

The image shows a bright, modern indoor swimming pool. The pool is filled with clear blue water and is surrounded by light-colored tiled decking. Large glass windows and doors surround the pool, providing a panoramic view of a scenic landscape featuring a blue lake, green hills, and mountains under a clear sky. The interior has a clean, minimalist design with a white ceiling and walls. The Calorex logo is visible in the top right corner.

calorex®

AA300/500 VH

An advanced ducted dehumidification system for domestic indoor pools

CALOREX DEHUMIDIFIERS

The challenge

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



Why dehumidify?

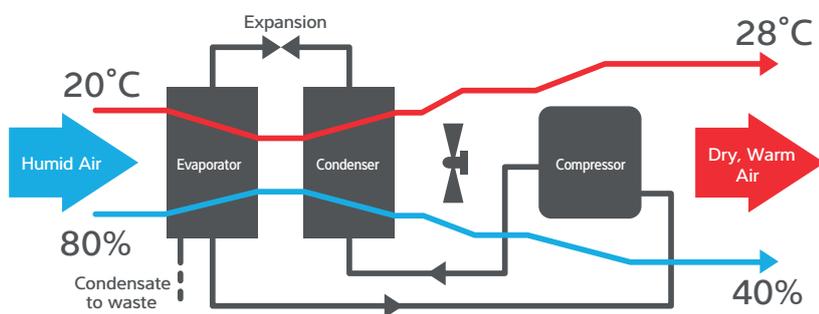
An indoor swimming pool is a wonderful leisure and exercise environment but the evaporation from the water surface poses real problems for the building structure. Prolonged exposure to high humidity causes walls, decorative finishes and roofs to deteriorate rapidly. Personal comfort is also of prime 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.

Enhanced energy conservation and efficiency

How a Calorex dehumidifier works



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 problems caused by excess moisture:

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

AA300, AA500 VH

The AA300 and AA500 are advanced premium heat pump based dehumidification systems with efficient heat recovery to air.

These systems have been specifically designed for domestic pools where a ducted dehumidification system is preferred. Additional air and water heating via LPHW's will give you total control over your pool environment and the compact dimensions ensure maximum installation flexibility.

Features

- Up to 4.5 l/hr dehumidification capacity (30°C/60%RH)
- Up to 300% efficiency with a maximum of 6.1kW of heat recovery to air with only 2.1kW input
- Up to 1800m³/hr airflow (AA500)
- Constant flow fan with 2-speed demand and trickle setting
- Remote control panel (12v) with 1.8m lead (10m cable optional)
- Built-in fresh air connection point
- Quick change air filter
- Duct connectors

Options

- Air and/or pool water heating with optional LPHW's
- Temperature setback control (LPHW version)
- Optional flexible flange kit to reduce vibration



Optional flange kit



Constant flow fans

The unit incorporates a two speed constant-flow fan which is factory set to deliver the design airflow across the static pressure capabilities of the unit. In other words, it will adapt itself to the ducting system and adjust to overcome resistance. (See technical data for maximum static pressure).

This gives you the following advantages:

- Speedy commissioning as airflow rate will not need setting up – the fan will automatically adjust to the correct flow
- If the ducting system pressure changes; for example, if the dampers or valves open or close, or if the filter gradually blocks, the unit will self-adjust to maintain the design airflow rate through the unit
- The fan will be running more efficiently as it always will be running at optimum airflow
- Simple ordering process as there is no longer a need to specify a low or high pressure fan. This is because the constant flow fans in the unit will self-adjust the pressure required to deliver the optimum airflow
- The fans are equipped with a two-speed mode. Once the set conditions are satisfied, the fan speed will reduce to significantly to conserve energy and automatically increase again when the conditions change outside the set values



Designed for swimming pool humidity and space temperature control



Air and water LPHW control panel



Technical data

Specifications	Units	AA300	AA500
Operating conditions	°C	15-36	15-36
Dehumidification rate (30°C/60% RH)	litres/hr	3.6	4.5
Air flow (anemometer @ air on filter, wet evaporator)	m ³ /hr	1300 ± 10%	1800 ± 10%
Max external static pressure - F	Pa	250	250
Heat to Air			
Via heat pump (mode B)	kW	4.4	6.1
Via LPHW	kW	7.3	7.5
Total (mode B)	kW	9.8	11.7
Heat to water via LPHW*	kW	9.5	9.5
Recommended boiler capacity (AA+LPHW)			
Air LPHW	kW	7.5	8.0
Air + Water LPHW	kW	17.0	17.5
Recommended flow rates			
Air LPHW	l/min	10	10
Air & Water LPHW: boiler water	l/min	21	21
Air & Water LPHW: pool water	l/min	15	15
Pressure drop: boiler water @ rated flow	m/hd	4.2	4.2
Pressure drop: pool water @ rated flow	m/hd	2.8	2.8
Max system working pressure	bar	6	6
Electrical			
Nominal power consumed	kW	2.1	2.3
Min supply capacity (max FLA)	amps	13	13
Max supply fuse	amps	20	20
General data			
Gas charge (R407c)	kg	2.6	2.6
LPHW battery volume	litres	1.15	1.15
Noise level @ 1m	dBA	61	61
Dimensions			
H x W x D	mm	850 x 730 x 1025	850 x 730 x 1025
Weight	kg	111	111

* In combination with LPHW only



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