

TECHNICAL SPECIFICATIONS

Technical Specification - Ground Source Heat Pumps

		WW 3500	WW 5000	WW 6500	WW 8000	WW 12000
ELECTRICAL DATA		230/240V ~ 1N/50Hz				
Electrical Supply Spec 1 Phase	V/ph/Hz					
Minimum Supply Capacity 1 Phase	amps	11	15	20	25	32
Maximum Supply Fuse 1 Phase	amps	15	20	32	32	40
Maximum Starting Current / Start (LRA)	amps	19	22	33	19	21
WATER DATA						
Water(Ground) Water (Brine) Flow ±10%	litres/min	12	17	25	25	35
Pressure Drop (Water/Brine)	m hd	0.45	1.2	2.8	2.8	1.4
Water Connections	inches	3/4" BSPM	3/4" BSPM	3/4" BSPM	3/4" BSPM	1" BSPM
Process (Heated) Water Flow ±10%	l/min	7.5	10	15	15	20
Pressure Drop (Water)	m hd	0.79	3.5	0.7	0.7	0.4
Water Connections	inches	3/4" BSPM	3/4" BSPM	3/4" BSPM	3/4" BSPM	1" BSPM
PHYSICAL DIMENSIONS						
Width (unpacked)	mm	500	500	715	715	915
Depth (unpacked)	mm	444	444	465	465	465
Height (unpacked)	mm	850	850	945	945	945
Weight (unpacked)	kg	94	107	130	158	196
GROUND COLLECTOR EXAMPLES						
Heat Pump	kW	3.5	5.0	6.5	8.0	3.5
Borehole Depth	m	60-80	70-90	80-100	140-170	60-80
Flat Ground Hose Length	m	150-200	200-300	300-400	2 x 200/300	2 x 250/350
Slinky Collectors	m	2 x 30	2 x 40	2 x 50	3 x 45	4 x 50

NOTES:

- 1 Weight and Dimensions Nett.
- 2 Allow 500mm clearance to service panels.
- 3 Calorex reserve the right to change or modify models without prior notice.



Please contact Certikin H & V for bespoke unit selection on 01993 778855.

Technical Specification - Air Source Heat Pumps

		AW 4502	AW 9002	AW12002
ELECTRICAL DATA		230/240V ~ 1N/50Hz		
Electrical Supply 1 Phase	V/ph/Hz			
Minimum Supply Capacity	amps	13	25	32
Maximum Supply Fuse 1 ph N/ Type C MCB	amps	15.0	32.0	40.0
Soft Start Amps 1 ph N	amps	19	35	31
AIR DATA				
Air Flow (Anem' @ air on grille. Wet evap')	m3/hr	2700	3000	4400
Fan External Resistance STD	mm Wg	0	0	0
Fan External Resistance "F"	mm Wg	6	6	6
WATER DATA				
Water Flow +20%	litres/min	7.5	15	20
Pressure Drop (Water)	metres hd	1.1	0.7	0.2
Condenser Volume	litres	2.0	3.5	6.5
Water Connections	inches	3/4" BSPM	3/4" BSPM	1" BSPM
Condensate Water Connections	inches	3/4" Domestic Waste		
Typical Buffer Tank Sizes	litres	50	100	150
SOUND DATA				
Sound Pressure @ 1 metre	dB(A)	56	58	58
Sound Pressure @ 10 metres	dB(A)	37	39	39
PHYSICAL DIMENSIONS				
Width (unpacked)	mm	107	1140	1582
Depth (unpacked)	mm	505	557	607
Height (unpacked)	mm	955	961	955
Weight (unpacked)	kg	150	164	264



NOTES:

- 1 Weight and dimensions nett.
- 2 Allow 500mm clearance to service panels.
- 3 Minimum air temperature -15°C
- 4 Calorex reserve the right to change or modify models without prior notice.

Contact: H & V Division
Tel: 01993 778855 Fax: 01993 778869
Email: info@certikin.co.uk

Certikin
brings water to life

Ground Source & Air Source Heat Pumps



The sustainable swimming pool heating solution for today and tomorrow

GROUND SOURCE & AIR SOURCE

The Challenge: To provide the swimming pool design engineer with a renewable, environmentally friendly heat source for integration with swimming pool dehumidifiers and air handling units.

Both Ground Source and Air source heat pumps offer energy efficiency, reduced carbon emissions and lower running costs. Your choice of system will depend on your budget and on the type of application best suited to your swimming pool requirements.

Up To 400% Efficient

A heat pump extracts the heat from solar energy stored in the ground or in the air and concentrates it for use as a low pressure hot water provider like a fridge in reverse. Conventional refrigeration technology absorbs the heat from the ground or air into a refrigerant, which is then compressed to raise its temperature. A heat exchanger then takes out the heat and uses it as a hot water supply to swimming pool handling units. Heat pumps have been in Europe for many years where they are a tried and tested form of high efficiency low cost hot water producer. Calorex heat pumps are charged with non-toxic, bio-degradable, CFC-free refrigerant, which has no detrimental effect on the earth's protective ozone layer.

Benefits Of Ground Source

- Higher efficiency because it has a constant temperature energy source - the ground.
- Smaller sized units for internal or external installation.

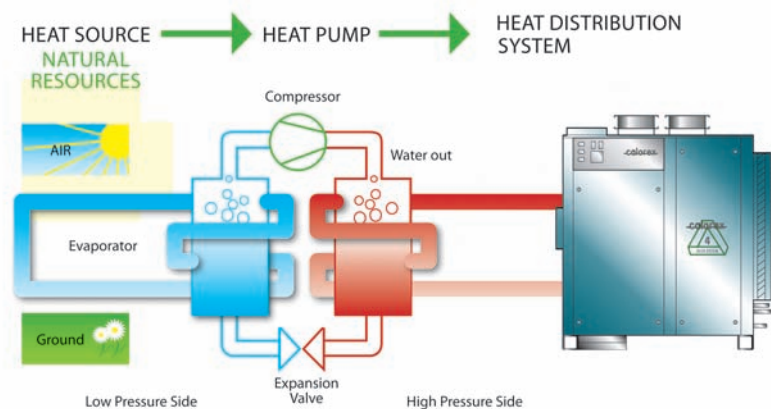


Benefits of Air Source

- Lower capital cost.
- Operational to -15°C .
- Reverse cycle defrost only 4 minutes per hour.

Product Features

- Accredited under the Government's Microgeneration Certification Scheme (MCS).
- Twin compressors in larger models to optimise efficiency
- Plumbing and electrical connections only.
- Only single phase electricity supply required.
- No gas supplies, flues or ventilation required.
- No risk of Carbon Monoxide poisoning.
- No risk of gas explosions.
- No risk of oil leaks.
- Maintenance free - no expensive annual servicing required.
- Easily integrated into new and existing pools.
- Can also provide domestic hot water and heating as well as an LPHW supply to the air handling unit.



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Air Source Heat Pumps**

SUSTAINABLE FREE ENERGY

UK Climate

The UK Met Office and Climate Research Unit, recently published that 2006 was the sixth warmest year on record, exceeded by 1998, 2005, 2003, 2002 and 2004.

The UK has an abundance of renewable energy and with Calorex Ground Source Heat Pumps the most efficient on the market and the Air Source Heat Pumps operating to extremes of temperature as low as -15°C, affordable renewable energy is available for you today with products manufactured in the UK.

Emissions

Fossil fuel use has a particularly detrimental effect on the environment, as when these fuels are burned, Carbon Dioxide is released into the atmosphere contributing significantly to global warming.

Fossil fuel reserves in the UK such as oil and gas are fast becoming exhausted - this means that we should be looking at renewable forms of energy.



A Calorex Air Source or Ground Source Heat Pump installed in the swimming pool environment will greatly reduce Carbon Dioxide emissions as well as reducing the overall annual running costs.

Certikin H & V department are able to calculate approximate annual running costs on an individual, bespoke basis.

BUFFER CYLINDERS FOR GSHP OR ASHP

As the heat pumps are producing water efficiently at a lower temperature than that associated with a boiler, a buffer tank will be required to ensure continued efficient running of the system and to ensure reduced running costs. **Contact Certikin H & V for more information.**



Technical Specification - Domestic Hot Water Cylinders For Use With GSHP or ASHP All Fitted with 3kW - 1 Phase Immersion Heater

CYLINDER CAPACITY - HOT WATER	Type	Dimensions	Insulation
140 litres	vented	1055 x 550	50mm foam only
150 litres	unvented	1125 x 550	50mm foam and cased
150 litres	unvented slimline	1700 x 450	50mm foam and cased
180 litres	unvented	1325 x 550	50mm foam and cased
180 litres	unvented slimline	1600 x 450	25mm foam and cased
210 litres	unvented	1525 x 550	50mm foam and cased
210 litres	unvented slimline	1850 x 450	25mm foam and cased
210 litres	vented	1200 x 600	50mm foam only
210 litres	unvented twin coil	1525 x 550	50mm foam and cased
250 litres	unvented	1780 x 550	50mm foam and cased
250 litres	unvented twin coil	1780 x 550	50mm foam and cased

Technical Specification - Buffer Tanks For Use With GSHP or ASHP All Fitted with 3kW - 1 Phase Immersion Heater. Unvented Tanks Do Not Include Expansion Kits

CYLINDER CAPACITY	Type	Dimensions	Insulation
50 litres	vented	450 x 450	foam only
95 litres	vented	750 x 450	foam only
150 litres	vented	1100 x 450	foam only
50 litres	unvented	450 x 450	foam and cased
95 litres	unvented	750 x 450	foam and cased
150 litres	unvented	900 x 500	foam and cased