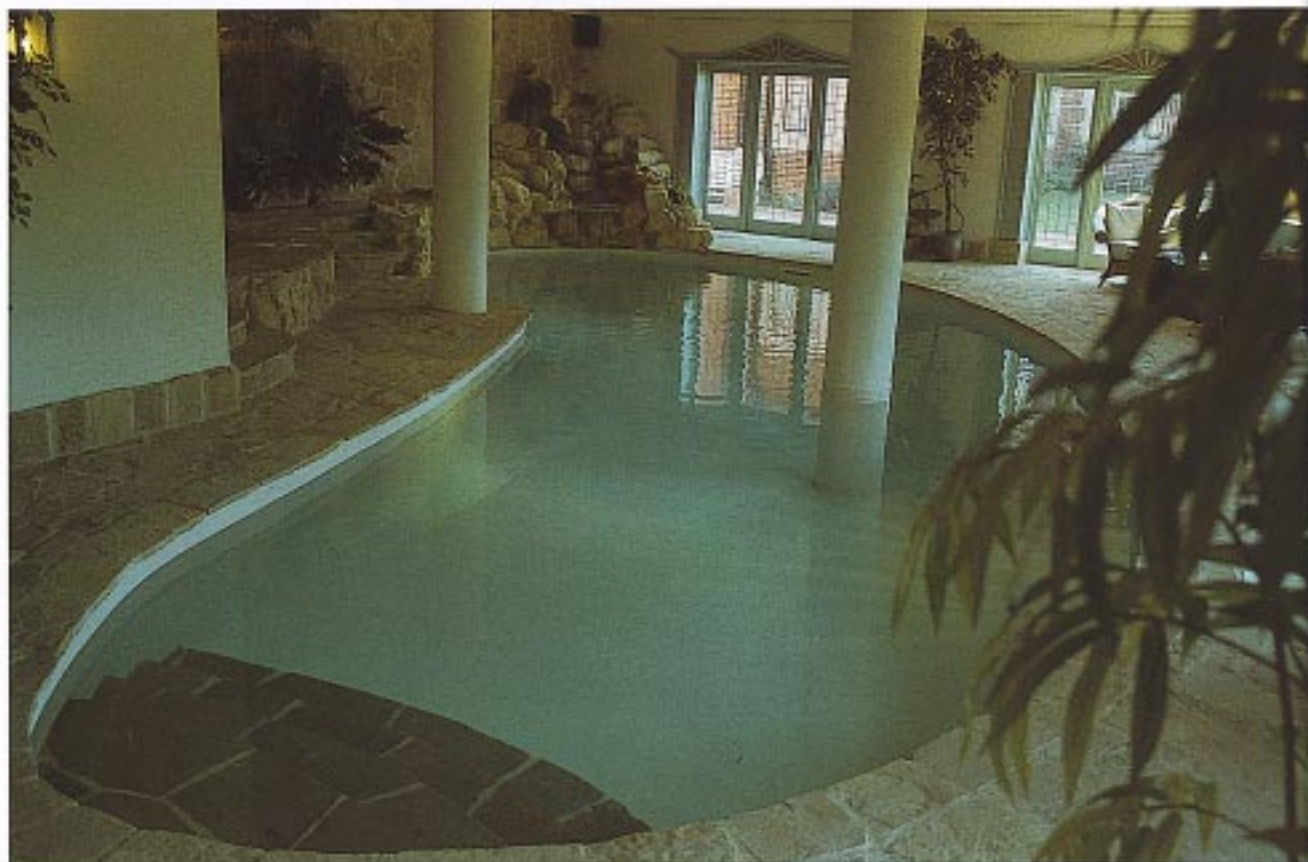


# calorex®

## VARIHEAT SERIES II



- Indoor pool dehumidifier
- Heat recovery to Water and Air
- Ducted or freestanding systems
- Water and air heating with inbuilt control
  - Top or Bottom air outlet
    - Fresh Air option
    - Night set-back

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HEAT PUMPS & DEHUMIDIFIERS

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## The Indoor Pool Environment

### PRINCIPLES OF POOL OPERATION

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 club leisure centre, the operator needs to be sure that the expensive structure is protected for the future and that the many economy measures available are at his disposal to keep running costs to a minimum.

### WHAT DO YOU NEED A UNIT TO DO

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

A VARIHEAT SERIES II combines all this in one machine and offers other advantages besides.

### HUMIDITY CONTROL

When the humidity level in the pool hall rises above the set point selected, the heat pump in the VARIHEAT is energised and the high efficiency dehumidification circuit extracts moisture from the circulating air. Energy is recovered by the system and recycled.

### POOL WATER AND AIR HEATING

Heating is required to maintain the correct relationship between the pool air and water temperatures, this being necessary for comfort, and to minimise evaporation from the pool surface. Heating costs can be further reduced by lowering the pool air temperature by a few degrees if the pool is covered when not in use. An air heater battery and water heat exchanger,

automatically controlled, and heated from a separate boiler, are fitted to provide heat as required by the building during the year.

### ENERGY RECOVERY

All this heated air contains Sensible heat which raised its temperature, likewise the moisture contains all the Latent heat of vaporisation which formed it. The only way to reclaim all this Sensible & Latent energy and recycle into the air & water from where it came, is to pass the air/vapour mix through a Heat Pump Dehumidifier which replaces the recovered heat energy into air and water as determined by the Total Control System.

### MAINTAINING POOL AIR QUALITY

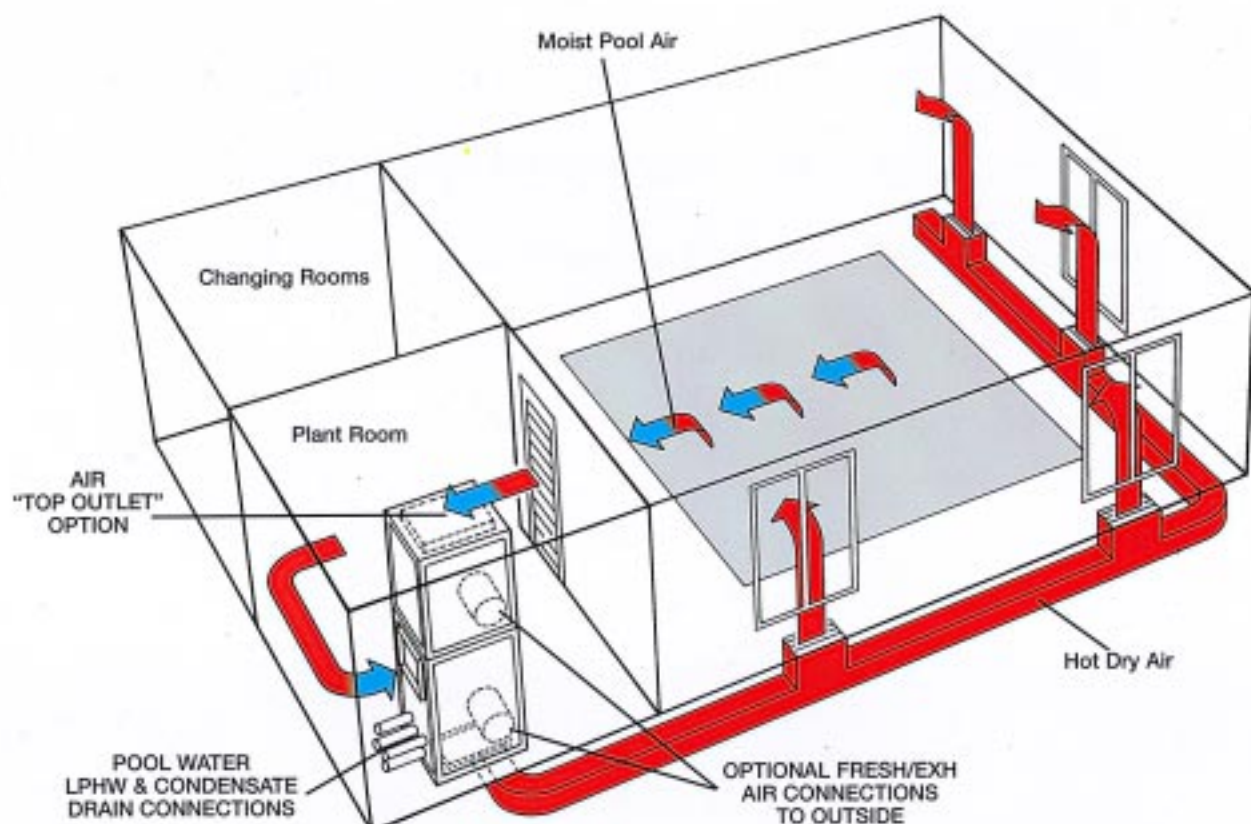
In order to maintain a comfortable atmosphere in the pool hall, it is desirable to allow a limited quantity of fresh air be brought in by the unit, whilst at the same time a similar quantity of used air is exhausted.

### TOTAL SYSTEM CONTROL

As with any essential machine, a fully integrated control system is required comprising:-

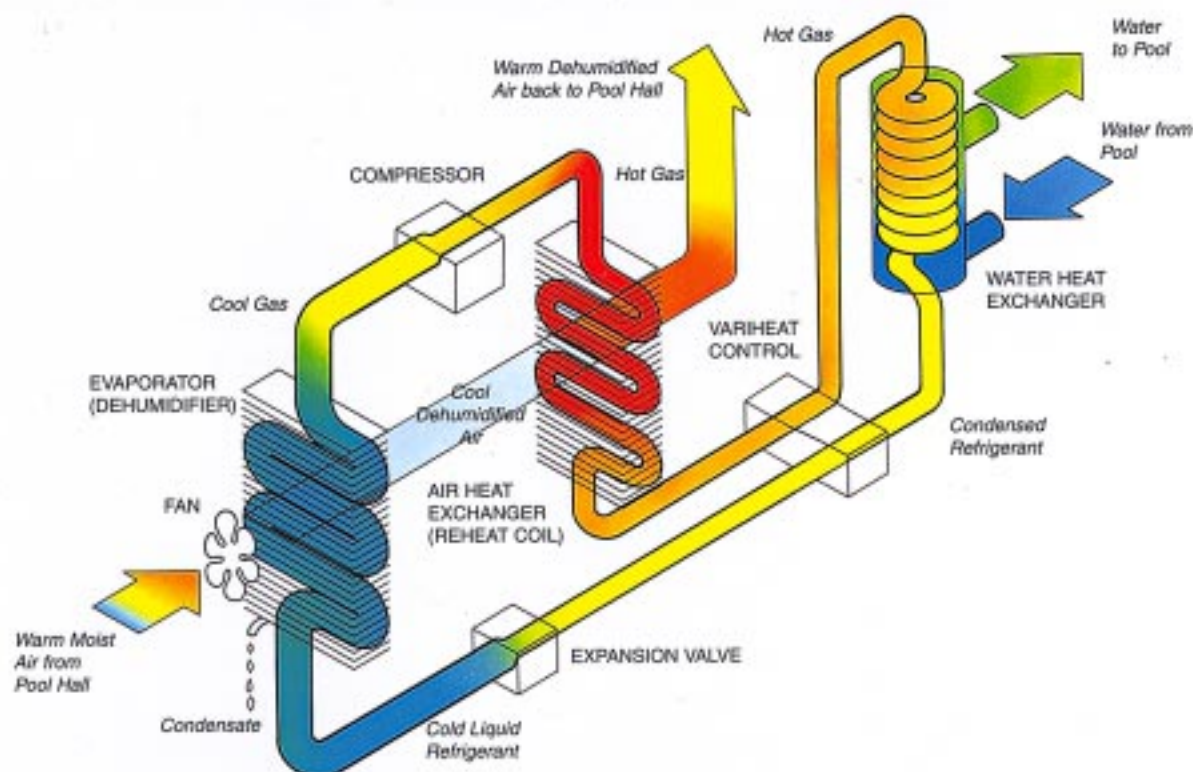
- \* Both Air & Pool water temperature setting and indication.
- \* Variable Air humidity setting and monitoring.
- \* Inbuilt time clock to lower the pool hall temperature at set times when the pool cover is in place, saving energy when the pool is not in use.
- \* Pilot lights for Power ON, Defrost, Dehumidification, Air heating and Water Heating.
- \* A power ON switch, and, on fresh air equipped units, a fresh air "OFF/AUTO" switch and "AUTO" fresh air pilot light.

All in the VARIHEAT SERIES II  
INVEST IN QUALITY AND  
SERVICE WITH CALOREX

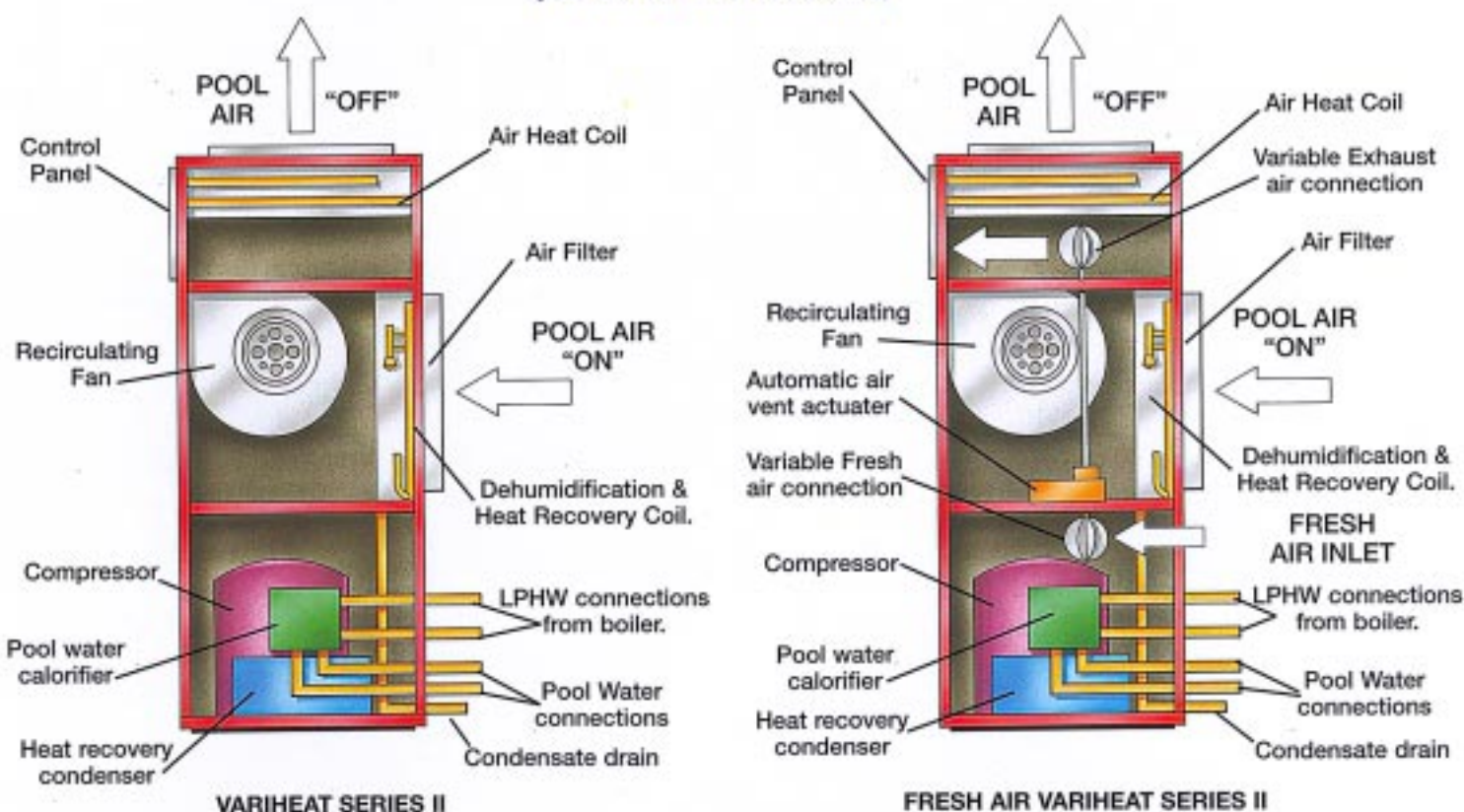


VARIHEAT SERIES II SHOWING "BOTTOM OUTLET" AIR OPTION

# Here's How Calorex Saves Energy



## HERE'S HOW VARIHEAT SERIES II WORKS (TOP OUTLET CONFIGURATION)



**ADDED SYSTEM ADVANTAGES:** No visible equipment in the pool hall.

1. The VARIHEAT can be installed in an adjacent plant room.
2. Supply air ducting can be connected to the VARIHEAT 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.
3. Space heating is carried out by a fully controlled heater battery, fed by a primary hot water circuit from the boiler. This method of air heating promotes even air temperatures and eliminates unsightly and hazardous radiators around the pool hall.



VARIHEAT HEAT PUMPS FOR INDOOR POOL DEHUMIDIFICATION  
WITH HEAT RECOVERY TO WATER AND AIR.  
(TOP OR BOTTOM OUTLET)

DUTY	UNITS	MODEL:-		1Ø AW570AVHF		1Ø AW870AVHF		1Ø AW1270AVHSF	
		3Ø AW570BVHF		3Ø AW870BVHF		3Ø AW1270BVHF			
Dehumidification	l/hr	3.8		6.1		8.3			
		mode A	mode B	mode A	mode B	mode A	mode B		
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 (GROSS)	kw	12		15		21			
LPHW Heat to Water (GROSS)	kw	17.6		29.3		38.1			
	btu/hr	60,000		100,000		130,000			
Electrical Input	kw	2.2		2.9		4.3			
<b>ELECTRICAL DATA</b>									
Supply/Fuse 1 Phase/230V/50Hz	amps	25		30		40			
Supply/Fuse 3 Phase/400V/50Hz	amps	15		15		20			
<b>AIR DATA</b>									
Recirculating Air Flow (Nominal)	m <sup>3</sup> /hr	1800		2500		3000			
Max Allowable Duct Resistance	mmWG	18		18		30			
Fresh Air Flow (Nominal)	m <sup>3</sup> /hr	150		200		250			
<b>WATER DATA</b>									
Pool water Flow	l/min	68		108		140			
LPHW Water Flow	l/min	23		32		41			
Pressure Drop Pool Water Condenser	m hd	3.0		3.9		4.2			
Pressure Drop LPHW Heater Battery	m hd	3.0		4.0		1.4			
Pool Water Connections	inches	-----1/2" ABS PIPE STUB-----							
LPHW Water Connections	mm	-----28mm COPPER STUBS-----				35mm COPPER STUBS			
Condensate Water Connection	inches	-----3/4" BSPM STUB-----							
<b>GENERAL DATA</b>									
Gas charge (R22)	kg	1.8		2.0		3.9			
Noise Level @ 3m	dB A	58		58		60			
<b>DIMENSION DATA</b>									
Width (unpacked)	mm	663		663		813			
Depth (unpacked)	mm	775		775		775			
Height, Down Draft (unpacked)	mm	1850		1850		1850			
Height, Top Outlet (unpacked)	mm	1900		1900		1900			
Weight (unpacked)	kg	170		174		206			

NOTES

- (1) Performance data based on pool hall air at 28°C, 60%RH, Water at 26°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) Minimum Pool Hall air temperature 20°C.
- (6) Pool Water to have correct balance pH 7.4 ± 0.4. Free Chlorine 1. - 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.



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