

**SANTON**

September 2015

# Aquaheat

Unvented Electric  
Water Heating

Unvented Water Heaters





# Aquaheat Unvented Water Heaters

## Commercial Unvented Water Heaters – 15 litres and under

Santon is one of the leading brands in the UK for unvented water heating. For commercial applications, unvented water heating has a number of advantages over more traditional methods. For example, one unvented unit can supply a number of outlets without the need for special taps. As a result, the unvented option can often prove to be more cost effective to install than a traditional vented system.

Unvented water heaters are connected to the mains water supply with the advantage that full mains pressure can be obtained from both the hot and cold taps.



Aquaheat is a range of small unvented water heaters available in capacities of 7, 10 and 15 litres.

Featuring copper inner containers, Aquaheat provides a cost effective solution for a variety of commercial applications including dishwashing, handwashing and low demand canteen and workshop use.

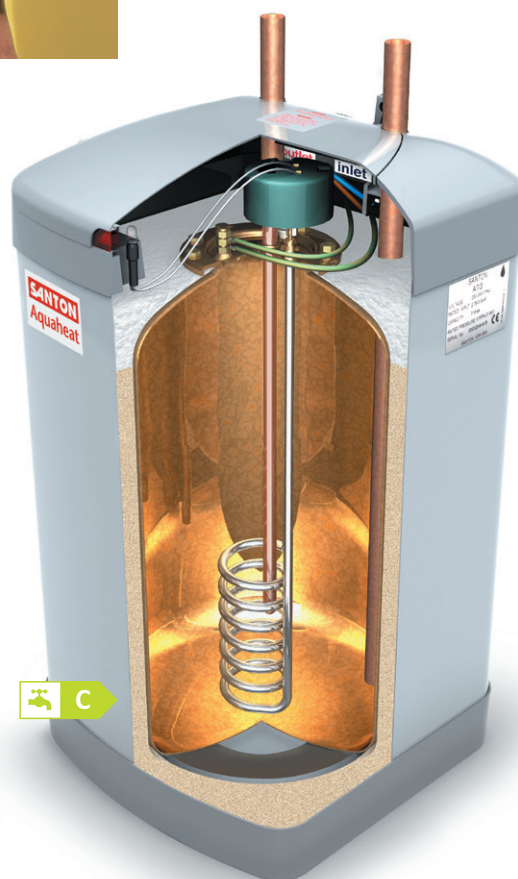
Ease of installation has long been a trademark of Santon products and this range is no exception with the units ideally suited to both floor and wall mounting.

Aquaheat units are supplied with an Expansion Relief Valve, ensuring the Santon reputation for supplying safe, quality products is maintained.

### Commercial Unvented Selection Guide

Capacity of Water Heater	Number of Basins
7 litres	1-2
10 litres	2-3
15 litres	3-4

Note: These figures are for guidance only and local conditions should be taken into account when sizing the installation. For full details contact our Specification Advice Hotline on 01603 420128 or fax 01603 420229



# Aquaheat

## Installing Commercial Unvented Water Heaters and Kit Selector

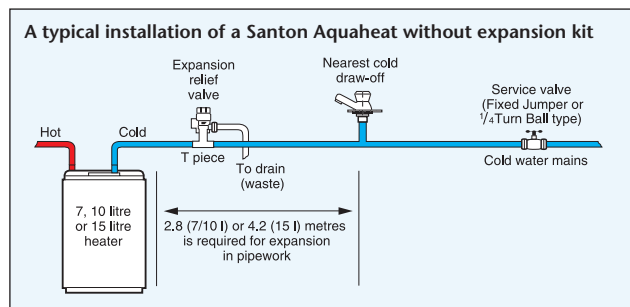
The following information is intended as a guide – if in any doubt, please contact our Specification Advice Hotline on 01603 420128 or fax 01603 420229.

### Aquaheat Installation (Up to 15 litres in capacity)

When water is heated, it expands and increases in volume by up to 4%. This increase needs to be accommodated within the system.

With unvented water heaters below 15 litres in capacity, such expansion may be accommodated within the cold water supply pipe provided all of the following conditions are met:

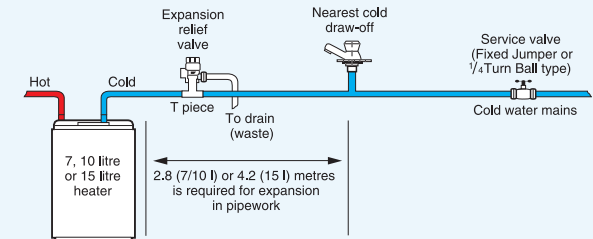
- The maximum supply pressure is below 4.1 bar.
- The minimum length of the supply pipework from the heater to the nearest cold draw-off is not less than that specified for the heater used.
- The expansion in the cold water mains is not prevented or restricted by a stop valve, non-return valve, water meter or similar device.



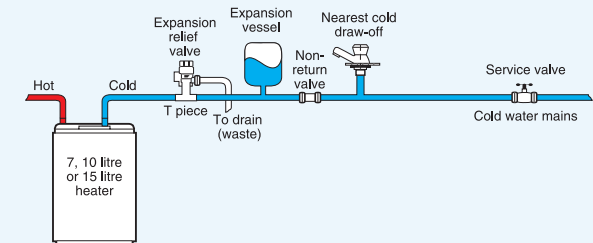
For installations where any of the above conditions cannot be met, an expansion vessel and other relevant accessories must be used to accommodate expansion.

In all installations where the supply pressure exceeds 4.1 bar, a pressure reducing valve must be fitted along with other necessary valves.

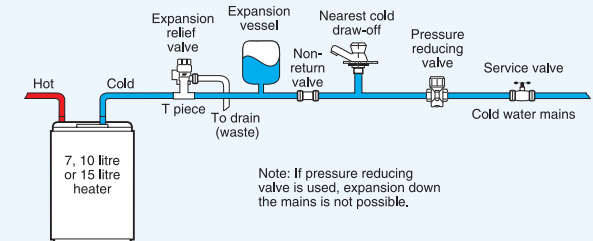
### For inlet water pressure up to 4.1 bar (with no additional kits used)



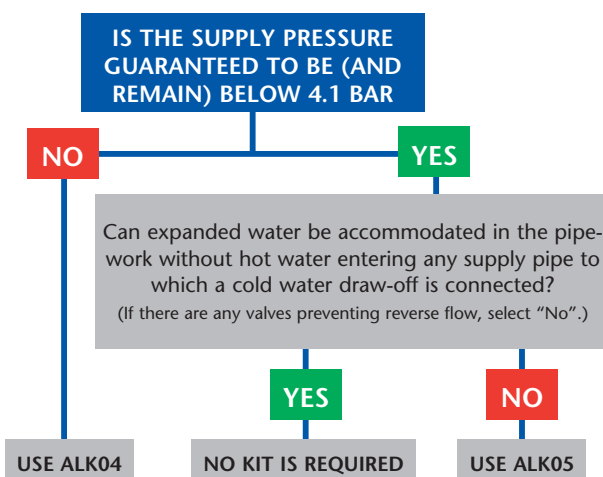
### For inlet water pressure up to 4.1 bar where expansion back down the mains is not possible (using kit ALK05)



### For inlet water pressure above 4.1 bar (using kit ALK04)



### Kit Selection Chart



### What is included in each kit?

- ALK04** Expansion vessel, pressure reducer/strainer and non-return valve.
  - ALK05** Expansion vessel and non-return valve.
  - ALK06** Pressure and temperature relief valve.
  - Note:** ALK06 should also be used in any installation where a pressure and temperature relief valve is required to provide enhanced levels of safety.
  - Santon offer TMV2 and TMV3 thermostatic blending valves that can be used with any Aquaheat water heater.
  - ALK03** A TMV2 thermostatic blending valve suitable for general purpose applications.
  - ALK07** A TMV3 thermostatic blending valve fully approved under the TMV3 scheme to the DO8 specification.
- Both valves allow water to be stored at high temperature and then blended with cold water to deliver a preset outlet temperature.

# Accessories



## Connections

- 15mm compression

### ALK03 – Order Code 94 970 010

#### TMV2 Thermostatic blending valve.

Suitable for general purpose applications, the blending valve allows water to be stored at high temperature and then blended with cold water to deliver a preset outlet temperature. Non-return valves prevent cross-contamination. Operating pressure 0.2 bar to 6 bar. Other benefits include extended system capacity, precise control of outlet temperature (range 35°C to 60°C) and a lockable control knob.



## Connections

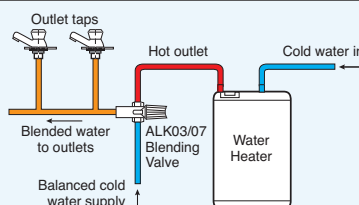
- 15mm compression

### ALK07 – Order Code 94 970 037

#### TMV3 Thermostatic blending valve.

The TMV3 approved blending valve allows water to be stored at high temperature and then blended with cold water to deliver a preset outlet temperature. Non-return valves prevent cross-contamination. Operating pressure 0.2 bar to 5 bar. Other benefits include extended system capacity, precise control of outlet temperature (range 38°C to 46°C) and a unique adjuster key to prevent unauthorised temperature adjustment.

#### ALK03/ALK07 - Typical Installation



## Connections

- Pressure reducing valve 1/2" BSP female.
- Expansion vessel 1/2" BSP male.
- Non-return valve 15mm x 15mm compression.

### ALK04 – Order Code 94 970 011

#### Expansion vessel, pressure reducer/strainer and non-return valve.

For all situations where the mains pressure is greater than 4.1 bar. The pressure reducing valve reduces incoming pressure to 3.5 bar while the strainer filters coarse impurities from the incoming water. The non-return valve prevents back-flow of hot water which could cause cross-contamination of the inlet water.

The pressure reducing valve must be installed on the mains side of the expansion vessel. For balanced hot/cold water supplies, the pack should be fitted on the mains side of the cold water draw off – this is particularly important where mixers are used.



## Connections

- Expansion vessel 1/2" BSP male.
- Non-return valve 15mm x 15mm compression.

### ALK05 – Order Code 94 970 012

#### Expansion vessel and non-return valve.

For Aquaheat heaters where expanded water cannot be accommodated in the pipework and where the mains pressure is guaranteed never to exceed 4.1 bar.

The expansion vessel, when fully charged, will absorb all expanded water produced by the Aquaheat heater. Supplied pre-charged to 4.1 bar. The non-return valve prevents back-flow of hot water which could cause cross-contamination of the inlet water.



## Connections

- Drain 1/2" BSP female.
- Inlet and outlet 15mm compression.

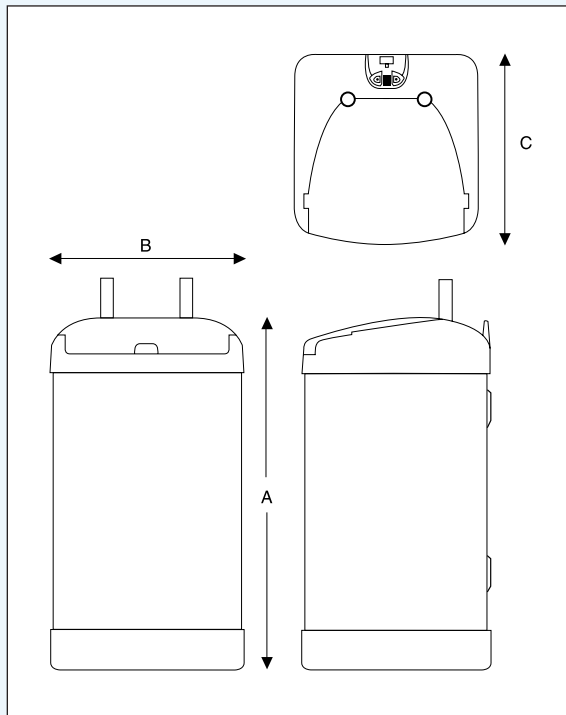
### ALK06 – Order Code 94 970 013

#### Pressure and temperature relief valve.

For on-site fitting to Aquaheat heaters. Recommended by Santon to give an added level of safety. Preset to open at 7 bar and 90°C. ALK06 is connected to the outlet of the heater.

# Aquaheat

## Technical Specification



### Specification

#### Element

Alloy sheathed element, incorporated into an easily-removable heater plate, should replacement be necessary.

#### Inner Container

Heavy gauge copper suitable for a maximum working pressure of 6 bar (pressure tested to 15 bar). A minimum supply pressure of 1 bar is recommended.

#### Outer Casing

The main body is substantial gauge sheet steel, anti-corrosion treated, and finished in white stoved enamel. End covers are moulded in grey ABS. The back has three fixing points for wall mounting.

#### Insulation

Approved CFC/HCFC-free (ODP zero) polyurethane foam.

#### Safety feature

IPX4 rated.

#### Expansion Relief Valve

This is supplied with the heater and MUST be fitted with every installation. It is set at 6 bar. A temperature and pressure relief valve can be used (order ref. ALK06).

#### Expansion/Pressure Kits

If the inlet water pressure is above 4.1 bar, it is essential that kit ALK04 is also installed with the heater. This kit comprises expansion vessel, non-return valve and pressure reducer/strainer.

If the inlet pressure is guaranteed to be below 4.1 bar where full expansion back down the mains is not possible, kit ALK05 must be installed (comprises expansion vessel and non-return valve).

#### Thermostat

Rod type, adjustable from 10°C to 70°C with integral, manually-resettable, over-temperature cut-out.

### Dimensions

Model	A (mm)	B (mm)	C (mm)	Weight (kg) Empty	Full
AH7/2.2	356	240	240	4.9	11.9
AH10/2.2	442	240	240	5.9	15.9
AH15/2.2	417	330	330	10.0	25.0

### Ordering Guide

Model	Product Code	Litres	ErP rating	Rating
AH7/2.2	94 050 001	7	C	2.2kW @ 240V (2kW @ 230V) single phase AC
AH10/2.2	94 050 002	10	D	2.2kW @ 240V (2kW @ 230V) single phase AC
AH15/2.2	94 050 003	15	C	2.2kW @ 240V (2kW @ 230V) single phase AC

### Installation

#### Plumbing Connections

Inlet and outlet are 15mm copper tails. An expansion relief valve is supplied with the unit and must be fitted to every installation. The relief valve discharge pipe must be connected to waste (drain) via a tundish.

The drain pipe from the tundish must fall continuously and be 22mm diameter copper pipe. It must discharge in a visible and safe place. The pipe must not be reduced in bore or blocked under any circumstances and should be protected from frost.

Under no circumstances must hot water or expanded water be allowed to contaminate the supply to a cold water draw off.

### Electrical

This unit is supplied with 1 metre of 3-core cable fitted.

The installation must comply with BS 7671 'Requirements for electrical installations' (IEE Wiring Regulations). It must be fully earthed and permanently connected to the electrical supply through a double pole linked isolating switch with minimum breaking capacity suitable for the loading.

### Approvals

Kiwa approved. CE marked.

Manufactured in the UK in a BS EN ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001:2007 and ISO 50001:2011 registered factory.

### Warranty

Two year product warranty, from date of purchase, with on-site service support. Full details are contained in the Installation Instructions supplied with each unit.



# Products

**Unvented Water Heating** Aquaheat | Aqualine

**Vented Water Heating** Aquarius | Taps

**Drinking Water** Speediboil

**Hand Hygiene** EV 2008

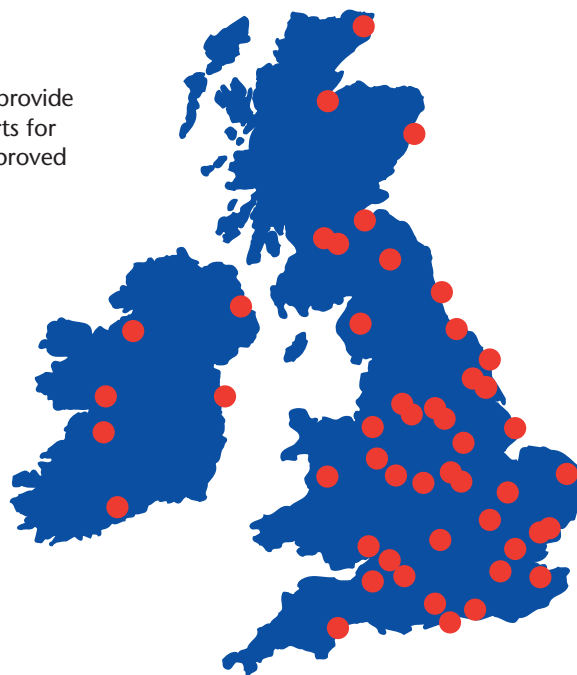
**Instantaneous Water Heating** PowerPack

**Combination Storage** R Unit

**Immersion** Industrial

## National Service Network

A nationwide network of experienced engineers is available to provide fast and efficient on-site service support if required. Spare parts for Santon products are readily available through a network of approved spares stockists.



# SANTON

Santon, Hurricane Way, Norwich, Norfolk, NR6 6EA

### Specification Advice Hotline

Tel: 01603 420128 Fax: 01603 420229 E-mail: [specifier@santon.co.uk](mailto:specifier@santon.co.uk)

### After Sales Service

Tel: 0344 871 1530 E-mail: [customer.support@heatraesadia.com](mailto:customer.support@heatraesadia.com)

### Website

[www.santon.co.uk](http://www.santon.co.uk)

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Please recycle this product once you have finished with it.