

Efficiency at its most beautiful

High end heat pump | EcoTouch Ai1 Air



EcoTouch Ai1 Air | Output range from 6 – 18 kW



product
design award

2013



German
Design Award

NOMINEE 2014



High quality complete solution

The EcoTouch Ai1 Air sets new standards for air-water heat pumps. The complete system for low to medium performance requirements impresses with excellent performance values and high-quality equipment.

Multiple awards

Designed as split unit, the system is controlled by the indoor unit. The floor unit impresses with stylish appearance and a multiple award winning design. The housing is available in high-gloss white or stainless steel look.

Top rated technical values

The technical values of the Ai1 Air are particularly convincing. The extremely low running noises are barely audible. The COP of 3.9 is outstanding and confirms the high efficiency of the system.

Fully equipped as standard

The equipment of the floor unit leaves nothing to be desired. Whether high-quality stainless steel tank, automatic legionella protection circuit or COP counter, everything is there. The Ai1 is a high end unit.

Features of indoor unit

- 4.3 inch touch display in colour
- Integrated WebInterface for remote monitoring
- Intuitive control software EasyCon
- Sensor system with numerous sensors
- COP counter and display of all operating data
- Domestic hot water tank made of stainless steel with 204 l capacity
- Automatic Legionella protection circuit
- Chlorine-free refrigerant R410A without damage to ozone
- Speed-controlled circulation pump, efficiency class A
- Speed-controlled scroll compressor
- Additional inverter controller
- Integrated electrical heating element 6 kW
- Encapsulated thermobox with special sound insulation
- Integrated Silenter® vibration damper
- Modular design for optimised transport and installation
- Service-friendly design of unit
- Connections installed on rear side
- Unit dimensions: (W x H x D) 600 x 1993 x 633 mm
- Reduced space requirement of 0.38 m²

Additional optional equipment

- Connection set
- Starting current damping (400 V)
- Controller expansion for:
 - Pool heating / second heating circuit
 - Use of thermal solar energy
 - Mixer circuits

Highlights

- Touch display with innovative EasyCon® software
- Fully integrated into the Internet
- Smartphone control via EasyCon Mobile
- Indication of actual COP
- Silenter® vibration damper
- Multiple award winning design
- Housing in white high gloss or stainless steel look



EasyCon Software | The new type of control



Touch symbols in colour

As the name suggests, EasyCon makes the operation of your heat pump even easier. The software uses simple, self-explanatory symbols like on a Smartphone. The symbols on the colour touch display of the EcoTouch units require only a light touch.

This is as easy as it gets

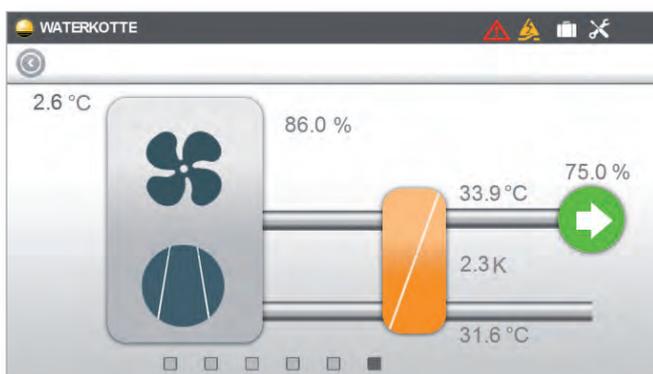
The symbols, also referred to as icons, are self-explanatory. This allows you quick access to all important functions of the unit at all times. Thus, setting the desired temperature or time schedule is totally simple. Operating a heating system without operating manual has never been easier.

Comprehensive data evaluation

On the large colour display you can evaluate a variety of data. The current consumption data, performance data and operating state are clearly displayed in graphics. This is made possible by the data acquisition of the sensor system and the computer evaluation of EasyCon.

Fully integrated into the Internet

The particularly progress of EasyCon, in addition to icon control, is its full internet integration. As a standard, all heat pumps of the EcoTouch series are connected to the network via the touchscreen. The free of charge App EasyCon Mobile allows you to control your heat pump even while on the road.



Features of the operating unit

- Touch sensitive screen, size 4.3"
- Display of 65,000 colours in format 16:9
- LED backlight
- Hardware architecture 32 bit
- Computer speed 50 x 1.6 MIPS
- Windows CE operating system
- WebInterface NetBase, preinstalled as standard
- External access via LAN and USB

Software

- Icon controlled
- Menu path according to established WATERKOTTE control logic
- Continuous calculation of comprehensive measured values
- Efficient automatic system for heating and cooling mode
- Preprogrammed for additional control circuits such as:
 - Use of thermal solar energy
 - Photovoltaics
 - Pool heating / second heating circuit
 - and three additional mixer circuits
- Energy management included
- Bivalence point allows alternate and parallel configuration
- Buffer tank to ensure configuration values
- Remote control capability via EasyCon Mobile App
- Automatic screen saver

Ease of use

- Access to central menu items via Quicklinks
- Dynamic display of cooling circuit
- Current measurement of COP
- Current information on system status
- Automatic e-mail in case of malfunctions
- Continuous display of important measured values
- Display of graphics for performance trends
- Use of individual time schedules
- Full Internet connection

EasyCon Mobile | Control via Internet



Quick and convenient via Internet

EasyCon Mobile allows you convenient access to your heat pump at any time via Smartphone or tablet computer. This is made possible by an Internet connection that you can establish with your heat pump via the application and a web interface.

Free of charge and easy to install

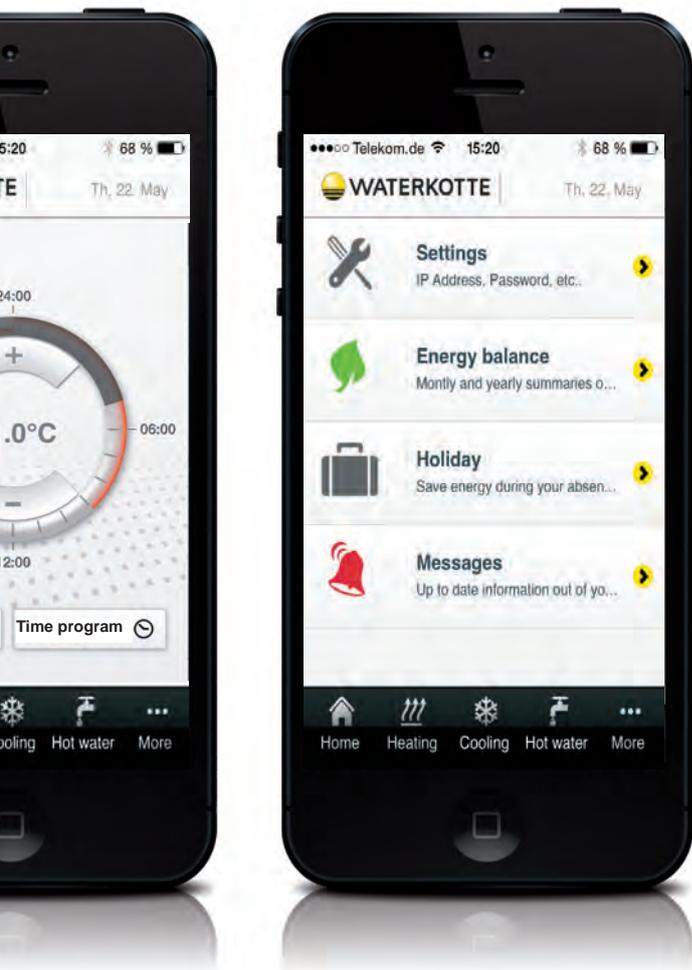
EasyCon Mobile is available free of charge as Apple, Android and Windows 8 App for your Smartphone or your tablet computer. Simply download from Internet and install. Then enter your heat pump ID, and you are connected.

Control your heat pump from anywhere

The menu structure of the App is like the control software that is installed on your heat pump. This allows immediate and intuitive navigation. With the software you are able to send mobile control commands, or check data evaluations.

More ease of use and less costs

EasyCon Mobile allows you to control your heat pump from anywhere. This results in real ease of use. If, for instance, you are on your way home from a vacation, you can already turn up the heat. Saving has never been so much fun.



Features

- Control and monitoring software for heat pumps
- Full version multilingual
- Intuitive menu structure
- Available as Apple, Android and Windows 8 App
- Can be installed on Smartphones and tablet PCs
- Expandable, e.g. for domestic ventilation

Technical requirements

- Available LAN network
- Existing Internet access via provider
- Router with free RJ45 connection
- WATERKOTTE EcoTouch series heat pump

Highlights

- Free of charge control software
- Availability of all operating functions
- Continuous system overview
- Comprehensive view of measurement data
- Active system messages of heat pump
- System App can also be used for other units

EcoTouch Ai1 Air | Output range from 6 – 18 kW



Efficiency through innovation

The newly designed outdoor unit is extremely economical. Numerous innovative developments on the fan resulted in increased energy efficiency and greatly reduced noise emission.

Flexible performance requests

The compressor performance is adapted to the required heat in the best possible way by means of inverter technology. Thus, optimal efficiency and low operating costs are achieved at any time with considerable power reserves.

Aesthetic look

The outdoor unit, same as the indoor unit, features an innovative design. Aesthetic demands are met in the same way as safety requirements. For installation, only little space is required.

High quality aluminium housing

Made completely of aluminium, you can rely on extreme corrosion resistance of the outdoor unit. The aluminium results in a weight reduction of approx. 35 kg, which is advantageous for installation and service.



Features of outdoor unit

- WATERKOTTE control for maximum efficiency
- Controllable via WebInterface
- Optimised multi-level defrosting
- Speed control to reduce noise
- New design of owl wing fan
- Noise-optimised ventilation grille
- Housing made of corrosion-resistant aluminium
- Innovative compressor arrangement
- Lightweight design with reduced housing volume
- Trend-setting award winning overall design
- Version in white-grey matt finish
- Unit dimensions: (W x H x D) 1188 x 1127 x 563 mm

Additional optional equipment

- Connection set
- Starting current damping (400 V)
- Controller expansion for:
 - Pool heating / second heating circuit
 - Use of thermal solar energy
 - Mixer circuits

Highlights

- Optimised multi-level defrosting
- Large owl wing fan
- Very low acoustic emission 37 db(A)
- High quality, corrosion-resistant aluminium housing
- Award winning unit design

EcoTouch outdoor unit ES 7018

Output range 6 – 18 kW



Quiet like the beat of a wing

Operation as quiet as possible

In addition to efficiency, the noise level of air heat pumps during operation is the most important quality factor. Air heat pumps often do not meet the expectations of the user regarding acoustic emission. At WATERKOTTE, the technically ideal solution is always of paramount importance. For this reason, the reduction of noise emission was given highest priority in the development of the ES 7018.

Systematic noise reduction

The running noises of an air heat pump are primarily produced by the fan. The ventilation grille and other components can also contribute to noise development. We have thoroughly analysed each of these noise factors and systematically reduced or completely eliminated them. The result of this optimisation is phenomenal. The quiet operation of the ES 7018 will be hard to match by any other unit in its performance class.

Learning from nature

The fan is one of the most important components of the air heat pump. When designing the fan for the ES 7018, the engineers applied knowledge gained from nature. The silent flight of the owl served as model. Researchers believe that this ability stems from the owl's wings and feathers. The wing shape of the owl was also to improve the aeroacoustics of the new fan.

Larger wings mean less noise

A barn owl weighs almost the same as a pigeon. However, the wings are significantly larger and have a stronger curvature. This provides the bird with considerably more buoyancy at low speeds. Pigeons, on the other hand, have to beat their wings faster and are therefore audible from a distance. For this reason, the fan blades of the ES 7018 have a considerably larger dimension than those of units with a comparable heat output.



Optimised with fringes and spikes

Owl wings have fringes at their edges. This ensures a gentler and quieter airflow impact of the top and bottom of the wings at the trailing edge. Our fan blades are also spiked according to this principle. There is yet another effect. At times, birds lift individual feathers. This reduces the air resistance of the wing. The fan blades of the ES 7018, inspired by owl wings, are therefore equipped with a bend at the edge.

Additional component improvements

Our engineers have also improved the distribution of the aggregates between the indoor and outdoor unit. Thus it was possible to reduce noise by shifting a compressor in the outdoor unit. Finally, an optimisation of the ventilation grille was achieved by calculating air volumes and cross section. This was followed by numerous tests until the ideal combination was found. The measured value for the ES 7018 is now 37db(A) sound pressure.



High efficiency and long service life

Fortunately, by lowering the noise emission we were also able to significantly reduce the power requirement. Our measurements show an improvement in efficiency of approx. 18% compared to the conventional design. The resulting COP is up to 5.1 and allows a very economical operation. The high quality aluminium housing of the ES 7018 also protects against corrosion and ensures a long service life of the unit.

An outstanding product

Our engineers have been successful in reaching their ambitious development goals. The typical disadvantages of air heat pumps such as noise emission and low efficiency were largely neutralised. Now, with the ES 7018, you have the option to select an outstanding low-noise and efficient air heat pump. This makes the EcoTouch Ai1 Air without doubt one of the best units on the market. It rightly deserves to be classified as 'high end'.

Technical data EcoTouch Air Split 5018.5

Heat output, controlled up to (A-7/W35)	kW ¹⁾	13.5
COP at A-7/W35		3.1
Heat output during monoenergetic operation (A-7/W35)	kW	19.5
Heat output, controlled up to (A2/W35)	kW	16.0
COP at A7/W35 and 10.8 kW controlled		3.9
Cooling output (A35/W7)	kW	6.3
Residual head, heating side	mWS	2.3
Air volume flow	m ³ /h	4500
Operating limit		A-20/W55; A-4/W65
Compressor		Scroll inverter
Refrigerant		R410A

Electrical data

Electrical power supply (three-phase)	(V, phase, Hz)	380-415, 3, 50
Max. operating current	A	13
max. power input	kW	7.8
On site control fuse	A	10
Electrical resistance heater	kW	6

Domestic hot water tank (stainless steel)

Capacity net	l	204
Max. operating pressure	bar	10
Tank connections		G3/4" F
Tank material		stainless steel

Dimensions, weights, connections

Weight outdoor unit (alu. housing)	kg	93
Weight indoor unit (bottom part)	kg	128
Weight indoor unit (top part/tank)	kg	65
Weight indoor part (cover panels)	kg	35
Filler, refrigerant filling R410A	kg	6
Heater connections		R1¼" a
Dimensions indoor unit W x H x D	mm	600 x 1993 x 633 (+35 connect.)
Dimensions outdoor unit W x H x D	mm	1188 x 1127x563

Subject to technical changes.

¹⁾ Tolerances as per EN 12900 apply to the performance data listed above.

For individual technical data and filling capacities of your heat pump system, please refer to type plate.



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