



**calorex<sup>®</sup>**

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## **Dehumidifiers**

**For indoor pools and spas**

**Humidity and condensation control the Calorex way**

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**Full range of floor standing and wall mounted dehumidifiers**

**Heat recovery and space heating options**

**Save up to 75% on running costs and carbon emissions**

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## THE CHALLENGE

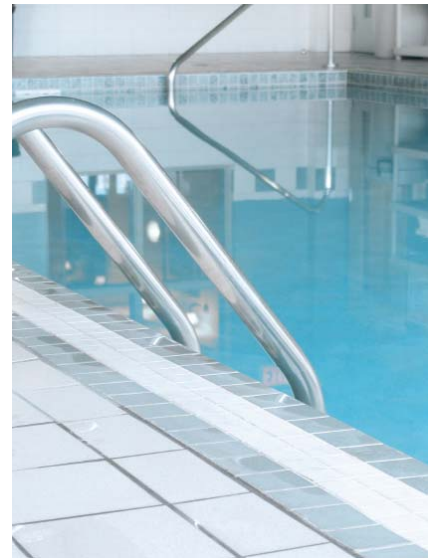
Atmospheric air **contains moisture** which when left unchallenged can lead to mould or possible structural damage or collapse

### Why dehumidify?

An indoor swimming pool is a wonderful leisure and exercise environment but the evaporation from the water surface poses real problems for the building structure. Prolonged exposure to high humidity causes walls, decorative finishes and roofs to deteriorate rapidly. Personal comfort is also of prime importance. High humidity causes personal discomfort and unless the environment is controlled, bathers will be prevented from enjoying the swimming pool. Bathers appreciate comfortable humidity in the range 55%-65%.

### Condensation

Left unchallenged, it can be a major problem in indoor swimming pools and spas. Condensation, formed as water evaporating from the pool or spa surface, pushes up air humidity and can eventually lead to mould or even structural damage or collapse. In the past, the conventional approach to combating condensation came in the form of wasteful air extraction from the pool hall. Nowadays, the science of humidity control has moved into another realm. The advanced range of Calorex dehumidifiers provide an efficient and economical solution.

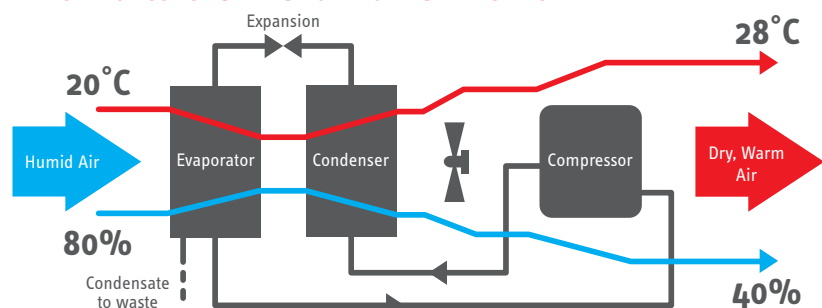


### The problems caused by excess moisture:

- ❌ Corrosion
- ❌ Building deterioration
- ❌ Uncomfortable environment
- ❌ Condensation
- ❌ Damp
- ❌ Mould and mildew
- ❌ Misting

### Enhanced energy conservation and efficiency

#### How a Calorex Dehumidifier Works



#### Principles of operation – air to air dehumidifier

The process of dehumidification involves moisture-laden air being drawn into a dehumidifier where the air passes across a refrigerated coil. The air is rapidly cooled below its dew point, condensing the water vapour and recovering its latent heat energy for re-use. The cooled air is then passed across the condenser where it is reheated and returned to the served area at the required lower relative humidity.

## THE SOLUTION!

The answer to this problem is the Calorex range of purpose built, stylish **dehumidifiers** for humidity control and energy recovery in indoor swimming pools and spas

### High-performance, low-cost Calorex

High-Performance low-cost Calorex dehumidifiers minimise the need for costly air extraction. Operating on the heat pump principle, these high-performance units recirculate pool air – removing the moisture content and delivering warm, dry air back to the pool hall. By working in this way, they maintain a comfortable humidity, minimise condensation and keep heating costs at the lowest possible level.

### Rapid installation, flexible operation

Fully self-contained units, Calorex dehumidifiers require minimal installation. When it comes to operation, units offer quiet, reliable and safe performance. Flexibility is built-in. Each unit comes with a specially styled barrel type discharge that allows air to be directed in an 80° range between horizontal and vertical, thus allowing installation at high or low level.

Calorex dehumidifiers maintain a comfortable humidity, minimise condensation and keep heating costs at the lowest possible level

### Energy saving

Removing humidity from the air enables the Calorex to absorb latent energy and return it to the pool air as useful air heating. Its heat pump technology converts 2.5kW to air heating for every 1kW of electricity consumed – a real bonus for running costs! So that the best choice can be made, a full range of units is available. Each is supplied with full installation kits, and noise isolation. The Calorex dehumidifier range includes wall mounted and floor mounted units.

All Calorex swimming pool dehumidifiers are manufactured in the UK at our Maldon factory which is accredited with ISO 9001

### Key benefits of a Calorex dehumidifier:

- ✓ Flexible design for simple use and installation
- ✓ Energy efficient
- ✓ Low temperature operation
- ✓ Available with air heating option
- ✓ Automatic operation
- ✓ Quality construction
- ✓ Optional features
- ✓ Simple installation
- ✓ Heat recovery to air



#### Low temperature operation

Your pool hall still needs protection when you aren't using it, but economy dictates that you drop the air heating levels when you are away. The defrost versions operate down to temperatures just above freezing to ensure moisture control even in cold conditions.

# WALLMOUNTED DH33/55

The highest moisture extracting wall-mounted dehumidifier for lowest power consumption of its type

- ✓ High moisture extraction for low power consumption
- ✓ Corrosion free, easy to clean composite cover

- ✓ Zero ozone depletion refrigerant
- ✓ Low internal operating pressures long useful life
- ✓ Fan cycle or continuous mode

- ✓ Air outlet adjustable to horizontal or vertical
- ✓ Many options for flexible installation

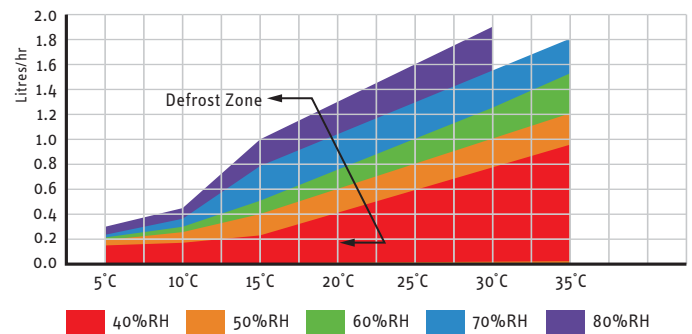
SPECIFICATIONS	units	DH33	DH55
<b>Performance (standard unit)</b>			
Operating temperature range	°C	15 - 35	15 - 35
Dehumidification @ 30°C/60% RH	l/hr	1.25	2.5
Heat recovered to air @ 30°C/60% RH	kW	1.9	3.5
Air flow	m <sup>3</sup> /h	440	740
External static pressure	Pa	0	0
Sound pressure level @ 3m	dB(A)	48	48
Refrigerant		R407c	R407c
<b>Electrical data</b>			
Supply	V/Hz	230/50	230/50
Nominal power consumption	kW	0.75	1.2
FLA	amps	4.4	7.5
Maximum supply fuse	amps	10	13
Maximum supply fuse electric heater	amps	20	32
LRA (compressor start)	amps	15	30
<b>Heater</b>			
Type	LPHW	Optional LPHW	Optional
Heat output @ 80°C flow	kW	3	5
Flow rate	l/min	5	5
<b>Dimensions</b>			
Width	mm	780	1245
Depth	mm	255	255
Height	mm	653	653
Weight	kg	37	58
Condensate drain size (Flexible plastic hose)	mm	10	10

## Options

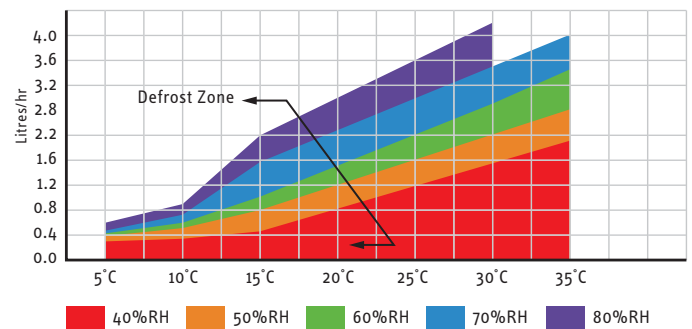
- Through the wall version
- LPHW air heater
- Remote humidistat/Combistat (12V)
- Electric resistance air heater (2kW and 4kW)
- Hot gas defrost (allows operation to 5°C air temperature)
- Air Filter

## Performance Data

### DH 33



### DH 55



## CALOREX DH 33 / DH 55



Calorex reserve the right to modify this specification at any time

# WALLMOUNTED DH 44/66

The most quiet dehumidifier available that can be wall-mounted or freestanding

✓ High moisture extraction for low power consumption

✓ Corrosion free, easy to clean aluminium cover with easy-clean air filter

✓ Super quiet operation, scroll compressor

✓ Fresh air introduction point

✓ Low internal operating pressures long useful life

✓ Air outlet adjustable to horizontal or vertical

✓ Fan cycle or continuous mode

✓ Flexible mounting

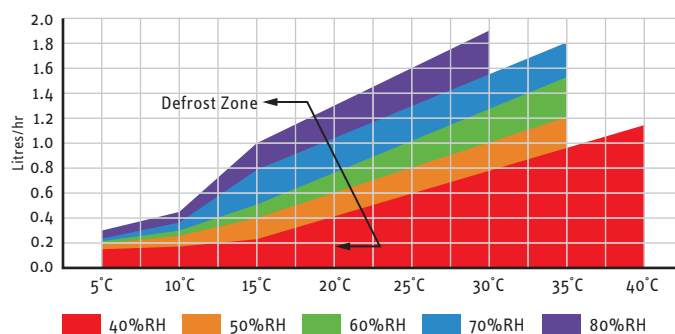
SPECIFICATIONS	units	DH44	DH66
<b>Performance (standard unit)</b>			
Operating temperature range	°C	17-35	17-35
Dehumidification @ 30°C/60% RH	l/hr	1.25	2.41
Heat recovered to air @ 30°C/60% RH	kW	1.6	3.0
Air flow	m <sup>3</sup> /h	440	740
External static pressure	Pa	0	0
Sound pressure level @ 3m	dB(A)	42	44
Refrigerant		R407c	R407c
<b>Electrical data</b>			
Supply	V/ph/Hz	230/1/50	230/1/50
Nominal power consumption	kW	0.51	0.98
FLA	amps	3,5	6
Maximum supply fuse	amps	10	13
LRA (compressor start) with electric heater	amps	12	26
<b>Heater</b>			
Type		LPHW	LPHW
Heat output @ 80°C flow	kW	3.3	5.8
Flow rate	l/min	4.8	10.2
<b>Dimensions</b>			
Width	mm	880	1345
Depth	mm	340	340
Height	mm	1000	1000
Weight	kg	57	74
Condensate drain size (flexible plastic hose)	mm	16	16

## Options

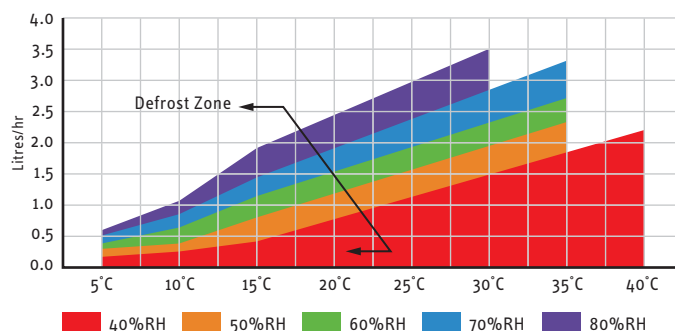
- LPHW air heater complete with 3 way valve and 12V thermostat interlock
- Remote humidistat/Combistat (12V)
- Hot gas defrost (allows operation to 5°C air temperature)

## Performance Data

### DH 44



### DH 66



Calorex LPHW units are supplied with a three way valve internally mounted and wired for control by an optional 12V thermostat<sup>1</sup>. **Electric air heating is also available, providing 2kW and 4kW of heat respectively<sup>2</sup>.**

CALOREX DH 44 / DH 66



<sup>1</sup> Applicable to DH 44/66/75/110

<sup>2</sup> Applicable to DH 33/55

Calorex reserve the right to modify this specification at any time

# HIGH CAPACITY DH 75 / 110

## Floor standing high performance dehumidifiers with additional air heating options

✓ High moisture extraction for low power consumption

✓ Corrosion free, easy to clean aluminium air grille with easy-clean air filter

✓ Zero ozone depletion refrigerant

✓ Low internal operating pressures long useful life

✓ Adjustable air outlet

✓ Two speed fan

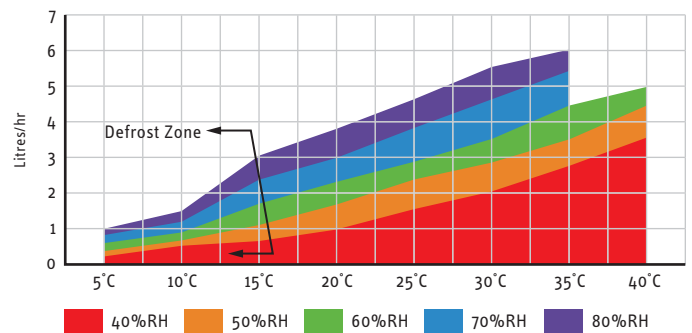
SPECIFICATIONS	units	DH75A	DH110A
<b>Performance</b>			
Operating temperature range	°C	5 - 40	5 - 35
Water removal @ 30°C/60%RH	l/hr	3.6	4.5
Heat recovered to air @ 30°C/60% RH	kW	4.0	5.2
Airflow (max)	m <sup>3</sup> /h	1180	1180
Sound pressure level @ 3m	dB(A)	53	53
Refrigerant		R407c	R407c
<b>Electrical data</b>			
Supply	V/ph/Hz	230/1/50	230/1/50
Nominal power consumption	kW	1.5	2.1
FLA	amps	9.5	12
Maximum supply fuse	amps	13	20
LRA (compressor start)	amps	55	66
<b>Heater</b>			
Type		Optional LPHW	Optional LPHW
Heat output @ 80°C flow	kW	8.9	8.9
Flow rate	l/min	9.6	9.6
<b>Dimensions</b>			
Width	mm	1520	1520
Depth	mm	385	385
Height	mm	796	796
Weight	kg	144	144
Condensate drain size (brass compression)	mm	15	15

### Options

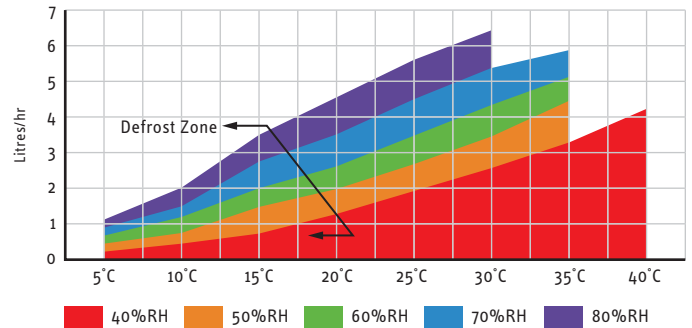
- Through the wall version
- LPHW air heater complete with 3 way valve and 12V thermostat interlock
- Remote humidistat/Combistat (12V)
- Hot gas defrost (allows operation to 5°C air temperature)

## Performance Data

### DH 75



### DH 110



When it is more convenient to mount the Calorex units in a plant room adjacent to the pool hall, the TTW variant provides all necessary items including wall grilles and air turning ducts. LPHW option is also available in TTW form

### CALOREX DH75 / 110



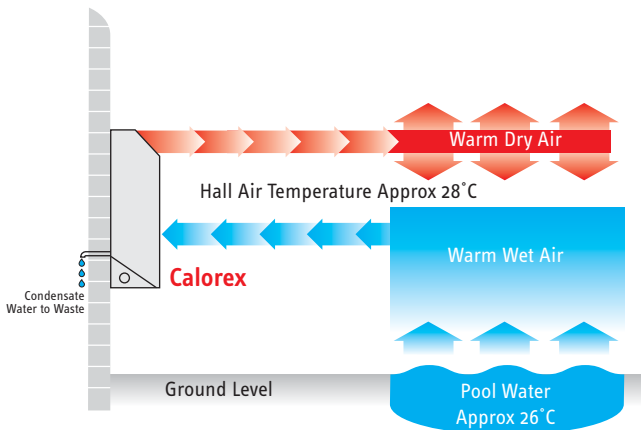
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# AIR FLOW HOW IT WORKS

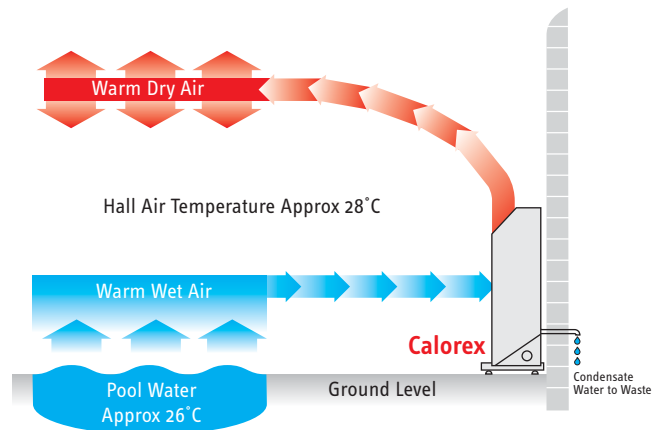
Modern reliable technology purpose designed for swimming pools

Each Calorex includes an adjustable humidistat controlling relative humidity (RH) in the ideal range of 55% - 65%. With RH under control, condensation can be minimised by selecting the most appropriate installation from the schematics shown below. Note: vulnerable areas such as windows, roof lights or other cold bridges may form condensation at low external air temperatures unless dry air is blown directly onto them.

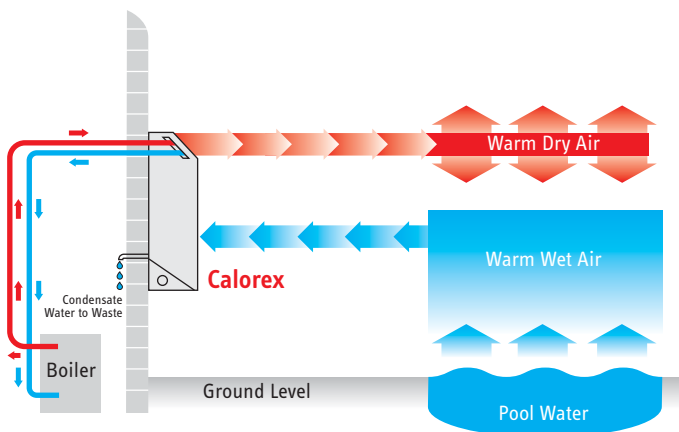
### Wall Mounted Air Flow Diagram



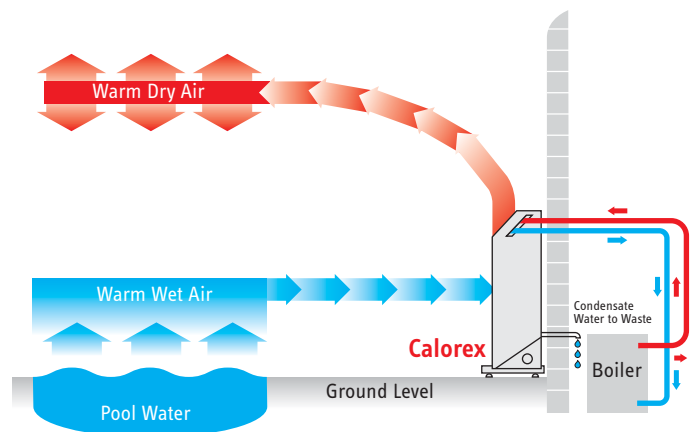
### Floor Standing Air Flow Diagram



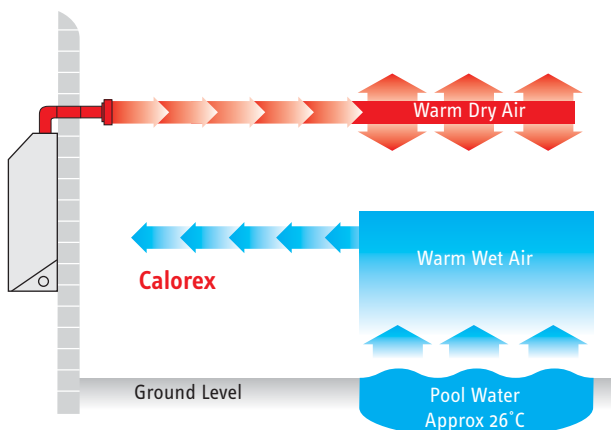
### Wall Mounted with Air Heating



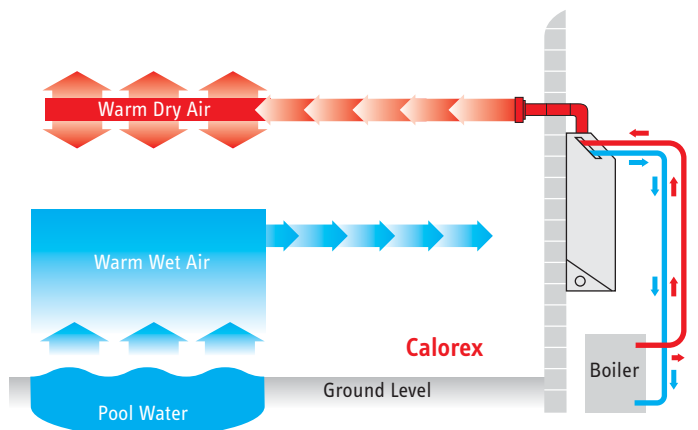
### Floor Standing with Air Heating



### Through the Wall



### Through the Wall with Air Heating



## Technical support and service:

Comprehensive technical support is provided by our experienced and well qualified team

tel +44 (0)1621 856611

[www.calorex.com](http://www.calorex.com)

Maldon CM9 4XD United Kingdom

### COMPREHENSIVE SUPPORT

Calorex dehumidifiers are designed and are supported in the UK by our comprehensive customer service organisation

To ensure equipment is correctly sized and specified, we offer a computerised quotation service which enables an accurate speedy response to enquiries

Comprehensive technical support is provided by our experienced and well qualified team

