Paarl Print

Paarl Print one of the largest commercial printing companies in Southern Africa, recently doubled its capacity at a cost of R12m.

The 17-unit Breezair evaporative cooling system was increased to 44 Breezair units to cover the new factory. Karl-Heinz Peil, Technical Director of Paarl Print, says that their experience with the five-year-old Breezair system clearly demonstrated the benefits of evaporative cooling as applied to a printing works. Unlike refrigerative air conditioning, evaporative cooling creates a continuous, gently flow of cool, clean, fresh air in the factory. The Breezair units mounted on the roof draw fresh air over their water-saturated pads, cooling and moisturising it. The air is ducted down, through the roof and distributed by 8-way plenum before escaping back through the roof via “Twister” turbine ventilators. The new factory is completely sealed to eliminate ingress of dust and other contaminants and the Breezair Twister combination is an ideal ventilation solution. Cooling is effectively instantaneous because the system delivers enough cold air to completely replace the air in the building every four minutes. The airflow flushes out toxic gasses, unpleasant odours and particulate contaminants. This makes a positive difference in consideration of working conditions and sensitive printing paper and ink. Rather than relying on a small number of very large coolers, the air is distributed by using multiple units spread over the roof. This design reduces the dependence of the benefits of any one unit and eliminates the need for complex distribution ducting. By direct increased volumes of cold air to the hot machines, paper stretch is reduced, thereby eliminating the frustrations of mis-registration of successive paper passes. Breezair moistens the air slightly, increasing the ambient relative humidity which prevents the printing paper from warping, saving time and money.

Breezair also adds negative ions to the air, which, together with the humidity, prevents the printing paper from developing static, making it easier to handle. Karl-Heinz says that Paarl Print have noticed a substantial improvement in staff productivity and motivation amongst their 410 staff. Since employing evaporative cooling, fever mistakes are made and people feel healthier and more enthusiastic about their working environment. Apart from the Breezair System being ideal for the printing process, the installation price was significantly lower than an alternative refrigerative air conditioning and certainly the operating costs are much lower than those projected for refrigerative air conditioning. The system was designed and installed by Chris Cottle of Modern Products in Cape Town. The original 17 units have centrifugal fans whereas the 27 new units are the latest development from Breezair being more cost-effective and utilising the revolutionary axial “stealth fan”. Each unit is individually controlled with sophisticated solid state electronics and managed in groups to maintain optimal conditions within the printing works. The Breezair System is ruggedly constructed almost entirely of moulded polymer which carries a 25-year warranty. Modern Products provides an onsite full maintenance service and Karl-Heinz says that his confidence in this support was a key consideration in the decision to extend the system.

Credits

Client	Paarl Print
Design and supply	Modern Products, Cape Town
Breezair coolers	Turbo Vent Africa, Johannesburg
Droppers and plenums	Turbo Vent Africa, Johannesburg
Contractor	Modern Products