



WHY A CALOREX HEAT PUMP?

Calorex heat pumps provide a sustainable heating solution which, compared to fossil fuel or direct electric systems, will dramatically cut operating costs and carbon emission.

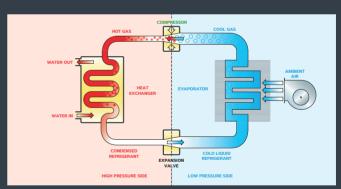
Calorex air source heat pumps can use source heat from every climatic condition and are available in different designs to suit space or hot water heating.

Calorex products offer industry leading standards of efficiency and durability and are supported by comprehensive technical support that guarantees correct product specification and after sales care.

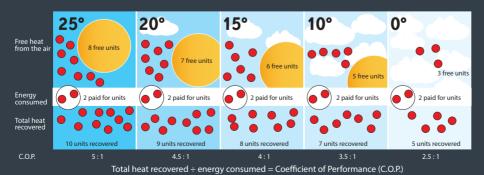
Unrivalled efficiency

Unlike fossil fuel and direct electric heating systems, a Calorex heat pump is capable of delivering up to five times more energy than it consumes, and unlike solar systems, Calorex heat pumps do not need the sun to shine in order to provide this efficiency.

The heat pump cycle



Heat pump efficiency at differing air temperatures



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Harness the heat you don't have to pay for with Calorex's range of air source heat pumps.

EASY INSTALLATION

The Calorex range of hot water heat pumps are a quality range of packaged units specifically designed for hot water heating to 68°C.

Calorex heat pumps are simple to install, require little maintenance and alleviate the need for fuel storage tanks and flues that are normally associated with fossil fuel heating systems. Further, due to their unique ability to collect and enhance "free" heat from the air around them, they are kinder to the environment than traditional heating systems and exceptionally inexpensive to operate.

Calorex Pro-Pac range

Pro-Pac heat pumps can be installed outside or in a plant room that has adjacent outside walls. Pro-Pac can be supplied with high speed axial fans.

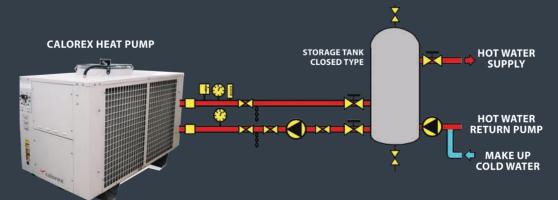
Calorex 34 range

Designed for outdoor or plant room installation, all 34 range are provided with centrifugal fans as standard. A choice of fan external static pressure offers flexible installation and an ability for the units to provide cold air through a ducted system.

WRAS approved

WRAS is a conformance mark that demonstrates that an item complies to strict standards set out by UK water regulations. This standard gives you peace of mind that approved products will not contaminate your water supply and are safe to use within their stated pressure and temperature ranges.

Typical installation diagram for Calorex hot water heat pump



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WATER HEATING - AIR TO WATER

HOT WATER HEAT PUMPS (AXIAL FAN)





- Hotels
- Hospitals
- Schools
- Swimming pools
- Apartment buildings
- Nursing homes
- Large private houses





Features

- Efficiencies of up to 500% most of the energy that is provided is absorbed completely free of charge from ambient air around
- Monobloc construction with choice of inbuilt thermostat positions. Alternatively, the unit can be controlled by a remote water tank thermostat
- High efficiency, sound insulated scroll compressor.
- Quiet, efficient owlet axial fan
- Plastic coated, galvanised case
- Certified cupronickel WRAS approved heat exchanger to allow the unit to be used in a direct system with potable water

Options

- R134a refrigerant allows the unit to operate up to 65°C water temperature
- Soft start
- RS 485 compatible thermostat

Specifications	Units	PRO-PAC 16AMY
Air temperature range	°C	-15 - +35
Water temperature range	°C	10-55
Output – water 30°C		
Output @ 15°C ambient	kW	11.9
Output @ 7°C ambient	kW	9.5
Output @ 0°C ambient	kW	7.9
Input @ 15°C ambient	kW	3.0
Power supply	V/Hz	230/1ph/50
Minimum supply capacity	(A) 1ph	19.8
Recommended supply fuse	(A) 1ph	30
Air flow	m³/h	3500
Flow rate	l/min	33
Pressure drop	m hd	5.0
Water connections	inch	¾ BSPM
Compressor	Type	1 x Scroll
Condenser	Type	WRAS Cu-Ni
Sound level @ 10m	dB(A)	41
Sound level @ 3m	dB(A)	48
Product size (w x d x h)	mm	1237 x 535 x 725
Weight	kg	136

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WATER HEATING - AIR TO WATER

HOT WATER HEAT PUMPS (AXIAL/CENTRIFUGAL FAN)





Options

- Reverse cycle defrost allows operation down to -15°C (excluding 834,1234 and 1534)
- Soft start
- High pressure fans
- Top or rear air discharge (3034 and 7034 only)



Features

- Hot water production to 68°C
- Space heating through fan coils, radiators, underfloor system
- Heat recovery from soil, rivers, lakes and chilled water systems
- Space cooling as a by product of the heating process
- Up to 400% running cost and carbon savings against electric heating
- Up to 48% running cost and carbon savings against fossil fuel
- No flues or storage tanks
- Easy to retrofit
- Minimal service requirements
- Certified cupronickel WRAS approved heat exchanger to allow the unit to be used in a direct system with potable water
- Range of capacities from 6kW to 140kW
- R134a ozone friendly refrigerant ensures reliable operation up to
- Fully weatherproof polyester or epoxy coated cabinet
- Quiet, efficient owlet axial fans
- Choice of centrifugal fans (34 range only) allows ducting from plant rooms or distribution of cold air for space cooling
- Air source heat pumps for hot water up to 68°C during ambient temperature from 10°C to 50°C (-15°C to 50°C optional)

Applications



- Hotels
- Hospitals
- Clubs
- Leisure centres

For technical data see page 42

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WATER HEATING - AIR TO WATER

HOT WATER HEAT PUMPS (AXIAL/CENTRIFUGAL FAN)

Specifications	Units	AW 834H	AW 1234H	AW 1534H	AW 3034H	AW 7034H
Air temperature range	°C	7-50	7-50	7-50	7-50	7-50
Water temperature range	°C	10-68	10-68	10-68	10-68	10-68
Duty – output to water @ 30°C/55°C						
Output @ +25°C/55% RH ambient	kW	7.5/7.1	11.9/10.6	15.1/13.5	29.7/26.5	47.0/41.9
Input @ +25°C/55% RH ambient	kW	1.5/2.3	2.1/3.3	2.7/4.3	5.8/8.8	8.8/13.7
Output @ +15°C/70% RH ambient	kW	6.7/6.0	10.1/9.0	12.8/11.4	25.1/22.5	39.8/35.6
Input @ +15°C/70% RH ambient	kW	1.4/2.1	2.0/3.1	2.6/4.0	5.5/8.3	8.4/12.8
Output @ +5°C/100% RH ambient	kW	5.8/5.2	8.8/7.9	11.2/10.9	29.1/19.6	34.7/31.0
Input @ +5°C/100% RH ambient	kW	1.3/2.0	1.9/2.9	2.4/3.8	5.2/7.9	8.0/12.2
Power supply	V/Hz	230/1ph/50	230/1ph/50	-	-	-
	V/Hz	400/3ph/50	400/3ph/50	400/3ph/50	400/3ph/50	400/3ph/50
Minimum supply capacity	A (1ph)	15.7	22.7	-	-	-
	A (3ph)	7.8	12.5	13.7	25	40
Recommended supply fuse	A (1ph)	25	32	-	-	-
	A (3ph)	13	20	20	35	63
Nominal air flow	m³/h	2650	3200	4000	10000	12500
External static (standard units) External static (uprated units)	Pa Pa	0 150	0 150	0	U – Variable to 250Pa —	0
Water flow +10%	l/min	33	33	. 33	66	130
Pressure drop (water)	m hd	5.8	7.0	8.3	4.5	3.9
Water connections	inch	34 BSPM	34 BSPM	34 BSPM	1½ BSPM	1½ BSPM
Fan	Type	1 x Centrifugal	1 x Centrifugal	1 x Centrifugal	1 x Centrifugal	1 x Centrifugal
Compressor	Type	1 x Recip	1 x Scroll	1 x Scroll	1 x Scroll	1 x Scroll
Condenser	Type			in shell (WRAS approve	d Cu-Ni optional) ——	
Sound pressure level @ 10m	dB(A)	45	48	51	58	57
Sound pressure level @ 3m	dB(A)	57	59	62	69	68
Product size ($w \times d \times h$)	mm	1060 x 705 x 807	1060 x 705 x 807	1210 x 755 x 807	1700 x 1090 x 1212	1950 x 1340 x 1212
Weight	kg	119	130	156	393	569

Specifications	Units	PRO-PAC 30H	PRO-PAC 45H	PRO-PAC 70H	PRO-PAC 90H	PRO-PAC 140H
Air temperature range	°C	7-50	7-50	7-50	7-50	7-50
Water temperature range	$^{\circ}$ C	10-68	10-68	10-68	10-68	10-68
Duty – output to water @ 30°C/55°C						
Output @ +25°C/55% RH ambient	kW	25.0/22.3	31.2/27.8	47.0/41.9	62.3/55.5	94.0/83.8
Input @ +25°C/55% RH ambient	kW	4.5/7.1	5.9/9.1	8.2/13.1	11.7/18.2	16.5/26.2
Output @ +15°C/70% RH ambient	kW	21.1/18.9	26.3/23.6	39.8/35.6	52.7/47.1	79.5/71.1
Input @ +15°C/70% RH ambient	kW	4.3/6.6	5.6/8.5	7.8/12.2	11.1/17.0	15.6/24.4
Output @ +5°C/100% RH ambient	kW	18.4/16.5	23.0/20.6	34.7/31.0	46.0/41.1	69.4/62.1
Input @ +5°C/100% RH ambient	kW	4.1/6.3	5.3/8.1	7.4/11.6	10.6/16.1	14.8/23.1
Power supply	V/Hz	400/3ph/50	400/3ph/50	400/3ph/50	400/3ph/50	400/3ph/50
Minimum supply capacity	Α	20	22	35	44	70
Recommended supply fuse	Α	30	30	50	60	100
Nominal air flow	m³/h	5500	10000	14000	20000	28000
External static (standard units)	Pa	0	0	0	0	0
External static (uprated units)	Pa	N/A	60	60	60	100
Water flow ±10%	l/min	66	66	130	130	260
Pressure drop (water)	m hd	2.1	4.2	3.9	4.2	5.3
Water connections	inch	1½ BSPM				
Fan	Type	1 x Axial				
Compressor	Туре	1 x Scroll	1 x Scroll	1 x Scroll	2 x Scroll	2 x Scroll
Condenser	Type			n shell (WRAS approved	· ·	
Sound pressure level @ 10m	dB(A)	54	55	59	55	59
Sound pressure level @ 3m Product size (w x d x h)	dB(A)	64 1555 x 790 x 1080	65 1665 x 1060 x 1330	70 1810 x 1190 x 1310	65 2065 x 1190 x 1350	70 2210 x 1650 x 1340
Weight	mm kg	1555 x 790 x 1060 247	329	490	632	858

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WATER HEATING - WATER TO WATER

HOT WATER HEAT PUMPS





Applications

- Hotels
- Hospitals
- Schools
- Swimming pools
- Apartment buildings
- Nursing homes
- Large private houses



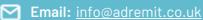
Features

- Hot water production to 68°C
- Space heating through fan coils, radiators, underfloor system
- Heat recovery from soil, rivers, lakes and chilled water systems
- Space cooling as a by product of the heating process
- Range of capacities from 20kW to 120kW
- R134a refrigerant wide operating range
- Certified cupronickel WRAS approved heat exchanger to allow the unit to be used in a direct system with potable water
- High efficiency scroll compressors
- Acoustically lined cabinets
- High electrical and mechanical circuit protection

Specifications	Units	WW 304BH	WW 604BH	WW 1004BH	WW 1254BH
Specifications		WW 304BH	W W 004bH	WW 10046H	WW 1254BH
Water temperature range	°C	10-68	10-68	10-68	10-68
Heating					
Source water/brine @ 10°C					
Output to water @ 55°C	kW	26.0	52.0	84.0	104.0
Electrical input	kW	7.7	15.4	23.7	30.8
Output to water @ 35°C	kW	29.0	59.0	92.0	118.0
Electrical input	kW	5.1	10.2	16.1	20.4
Source water/brine @ 15°C					
Output to water @ 55°C	kW	31.0	62.0	100.0	124.0
Electrical input	kW	7.7	15.5	24.0	31.0
Output to water @ 35°C	kW	34.5	67.0	109.0	134.0
Electrical input	kW	5.2	10.4	16.2	20.8
Cooling					
Source water/brine @ 12°C					
Output to water @ 55°C sink	kW	18.0	36.0	60.0	72.0
lectrical input	kW	8.5	17.0	26.4	34.0
Output to water @ 35°C sink	kW	25.0	50.0	81.0	100.0
Electrical input	kW	5.6	11.2	17.7	22.4
Power supply	V/Hz	400/3ph/50	400/3ph/50	400/3ph/50	400/3ph/50
Max. starting current (LRA)	Α	102.0	102.0	96.0	102.0
Min. supply capacity	Α	23.6	47.3	79.2	94.6
Max. supply fuse	Α	32.0	63.0	125.0	125.0
Compressor	Type	1 x Scroll	2 x Scroll	4 x Scroll	4 x Scroll
Source flow rate (±10%)	l/min	66.0	132.0	264.0	330.0
Process flow rate (±10%)	l/min	66.0	132.0	264.0	330.0
Vater pressure drop (at rated flow)	m hd	4.6	4.6	5.3	7.1
Process water temperature (max.)	°C	68.0	68.0	68.0	68.0
Vater connections (Copper/PVC)	inch	1½ BSPM	1½ BSPM	2 BSPM	2½/2 BSPM
, 11		.,	.,		
Sound level @ 1m	dB(A)	68	71	75 D134-	75 B134-
Refrigerant		R134a	R134a	R134a	R134a
Product size (w x d x h)	mm	1665 x 1060 x 1310	1500 x 1500 x 1255	2250 x 1650 x 1215	2250 x 1650 x 1215
Veight	kg	312	625	977	1100

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AIR COOLING AND WATER HEATING - AIR TO WATER

KITCHEN COOLERS WITH HEAT RECOVERY



AW 450SC



- Hot gas defrost
- Stainless steel case
- High temperature version for heating water to 65°C
- Heat reject unit (required when air cooling has priority over water heating)
- Air filter



Features

- Cooling down to 7°C (-5°C with hot gas defrost option)
- Rugged PVC coated galvanised steel case
- Wall mounted
- Easy to install and connect
- AW 450SC produces up to 3300 litres of hot water per day at 50°C enough for 660 typical covers per day
- AW 250SC produces up to 2400 litres of hot water per day at 50°C enough for 430 typical covers per day

Applications



- Commercial kitchens
- Launderettes
- Beer and wine cellars
- Spas and clubs
- Campsites and caravan parks
- Waste heat recovery from boiler rooms with water pre-heat capacity

Specifications	Units	AW 250SC	AW 450SC
Air temperature range	°C	7*-36	7*-36
Water temperature range	°C	10-50	10-50
Max. water flow	l/min	14	22
Min. water flow	l/min	12	18
Max. water resistance	mhd	3.5	4.8
Min. water resistance	mhd	2.8	3.5
Water connections		22mm pipe stub	22mm pipe stub
Air flow	m³/h	1019	1698
External resistance	mmWG	0	0
Fan drive		Direct	Direct
Sound level @ 3m	dB(A)	57	59
Power supply	V/Hz	220-240/1ph/50	220-240/1ph/50
Supply	А	13	20
LRA	Α	13	20
FLA	Α	5.5	11
Power consumed	kW	0.9	1.8
Product size ($h \times w \times d$)	mm	665 x 780 x 340	665 x 1245 x 340
Weight	kg	60	95

^{* -5} with hot gas defrost

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