

**Limescale,
this is your
20-minute
warning**

**Água
King**
Electronic
Water Softener

**Installation,
operation &
maintenance
instructions**

AK-G2

AK-G2



Introduction

The ÁguaKing AK-G2 is a high performance physical water conditioner designed to treat large commercial applications with pipe sizes up to 67mm. It is frequently used on the boosted water supply to office and residential developments, student accommodation, hotels and hospitals where it can provide continuous treatment against the harmful effects of hard water

The unit has four aerials arranged in two pairs. Each of the 4 metre aerials will allow at least fifteen turns around a 67mm diameter pipe. The signal generated by the aerials travels through the water, both upstream and downstream, irrespective of whether the water is flowing or not. The signal can treat static water in a storage tank if fitted to the down service.

Installation

Location: When selecting a location for the device the following points must be considered:

- **The aerials require approximately 400mm of pipework**
- **In the case of a plate and frame heat exchanger, better results can be obtained by fitting one pair of aerials to the flow after the pump and the other pair of aerials to the return. If the pump is too close to the heat exchanger, fit all four aerials to the return.**
- **The unit is best installed after a cold water cistern, pump or booster set**
- **Any earth bonds should be upstream of the unit**
- **Avoid fixing to flexible pipes**

Fixing the Control Box: The control box should be installed within 45cm of the pipe being treated. It can be hung from pipes, support brackets or fixed to a wall. The unit is supplied with four fixing plates that can be attached to the backplate.

Aerial Winding: The two aerials on the left of the box make up one pair and the two aerials on the right make up the other pair. For each pair, aerials must be wound in opposing directions away from a central point. When facing the pipe, one aerial should start by passing behind the pipe and the

other should pass in front of the pipe. Leave a gap of between 2-3cm between the aerals. Secure each end of the aerals with the cable ties provided.

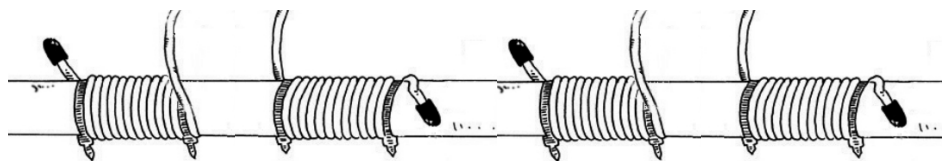
Repeat the process with the other pair of aerals. Once installed ensure all aerals are plugged into the correct output socket prior to powering up the controller. If you are installing on two adjacent pipes, use one pair on each pipe.

Do not allow gaps between windings.
They should be tightly wound and close together.

Each aerial requires a minimum of 15 windings and we recommend installers make as many as the wire permits. You do not need to have the same number of windings on all aerals. If there is going to be surplus aerial wire, ensure it is at the end with the rubber cap rather than the end with the plug. Surplus aerial wire can be cut off and the cap refitted to the cut end.

You can wind the aerals either side of a “T” junction or elbow, on a horizontal or a vertical pipe. Once installed, pipe insulation can be fitted over the top of the aerals.

DO NOT GROUND ANY AERIAL



When you have finished, the pipe should look like this.

Power Supply: The unit is supplied with an internal transformer wired to 1.8 metres of external cable. The input power supply is 230 Volts (110 Volts version is available upon request). To reduce the risk of a unit being inadvertently switched off the plug can be removed in favour of hard wiring to a 3 amp fused outlet.

BMS: A BMS socket and 3.5mm jack plug with terminal block is provided for connection to the Building Management System (BMS) to report power failures or output faults. The isolated BMS contact is rated for signal levels only. The maximum rating is 24V and 100mA. The contact remains closed during normal operation (fail safe) and opens upon fault.

Commissioning

Before powering up the control unit ensure that the aerials have been correctly paired and installed (please refer to Aerial Winding section of the Installation page for guidance). At power up the LCD display will show the start-up screen **“INITIALISING”** **“PLEASE WAIT...”**, during which time the unit completes an initial test.

If all outputs are fault free the screen will show **“ALL OUTPUTS O.K.”** and the BMS contact will close. The unit then resumes normal operation, testing each aerial in turn.

As it cycles through the aerial tests the screen shows **“TESTING OUTPUT X”** (where “X” denotes the aerial under test).

Should any of the aerials be in fault the LCD displays **“FAULT - OUTPUT X”** on the top line (where “X” denotes the aerial in fault), and the BMS contact will open. The lower line continues to display the aerial testing as before. In instances of multiple aerials in fault, the screen will display the first fault it encounters before moving on to the next fault.

To remedy the fault, ensure that the aerial has been correctly inserted into the output socket and has not been grounded to the pipe. Once the fault has been rectified the sequential testing will detect this and the LCD display will revert to **“ALL OUTPUTS O.K.”** **“TESTING OUTPUT X”**, and the BMS contact will close.

Once installation and commissioning is complete and the unit is not in fault, the controller is commissioned. We recommend installers label the enclosure with the date of commissioning before securing this operating manual nearby for future reference.

Maintenance & trouble shooting

All Águaking models have a design life in excess of 25 years and benefit from a self-resetting guard chip that automatically resets the system if the program malfunctions or if it is upset by a power spike. While the guard chip ensures resetting of the output signal in all normal circumstances it is possible for the LCD to jam, in which case rebooting the controller at the on/off switch will reset the system.

100-day money back guarantee

If you are dissatisfied with your ÁguaKing product, you may return it at any time during the first 100 days after purchase and the purchase price will be reimbursed in full. Simply return it to wherever it was purchased, together with your full name, address and proof of purchase, showing the price paid.

5-year manufacturer's warranty

Lifescience Products Ltd, manufacturer of ÁguaKing, guarantees to replace your ÁguaKing treatment unit in the event of any manufacturing defect during the first five years after purchase. The unit should be returned properly boxed and wrapped, together with proof of purchase, showing the price paid. Lifescience Products Ltd cannot accept responsibility for consequential loss as a result of the performance or otherwise of the ÁguaKing unit.

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Want to know more?

Pleased with what your new ÁguaKing AK-G2 is doing for your garden? To find out about our complete range of electronic water softeners – for home, garden and pool – or to get installation or maintenance advice, go to ÁguaKing.pt

Lifescience Products Ltd are experts in chemical-free water treatment technologies, with a global reputation for providing the very best in environmentally friendly, hard water treatment solutions.

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