Winner of:

WINNER
PRODUCT INNOVATION OF THE YEAR
Turbomiser chiller
THE CIBSE LOW CARBON PERFORMANCE AWARDS | 2010

THE COOLING INDUSTRY AWARDS 09
WINNER

RAC COOLING INDUSTRY AWARDS 2010
HIGHLY COMMENDED

Turbomiser™

TURBOMISER CHILLER

Winner of CIBSE's Low Carbon Technology Award 2010

Cut your cooling energy cost in half

The multi-award winning Turbomiser chiller is available in three versions: Turbomiser 1, 2 and 3 – each more efficient than the last.

IDEAL APPLICATIONS:
- data centres
- hospitals
- universities
- hotels
- offices
- retail stores

THE MULTI AWARD-WINNING CHILLER

KLIMA-THERM

Turbomiser™

Why Turbomiser?

Energy prices are rising. Running air conditioning in buildings will become increasingly expensive. The Carbon Reduction Commitment, effectively a tax on high energy use, is now in operation. For businesses that depend on cooling, this is a major financial exposure.

The Turbomiser chiller is a new type of high-efficiency chiller that can cut your cooling energy bill and associated carbon footprint in half.

The savings start on day one. And keep going, year after year, throughout the life of the plant.

Award-winning technology

The Turbomiser is based on award-winning technology that dramatically cuts energy use.

It is the winner of CIBSE's most prestigious technology award, for Low Carbon Innovation 2010.

It is based on the ground-breaking Danfoss Turbocor compressor, a compact centrifugal compressor based on virtually frictionless magnetic bearings.

As well as its ultra efficient performance, the Turbomiser improves comfort levels and productivity in buildings due to its advanced design and stepless control.

And, with its oil-less magnetic bearings, service and maintenance costs are dramatically reduced.

Turbomiser gives you:

- Lower running costs
- Lower servicing costs
- Improved comfort and reliability

Major companies use Turbomiser

Leading companies and organisations use Turbomiser to cut their building energy consumption, carbon footprint and running costs, and to improve comfort conditions.

These include Hilton Hotels, Lloyds Bank, Ladbrokes, the MoD and Skandia, to name a few.

Their experience has proven that Turbomiser delivers serious and sustained savings in running costs and provides a high quality environment for customers, staff, and temperature-dependent equipment.

Turbomiser options

There are three Turbomiser options to choose from, all available in capacities up to 2.0MW.

Each delivers increasing levels of efficiency compared with traditional reciprocating and screw-based chillers:

Turbomiser 1: around 30 per cent more efficient
Turbomiser 2: around 40 per cent more efficient
Turbomiser 3: around 50 per cent more efficient

Turbomiser 1

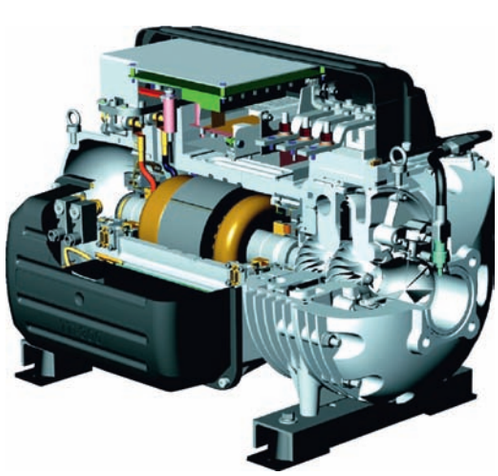
SAVES UP TO 30 PER CENT OF ENERGY COSTS

The original Turbomiser design is proven and in use in hundreds of buildings across the UK.

Based on the pioneering Danfoss Turbocor compressor, with virtually friction-free magnetic bearings, it takes the technology a major step forward by combining:

- Inverter-controlled Turbocor compressors;
- Micro-channel aluminium condensers;
- Total immersion evaporators;
- High efficiency EC fans;
- Integrated control system.

It delivers energy savings of around 30 per cent compared with conventional reciprocating and screw chillers.



In summary, Turbomiser 1 offers:

- Energy savings up to 30 per cent;
- Reduced maintenance costs;
- Rapid payback – often in less than a year;
- Improved comfort and productivity in your building;
- Low start-up current – just 5 Amps;
- Exceptionally quiet operation;
- Reduced refrigerant leak risk due to fewer joints.

Turbomiser 2

WITH LPA ADVANTAGE SAVES UP TO 40 PER CENT OF ENERGY COSTS

The Turbomiser 2 takes the already highly efficient Turbomiser 1 design a stage further with the addition of a Liquid Pump Amplification (LPA) system.

The low power (1kW) pump enables the compressor to be switched off in lower ambient conditions, circulating liquid refrigerant around the system to deliver free cooling.

This shaves a further 10 per cent off energy consumption.

It can achieve EERs of 10 and above without the need for additional free-cooling circuits and associated glycol, which can be expensive and difficult to handle. This saves on initial cost and ongoing pump energy.

The LPA system significantly increases thermodynamic efficiency across the chiller's operating range.

Floating head pressure

The system operates with a floating head pressure, providing opportunities for savings not available to conventional designs.

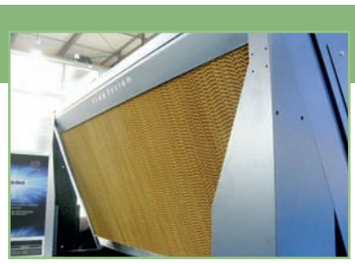
Unlike standard chillers whose head pressure is fixed, the Turbomiser 2 constantly self-regulates and optimises its performance in response to ambient conditions and load.

Additional benefits

In addition to the benefits of Turbomiser 1, Turbomiser 2 offers:

- Efficiency improved by a further 10 per cent to approximately 40 per cent;
- Extended working life due to reduced compressor run-time;
- Reduced service and maintenance, due to reduced run time;
- Payback time further reduced.

Turbomiser 3



WITH ADIABATIC ADVANTAGE SAVES UP TO 50 PER CENT OF ENERGY COSTS

The Turbomiser 3 takes the Turbomiser 2 to the next level, by adding an innovative actively-managed evaporative system, giving the chiller an unmatched "adiabatic advantage".

How it works

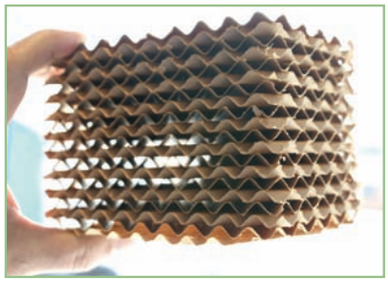
The evaporative system is mounted on the face of condensers coils and fed by nebulised and UV-sanitised water, overcoming risks of Legionnaires ' disease. This is absorbed by a porous natural-fibre honeycomb array in the direct air path of the coils.

The adiabatic cooling effectively reduces ambient temperatures in the immediate vicinity of coils by up to 8degC, lowering condensing temperatures and significantly improving the chiller's energy performance.

The adiabatic advantage also increases chiller capacity at peak load conditions, enabling it to cope with high ambients that might otherwise overwhelm a standard chiller.

The system can be set to activate automatically at a pre-determined external temperature.

Combining the LPA and Adiabatic Advanatage technology improves the efficiency of the chiller at both low and high ambients, ensuring class-leading performance in all conditions and seasons throughout the year.



Water consumption is low. In UK conditions, £600 worth of water a year results in energy savings worth some £8000.

Additional benefits

In addition to the full benefits of Turbomiser 1 and 2, Turbomiser 3 offers:

- Efficiency improved by a further 10 per cent to approximately 50 per cent;
- Extended chiller capacity at peak load, enabling it to cope with extreme ambients that would defeat other chillers.

What the three Turbomiser options offer

	Turbomiser 1	Turbomiser 2	Turbomiser 3
Technical features			
Inverter-controlled Turbocor compressors	✔	✔	✔
Micro-channel aluminium condensers	✔	✔	✔
Total immersion / high efficiency evaporators	✔	✔	✔
High efficiency EC fans	✔	✔	✔
Integrated control system	✔	✔	✔
LPA Pump		✔	✔
Adiabatic evaporative system			✔
Benefits			
Energy savings	Up to 30%	Up to 40%	Up to 50%
Reduced maintenance costs	✔	✔	✔
Rapid payback – often in less than a year	✔	✔	✔
Improved comfort and productivity for your building	✔	✔	✔ ✔
Low start-up current – just 5 Amps	✔	✔	✔
Exceptionally quiet operation	✔	✔ ✔	✔ ✔
Reduced refrigerant leak risk due to fewer joints	✔	✔	✔
Extended working life due to reduced compressor run-time	✔	✔ ✔	✔ ✔
Payback time further reduced		✔	✔

Turbomiser is the result of a five year collaboration programme between UK chiller specialists Cool-Therm and Klima-Therm.

They have harnessed their collective expertise and knowledge to produce this award-winning technology that is proven to deliver.

The Dorchester: saving £10K a month

Turbomisers at work at company's hq

For more details contact:

Klima-Therm Limited
Unit 42 Weir Road
Durnsford Industrial Estate
Wimbledon
London
SW19 8UG

Tel: +44 (0) 20 8947 1127
Fax: +44 (0) 20 8947 1007
Email: info@klima-therm.co.uk

Winner of:

WINNER
THE CIBSE LOW CARBON PERFORMANCE AWARDS | 2010

THE COOLING INDUSTRY AWARDS 09
WINNER

RAC COOLING INDUSTRY AWARDS 2010
HIGHLY COMMENDED