THE PROS EXPLAINED

Evaporative cooling systems

Don't wait for the warm weather to arrive before installing an air cooling system. You need to ensure your industrial or commercial premises will stand the heat. There is now an energy-efficient and cost effective way of cooling internal air with a system that provides years of trouble-free service and clean, comfortable fresh air. Nick Winton, Divisional Manager at AmbiRad explains.

Evaporative coolers have become the cooling system of choice. With so many financial and environmental benefits, in both the short and long term, it's easy to see why.

Modern buildings are being built in more sustainable ways, with environmentally friendly materials and processes helping to reduce the carbon footprint and minimise reliance on heating and cooling systems. But with existing and ageing buildings this is not the case – and owners all over the UK are looking for better value ways to run and maintain their premises, whether through lower energy prices, cheaper servicing or more efficient systems.

During the summer, it is crucial that internal air quality is improved in buildings for the benefit of staff, customers or to preserve the quality of products inside. To achieve this, it is necessary to have a large number of air changes – ideally with clean, filtered and cooled air. With shrinking budgets and the effects on productivity to consider, installation and running costs can also play a major role in the specification of an air cooling system.

Evaporative cooling systems provide a versatile, practical and low cost solution in factories, warehouses, workshops, sports facilities and more. Ideal for applications in large buildings where using alternative methods would prove logistically difficult, evaporative coolers are cost-effective and can reduce the internal air temperature by just a few degrees when required.

Designed with energy efficiency in mind, an effective evaporative cooling system can use only 20% of the energy used by alternative systems. And thanks to a quick and easy installation that needs no structural alterations, it's no surprise that evaporative coolers are fast becoming the product of choice for buildings where cost and environmental impact are of utmost importance.

Used in homes all over the world for many years, a natural and cost-effective way to cool a room is to simply hang a wet sheet in front of a window. As air passes through the wet sheet it is cooled and in turn lowers the room's internal temperature. This simple premise plays a crucial role in the functionality of an effective evaporative cooling system such as ColdAIR.

ColdAIR makes use of the free latent energy in the atmosphere. Cooling the internal environment by drawing air through continually wetted pads that surround the ColdAIR unit, the system integrates this 'natural air cooling' technique in an innovative way. It does not rely on refrigerant gasses (CFCs) in its operation, and as the evaporation of moisture into the air reduces the temperature – it filters the air through a damp pad to remove airborne contaminants.

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▶ With an effective evaporative cooling system, virtually any building can benefit from a cooling system that is environmentally friendly and great value for money.

Installation is also simple and low cost, allowing evaporative cooling to be installed in building types, which previously could not consider cooling due to the financial outlay. Installation will cause minimal disruption to the building's day to day operations whilst also satisfying the building owner where it matters most – at their bottom line.

Once the evaporative cooling system has been installed, the behaviour of internal occupants will have little impact on the system or its performance. The room in which the evaporative cooler is located should be as well ventilated as possible to ensure it functions efficiently.

The design of the evaporative system may incorporate extract fans to remove the complete volume of input air, or alternatively the removal of the air may rely on windows and doors being kept permanently open whilst in operation

As air is not recirculated, the room and its occupants will enjoy the benefits of a constant supply of fresh air. Energy efficiency and cost-effectiveness will always be at the forefront of building owners' minds, to meet building regulations, reduce costs and improve internal conditions. Now, with an effective evaporative cooling system, virtually any building can benefit from a cooling system that is environmentally friendly and great value for money.

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