



Zip Aquapoint



Direct unvented water heaters.

Model number:

(AP430S - AP4100S) SmartEco



Table of contents

General Product Description	3
Approvals	3
Technical Data	4
Safety Information	5
WARNINGS 	5
CAUTIONS 	7
Spare parts	8
Components supplied with the unit for site fitting	9
Installation	9
Dimensions	10
Connection to the water supply	10
Schematic diagrams	12
Connection to the electricity supply	13
Electrical wiring diagram	14
Discharge pipe arrangement	15
Operation	16
Service & maintenance	18
Trouble shooting	19
End of life disposal	20
Warranty	21
Contact details	24

- Installation must only be undertaken by a competent person holding a current registered operative identity card for the installation of unvented domestic hot water storage systems issued by an accredited body.
- To ensure you have the latest revision of this instruction manual, please visit www.zipwater.co.uk to download the latest copy.
- Please leave these instructions with the end user after installation.

General product description

- These instructions will guide you through the installation, maintenance and use of the Zip Aquapoint, however, if you require any further information please call Zip customer service on 0345 6 005 005.
- The Zip Aquapoint is an unvented water heater designed for connection directly to incoming mains water supply and can serve one or more outlets using conventional taps.
- Care should be taken that the unit being chosen can meet the demands of the outlets being supplied.
- The casing is constructed of powder coated steel and heat losses are minimised by the high efficiency polyurethane foam insulation.
- The inner vessel is constructed from glass enamelled steel sheet and pressure tested to 1.2 MPa (12 bar).
- A manually resettable safety cut out automatically cuts off the electrical supply to the heating element in the event of a malfunction.
- A sacrificial magnesium anode is fitted to the vessel to provide anti-corrosion protection for the vessel and the heating element.
- Gradual erosion of the anode will occur depending on local conditions and in extreme cases, conditions may cause rapid erosion resulting in particles being deposited as a residue or emitted from the heater.
- The Aquapoint should not therefore, be used in applications where the quality of the water is paramount. Regular preventative maintenance inspections are vital to achieve optimum performance and durability of the Aquapoint.
- The condition of the anode should be checked regularly by an authorised Zip service provider as part of the preventative maintenance programme.
- If the hot water system is not used for two weeks or more, it is recommended that a hot tap be turned on for several minutes at a sink, basin or bath, it is not recommended that either a dishwasher, clothes washer or other appliance be used before the heater is returned to service.
- The Aquapoint must be installed in accordance with these instructions and all current legislation, codes of practice and regulations governing the installation of unvented hot water cylinders in force at the time of installation.
- Please contact Zip Customer Service for advice on 0345 6 005 005.

Approvals

- Aquapoint complies with LVD and EMC directives and is CE endorsed.

Technical data

Technical Data		Zip Aquapoint			
MODEL		AP430S	AP450S	AP480S	AP4100S
Declared load profile		S	M	M	L
Energy efficiency class ⁽¹⁾		B	B	B	C
Energy efficiency (η_{wh}) ⁽¹⁾		% 37,2	40	39,6	40
AEC Annual electricity consumption ⁽¹⁾		kWh 496	1282	1296	2480
Daily electricity consumption Qelec ⁽²⁾		kWh 2.864	6.870	6.956	13.003
Weekly electricity consumption with smart control		kWh 13.055	24.198	25.564	49.740
Weekly electricity consumption without smart control		kWh 16.215	28.501	30.049	57.832
Thermostat temperature setting		eco			
"Smart" value		1			
Storage volume V		l 29.1	49.1	78.8	98.1
Mixed water at 40°C (V_{40}) ⁽²⁾		l -	68	121	142
Connections to the supply network		1/2" BSP	1/2" BSP	1/2" BSP	1/2" BSP
Weight/with water		kg 19/49	24/74	31/111	36/136
Max working pressure		bar 6	6	6	6
Enamelled steel tank		+	+	+	+
Protective magnesium anode		+	+	+	+
Protection against overheating		+	+	+	+
Protection against dry start		+	+	+	+
Protection class		I			
Degree of protection		IP 24			
Rated power output		kW 2	2	2	2
Supply voltage		V AC 230			
Heating time - 10 to 65°C [hr_min]		0_59	1_38	2_37	3_16
Packaging dimensions	D	490	490	490	490
	W	mm 480	480	480	480
	H	630	810	1070	1245

(1) EU Regulation 812/2013 ; EN 50440



(2) EN 50440

SAFETY INFORMATION

IMPORTANT:

PLEASE READ THESE INSTRUCTIONS CAREFULLY.

NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THIS PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY, AND WILL INVALIDATE THE WARRANTY. RETAIN THESE INSTRUCTIONS FOR FUTURE USE.

WARNING 	Indicates a potentially hazardous situation, which, if not avoided, could result in death and/or serious injury and/or property damage.
CAUTION 	Indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

Safety Information



WARNINGS

- Installation, commissioning and maintenance of this Aquapoint must only be carried out by a competent installer, familiar with unvented systems who will then be responsible for adhering to all relevant standards and regulations.
- The Aquapoint must be permanently connected to the supply through an isolating switch with a contact separation of at least 3mm in all poles.
- To protect the Aquapoint, a circuit breaker must be fitted with a rating suitable for the nominal current of the Aquapoint.
- The cross sectional area of the connection cable must be appropriate for the power rating and location of the Aquapoint.
- The connecting cable must be adequately secured.
- This Aquapoint must be earthed at all times.
- Check that the power supply is switched off prior to electrical connection.
- The Aquapoint, its wiring and piping must not be modified in any way.
- Do not remove the cover whilst the Aquapoint is connected to the electricity supply.
- In case of malfunction isolate the power supply immediately. In case of leaks also isolate the water supply. Repairs must only be carried out by a competent person.
- Do not reset the over temperature cut-out until the cause of its operation

SAFETY INFORMATION

has been diagnosed and necessary repairs have been undertaken.

- Do not use the Aquapoint if it is suspected of being frozen. Switch off the electrical supply if water ceases to flow and do not switch on again until a competent person has checked that it is safe to do so.
- The heater should be visually inspected regularly. This is particularly important if its located in a cupboard, roof space or any other concealed location. If there is any sign of leaks or seepage the Aquapoint should be isolated from the water supply and switched off from the electrical supply until a competent person has investigated the cause.
- Do not block or restrict the discharge from any safety valve.
- Do not tamper with any safety valve.
- The Aquapoint must not be subjected to pressure exceeding 6 bar.
- If water discharges from any safety valve switch off the electrical supply to the Aquapoint, isolate the water supply and contact a competent person familiar with unvented systems.
- Temperatures in excess of approximately 43°C are perceived as hot, especially by children, and may cause a feeling of burning. Please consider using the temperature controls.
- This Aquapoint must not be used by any person (including children) with limited physical, sensorial or mental abilities or failing experience and/or knowledge unless they are supervised by a person responsible for their safety or have received instruction about how to use the Aquapoint, and that are aware of the potential hazards.
- Children should be supervised in order to make sure that they do not play with, use, clean or maintain the Aquapoint.
- In a closed, pressurised system of installation, it is obligatory to install a safety valve on the inlet pipe with a rated pressure of 0.6 MPa (6 bar), 0.9 MPa (9 bar) or 1.0 MPa (10 bar) (see the label), which prevents the elevation of pressure in the boiler by more than 0.1 MPa (1 bar) above the rated pressure.
- Water may drip from the outlet opening of the safety valve, so the outlet opening should be set to atmospheric pressure.
- The outlet of the safety valve should be installed facing downwards and in a non-freezing area.
- To ensure proper functioning of the safety valve, the user should perform regular inspection and maintenance to remove lime scale and make sure

the safety valve is not blocked.

- Do not install a stop valve between the water heater and the safety valve, because it will impair the pressure protection of the Aquapoint.
- The Aquapoint is equipped with an additional thermal cut-off for protection in case of failure of the operating thermostat. In this case, however, the temperature of the water in the heater can reach up to 130°C according to the safety standards. During the water supply installation, the possibility of temperature overloads should be taken into account.
- If the Aquapoint is to be disconnected from the power supply, please drain any water from the heater to prevent freezing.
- Water from the Aquapoint that is installed vertically on the wall can be drained through the heater's inlet pipe. For this purpose it is advisable to install a T- piece with an outlet valve between the inlet pipe and safety valve.
- Please do not try to fix any defects of the Aquapoint on your own.
- Call Zip on 0345 6 005 005.
- The Aquapoint must be completely filled with water before being switched on.



CAUTIONS

- The Aquapoint must only be used when correctly installed and in perfect working order.
- The Aquapoint must be installed in a frost-free room and must never be exposed to frost.
- The Aquapoint range is not recommended for use with secondary circulation systems.
- The Aquapoint must only be used for heating potable water. The Aquapoint must not be used for any other purpose.
- When the Aquapoint has been in use for some time, the fittings may be very hot.
- The Aquapoint is intended for connection to mains supply only. In any other case please contact Zip on 0345 6 005 005 for advice.
- Zip Water UK cannot be held liable for any damages caused by failure to observe these instructions.

Components supplied with the unit for site fitting

AQ105 kit is supplied with 30 to 50 litre models.

AQ108 kit is supplied with 80 to 100 litre models.

Both kits include:

- Cold inlet assembly comprising pressure reducing valve with integral line strainer and expansion relief valve with check valve, expansion vessel take off and balanced cold water take off.
- Expansion vessel and wall fixing bracket.
- Wall locating bracket.
- Tundish.

Cold inlet set

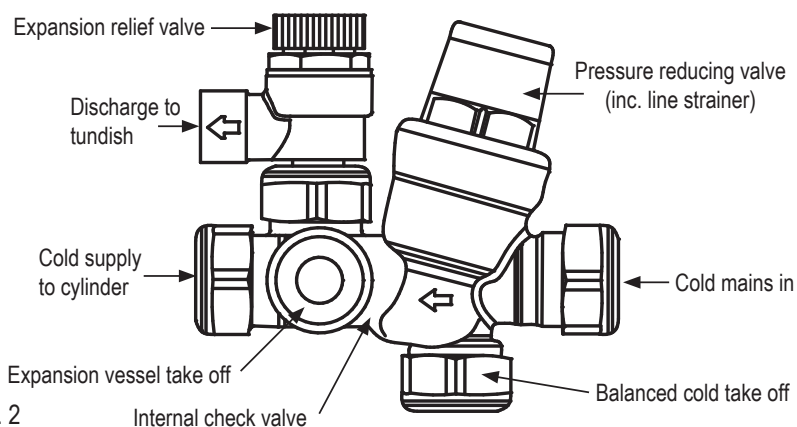


Fig. 2

Installation

- The Aquapoint shall be installed as close as possible to the outlets.
- When installing the Aquapoint in a room with a bathtub or shower, take into account the requirements defined in IEC Standard 60364-7-701 (VDE 0100, Part 701).
- The Aquapoint has to be fitted to the wall using appropriate wall screws with a minimum diameter of 8mm.
- A wall with a poor load-bearing capacity must be properly reinforced where the Aquapoint will be installed.
- The AP4 model may only be mounted vertically.
- To facilitate future service interventions, you are advised to install the heater in accordance with the installation measurements (see Fig. 3 and Fig. 7).

Dimensions (See table below)

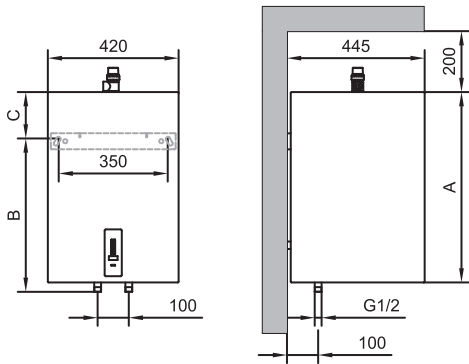


Fig. 3 Vertical installation on a wall

PRODUCT	A	B	C
AP430	510	310	235
AP450	690	470	250
AP480	950	735	245
AP4100	1125	900	255

Dimensions in mm

Connection to the water supply

- The water heater connections for the inlet and outlet of water are colour-coded. The inlet of cold water is marked with blue colour, while the hot water outlet is marked with red colour.
- The water heater can be connected to the water supply in a closed-circuit pressure system enables several points of use.
- In a closed, pressurised system (Fig. 4) pressurised mix taps should be used at the outlet points.
- To ensure safe operation of the heater a safety valve should be installed on the inlet pipe to prevent elevation of pressure for more than 0.1 MPa (1 bar) above the nominal pressure.
- The outlet opening on the safety valve must be equipped with an outlet for atmospheric pressure.
- The heating of water in the Aquapoint causes the pressure in the tank to increase to the level set by the safety valve. As the water cannot return to the water supply system, this

can result in dripping from the outlet of the safety valve.

- The drip can be piped to the drain by installing a tundish just below the safety valve.
- The drain installed below the safety valve outlet must be piped down vertically and placed in an environment that is free from the onset of freezing conditions.
- To avoid water dripping from the safety valve, an expansion tank should be installed on the inlet pipe of the heater with the capacity of at least 5% of the heater volume.
- To ensure proper operation of the safety valve, periodical inspections must be carried out to remove limescale and make sure the safety valve is not blocked.
- To check the valve, open the outlet of the safety valve by turning the handle or unscrewing the nut of the valve (depending on the type of the valve).
- The valve is operating properly if the water comes out of the nozzle when the outlet is open.



Do not fit an isolation valve between the Aquapoint and pressure relief valve



Before connecting it to the power supply, the Aquapoint must be filled with water

- When filling the heater for the first time, the tap for the hot water on the mixing tap must be opened.
- When the heater is filled with water, the water starts to run through the outlet pipe of the mixing tap.

Pipe fitting diagram (closed pressure system)

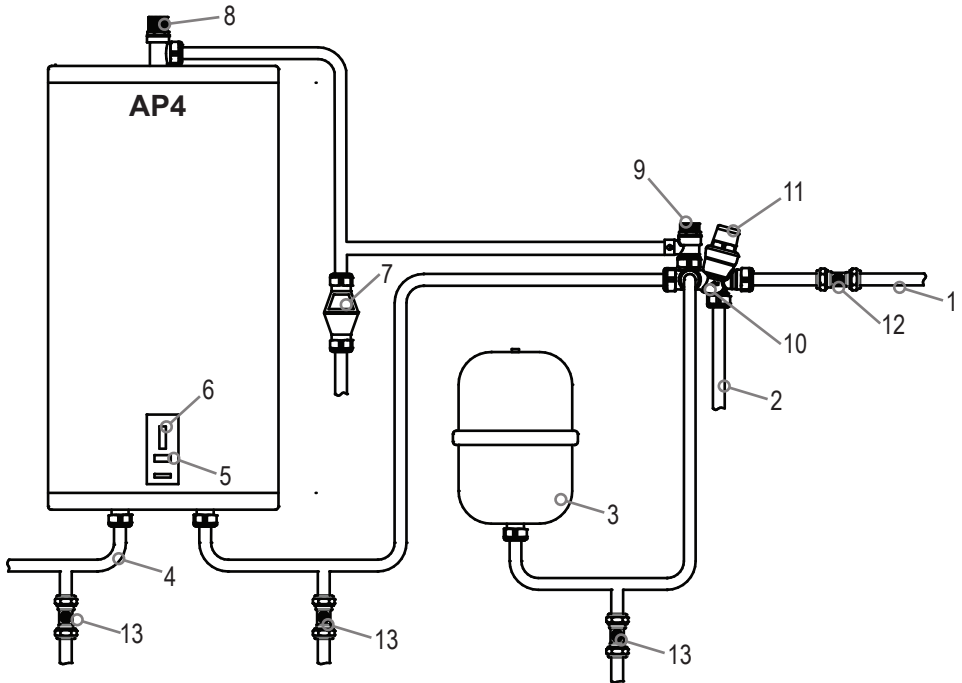


Fig 4

REF	DESCRIPTION
1	Cold main
2	Balanced cold connection
3	Expansion vessel with wall bracket, from 'cold inlet set' take off
4	Hot water outlet
5	Temperature control
6	Neon indicator
7	Tundish to drain
8	Temperature and pressure relief valve
9	Expansion relief valve to drain via tundish
10	Check valve
11	Pressure reducing valve
12	Isolating valve (not supplied)
13	Drain valves (not supplied)

Connection to the electricity supply



Before service or maintenance work, disconnect the Aquapoint from the power supply network

This must only be performed by a trained professional

- Before connecting to the power supply network, install a power supply cord in the water heater, with a min. diameter of 1.5 mm² (H05VV-F 3G 1.5 mm²).
- To do this, the protective plate must be removed from the Aquapoint.
- Switch off the mains electrical supply before removing the electrical cover panel or carrying out any work involving a live circuit or access to components that may be live.
- Do not switch on the electrical supply until the Aquapoint is full of water.
- This Aquapoint must be earthed.
- The electrical connection to the heating elements must conform to current IEE wiring regulations and be permanently connected to the electrical supply through a double-pole isolating switch with at least 3mm contact separation in each pole and with a minimum rating of 13A.
- All internal wiring is factory mounted and should not be altered or modified.
- A suitable supply cable should be fed through the grommet on the underside of the Aquapoint, connected to the live, neutral and earth connections on the terminal block and secured with the cable clamp provided.
- Check all electrical connections for security and tightness.
- An over temperature cut-out is incorporated within the Aquapoint which is designed to operate at 79 - 84°C. Should this happen, press the reset button.

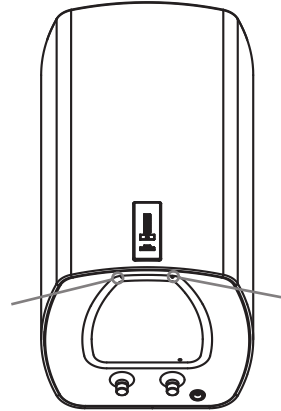


Fig. 5 Removing the protective cover



IMPORTANT

- Before resetting the over temperature cut-out, isolate the electrical supply to the Aquapoint (prior to removing the electrical cover panel).
- Ensure that the cover panel is replaced correctly and the retaining screws fitted before re-connecting the electrical supply.

Electrical wiring diagram

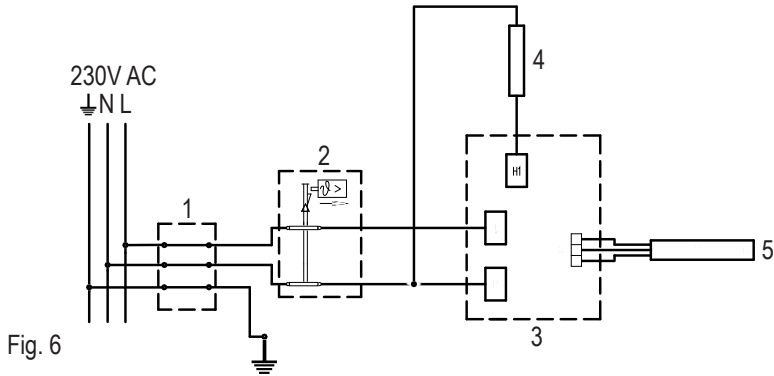


Fig. 6

REF	DESCRIPTION
1	Connection terminal
2	Thermal cut-out
3	Electronic regulator
4	Electrical heating element

REF	DESCRIPTION
5	Temperature sensor
L	Live conductor
N	Neutral conductor
⏏	Earthing conductor

Discharge pipe arrangement

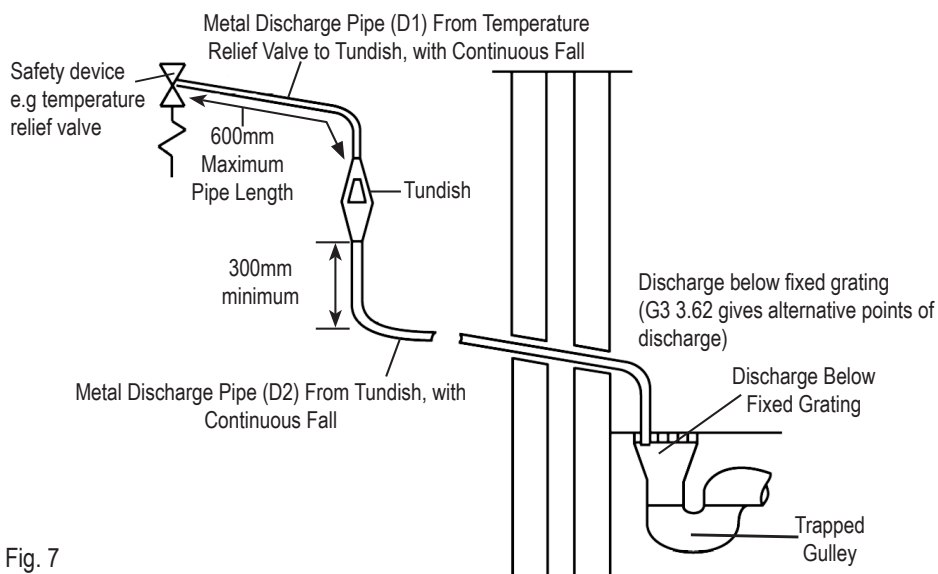


Fig. 7

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
G1/2	15mm	22mm	up to 9m	0.8m
		28mm	up to 18m	1.0m
		35mm	up to 27m	1.4m
G3/4	22mm	28mm	up to 9m	1.0m
		35mm	up to 18m	1.4m
		42mm	up to 27m	1.7m
G1	28mm	35mm	up to 9m	1.4m
		42mm	up to 18m	1.7m
		54mm	up to 27m	2.3m

Note The above chart is based on copper tube.

Plastic pipes may be of a different bore and resistance. Sizes and maximum lengths of plastic should be calculated using data prepared for the type of pipe being used.

Note The discharge would consist of high temperature 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. For guidance See G3 3.60.

Operating the Aquapoint

- After it has been connected to the water and power supply grid, the heater is ready to be used.
- When connected to the power supply, the heater runs in standby mode. In the standby mode, the heater maintains the water temperature of 10°C.



- The heater is equipped with the **SmartEco** electronic regulator, which enables the setting of water temperature, error diagnostics and smart mode with which you can reduce the use of electric energy.

- 1 Display of:
 - Set temperature.
 - Actual temperature of water in the heater.
 - Errors.
- 2 On / Off button, temperature setting.
- 3 Indication of the SMART function.
- 4 Switch for the SMART function.

Switching the heater on / off

- The water heater can be switched on by holding the **2** button for 3 seconds.
- By holding the **2** button for 3 seconds again, the heater goes into standby.

Fig. 8 Control panel

Operating the Aquapoint - manual settings

- Temperature is set by pressing button **2** until you get the desired temperature level (preset temperature level is 57°C).




✳ Freeze protection temperature 10°C.

☞ Water temperature 35°C.

eco Water temperature 57°C.

☺ Water temperature 75°C.

Note all temperature values are nominal.

- Once the maximum level  is achieved, pressing the **2** button returns the temperature to the first setting .
- We recommend the "eco" setting. This setting is the most energy-efficient. The temperature of water is about 57 °C, while limescale production and heat loss will be smaller than in case of higher temperature settings.
- When you last press the **2** button, the setting is stored. After 5 seconds, the current temperature in the tank is displayed on the display **1**.
- If the heater will not be used for a longer period of time, please protect its contents from freezing by setting the temperature to the  position.
- At this setting, the heater will maintain the temperature of water at 10°C.

Functioning of the heater in the SmartEco mode

- This mode is appropriate especially if you have well-established hot water consumption habits (e.g. showering every day at approximately the same time).
- To start the heater in the **SmartEco** mode, you first have to start recording. During the recording time, the electronic regulator remembers your habits and takes them into account while heating the water after the recording period has ended.
- The recording takes place for 7 days. The **SmartEco** mode reduces the consumption of electrical energy.
- Pressing button **4** will begin the recording of your habits.
- The green control light **3** will flash during the recording period.
- Once recording concludes after 7 days, the recording regime will begin running automatically.
- The green control light will light up when the heater is functioning in the **SmartEco** mode.
- By pressing **4** again, you can switch off the recording or the **SmartEco** function.
- The heater resumes to the basic mode of operation. The water is heated to the set temperature.
- The **SmartEco** function can be resumed by pressing button **4**.
- If the regime has already been recorded (if the recording was not interrupted), the regime will begin running and the green control light **3** will light up.
- If the recording was interrupted, a new 7 day recording period will begin and the green control light **3** will again begin flashing.
- If the electronic regulator has recorded the regime but the user's hot water consumption habits have changed, a new recording period must be started. It can be started by holding button **4**.
- The recording period lasts 7 days.

The Anti-Legionella Function

If the water in the heater does not reach 65°C for 14 consecutive days, the anti-legionella function heats the water to 70°C and maintains this temperature for 120 minutes.



See warnings and cautions page 5

Maintenance

- Clean the exterior of the Aquapoint using a soft cloth and mild detergent intended for cleaning smooth varnished surfaces.
- Do not use detergents that contain alcohol or abrasives.
- Regular servicing will ensure faultless functioning and a long life of the Aquapoint.
- Tank corrosion warranty applies only if all the prescribed regular inspections of the protective anode wear have been made.
- The period between regular inspections should not be longer than stated in the warranty certificate.
- Upon inspection the service provider will inspect the amount of wear on the anti-corrosion anode and, if necessary, clean the limescale that accumulates depending on the quality, quantity and temperature of the water inside the heater.
- The service provider will also recommend the date for the next inspection depending on the condition of the heater.

Emptying the heater



Please do not attempt to fix any defects of the Aquapoint by yourself. Call the nearest authorised service provider.

- If you are planning to disconnect the Aquapoint from power supply, please drain out all the water to prevent freezing.
- Water from the heater that is installed vertically on the wall can be drained through the heater's inlet pipe.
- For this purpose it is advisable to install a T- piece with an outlet valve between the inlet pipe and safety valve.

Service & maintenance

- Before draining, please disconnect the Aquapoint from the power supply, open the warm water handle on the mixing tap and drain the warm water.
- When the water in the Aquapoint is cooled, close the flow of cold water into the heater and unscrew the flexible pipe on the warm water outlet.
- The Aquapoint can now be drained through the outlet valve on the inlet pipe.
- After draining the water through the inlet pipe, a small quantity of water remains in the heater.
- When refilling the heater with water it is recommended to open the warm water tap on the mixing tap and let the water run for at least two minutes through the outlet pipe (the water stream should be steady, medium strength, about as thick as a pencil).

Troubleshooting

Error functions

In case of error, control lights start to flash on the display **1**

Error	Description	Indicator	Solution
E1	Temperature sensor error	Repeated 2x quick pulse of the control light on the display 1	Call service (heater out of order).
E5	Overheating	Repeated 3x quick pulse of the control light on the display 1	The error is automatically deleted when the temperature drops below the set value. Should the error repeat, please call the service company.
E44	Dry start	Repeated 4x quick pulse of the control light on the display 1	Fill the heater with water. The error is deleted by switching off the heater or by holding button 2 for 3 seconds.

End of life disposal



The use of this crossed out wheeled bin logo indicates that this product needs to be disposed of separately to any other household waste.

Within each of the European Union member countries, provisions have been made for the collection and recycling of unwanted electrical and electronic equipment.

█ In order to preserve our environment we ask that you dispose of this product correctly. Please contact Zip Customer Service for advice on 0345 6 005 005.

Warranty

The Zip Aquapoint you have chosen is precision-built from the finest materials available and should give many years of trouble free service.

Certain warranties may be implied by law into your contract with Zip.

The warranty provided below is additional to these implied warranties and nothing set out below shall limit your statutory rights or rights at law.

Zip Water UK warrants that, should any part fail within 12 calendar months of installation, that part will be repaired or replaced free of charge by Zip or its Distributor or Service Provider, except as set out below, provided the Aquapoint is installed and used strictly in accordance with the instructions supplied, and that failure is not due to accident, misuse, abuse, unsuitable water conditions, or to any alteration, modification or repair by any party not expressly nominated by Zip.

No costs are payable by the customer other than any mileage or travelling-time charges incurred by a Zip Service Provider or the cost of removal, cartage and re-installation of any component of the Aquapoint if it needs to be returned for repair to Zip or its Distributor.

This warranty does not cover damage resulting from non-operation of the Aquapoint or consequential damage to any other goods, furnishings or property.

Zip does not exclude, restrict or modify any liability that cannot be excluded, restricted or modified or which cannot, except to a limited extent, be excluded, restricted or modified as between the owner or user and Zip under the laws applicable.

Furthermore, this warranty does not displace any statutory warranty, but, to the extent to which Zip is entitled to do so, the liability of Zip under any statutory warranty will be limited at Zip's option to the replacement of the Aquapoint or supply of equivalent Aquapoint, the payment of the cost of replacing the Aquapoint or acquiring an equivalent Aquapoint, or the payment of the cost of having the Aquapoint repaired or the repair of the Aquapoint.

Note It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

To ensure you have the latest revision of this instruction manual visit www.zipwater.co.uk.

IMPORTANT No liability is accepted for incorrect use of this product.

Notes

Notes



Zip Water UK

14 Bertie Ward Way, Dereham, Norfolk NR19 1TE

0345 6 005 005 sales@zipindustries.co.uk

www.zipwater.co.uk