



ITEC

**The worlds most energy efficient and environmentally responsible
IT Evaporative Cooling system** for Data Centres, Computer/Comms Rooms
and Server Rooms.

ITEC Saves 80-90% of your Energy & Carbon Emmissions

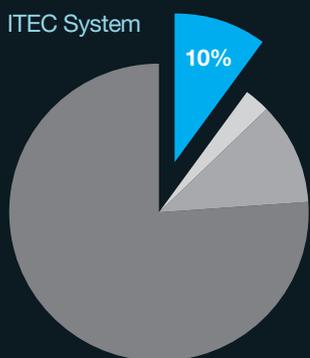
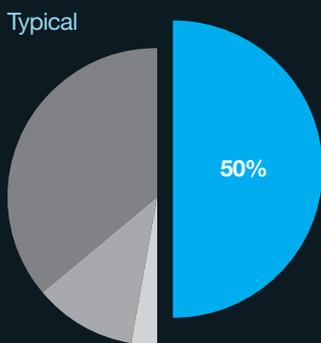
Cosaf are world leading experts in the design and installation of evaporative cooling systems. Our ITEC (Information Technology Evaporative Cooling) systems provide the most energy efficient and environmentally responsible cooling solution to your IT needs.

Cosaf's ITEC systems provide compliant conditions for your data centre, computer/comms room or server room using up to 90% less energy than a conventional air conditioning approach.

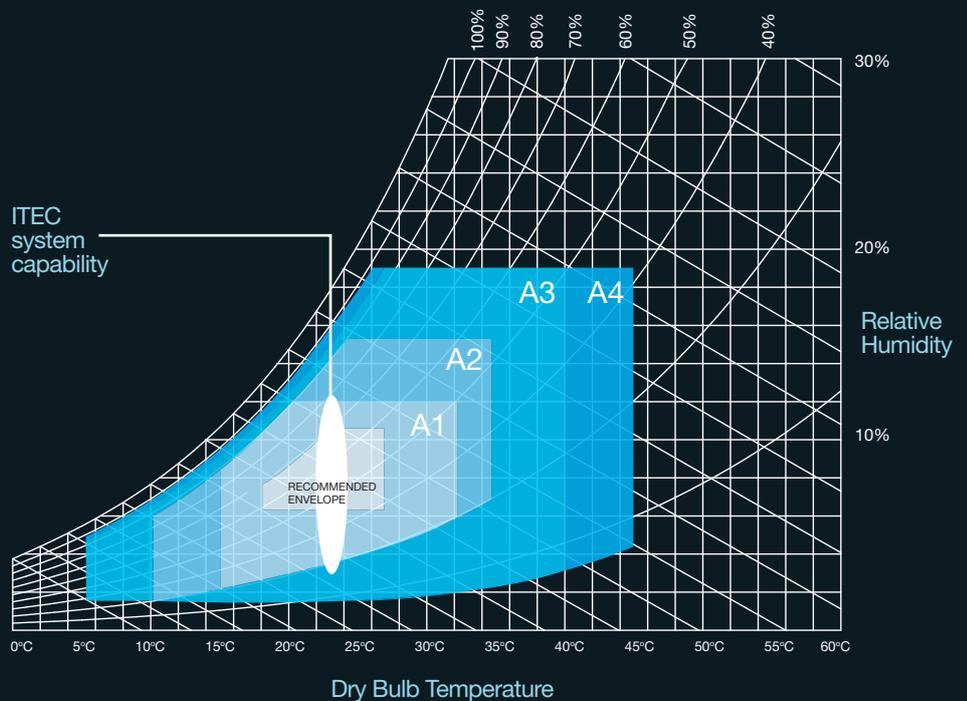
We can design, supply and install our energy efficient and environmentally responsible ITEC systems as part of the construction process. We can also retrofit to existing IT rooms where the huge energy savings can be immediately realised.

Cosaf's ITEC cooling systems are provided with comprehensive controls to ensure compliant conditions are achieved and maintained and that the appropriate resilience and security is provided.

Typical Data Centre Energy Consumption



■ COOLING ■ SERVER POWER
■ POWER CONVERSION ■ LIGHTING



Psychrometric chart detailing ASHRAE data centre classes A1-4 and their environmental envelopes.

What's changed to make this possible?

Modern IT equipment is much more robust than it used to be and no longer requires the close control of temperature and humidity. Equipment historically requiring close control such as paper and magnetic media are no longer used.

ASHRAE (Who set the environmental recommendations for the IT industry) have continued to broaden the environmental envelope in which modern IT equipment can operate. ASHRAE TC.9.9 2011 thermal guidelines for Data Centres confirm a recommended inlet temperature of 18 -28°C and 20-80% Relative Humidity with an allowable range of 15 – 32°C with most manufacturers confirming allowable conditions greater than this.

By broadening this envelope it has opened the door to other more cost effective and environmentally sustainable forms of cooling.

Our ITEC systems can provide 100% compliance against the latest ASHRAE standards at the same time meeting the environmental specification of the latest equipment from all manufacturers.

100% ASHRAE
compliant

Our ITEC cooling systems can provide cooling utilising just 10% of the energy consumed within a conventional air conditioning system

Free Cooling

How does it work?

The ITEC system uses a combination of outside ambient air and the natural principle of the latent heat of evaporation.

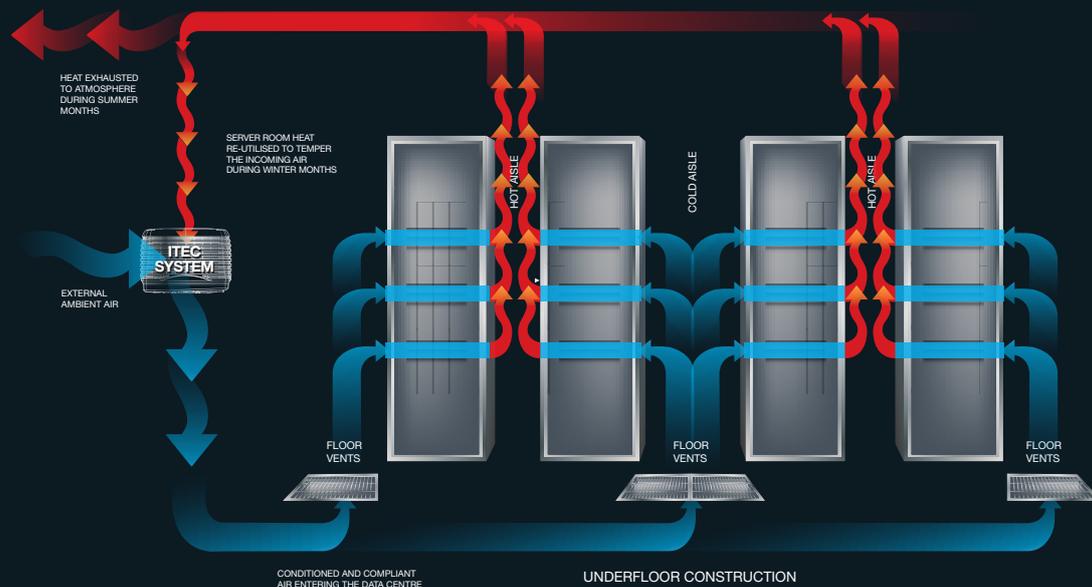
Each ITEC system contains large evaporative cooling pads, during summer operation these pads are kept constantly wet.

Warm ambient air is drawn across these pads where the water absorbs heat by the natural evaporation process cooling the air.

During cooler months when air is too cold to be discharged directly into the space warm room air is recirculated back into the ITEC system tempering the supply air to maintain a constant supply air temperature.

For a large proportion of the year the system can utilise the “Free Cooling” characteristics of the external air to cool the IT Equipment.

By using these energy savings we can accelerate any return on investment forecast and typically deliver a self funding proposition within 12-24 months.



Schematic showing system principal only.
Each project is a bespoke design to meet the particular project requirements

Minimum
environmental
impact

No
harmful
refrigerant gases

There really is no comparison...

Energy Savings

Our ITEC cooling systems can provide cooling utilising just 10% of the energy consumed within a conventional air conditioning system. A single ITEC module can support a 35Kw IT load consuming just 1.5Kw of electricity, a conventional computer room air conditioner will be consuming around 10Kw of electricity to meet this load, maybe more.

Typically retrofitting our ITEC system to a 100kw IT load will provide around a saving of £25,000 per annum equating to an amazing CO₂ saving of 137 tonnes. This figure can be pro-rated to give an indication of the potential savings in your facility - the bigger the load, the bigger the saving!

Our ITEC system is simple engineering at its best with all the resilience and security needed to meet the needs of the IT industry.

Controls

The Cosaf ITEC controls system has the flexibility to be as simple or as sophisticated as each individual project requires, whether the project be a simple IT server room or a large complex data centre. Our controls can fully integrate with other BEMS systems to provide a fully cohesive controls solution whilst providing the resilience and security such projects demand.

ITEC system benefits

- Can provide ASHRAE and manufacturer compliant conditions
- Up to 90% reduction in energy costs
- Low capital and maintenance costs
- No refrigerants No F Gas Compliance
- Hot & Cold isle arrangements are ideal for ITEC systems
- Low electrical consumption increasing available power
- Compliments your carbon reduction commitment scheme commitments
- ROI acceleration with energy savings delivering a self funding installation typically within 12-24months

Don't just take our word for it...

The recent research and guideline changes have triggered the worlds leading IT companies including, Facebook, Microsoft and Dell to take advantage of the commercial, environmental and ethical benefits of employing more free evaporative cooling technologies like ITEC.

facebook

Microsoft®

DELL™

35Kwh IT load for just 1.5Kwh electricity

Cosaf's aim is to provide a total service solution that is second to none.

Cosaf are leading experts in the application, design, installation and commissioning of leading edge evaporative cooling, heating, smoke / fire ventilation and air conditioning (HVAC) systems.

Cosaf are driven to provide low energy / low carbon building environment solutions for factories, warehouses, production spaces, retail, education, offices and commercial premises of all kinds.

Combining 30 years of heritage into not only what would be considered typical building services but the specialist areas of evaporative cooling, natural ventilation, smoke ventilation, warm air heating, and air conditioning to deliver a full turnkey design and build package.

Contact us now on 0845 873 0660 for a free professional survey of your environmental needs.



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