COMMERCIAL / INDUSTRIAL

Industrial Process Drying

Drying by Dehumidification

Key Benefits

- Reduced Energy Costs
- Reduced Drying Times
- Reduced Rejection Rates
- Short Payback Periods
- Increased Energy Efficiency
- Increased Product Quality
- Increased Profits

Applications

- Ceramic
- Timber
- Confectionery
- Brick, Block and Tile
- Food Manufacture
- Textile
- Paper/Cardboard
- And Many Others

calorex®

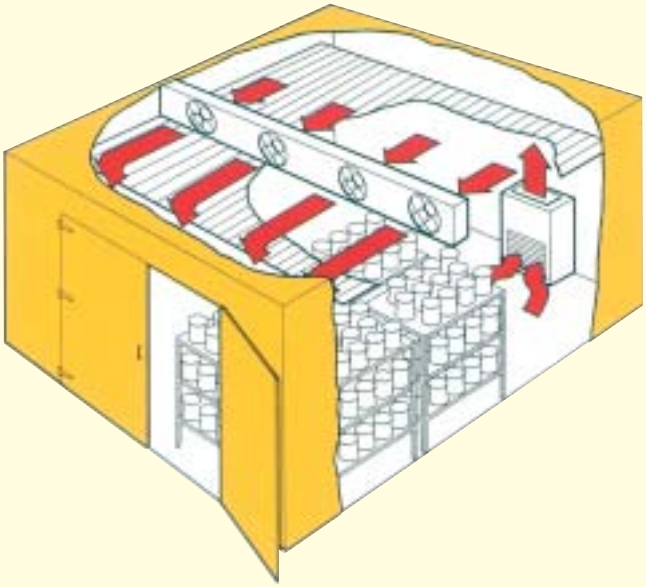
Industrial Process and Product Drying

Why Dehumidifiers for Drying

- Rapid water removal at lowest cost per litre extracted
- Latent energy reclaimed to reduce power consumption
- Drying at lower temperatures reduces risk of heat damage
- Even drying improves product quality
- Low maintenance

Method of Operation

Air is re-circulated within the chamber by a set of fans positioned above a false ceiling. The velocity past the product being critical to the drying speed The temperature of the chamber is increased to speed the release of moisture from the product. The higher the temperature the quicker the drying process. The moisture released by the product is extracted by the dehumidifier. The heat pump dehumidifier converts the latent energy into heat which is returned back into the drying chamber. This reduces the energy required to maintain the operating temperature. The condensed moisture is rejected to a waste water drain.



Advantages Against Conventional Hot Air Ovens

- Less aggressive drying process and increased control of drying environment
- Increases product quality and reduces rejection rates
- Reduced space required for drying gives increased space for production
- Reduced energy costs and increased energy efficiency give short payback period

Control Options

Calorex can offer control options from a simple control panel to a complex system capable of programming a fully timed drying schedule.

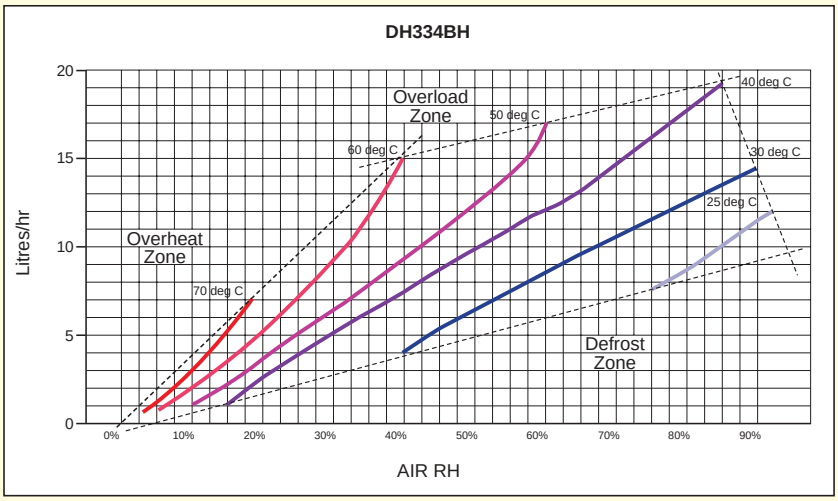
- Single stage
- Four stage
- Six stage
- PLC control

For All Your Process Drying Applications

Calorex DH334BH Dehumidifier

MODEL	UNITS	DH334BH
COMPRESSOR		
Nominal Power Consumed	kW	4.9
LRA, 3 ph N	Amps	72
RLA, 3 ph N	Amps	12
Nominal Running Current	Amps	9
Refrigerant Charge; R134a	kg	6
MAIN FAN		
Air flow	m^3/hr	5800
Max External Static Pressure	Pa	0
Motor Rating	kW	0.75
FLA:- 3 ph N	Amps	2.1
DEHUMIDIFICATION DUTY LITRES/HR		
Via HEAT PUMP (45deg C/80% RH)	Litre/hr	19
HEAT TO AIR KW		
Via HEAT PUMP	kW	10
Via Resistance Heaters and Heat Pump	kW	18.5
HEATERS		
Heater Rating	kW	9
FLA	Amps	12
ELECTRICAL		
Voltage		400V, 3 ph & N, 50Hz
Total Power Consumed (nominal)	kW	14.1
Min' Supply Capacity	Amps	29
Max' Supply Fuse	Amps	35
DIMENSIONS		
Width	mm	985
Depth	mm	700
Height	mm	1476
Noise@ 3m	dbA	69
WEIGHT APPROX	kgs	170

Performance Chart



Options Available

- Full turnkey installation service for complete drying chamber
- Range of Calorex control panels
- Stainless steel cabinet
- Steam or LPHW heat exchangers for initial heat input
- Castors for portability to aid cleaning and maintenance
- Air inlet filters

High Temperature Process Drying Dehumidifier

The DH334BH dehumidifier is specifically designed for use in high temperature process drying applications.
The unit can operate in temperatures up to 70˚C.
Used in conjunction with a Calorex process drying control panel to create the perfect drying environment for your product. Calorex also manufactures a standard range that can operate at up to 40˚C which have also been used successfully in many process drying applications.

Drying by dehumidification is the most effective, energy efficient and economic way to dry your products

Calorex DH60AHP Dehumidifier

MODEL	UNITS	DH60AHP
COMPRESSOR		
Nominal Power Consumed	kW	1.1
LRA , 1 ph	Amps	30
RLA , 1 ph	Amps	5.5
Nominal Running Current	Amps	5.3
Refrigerant Charge; R134a	kg	0.8
MAIN FAN		
Air Flow	m^3/hr	1750
Max External Static Pressure	Pa	0
Motor Rating	kW	0.16
FLA:- 1 ph	Amps	1.3
DEHUMIDIFICATION DUTY LITRES/HR		
Via HEAT PUMP (50deg C/60% RH)	Litre/day	62
HEAT TO AIR KW		
Via HEAT PUMP	kW	2.2
Via Resistance heaters and Heat Pump	kW	5.1
HEATERS		
Heater Rating	kW	4
FLA	Amps	16.7
ELECTRICAL		
Voltage		240V, 1 ph , 50Hz
Total Power Consumed, Dehum & Heater (nominal)	kW	5.1
Nominal Running Amps	Amps	22.2
Min' Supply Capacity	Amps	23
Max' Supply Fuse	Amps	35
DIMENSIONS		
Height	mm	653
Length	mm	1245
Width	mm	240
Noise@ 3m	dbA	57
WEIGHT APPROX	kgs	70

High Quality Construction

- Plastic galvanised steel cover
- Epoxy polyester coated Al fin/Cu tube exchangers
- Corrosion resistant galvanised sub-frame

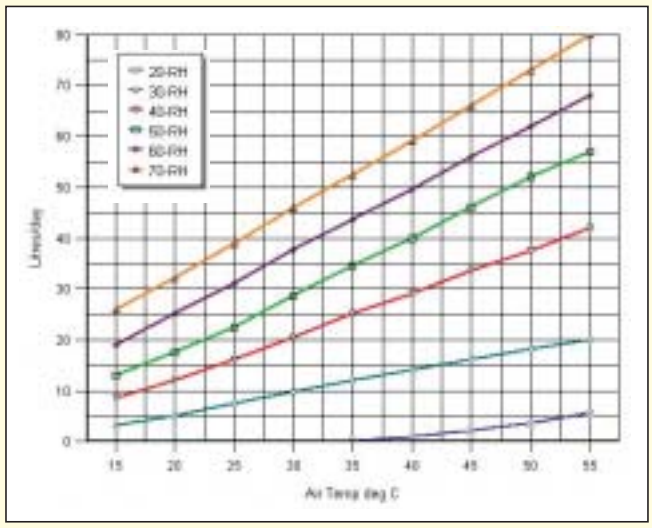
High Temperature Process Drying Dehumidifier

The DH60AHP dehumidifier is specifically designed for use in low volume process drying applications. The unit can operate in temperatures up to 55˚C. The unit's compact size, integral 4kW electric air heater and simple controls allow an inexpensive drying system to be created.
The unit has found favour in the joinery trade, drying timber for furniture manufacture

High Performance

- High efficiency hermetic compressor
- Tuned for optimum extraction rate per kWhr of energy consumed
- Pressure switch and delay timer protection on compressor circuit
- Latest R134a HFC refrigerant used
- Low energy centrifugal fan

Performance Chart



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