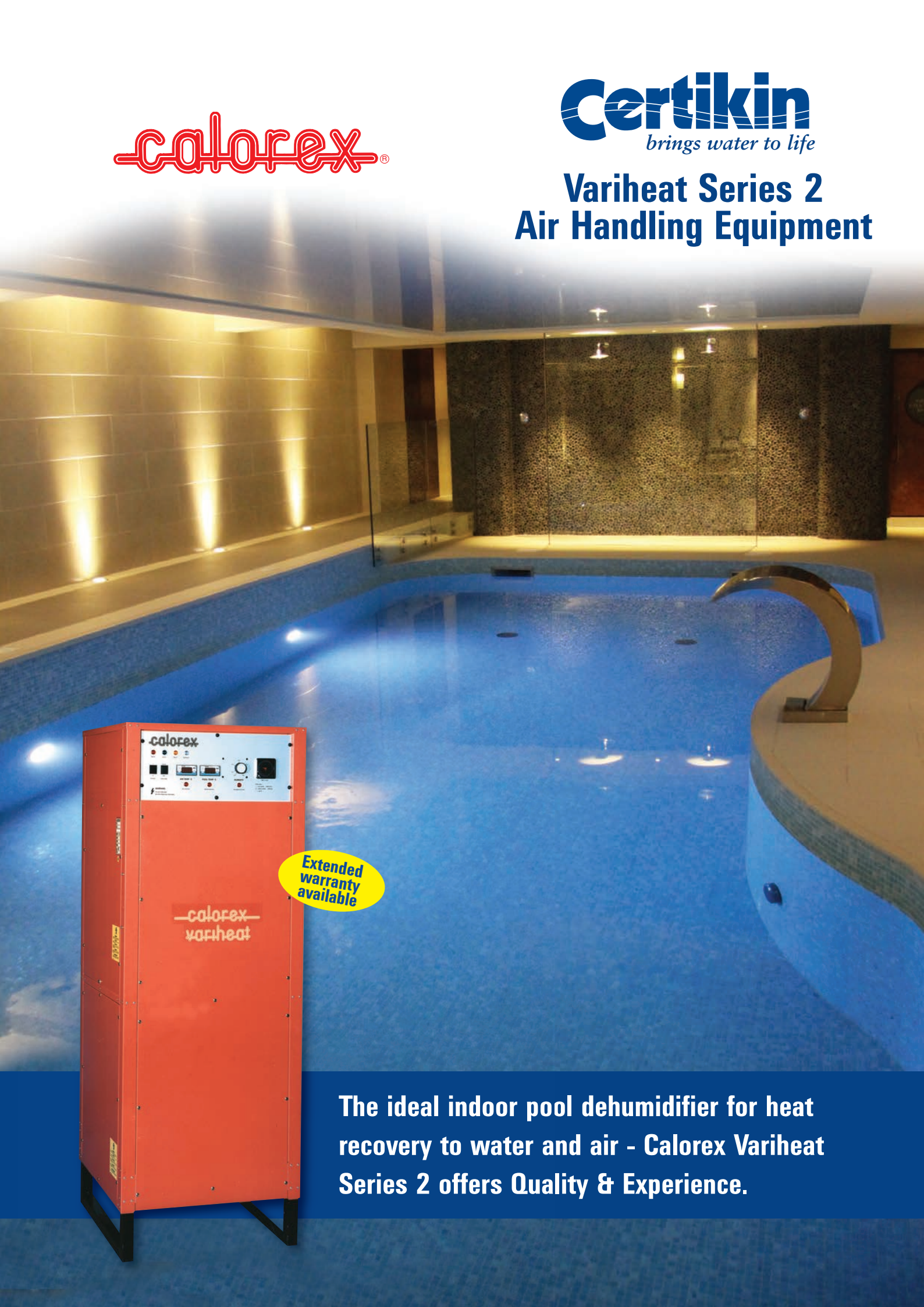
calorex®

Certikin
brings water to life

Variheat Series 2
Air Handling Equipment



The ideal indoor pool dehumidifier for heat recovery to water and air - Calorex Variheat Series 2 offers Quality & Experience.

VARIHEAT SERIES 2

The indoor swimming pool is a great source of pleasure to its user and provides enjoyment and exercise throughout the year. Whether the pool is privately owned and used by friends or part of a hotel or leisure centre, the operator needs to be sure that the expensive structure is protected by a correctly balanced environment.

Features of the Variheat

- Indoor pool dehumidifier
- Heat recovery to water and air
- Ideal for overhead or underground ductwork
- Water and air heating with inbuilt control
- Built in air heater battery
- Night set-back facility
- Vertically configured - ideal solution where plant room space is restricted

The Deciding Factors

Control of an indoor pool environment requires several different functions which are interrelated; Humidity Control, Pool Water Heating, Pool Air Heating, Energy Recovery, Maintenance of Pool Air Quality, Total System Control. The Variheat II can provide a solution to all of these factors.

Humidity Control

When the humidity level in the pool hall rises above the set point selected, the heat pump in the Variheat II is energised and the highly efficient dehumidification circuit extracts moisture from the circulating air. The air is constantly monitored by the Variheat II to ensure a correct humidity level.

Pool Water and Air Heating

Heating is required to maintain the correct relationship between the pool air and water temperature. The unique design of the Variheat II system enables the unit to control both. All models are fitted with a pool water heat exchanger and air heater battery, automatically controlled by built in sensors.

Ideally partnered with Air Source Heat Pumps / Ground Source Heat Pumps for ever more efficient control.

Energy Recovery

The Variheat II system actually recovers **Latent** and **Sensible** energy from the moist air itself. This recovered energy is recycled internally by the systems' heat pump circuit and returned to the air and water. This continual cycle provides a highly efficient and economical method of heating.

Maintaining Pool Air Quality

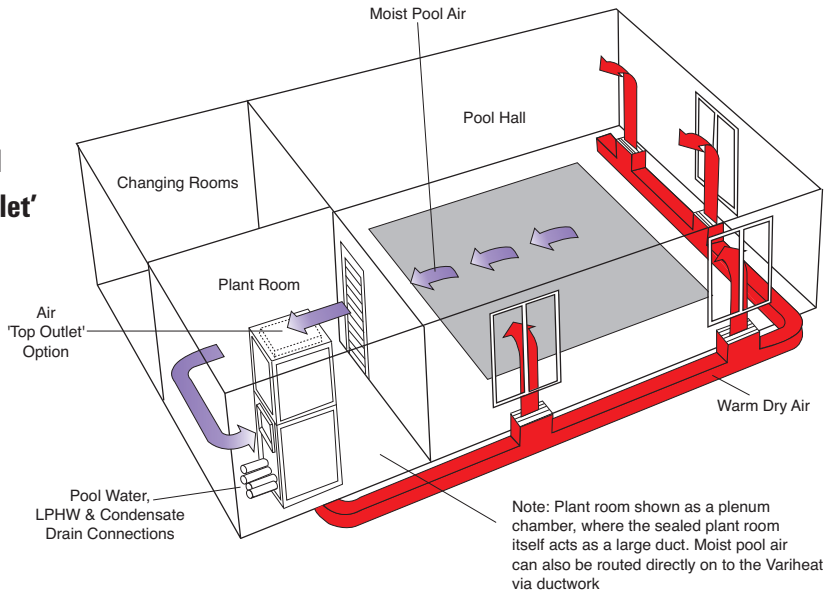
In order to maintain a comfortable atmosphere a proportion of balanced ventilation is advisable. The Variheat II itself can be successfully operated in conjunction with separate heat recovery ventilators upon recommendation.

Total System Control

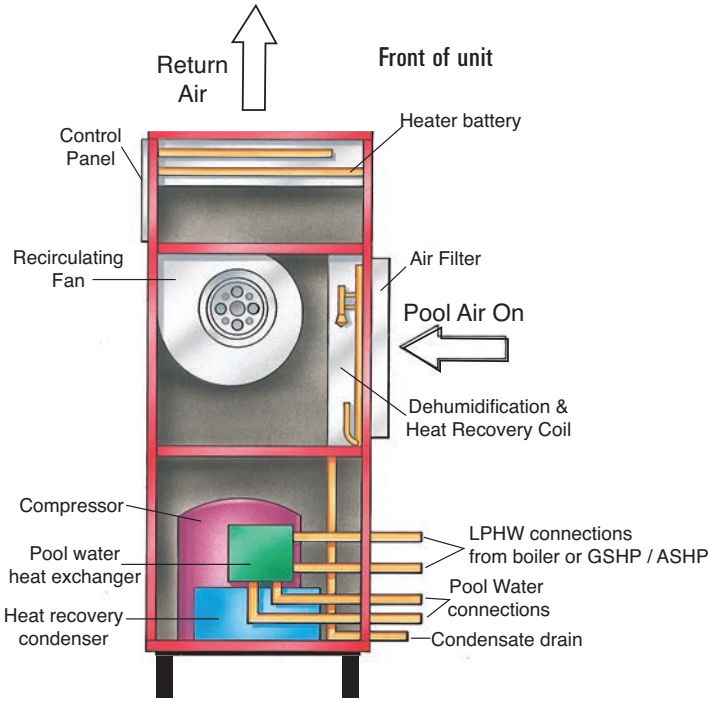
With any essential machine, a fully integrated control system is required. The Variheat II is no exception, providing:

- Both Air & Pool water temperature setting and indication.
- Variable Air humidity setting and monitoring.
- Inbuilt time clock to lower the pool hall temperature at set times (when the pool cover is in place) saving energy when the pool is not in use.
- Pilot lights for Power On, Defrost, Dehumidification, Air Heating and Water Heating.

The Variheat Series II Showing 'Bottom Outlet'



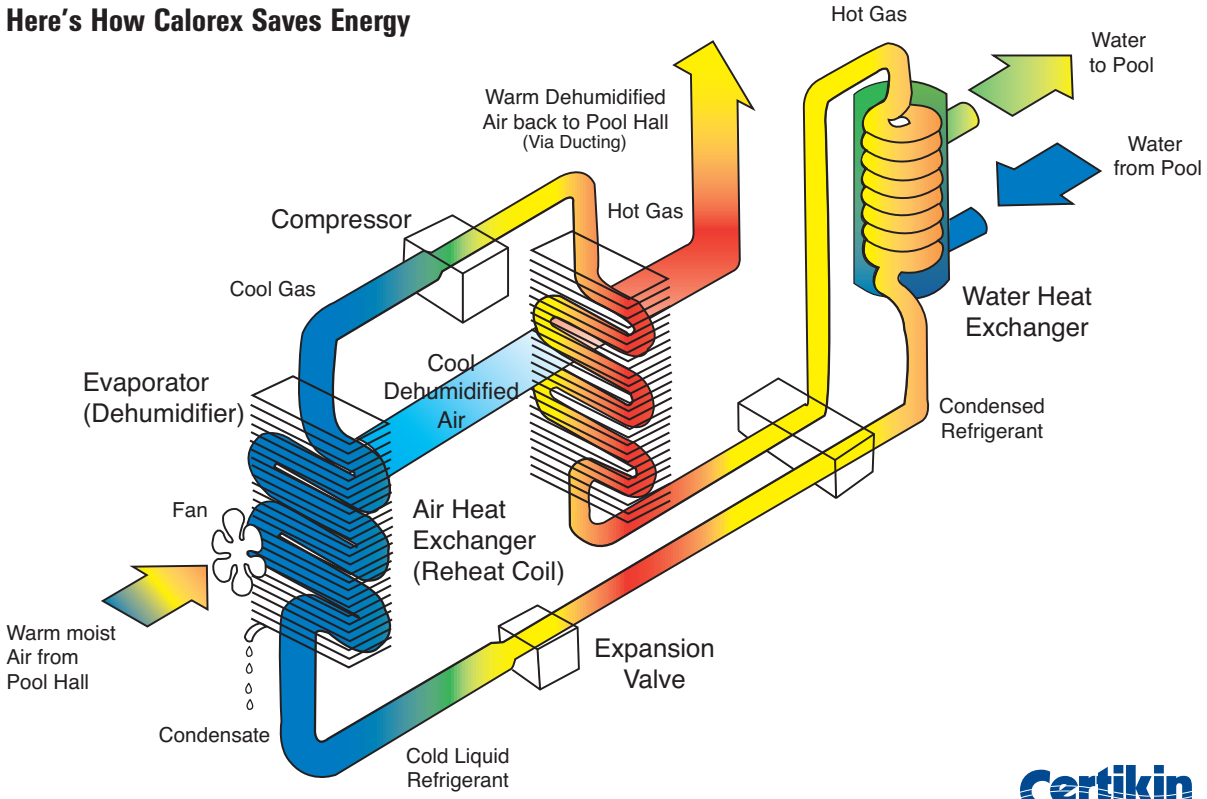
Here's How Variheat Series II Works (top outlet configuartion)



Added System Advantages

- The Variheat II can easily be installed in an adjacent plant room
- Supply air ducting can be connected to the Variheat II to recirculate the air, promote uniform conditions throughout the enclosure, and provide a warm air curtain to the glazed areas. This ductwork can be concealed in the roof void or under the floor.
- Space heating is carried out by a fully controlled heater battery, fed by a primary hot water circuit from a seperate boiler or heat source. This method of air heating promotes consistent air temperatures and eliminates unsightly and hazardous radiators around the pool hall.
- A control panel with displays is incorporated within the Variheat II, reducing overall installation time and the need for extra wiring.

Here's How Calorex Saves Energy



Certikin
brings water to life

Variheat Series 2
Air Handling Equipment

Variheat 2 heat pumps for indoor pool dehumidification with heat recovery to water and air

MODEL		AW570		AW870		AW1270	
		Mode A	Mode B	Mode A	Mode B	Mode A	Mode B
HEATING DATA							
Nett heat recovery to water (KW)		4.0	1.8	5.5	3.0	7.0	3.0
Nett heat recovery to air (kW)		1.6	3.0	2.3	3.5	3.0	5.2
LPHW heat to air (kW)		12	12	15	15	21	21
Maximum heat to air (kW)		15	15	18.5	18.5	26.2	26.2
DEHUMIDIFICATION DUTY (l/hr)		4.0	4.0	6.4	6.4	8.7	8.7
ELECTRICAL DATA							
Single phase	Supply (amps)	15.5	15.5	21	21	25	25
	Fuse (amps)	25	25	30	30	40	40
Three phase	Supply (amps)	8.8	8.8	10.1	10.1	12	12
	Fuse (amps)	15	15	15	15	20	20
Power consumed (kW)		2.2	2.2	2.9	2.9	4.3	4.3
FAN DATA							
Recirculating air flow - nominal (m3/hr)		1800	1800	2500	2500	3000	3000
Maximum external static pressure (mmWG)		18	18	18	18	30	30
WATER DATA							
Pool water flow rate (l/min)		68	68	108	108	140	140
LPHW flow rate (l/min)		23	23	32	32	41	41
Pool water pressure drop (m hd)		3.0	3.0	3.9	3.9	4.2	4.2
LPHW pressure drop (m hd)		3.0	3.0	4.0	4.0	4.4	4.4
Pool water connections ABS pipe stub (inches)		1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
LPHW connections - Copper stubs (mm)		28	28	28	28	35	35
Condensate water connection BSPM stub (inches)		0.75"	0.75"	0.75"	0.75"	0.75"	0.75"
MINIMUM BOILER CAPACITY REQUIRED (kW)		22	22	30	30	51	51
SOUND DATA							
Noise level @ 3m (dB A)		60	60	62	62	64	64
DIMENSION DATA							
Width - unpacked (mm)		662	662	662	662	812	812
Depth - unpacked (mm)		775	775	775	775	775	775
Height - bottom outlet unpacked (mm)		1850	1850	1850	1850	1850	1850
Height - top outlet unpacked (mm)		1900	1900	1900	1900	1900	1900
Weight - unpacked (kg)		170	170	174	174	206	206

Notes

1. Performance data based on pool air at 29°C, 60% RH, Water at 28°C
2. Operation mode A - Pool water temperature not satisfied
   Operation mode B - Pool water temperature satisfied
3. Weight and dimensions nett
4. Allow 500mm clearance to service panels
5. LPHW = Low Pressure Hot Water
6. Pool water to have correct balance pH 7.4 ± 0.4 Free chlorine 1.0 - 3.0ppm
7. Calorex reserve the right to change or modify models without prior notice
8. All LPHW outputs based on flow temperature 80°C
9. Optional extra fresh air facility is available upon request
10. Pressure drops specified are at the relevant water flow rates

Certikin
brings water to life

Certikin International Ltd
www.certikin.co.uk

If you require further technical information please do not hesitate to contact us