



HUMIDIFICATION FOR HOSPITAL AND HEALTHCARE ENVIRONMENTS

Humidification and Evaporative Cooling



TRUSTED TECHNOLOGY

Condair humidifiers are used in hospital and healthcare premises around the world to protect patients from the damaging effects of dry air and inhibit the spread of airborne viruses.

Some of the world's leading healthcare providers put their trust in Condair humidification systems to maintain their internal environments at the optimum level for health, well being and recovery.



GLOBAL EXPERTISE, LOCAL SOLUTIONS

Condair has manufacturing facilities in Asia, North America and Europe as well as sales operations in 15 countries and distributors in over 40 more.

The company has been serving the global healthcare sector for more than 65 years and is highly experienced in delivering the right solution for a client's requirements.

Humidification systems are designed for each application by experienced experts to create the optimal humidity for areas such as MRI suits, operating theatres, dressing rooms and burns units. If required, Condair's regional R&D departments can work with a client's team to deliver innovative solutions for unusual applications.

Condair's specialist humidification engineering teams offer installation, commissioning and maintenance support to ensure humidity control systems continue to deliver the required environment for many years.

HUMIDITY FOR HEALTH & AIRBORNE INFECTION CONTROL

Humidity control in a healthcare environment is essential to combat the many detrimental effects dry air has on the human body and immune system. It is also needed to reduce airborne infection rates and provide the optimum condition for the successful operation of some medical equipment.



Operating theatres

The optimum humidity level in an operating theatre will depend on the type of surgery and sometimes the preference of the surgeons involved. For procedures such as open heart or cranial surgery, dry air can promote electrostatic micro-shocks, which can pass from surgeon to patient and are potentially fatal. Typically the environment during these operations is maintained at 50%RH $\pm$ 5%.

Other reasons for humidity control in operating theatres include preventing delicate membranes drying during stomach procedures, inhibiting the spread of airborne spores during operations involving highly infectious diseases, and preventing evaporation from swabs prior to weighing for more accurate blood loss assessment.

MRI suites

The temperature and humidity in an MRI suite is strictly controlled to the scanner manufacturer's recommendations. Heat can be generated by the machinery's moving parts and combined with its electro-magnetic properties, electrostatic discharge can pose a risk to the scanner's successful operation. Humidity levels are typically maintained at 50%RH $\pm$ 5% to naturally dissipate static charge.

Burns units & dressing rooms

These areas are maintained at a very high temperature of above 27°C as it helps maintain the healing process during and after a dressing change. With such high temperatures humidification is necessary to prevent uncomfortable and unhealthy low relative humidity.

Airborne infection control

Many scientific studies have concluded that humidity between 40-60%RH is the optimum range to reduce the risk to health from airborne viruses, bacteria and other pollutants to health. Sterling et al, 1985, examined all the evidence of how these types of elements were

affected by humidity and plotted the results on the Sterling Chart (see fig. 1).

Maintaining this optimum level in wards and waiting rooms significantly reduces the infectivity and survival rates of airborne viruses, which in turn reduces airborne infection rates.

Low humidity below 40%RH has been shown to detrimentally affect our immune system. Dry air will draw moisture from mucous membranes in our nose and throat, which is one of our body's main defences against airborne contaminants. So as well as increasing the survival rates of airborne viruses, dry air also impairs our natural ability to fight them off.

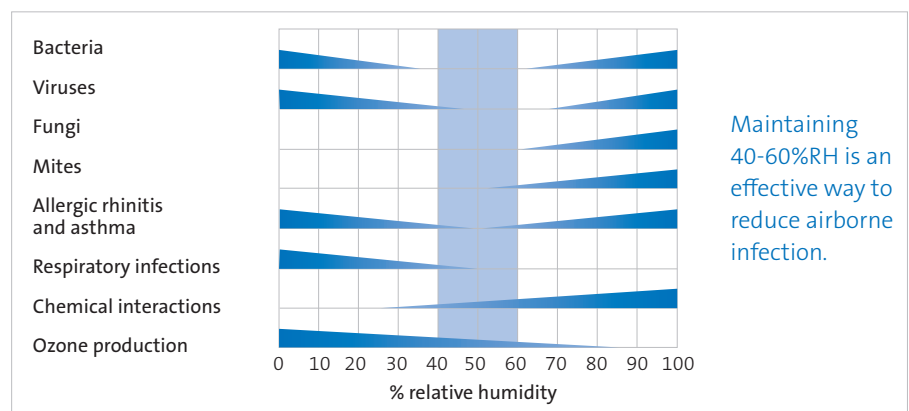


Fig.1 - The Sterling Chart

HUMIDIFIERS FOR HEALTHCARE PREMISES

ASK FOR A FREE
EXPERT CONSULTATION

Condair has a wide range of humidification systems to suit any healthcare application. As well as close control steam systems, the range includes low energy, ultra hygienic adiabatic humidifiers that can reduce humidification operating costs and also provide economic evaporative cooling.

This comprehensive range includes the latest technology to streamline maintenance, improve efficiency, minimise energy consumption and make operation and monitoring straight-forward.

Condair's specialist range is combined with extensive expertise in the industry to ensure the most appropriate humidifier solution is always recommended for any healthcare project.



Condair EL – electrode steam humidifier



Condair ESCO – live steam humidifier



Condair GS – gas-fired steam humidifier



Condair DL – in-duct adiabatic humidifier