Cooling by fitting Misting Rings to Fans

It is important to Understand How Mist Cooling works.

Installation of a COLDMIST system permits the atomization of water to micro droplets around 6-8 microns in size. These droplets are light in weight and are easily flash evaporated . Light droplets remain airborne for longer periods of time before succumbing to natural gravity forces and heading downwards. When these droplets come into contact with hot air they flash evaporate and in so doing effectively consume heat in the air. That heat is effectively removed from the air. Repeated millions of times a second, this flash evaporation process results in large amounts of heat energy consumption thus removing heat from the air. Our system operates by removing heat from the air rather than cooling the air. Whilst the end result is the same the methodology is different to standard air conditioning. Once the flash evaporation process has completed, it is important to ensure that the evaporated water molecules are removed from the area allowing for fresh water micro droplets to be replaced thus permitting the process to be repeated. Failure to remove the evaporated molecules whilst continuing to introduce new water droplets will result in humidity build up and wetting. The equipment utilized to micro atomize water includes high pressure pumps and micro nozzles.

In misting systems using fixed mist lines , the replacement process of evaporated molecules is achieved by ensuring that the location being misted has adequate ventilation. This can be in the form of natural breezes or artificial air flow as created by electric fans. There will always be a degree of natural air movement as hot and cool air interact with each other and as the colder air, which is heavier than hot air, moves downwards. Generally, misting systems work best where lower humidity is present with efficiency decreasing as humidity increases. To overcome high humidity or to cater for situations where specific targeted areas need to be cooled, fitting misting rings to the front of electric fans is the solution. The advantage here is the added convective cooling (wind chill factor) that is created. Misting rings can be retro fitted to existing fans by attaching them to the front of the fan guard by simple use of cable ties or similar fixing methods.

Pump / Controller Units Pressurize Water to 1000psi (70Bar)

FREECALL COLDMIST COOLING Australia
1-800 773 778

ColdMist

fine particle water solutions

TOP DESIGN HIGH PRESSURE MISTING SOLUTIONS

Flexclamp

SLIPLOCK Fittings with Nylon Tube

Mistycool Fan

Stainless Tubing System with Flexclamp

Misting Ring

Junior Fog — Domestic Patio Kit

Heavy Duty Industrial Fan

Pump / Controller

Computerised Climate Control

COLDMIST COOLING AUSTRALIA

Freecall 1-800 773 778 www.coldmistcooling.com.au

COMMERCIAL KITS

These are used where the area to be cooled is within a contained building structure . Most workshops/warehouses have roller shutter doors which remain open for equipment and plant passage. This creates a situation where air flow both in and out is erratic and affected by natural wind conditions. As air flow cannot be accurately measured and controlled , the best way to achieve cooling is a system where the nozzle matrix is affixed directly in front of a fan which is in turn directed at the area requiring cooling. This is shown below mounted on a portable fan unit. Stimulating air flow in a workshop set up is critical to the operation of the system because if the air is not moved through the workshop, humidity will increase and efficiency will decrease.

PORTABLE FAN

WORKSHOP with INSTALLATION

Before a final quotation can be supplied, we need to know a little about your requirements. Costs can be reduced by providing your own Fan Units and/or installations. More permanent installations can be supplied where large 1400mm dia. 6 bladed low revving fans are permanently mounted into the workshop walls. Numbers of fan/cooling assemblies vary dependent on the area being cooled and building dynamics . What we would require to be able to supply a preliminary quote would be:

* **Workshop size including height–a floor plan would be helpful (FREEFAX to 1-800 898855)**
* **Nature of workshop activity (welding - dust - etc)**
* **415 or 240Volt Availability**
* **What is average humidity/temp. levels in the location ? The higher the humidity the lower the effect of the Coldmist Cooling System.**
* **A bonus would be digital pictures of the area.(e-mail ian@coldmistcooling.com.au)**

After an assessment of your requirements and dependent on how many components such as fans and high pressure hosing you choose to self supply as well as the final pump size (dependent on nozzle quantities), total prices can be as low as with a Light Duty /Domestic unit or up to 3-4 times as much. Working in conjunction with you, **COLDMIST** will design , pre cut and punch all tubing to suit your self supplied hardware.

INDUSTRIAL

In situations where very large workshops, sheds or warehouses need to be cooled, the heavy duty side of **COLDMIST** can be called upon. **A complete turnkey operation is offered .** Systems can incorporate computer controlled processors to control, temperature, humidity and air flow.

Systems in this category seldom start under $20,000. In most instances, we would control all installation and commissioning of the system. Quotations can only be given after due inspection of the areas and after obtaining an accurate and firm brief from you .

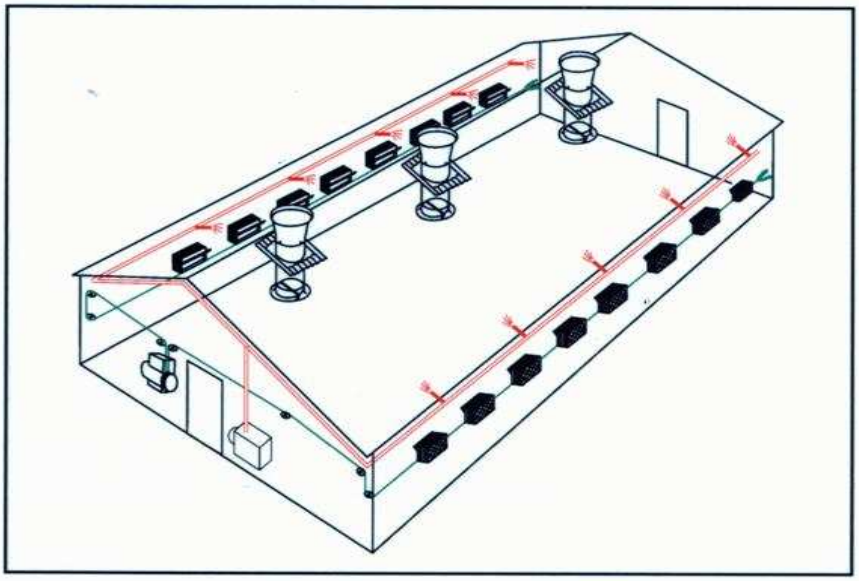
SKOV high-pressure cooling - quality including flexibility

In the development of the high-pressure cooling system from SKOV great importance has been attached to quality and flexibility. The quality is ensured by using long life components with great reliability.

The system comprises standard components which can easily be adapted to the specific house. This ensures that the system is very flexible.

A system for high-pressure cooling from SKOV includes:

- Pump unit with filters
- Piping
- Nozzles



Pump unit - complete with filters
The pump forms the basis of an efficient cooling system. The pump unit is available in 3 types (from 5 to 22 litres per minute) complete for connection of power and water.

Efficient filters ensure a reliable system with long life. SKOV uses filters which filter the water to minimum 95-98 % of the particles (1 micron).

The filters can also be equipped with an extra phosphate filter cartridge for optimum reduction of calcium and minerals in the water.

Piping
Only stainless, acid-proof pipes and sockets with great durability and long life are used. Holes for nozzles can be made with a special pair of nippers after installation of the pipes. Thus the nozzles in the patented nozzle clips ***FlexClamp*** can be placed anywhere, which permits optimum placing above the air inlet. Alternatively, the pipes can be supplied with prefabricated holes for nozzles.

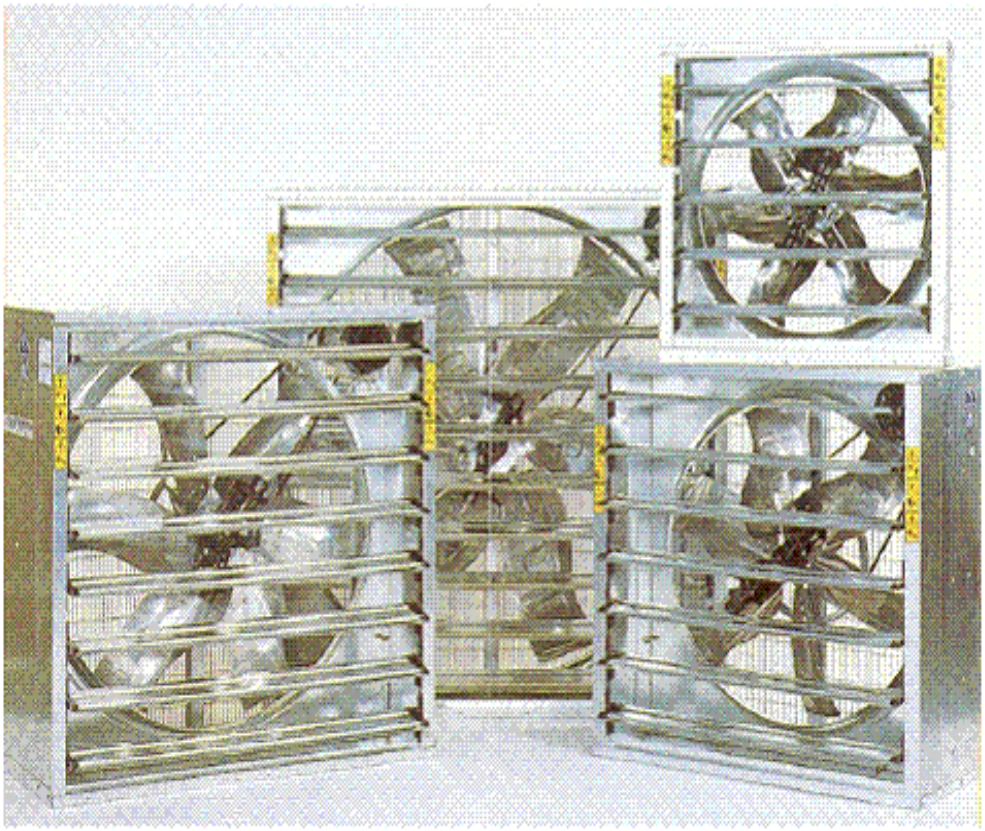
Nozzles
The patented nozzles are equipped with a filter in front of each nozzle head, which reduces the risk of calcium deposits. The nozzle heads are also available with anticalcium coating, which reduces problems with calcium deposits in the nozzle heads even more. All nozzles are mounted with an antidrip valve.

INDUSTRIAL (continued)

DB 1000 / DB 1100 / DB 1400

GABLE FAN

TECHNICAL INFO



SKOV

FAQ & A's

- Water Consumption is 5.9 Litres / Hour / Nozzle on 100% Duty Cycle
- Maintenance includes Filter Cleaning/Replacement and Oil Changes.
- 415v is the preferred voltage for large installations.
- The systems permits the injection of odour control and disinfection solutions
- One Year Warranty