Switch the programmer to Domestic Hot Water (DHW) and allow the unit to start to heat. Adjust the dial of the dual thermostat to between 55°C and 65°C as required.

## STORAGE TEMPERATURE

The recommended storage temperature is 60-65°C. In hard water areas consideration should be given to reducing this to 55°C. In many healthcare applications the guidance on Legionella control and safe water delivery temperatures will require storing the water at 60-65°C, distributing at 50- 55°C and using thermostatic mixing valves to control the final temperature. For details consult the NHS Estates Guidance on safe hot water temperatures.

## SAFETY VALVE CHECKS

During heat-up there should have been no sign of water coming from either the expansion relief valve or the temperature / pressure relief valve. Now hold both of these safety valves fully open allowing as much water as possible to flow through the tundish. Check that your discharge pipework is free from debris and is carrying the water away to waste efficiently. Release the valves and check that they reseal properly.

# SERVICING

## GENERAL

Servicing should only be carried out by competent installers and any spare parts used must be purchased from Albion. NEVER bypass any safety devices or operate the unit without them being fully operational.

## DRAINING

Isolate from the electrical supply to prevent the immersion heaters burning out. Isolate the unit from the cold mains. Attach a hose to the draining tap ensuring it reaches to a level below the unit (This will ensure an efficient syphon is set up and the maximum amount of water is drained from the unit). Open the hot tap closest to the unit and open the draining tap. WARNING: WATER DRAINED OFF MAY BE VERY HOT!

## ANNUAL MAINTENANCE

Aerocyl requires an annual service in order to ensure safe working and optimum performance. It is essential that the following checks are performed by a competent installer on an annual basis.

- 1) Twist the cap of the expansion relief valve on the inlet control set and allow water to flow for 5 seconds. Release and make sure it resets correctly. Repeat with the pressure / temperature relief valve. In both cases check that the discharge pipework is carrying the water away adequately. If not, check for blockages etc. and clear. WARNING: THE WATER DISCHARGED MAY BE VERY HOT!
- 2) Check that any immersion heaters fitted are working correctly and that they are controlling the water at a temperature between 55°C and 65°C.
- 3) Check the pressure in the expansion vessel is charged to 2.1 bar. Turn off the water supply to the unit and open a hot tap first. The air valve on expansion vessel is a Schrader (car tyre ) type. Air or CO<sub>2</sub> may be used to charge the expansion vessel.
- 4) Unscrew the head on the inlet control set and clean the mesh filter within.
- 5) The Benchmark Log Book supplied with this unit should be updated at each service.

## YOUR GUARANTEE MAY BE VOID WITHOUT PROOF OF ANNUAL SERVICING

## SPARE PARTS

We carry the full range of spares listed below in stock. If you order before noon we will dispatch the same day for delivery the next to most locations. Tel: 01924 376026.

**CONSETALT22** - Inlet control set (pressure reducing valve, strainer and expansion relief valve) 2.1 BAR/3 BAR.

**VALVETP1/24** - Temperature & pressure relief valve 4 BAR/90°C

**TUNDPL15** - Tundish

**VALVE222PORT** - 2 port valve

**STATDUALALT** - Dual thermostat

**IMMTRANI** - Immersion heater ( same on all models )

**EXPVES1221** - 12 litre Expansion Vessel (150 litre size)

**EXPVES1921** - 19 Litre Expansion vessel ( 180 , 210 & 250 ltr sizes)

**EXPVES2421** - 24 litre expansion vessel ( 300 ltr size )

**EXPVBRKALT** - Wall mounting bracket

**FLEXHOSEALT** - Expansion vessel hose ( ¾" M x ¾" F )

**STATSGALT** - Single control stat

**STATHIGHALT** - Single high limit stat

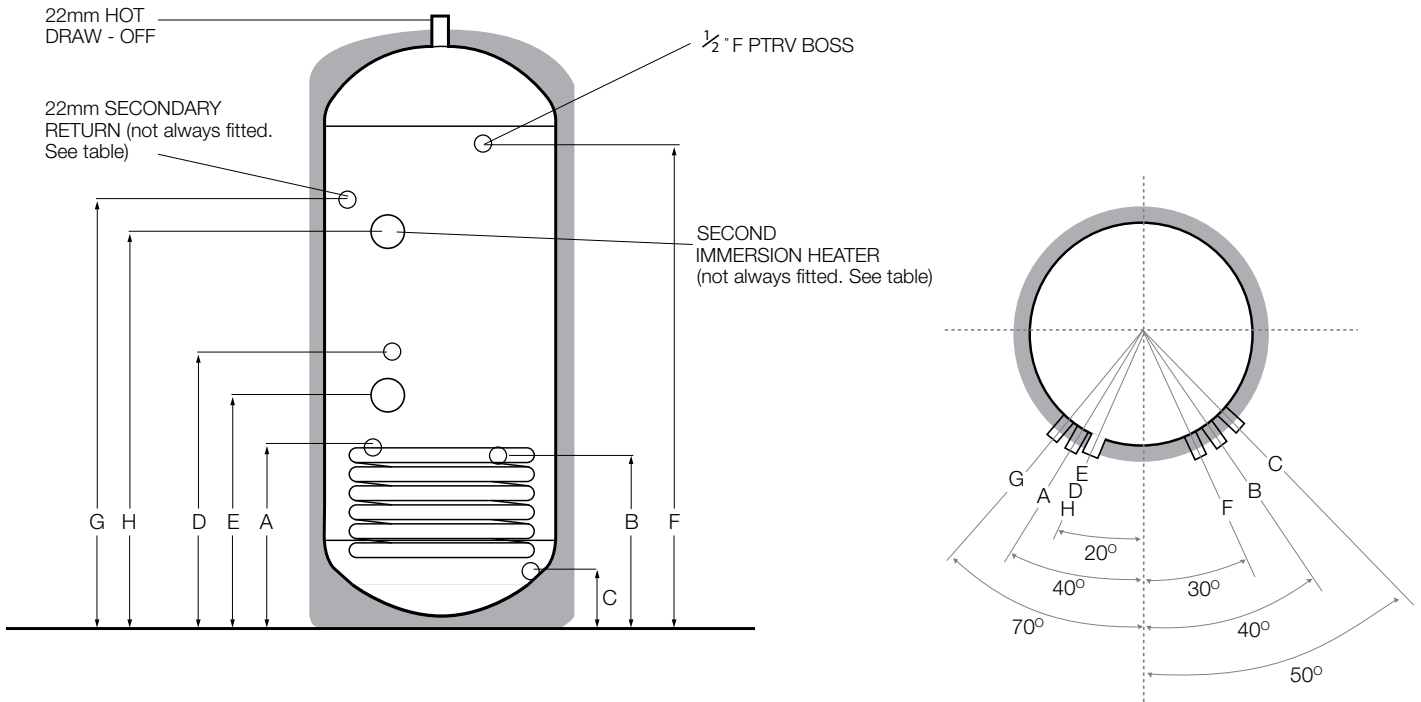
**POCKETSSBUNG** - Sensor pocket retaining bungs

# FAULT FINDING

<b>FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Water escaping from the case.	Compression fitting on hot draw-off not sealing	Check/remake joint with sealing paste
Cold water at Hot taps	Heat Pump not working	Check Heat Pump - Consult Heat Pump manufacturer's instructions
	Motorised valve fault	Check plumbing / wiring to motorised valve
	Cut-out in dual stat has operated	Reset and investigate cause
Water discharges from expansion relief valve	If continual – pressure reducing valve ( part of inlet control set ) may not be operating correctly	Check outlet pressure from inlet control set is 2.1 bar.
	If continual – expansion relief valve seat may be damaged	Remove cartridge – check seat and renew if necessary
	If intermittent – expansion vessel charge may have reduced / bladder perished	Check pressure in expansion vessel. Recharge to 2.1 bar if necessary. If bladder perished replace vessel.
Water discharges from temperature & pressure relief valve	Unit is being back pressurised	With cylinder cold check pressure in cylinder. If this is the same as the incoming mains pressure then you are getting backfeed. Install a balanced cold supply (see page 4)
	Unit has overheated – thermal controls have failed	Switch off power to immersion heaters, heat pump and solar controllers. Leave water supply on. Wait until discharge stops. Isolate water supply and replace if faulty.
	Oxygenated water	Water from any pressurised system will release oxygen bubbles when flowing. The bubbles will settle out.
No hot water flow	Cold main off	Check and open stopcock
	Strainer blocked in pressure reducing valve	Isolate water supply and clean
	Inlet control set may be fitted incorrectly	Check and refit as required
Noise during hot water draw-off ↳ typically worse in the morning.	Loose airing cupboard pipework	Install extra clips
	Hot or warm water from cold tap	Insulate / re-route

# Technical Specifications

## Aerocyl Heat Pump Only



PRODUCT CODE	CAPACITY (Litres)	HEIGHT	DIAMETER	A	B	C	D	E	F	G	H	WEIGHT (Kg - EMPTY)	WEIGHT (Kg-FULL)	*kW RATING
AAU150C	150	1128	550	450	425	135	650	515	863	N/F	N/F	57	207	23.3
AAU180C	180	1322	550	450	425	135	650	515	1057	N/F	N/F	61	241	28.3
AAU210C	210	1515	550	450	425	135	650	515	1250	1100	N/F	64	274	28.1
AAU250C	250	1772	550	450	425	135	650	515	1508	1350	1195	77	327	27.4
AAU300C	300	2096	550	450	425	135	650	515	1831	1706	1515	93	393	26.7

All dimensions are in mm and are of the cased unit. N/F = not fitted  
 \*kW rating of coil when tested in accordance with BS EN 12897

# AEROCYL UNVENTED COPPER CYLINDER: SOLAR INPUT

## **These models are specifically designed to be installed with input from solar panels and the Heat Pump:**

It is essential the overall installation meets all current legislation including, in particular, the high limit isolation requirements of Building Regulation G3. This document is designed to assist in achieving this aim.

### **UPPER COIL**

The upper coil is connected to the Heat Pump as per the instructions on page 4, with the Danfoss ITD100 control and high limit thermostat inserted into pocket D (see diagram page 12). The wiring requirements are as depicted on page 11.

### **LOWER COIL**

The lower coil is connected to the solar heat source. Either primary coil connection may be utilised as the flow or return. The solar cylinder sensor, supplied as part of the solar controls, inserts into pocket D (see page 12). It is necessary to mount the solar pump in the return pipework with the Danfoss HP22 two port valve (supplied with the cylinder) installed between the cylinder and the pump. This valve is of the powered open, sprung closed design and is wired through the ITL100 high limit stat which inserts into pocket J (lower diagram page 12). Two wiring options for high limit isolation are provided in Fig. 1 and Fig. 2 page 11. The Danfoss ITC100 control thermostat is not required in a solar installation.

# TYPICAL SCHEMATIC WIRING DIAGRAMS. SOLAR HIGH LIMIT CONTROL

These schematic wiring diagrams depict an IMIT high limit control stat and the connections are numbered accordingly. Where an alternative is supplied connect as per manufacturers' instructions.

Fig. 1 Isolation of Input. Closure of Two Port Valve

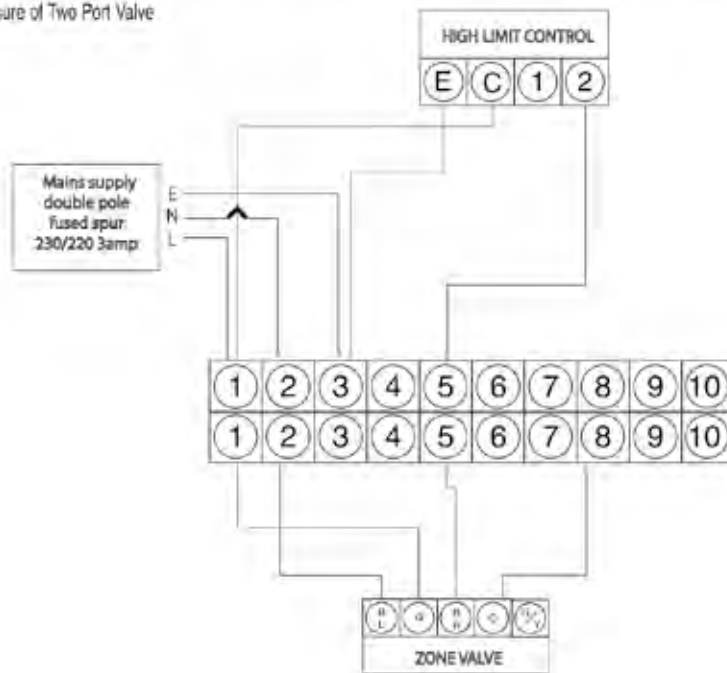
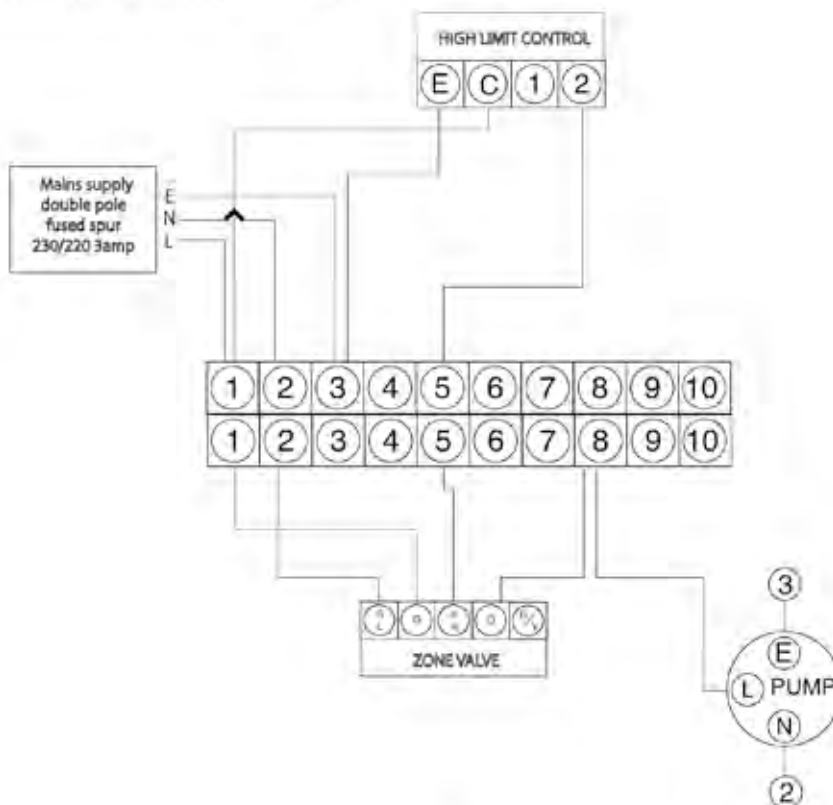
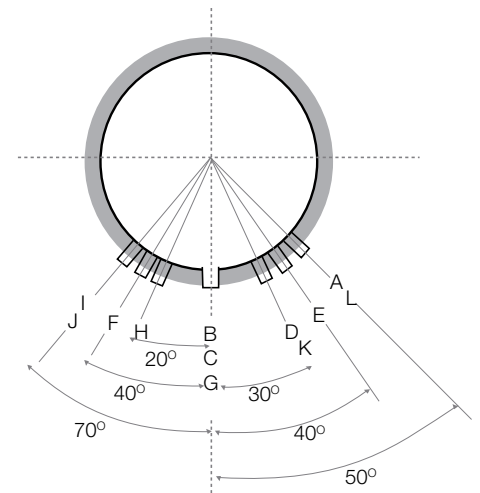
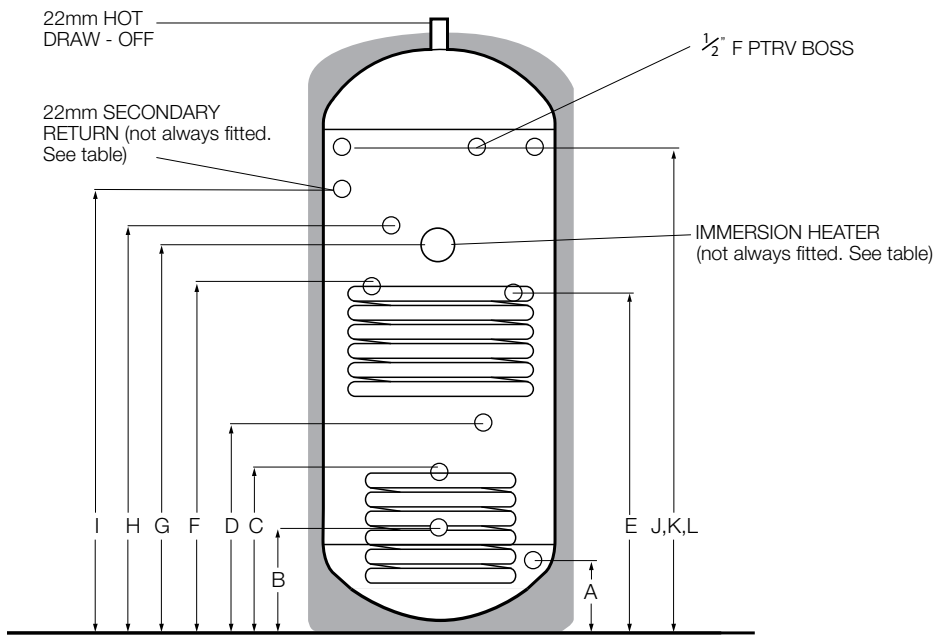


Fig. 2 Isolation of Input. Closure of Two Port Valve & Disconnection Pump



# Technical Specifications

## Aerocyl Heat Pump and Solar Input



PRODUCT CODE	CAPACITY (Litres)	HEIGHT	DIAMETER	A	B	C	D	E	F	G	H	I	JKL	WEIGHT (Kg - EMPTY)	WEIGHT (Kg-FULL)	kW Rating LOWER COIL	kW Rating UPPER COIL
AAUS180C	180	1322	550	135	225	335	355	840	865	915	955	N/F	1057	65	245	22.7	34.1
AAUS210C	210	1515	550	135	225	335	355	905	930	980	1020	1150	1250	68	278	21.5	31.9
AAUS250C	250	1772	550	135	225	335	355	1065	1090	1140	1180	1400	1507	81	331	21.1	33
AAUS300C	300	2096	550	135	225	335	355	1130	1155	1205	1245	1600	1830	97	397	20.5	33.6

All dimensions are in mm and are of the cased unit. N/F = not fitted

# ALBION AEROCYL SOLAR INPUT CYLINDERS

Albion Aerocyl Solar input cylinders have been designed specifically with Solar applications complimenting the heat pump. Featuring a purpose-designed solar coil, which allows maximum heat transfer of solar energy into the stored water, the cylinders are suitable for use with a wide range of solar systems now available in the UK and are an efficient and environmentally friendly way of providing Domestic Hot Water. Aerocyl Solar input cylinders also offer the benefit of mains pressure hot water – powerful showers and fast filling baths.

Aerocyl Solar input cylinders are available in a range of capacities from 180 to 300 litres. They are manufactured from high grade Copper and come with a 5-year Guarantee on the inner container.

Aerocyl Solar input cylinders are designed to accept heat input from a renewable/sustainable (i.e: Solar) heat source. Where this input does not fully meet the desired temperature a guaranteed quantity of water can be heated to an acceptable temperature by the heat pump or immersion heater.

The Domestic Heating Compliance Guide document L1A and L1B provides excellent advice in sizing both cylinder designated solar areas and heat exchangers to the surface area of the solar collectors. Using this guide Albion are able to offer sizing advice for specification.

## Water Capacities (litres)

Model	Designated Solar Area	Heat Pump Area	Total Capacity
AAUS 180C	55	125	180
AAUS 210C	65	145	210
AAUS 250C	90	160	250
AAUS 300C	100	200	300

## Lower (Solar) Coil Specification

Model	Surface Area (m <sup>2</sup> )	Fluid Content (litres)
AAUS 180C	0.963	2.355
AAUS 210C	0.963	2.355
AAUS 250C	0.963	2.355
AAUS 300C	0.963	2.355

NB: The total detail of compliance guide document should be consulted prior to specifying product or commencing design.

## Insulation Detail

In addition our insulation process offers benefits to the 'green' specifier.

**Ozone Depletion Potential (ODP) ZERO**  
**Global Warming Potential (GWP) ONE**

## Declared Heat Loss of Vessel

Model Capacity	kWh /24h
150L	1.38
180L	1.63
210L	1.90
250L	2.21
300L	2.43



# GUARANTEE

The Aerocyl's Copper vessel carries a 5-year guarantee against faulty materials or manufacture provided that:

- It has been correctly installed as per this document and all the relevant standards, regulations and codes of practice in force at the time.
- It has not been modified in any way, other than by Albion.
- It has not been misused, tampered with or subjected to neglect.
- It has only been used for the storage of potable water.
- It has not been subjected to frost damage.
- The unit has been serviced annually.
- The Benchmark Log Book has been filled in after each annual service.
- The guarantee period starts from the date of purchase and no registration is required.
- The system is fed from a public water supply.

Please note that invoices for servicing may be requested to prove that the unit has been serviced annually.

All the components fitted to / or supplied with the Aerocyl carry a 2-year guarantee.

# USER INSTRUCTIONS

Your cylinder is automatic in normal use and requires only annual servicing. You should employ a competent installer to perform the annual servicing.

## **IF WATER IS FLOWING FROM THE SAFETY VALVES THROUGH THE TUNDISH THIS INDICATES A FAULT CONDITION AND ACTION IS NEEDED.**

If this water is hot turn the Heat Pump, Solar controller and / or the immersion heater off. Do not turn off the water until the discharge runs cool. The discharge may also stop.

## **CALL A COMPETENT PLUMBER OUT TO SERVICE THE UNIT.**

Tell them you have a fault on an unvented cylinder. We stock all the spare parts they may need (see page 7).

## **EXCLUSIONS - THE GUARANTEE DOES NOT COVER**

The effects of scale build up.

Any labour charges associated with replacing the unit or its parts. Any consequential losses caused by the failure or malfunction of the unit.

## **GUIDANCE IN THE EVENT OF A PROBLEM**

If you have a problem in the first year contact the plumber who fitted the unit. Thereafter contact the plumber who carries out the annual servicing for you. If your Aerocyl develops a leak we will supply you with a new one. We ask for an nominal up-front payment to prevent fraud. We will require the original unit to be returned to us for inspection along with a copy of your Benchmark Log Book. If it is confirmed that it has failed within the terms of the warranty your up-front payment will be refunded.

If a component part fails within the 2-year guarantee period we will send you a new one without any up-front charge. Credit card details may be taken to prevent fraud. We ask you to post the faulty part back to us within one month by recorded delivery.

If you do not return the part we will charge you for it and for the postage and packing. If your part fails after two years service, we will ask for up-front payment.

# ALBION IS A MARKET LEADER IN THE MANUFACTURE AND SUPPLY OF QUALITY HOT WATER SYSTEMS.

Specification summary...



WRAS  
Approved



OHSAS 18001

## Materials

Inner shell - Copper  
Coil - 22mm Diameter Copper  
Bosses - Copper  
Every Aerocyl cylinder is water tested to a pressure of 4.5 bar.

## Insulation

Fire retardant polyurethane foam, nominal thickness 50mm.  
The foam is CFC-Free and HCFC-Free.  
The foam has an Ozone Depletion Potential of Zero and a Global Warming Potential of One.

## Casework

Zintec corrosion proofed steels throughout  
Durable, stove enamelled gloss white paint finish outer casing.

## Anode

None fitted/none required

## Expansion Vessel

12 Litre size with 150 Litre models  
19 Litre size with 180, 210 and 250 Litre models  
24 Litre size with 300 Litre models

## Control Settings

Pressure Reducing Valve - 2.1 Bar  
Expansion Relief Valve - 3 Bar  
Pressure and Temperature Relief Valve - 4 Bar/90°C  
High Limit Thermostat in Dual Thermostat - 85°C  
High Limit Thermostat in Immersion Heater - 85°C

## Immersion Heater

2 1/4" BSP Parallel Threaded Head  
Long Life Incoloy Sheathed Low Noise Element 14" Long  
Long Life Incoloy Sheathed Thermostat Pocket 11" Long  
Brazed Construction  
Combined Thermostat and Safety Cut-Out  
Element Rating 3kW at 240V A/C

## Approvals

WRAS Approved to the Water Regulations  
WRc-NSF Approved to Building Regulations G3 & L  
CE Compliant and fitted with a BEAB Approved  
Immersion Heater

Albion Water Heaters, part of Kingspan Group, is a major manufacturer of Domestic Hot Water storage systems in the UK and offers the trade products backed by the service and technical development skills that only a company of its size can. All sites are licensed to British Standards quality assurance BS EN ISO 9001 : 2000 and Albion is a BSi registered firm. This means that all manufacturing plants are monitored by an independent inspectorate and the quality systems employed by Albion meet the stringent requirements set down. Specifiers, stockists and users can depend on Albion for consistent quality and supply. Albion continues to develop energy saving and innovative hot water products for domestic and commercial applications.

Kingspan Hot Water Systems Ltd, have a policy of continuous product development and may introduce product modifications from time to time. As a consequence details given in this brochure are subject to alteration without notice.