Dehumidifiers

Take control of humidity and condensation with our leading range of dehumidifiers
The challenges of excess moisture:
— Corrosion
— Product deterioration
— Condensation
— Damp
— Mould and mildew
— Prolonged drying
— Manufacturing delays
— Discomfort

Protect your environment

Atmospheric air contains moisture which is a problem to materials and manufacturing processes. Even when you cannot see it, moisture in the form of water vapour is all around us, held in suspension in the air. The relative humidity of the air in many cases determines the extent of corrosion of certain materials, the speed at which moulds develop and the rate of increase of bacteria that cause decay. Most materials and goods are best stored under cool dry conditions.

A false economy

Traditionally the problem was disguised by the use of heat or ventilation. This process is exceptionally energy inefficient and reliant on introducing outside air that is generally not suitable unless expensively heated. Drying by traditional heating involves continuously warming a stream of outside air on a constant ‘in and out’ cycle.

Heating and ventilation is extremely energy inefficient and expensive. Luckily a solution does exist to make the air drier without heating – Calorex dehumidification.

The challenges of excess moisture:

- Corrosion
- Product deterioration
- Condensation
- Damp
- Mould and mildew
- Prolonged drying
- Manufacturing delays
- Discomfort

Corrosion speed of steel

Relative humidity

Relative humidity (RH) is the expression used to define how much water vapour can be held in the air at a given temperature as a percentage of what it could contain at saturation (100% RH). That is when the relative humidity reaches the level at which air can hold no more moisture. The maximum amount can vary according to its temperature – warmer air is capable of holding more moisture than colder air.

With an RH of over 60% the rate of corrosion on steel rises rapidly. At an RH of approximately 50%, virtually no corrosion occurs.
The solution

The Calorex answer to this problem is its wide range of dehumidifiers suitable for every environment from warehouses and sub-stations to museums and garages.

A better way

Dehumidification is much more sophisticated than heating. It recirculates the same air and physically removes moisture from it. This alleviates the need to continuously reheat incoming air. Not only that, a dehumidifier will cleverly convert energy taken out of the room as moisture (latent energy), to create 'sensible energy' that can be used to heat the room, accelerating the drying process.

Problem solved

Our wide range of units and operating temperatures ensure there is a system to fit every need. From high tech problems requiring sophisticated 'total loss' or 'keep dry recirculation' systems to a simple off the shelf mobile dehumidifier to plug in and go - Calorex are unique problem solvers in their field.

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
- Heat recovery to air

Maintain storage conditions for:
- Vehicles
- Metals
- Chemical/technical materials
- Electronic and electrical components
- Hygroscopic substances
- Sugar, salt, coffee, cocoa, herbs, tea etc.
- Timber
- Furniture
- Ceramics & textiles
- Paper and cardboard boxes
- Beers, wines & spirits
- Flowers and plants
- Livestock and zoo animals
- Military plant and equipment

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.


### Wall mounted OTW15

Wall mounted compact dehumidifiers.

- Especially for use in:
  - Public buildings
  - Changing rooms
  - Store rooms and stairwells
  - Cellars and basements

- Self contained with fully automatic operation
- Integral humidistat
- Tamper proof controls

- Epoxy polyester painted zintec steel cabinet
- Hot gas defrost for low temperature operation
- Air filter

### Specifications

#### Performance
- Operating temperature range: 0-35 °C
- Dehumidification @ 30°C/60% RH: 15 kg/24h
- Heat recovered to air @ 30°C/60% RH: 0.9 kW
- Air flow: 225 m³/h
- External static pressure: 0 Pa
- Sound pressure level @ 3m: 53 dB(A)
- Refrigerant: R407c

#### Electrical data
- Supply: 230/1N/50 V/ph/Hz
- Nominal power consumption: 0.43 kW
- FLA: 3.8 Amp
- Maximum supply fuse: 10 Amp
- LRA (compressor start): 18 Amp

#### Dimensions
- Width: 825 mm
- Depth: 363 mm
- Height: 320 mm
- Weight: 33 kg
- Condensate drain size (flexible plastic hose): 10 mm ID

#### Options
- Through the wall version

### Performance data

#### OTW15

The OTW15 is tamper proof – ideal for use in public buildings.

Free advice from staff qualified by years of experience and strong technical knowledge.

Calorex reserve the right to modify this specification at any time.
Wall mounted DH30/60

Wall mounted compact dehumidifiers with air heating options.

- Ideal for dehumidification in:
  - Clothes drying rooms
  - Warehousing and storage
  - Electrical sub-stations
  - Sports clubs and changing rooms
- Self contained with fully automatic operation
- Integral humidistat
- Polyester coated evaporator and condenser
- Plastisol coated galvanised steel cabinet
- Hot gas defrost for low temperature operation (X models)
- Quiet centrifugal fans

### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Units</th>
<th>DH30A/ DH30AX</th>
<th>DH30AP/ DH30AXP</th>
<th>DH60A/ DH60AX</th>
<th>DH60AP/ DH60AXP</th>
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</table>

### Performance data

#### DH30

- Sensible heat output kW* to air: 2.15 AT 60% RH
- Electrical input kW*: 0.8

#### DH60

- Sensible heat output kW* to air: 4.1 AT 60% RH
- Electrical input kW*: 1.3

Options

- Through the wall version
- Electric air heater
- LPHW air heater
- Remote humidistat

Calorex reserve the right to modify this specification at any time.
High capacity DH75/110

Floor standing high performance dehumidifiers with additional air heating options.

- For a wide range of applications:
  - Warehousing and storage
  - Museums and art galleries
  - Offices and archives
  - Sports halls and gyms

- Self contained with fully automatic operation
- Integral humidistat
- Polyester coated evaporator and condenser
- Stove enamelled aluminium cabinet
- Hot gas defrost for low temperature operation
- Quiet centrifugal fans

### Specifications

<table>
<thead>
<tr>
<th>Performance</th>
<th>Units</th>
<th>DH75AX</th>
<th>DH110AX</th>
<th>DH110BX</th>
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#### Electrical data

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#### Heater

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</table>

#### Dimensions

| Width (mm) | 1520 | 1520 | 1520 |
| Depth (mm) | 385  | 385  | 385  |
| Height (mm) | 796  | 796  | 796  |
| Weight (kg) | 143  | 144  | 144  |
| Condensate drain size (brass compression) | 15 | 15 | 15 |

### Performance data

#### DH75

- Sensible heat output kW* to air
- Electrical input kW*
- 40% 50% 60% 70% 80%

#### DH110

- Sensible heat output kW* to air
- Electrical input kW*
- 40% 50% 60% 70% 80%
High capacity DH150/300/600

Floor standing high performance dehumidifiers for commercial premises and industrial environments.

- Humidity and dew point control for:
  - Warehousing and equipment storage
  - Metal and spare parts storage
  - Electrical sub-stations
  - Museums and furniture storage
- Self contained with fully automatic operation
- Integral humidistat
- Polyester coated evaporator and condenser
- Plastisol coated galvanised steel cabinet
- Hot gas defrost for low temperature operation (X models)
- Reverse cycle defrost for very low temperature operation (Y models)

### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Units</th>
<th>DH150AX</th>
<th>DH150BX</th>
<th>DH300BY</th>
<th>DH600BY</th>
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</table>
| **Performance**
  Dehumidification @ 30°C/60% RH | kg/24h | 150 | 150 | 300 | 600 |
  Heat recovered to air @ 30°C/60% RH | kW | 7.4 | 7.4 | 14.7 | 29.7 |
  Air flow | m³/h | 2500 | 2500 | 5000 | 9000 |
  External static pressure | Pa | 0-200 | 0-200 | 60 | 80 |
  Sound pressure level @ 3m | dB(A) | 58 | 58 | 66 | 63 |
  Refrigerant | | R407c | R407c | R407c | R407c |
| **Electrical data**
  Supply | V/ph/Hz | 230/1N/50 | 400/3N/50 | 400/3N/50 | 400/3N/50 |
  Nominal power consumption | kW | 2.5 | 2.5 | 6.7 | 10.0 |
  FLA | Amp | 21 | 11 | 19 | 26 |
  Maximum supply fuse | Amp | 30 | 16 | 24 | 35 |
  LRA (compressor start) | Amp | 61 | 30 | 101 | 135 |
  LRA (compressor soft-start) | Amp | 28 | 13 | 34 | 55 |
| **Heater**
  Type | Optional | Top box | Top box | - | - |
  Heat output | kW | 9 | 9 | - | - |
  Power supply | V/ph/Hz | 230/1N/50 | 400/3N/50 | - | - |
  FLA | Amp | 36 | 12 | - | - |
  Maximum fuse size | Amp | 50 | 16 | - | - |
| **Dimensions**
  Width | mm | 660 | 660 | 980 | 1730 |
  Depth | mm | 660 | 660 | 826 | 1250 |
  Height | mm | 1313 | 1313 | 1475 | 1600 |
  Weight | kg | 130 | 130 | 220 | 497 |
  Condensate drain size (flexible plastic hose) | BSPM | ¾ | ¾ | 1½ | 1½ |

### Performance data

**DH150**

**DH300**

**DH600**

Options

- Top or rear fan outlet
- High pressure fan (standard on DH150)
- Return air filter
- Condensate pump
- Compressor soft start
- Top discharge box with heater options
- LPHW heater
- Heat recovery to water
- External condenser unit
- Remote humidistat

Calorex reserve the right to modify this specification at any time.
Technical support and service

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