

Panasonic

**SAVINGS OF UP
TO £1,100 A YEAR**

**ON YOUR HEATING BILLS
COMPARED TO OIL OR LPG***

STILL USING OIL OR LPG
TO HEAT YOUR HOME?
**SWITCH TO AIR AND
START SAVING**

**INTRODUCING AQUAREA
THE SUSTAINABLE SOLUTION
FOR HEATING AND
HOT WATER SYSTEMS**



NEW AQUAREA AIR TO WATER HEAT PUMP 2013 / 2014



AQUAREA



HOW DO YOU GET HEATING AND HOT WATER FROM AIR?

Introducing the Panasonic AQUAREA – Air Source Heat Pump

An AQUAREA air source heat pump captures fresh air and passes it over refrigerant-filled coils (think fridge!). The captured heat is automatically transferred to water, which is then ready for use in your heating system and for supplying all of your domestic hot water needs. Panasonic's latest technology offers you a sustainable alternative to oil, LPG and electric heating systems.



**TO ARRANGE
YOUR FREE HOME
HEATING SURVEY
CALL NOW ON
0800 316 86 86**

Why air source heat pumps?

- Reduced heating bills and maintenance costs **Savings of up to £1,100 a year are typical[†]**
- Reduce your carbon footprint
- Simple to integrate into most heating systems
- Energy efficient alternative to oil, LPG and electric systems
- Highly compatible with other energy efficient energy sources, eg solar panels

Air source heat pumps – quick facts

- Provides sustainable heating, cooling and hot water for your home
- 30%-40% reduction in annual energy bills* Ideal for properties without access to mains gas
- Operates even in freezing temperatures (-20°C)• Externally positioned, saving valuable internal living space
- Proven technology from Panasonic – first produced in 1973 and already well established in other EU countries
- 3 year warranty

Product range

- **AQUAREA** – Panasonic's Aquarea is based on high-efficiency heat pump technology and is capable of heating your home and providing hot water (optionally cooling your home in summer. Aquarea can create perfect comfort whatever the weather conditions whilst maintaining incredible operating performance.
- **AQUAREA UK tanks** – Panasonic has developed a range of high efficiency water tanks with large exchange surface areas and high levels of insulation to minimise losses. The tanks are specifically designed to meet with the demands of UK customers.
- **AQUAREA Air** – Panasonic's new range of high efficiency radiators are capable of providing both heating and cooling. These attractive slim-line panels (just 13cm deep), operate at just 35°C, offering significant energy savings over traditional systems. Provided with both radiant and convective effect, Aquarea Air is the perfect addition to the Aquarea range.

www.panasonic-heating.com

[†] Based upon a floor area of 225m² at 50 Watts per m² using Panasonic's T-CAP 12 kW output heat pump at SCOP (Seasonal Coefficient of Performance) 3.7, Air temperature -8°C/Water temperature 55°C. For more information, contact uk-aircon-tech@eu.panasonic.com. * When compared to Oil and LPG heating systems. Subject to conditions.

THE AQUAREA HEATING AND HOT WATER SYSTEM

3. New Aquarea Air Radiators



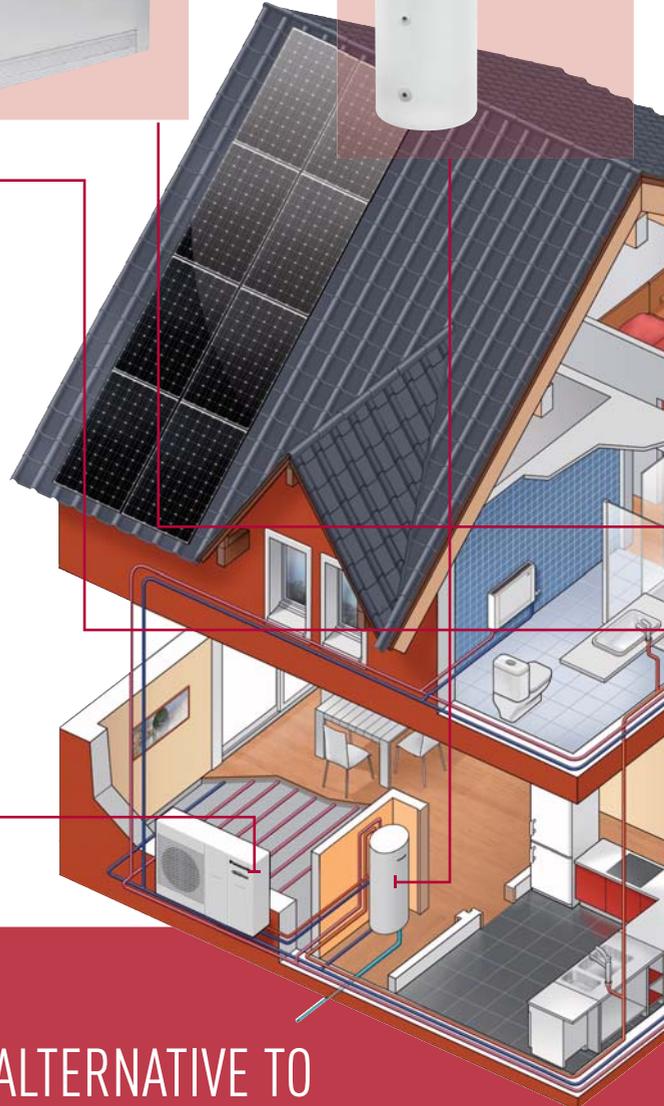
2. Aquarea Heat Pump Manager



1. Aquarea outdoor air source heat pump

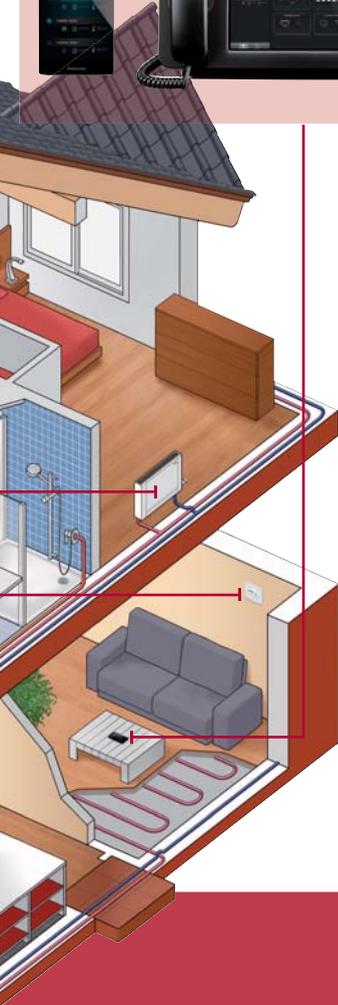


4. Aquarea Tank



THE SUSTAINABLE ALTERNATIVE TO OIL, LPG & ELECTRIC HEATING SYSTEMS

5. Heating control App¹ for Smart Phone, Tablet or Smart Desktop Phone²



**SAVINGS OF UP
TO £1,100 A YEAR**
ON YOUR HEATING BILLS
COMPARED TO OIL OR LPG[†]

1. Aquarea outdoor air source heat pumps

Panasonic has developed an extensive range of air-to-water heat pumps designed to efficiently convert free air into sustainable heating and hot water. Fitted externally to your home and designed to operate in all year round weather conditions (-20°C), it's the smart alternative to oil, LPG and electric heating systems.

2. Aquarea Heat Pump Manager

This new generation of smart controllers for eco-efficient heating, features our versatile stand-alone controller not only for our heat pump systems, but also your gas, oil boiler and all other devices installed on your heating system.

3. New Aquarea Air Radiators

The extremely slim Aquarea Air radiator is a highly efficient climate control solution.

4. Aquarea Tank

Using the latest technology and energy efficient insulation, the indoor tank provides constant hot water for domestic use.

5. Heating control App¹ for Smart Phone, Tablet or Smart Desktop Phone²

The heating control app allows you to control the heating and hot water system via your smart phone, tablet or computer with ease, whether at home or away.

[†] Based upon a floor area of 225m² at 50 Watts per m² using Panasonic's T-CAP 12 kW output heat pump at SCOP (Seasonal Coefficient of Performance) 3.7, Air temperature -8°C/Water temperature 55°C. For more information, contact uk-aircon-tech@eu.panasonic.com.

1. Optional.

2. KX-UT670 Smart Desktop Phone from Panasonic.

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AQUAREA ENERGY EFFICIENCY COMPARED TO OTHER HEATING SYSTEMS



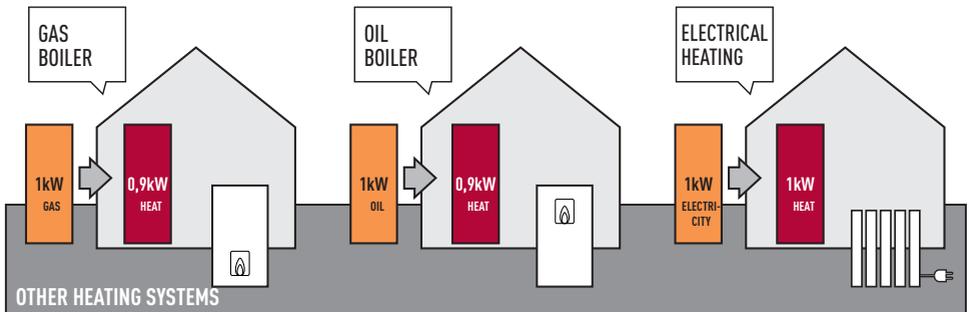
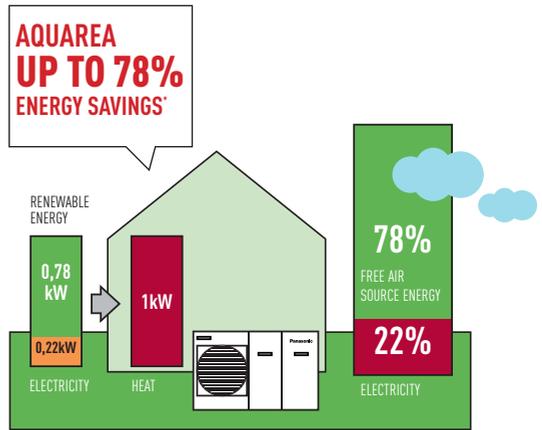
"We expect to save around £800 a year on fuel costs and we've been able to get rid of a large ugly oil tank in the garden thanks to the new Aquarea."

Aquarea Customer, Surrey¹

* Information provided by Aquarea customer, August 2012.

PANASONIC'S AQUAREA PROVIDES UP TO 78% ENERGY SAVINGS*

The Coefficient of Performance (or COP) is the efficiency ratio of the amount of heating provided by a heat pump compared to the energy consumed by the system. The higher the Coefficient of performance the more efficient the system. For instance, a conventional electrical heating system has a maximum COP of only 1 (for every 1 kW of energy consumed, the unit produces 1k W of heat). **The AQUAREA 9 kW system has a COP of 4.74.** This is **3.74 kW** more than a conventional electrical heating system and is equivalent to a **78% saving**.



- POWER INPUT / ENERGY CONSUMPTION
- POWER OUTPUT / HEATING CAPACITY (kW)

* Up to 78% of the heat produced by a heat pump is free, since it comes from the outdoor air. Rating conditions: Heating: Inside air temperature: 20 °C Dry Bulb / Outside air temperature: 7 °C Dry Bulb / 6 °C Wet Bulb. Conditions : Water input temperature: 30 °C Water output temperature: 35 °C

NEW SOLUTIONS



Aquarea High Performance for low consumption houses. From 3 to 16 kW

For a house with low temperature radiators or under-floor heating, our high performance Aquarea HP is a good solution. This solution can work as a stand-alone unit or can be combined with an existing gas- or oil-fired heating system depending on requirements. This new solution is ideal for low consumption homes.



Aquarea T-CAP. From 9 to 12 kW

If the most important aspect is to maintain nominal heating capacities even at temperatures as low as -7 °C or -15 °C , select the Aquarea T-CAP. This ensures that there is always enough capacity to heat the house without help from an external boiler – even at extremely low temperatures.

Aquarea T-CAP always has high efficiency and high heating capacity even at extremely low temperatures. With Aquarea T-CAP, you can always enjoy high savings.



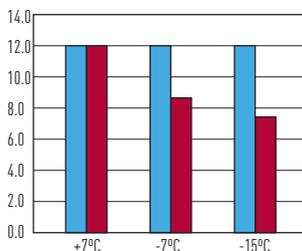
Aquarea HT. From 9 to 12 kW

For a house with traditional high-temperature radiators (such as cast iron radiators), the Aquarea HT Solution is the most appropriate as the Aquarea HT provides output water temperatures of 65 °C even at outdoor temperatures as low as -20 °C .

Aquarea HT is able to deliver hot water to 65 °C with the Heat Pump alone.

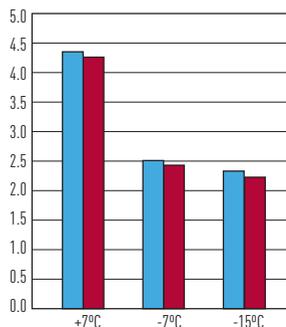
Aquarea T-CAP and High Performance comparison

Aquarea T-CAP maintains the nominal capacity until -15 °C (example for 12 kW)



■ Aquarea T-CAP COP is displayed

Aquarea T-CAP and High Performance have extremely high efficiency even at -15 °C



■ Aquarea HP COP is displayed

Conditions : Water input temperature: 30 °C . Water output temperature: 35 °C ; outside temperature: $+7\text{ °C}$.



32%
MORE EFFICIENT
THAN STANDARD
RADIATORS

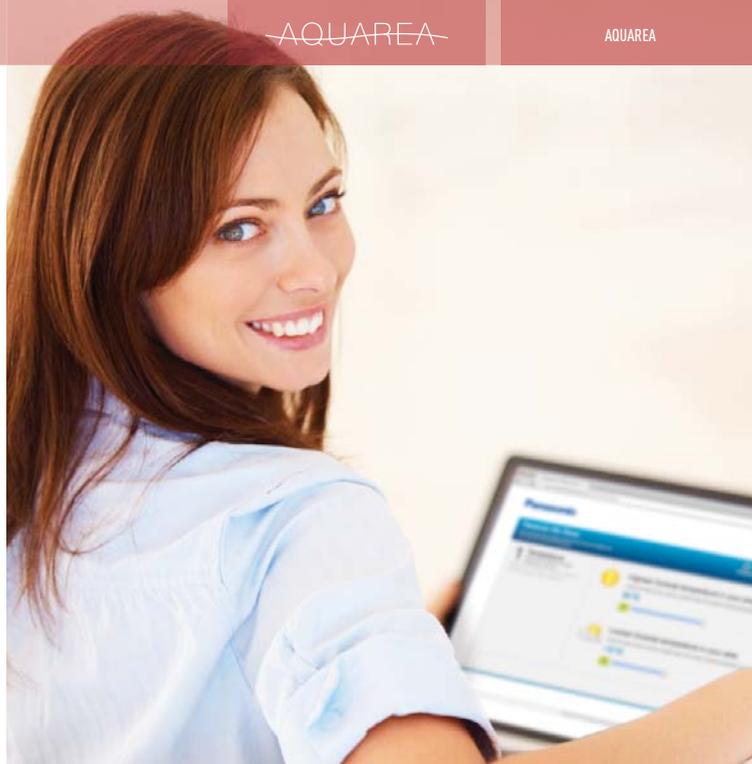
NEW AQUAREA AIR RADIATORS

The Aquarea Air high efficiency radiator with innovative design incorporates low powered fans, convective heating and radiant panel ('warm to the touch'). With such exceptional ventilation efficiency, the Aquarea Air is the perfect solution to partner with the Aquarea ASHP.

Fan assisted radiators allow you to achieve the required room temperature without the need of oversized panel radiators (on some occasions twice the size), it therefore blends elegantly into any home. The Aquarea Air works at a comfortable temperature which complies with the guideline temperature for vulnerable people



DISCOVER THE ADVANTAGES OF AQUAREA THROUGH OUR SITE AND OUR YOUTUBE CHANNEL



Aquarea YouTube Channel

Panasonic has created a YouTube Channel purely dedicated to our Aquarea range. The channel consists of several short films including interviews with homeowners who have had the system installed, an explanation on how an Aquarea heat pump works, and a recent residential project in France.

Visit youtube.com/PanasonicAquarea to find out more.



'My Home' programme

With our wide product range of high-efficiency air-to-air and air-to-water heat pumps, Panasonic understands the importance of choosing the correct system for each individual job. With that in mind, Panasonic has created 'My Home', a quick and simple online test which helps you discover the most suitable system for your needs, as well as calculating a guideline for your total savings.

Visit www.panasonic-heating.com to find out more.

Panasonic My Home

Results

Your consumption: **2,520 kWh**

Panasonic recommend you to use **AQUAREA** heat pumps to enjoy huge saving against.

#	Type of system	Efficiency	CO2 savings
1	Oil Boiler	100.0	000 kg
2	Gas Boiler	100.0	200 kg
3	Air Source Heat Pump	400.0	800 kg
4	Water Source Heat Pump	400.0	800 kg

Buttons: < Back | Learn more about Aquarea | Show your results



A TYPICAL EXAMPLE OF SAVINGS AND EFFICIENCIES THAT AQUAREA CAN OFFER TO YOU

A 225m² house in Birmingham

The example below shows a typical 3 bedroom UK home and highlights the potential savings that can be achieved with Panasonic's Aquarea heat pump. *

Building data

Address	Birmingham (GB)
Building area	225 m ²
Standard heating requirement	11.3 kW
Internal gains	5625 kWh/year
Solar gains (windows)	4500 kWh/year
Indoor design temperature	20 °C
Outdoor temp. limit for heating 'on'	15 °C
Heat distribution	Underfloor heating by 100 % Radiator heating by -- % Wall heating by -- %
Max. flow water temperature	55 °C
Max. return water temperature	50 °C
Solar collector area	-- m ²

Service hot water

Type of service	Hot water with heat pump
Tank volume	300 Litre
Average daily need	200 Litre
Cold water inlet temperature	10 °C
Target tank temperature	50 °C
Exchange loss	5 K
Electrical auxiliary heating necessary	no

Climatic data

Climatic location	Birmingham (GB)
Monthly average temperatures in °C	Jan 3.4 Jul 16.0 Feb 3.6 Aug 15.9 Mar 5.7 Sep 13.7 Apr 8.0 Oct 10.4 May 11.2 Nov 6.7 Jun 14.1 Dec 4.6

Rate data

Description	UK (Panasonic)
Shut off times total	0.0 h/day
Weekends with shut off times	yes
Daytime rate of heat pump	Time for daytime rate 5 - 19 o'clock 14.0 pence/kWh
Nighttime rate of heat pump	Time for nighttime rate 19 - 5 o'clock 14.0 pence/kWh
Heat circulation pump(s)	like heat pump: -- pence/kWh yes
Heating element for monoenergetic operation	Like heat pump: -- pence/kWh yes
Heating element for post heating of hot water	like heat pump: -- pence/kWh yes

Used Panasonic heat pump

Description	WH-SXF12D6E5
Sanitary tank	WH-TD30E3E5
Heat pump type	air / water
Wattage at 2/35	heat: 11.7 kW, electric: 3.4 kW
Recommended flow-through of air	4800.0 m ³ /h
Max. flow temperature	55 °C
Mode of operation	monovalent
Design/Bivalent temperature	-5.0 °C
Number of heat pumps used	1
Wattage of fan (included in heat pump performance data: yes)	60 W
Wattage of heat circulation pump(s)	180 W

* Calculations were carried using Panasonic's Aquarea Designer software, available from the PRO Club website (www.panasonicproclub.com).

Calculation results

Monthly heat consumption in kWh

Annual energy costs

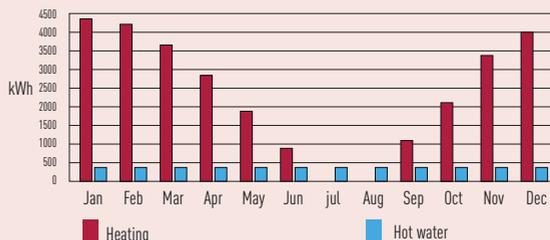
Caused by heat producers

Heat pump	1386 €
Hot water heating rod	0 €

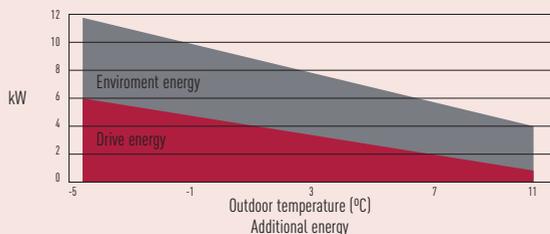
Caused by heat consumers

Space heating	1060 €
Service hot water	192 €
Heat circulation pump(s)	134 €

Total 1386 €



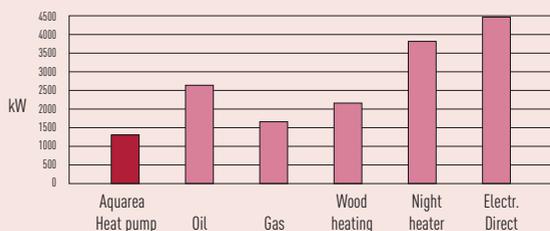
Aquarea energy coverage



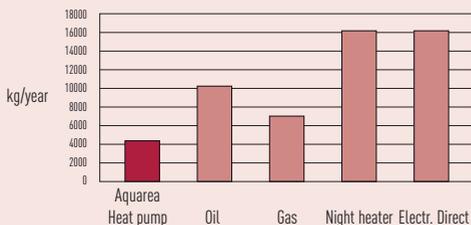
Comparison of running costs

Operational costs

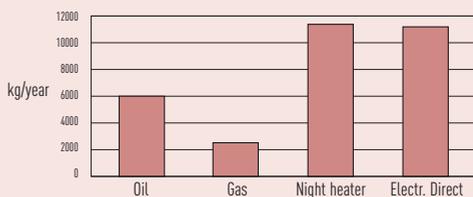
Type of heating	Price in pence/kWh	Efficiency [%]	Additional costs in €/year	Total costs in €/year
Heat pump	-	-	0	1386
Oil	6.5	85	0	2639
Gas	4.0	90	0	1613
Wood heating	5.0	80	0	2192
Electric night storage heater	12.0	100	0	3846
Electric heating element	14.0	100	0	4487



Comparison of CO₂ emissions



Comparison of CO₂ savings





THE SUSTAINABLE SOLUTION FOR HEATING AND HOT WATER SYSTEMS

www.panasonic-heating.com

Visit the AQUAREA website for more information

The AQUAREA website has been designed to show you how you can save money on your heating bills when you install a Panasonic AQUAREA Air Source Heat Pump System.



Ideas for a Cleaner Future

The MCS certifies microgeneration technologies used to produce heat from renewable sources. It is also linked to financial incentives including the Renewable Heat Premium Payment scheme (RHPP). Models within the AQUAREA range have received MCS approval. For the latest list visit:

www.microgenerationcertification.org

Panasonic®

To find out how Panasonic cares for you,
log on to: www.panasonic-heating.com

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† Based upon a floor area of 225m² at 50 Watts per m² using Panasonic's T-CAP 12 kW output heat pump at SCOP (Seasonal Coefficient of Performance) 3.7, Air temperature -8°C/Water temperature 55°C. For more information, contact uk-aircon-tech@eu.panasonic.com