HYGROMATIK®
WE HUMIDIFY THE AIR

Air humidification in museums and galleries

Museums and galleries often house invaluable items which require a regulated or consistent indoor climate due to their age or properties. Air humidification is vital in order to avoid irreparable damage to exhibits.

Visitors and employees should feel comfortable in rooms. Relative humidity plays a major role here. If the air is too dry, people emit moisture from their water balance into the atmosphere. Modern humidification systems control and regulate the relative humidity in rooms, thus protecting the skin, lips, nasal mucous membranes and eyes from drying out and increasing human well-being.

The advantages at a glance

- Protects valuable and irreplaceable exhibits
- Creates a healthy and inspiring environment
- Less cleaning is required due to lower dust pollution
- Protects against electrostatic discharge

An optimal indoor climate

for commerce, education and leisure

We take responsibility for more sustainability.

HYGROMATIK®
WE HUMIDIFY THE AIR

Air humidification in libraries and antiquarian bookshops

Regulated air humidity prevents ageing and damage to books as they largely consist of paper, glue and ink. Depending on the temperature, paper extracts or emits moisture into the ambient air, expanding or contracting accordingly.

Modern air humidification systems ensure optimum target humidity in your rooms and increase actively the health and well-being of employees and visitors at the same time. Optimum air humidity protects the skin, lips and eyes from drying out. The function of the mucous membranes in the respiratory tract as the body's barrier against bacteria and viruses is significantly improved.

The advantages at a glance

- Protects valuable and irreplaceable books and other written documents
- Creates a healthy and pleasant environment
- Less cleaning is required due to lower dust pollution
- Protects against electrostatic discharge

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HYGROMATIK®
WE HUMIDIFY THE AIR

AN **OPTIMAL INDOOR CLIMATE** INCREASES THE EMPLOYEE PERFORMANCE

Air humidification in offices and conference rooms

The performance of employees essentially depends on motivation, concentration and health aspects. A healthy room climate with the optimum humidity provides the ideal basis for it. Humans perceive a relative humidity of 40-60 % as pleasant. Even at a value below 50% relative humidity (RH), the mucous membranes begin to dry out and the susceptibility to colds, for example, increases.

Depending on the season, rooms must either be cooled or heated. This has a direct effect on the relative humidity in the rooms, whereby there is a need for regulation. Humidification systems provide a sustainable and environmentally friendly solution for it.

The advantages at a glance

- Reduces the sick leave rate due to a healthier room atmosphere
- Increases performance and improves the well-being of employees
- Reduces dust pollution in offices and conference rooms
- Protects against electrostatic discharge

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HYGROMATIK®
WE HUMIDIFY THE AIR

AN **OPTIMAL INDOOR CLIMATE** INCREASES THE LEARNING ABILITY

Air humidification in universities and educational institutions

Comfortable learning environments make people more receptive and focused on their work. In rooms with many people, however, the individual quickly experiences a feeling of tiredness. Optimising the air humidity can provide relief in these instances.

If the air is too dry, people emit moisture from their water balance into the atmosphere. This causes the skin, lips and eyes to dry out which can negatively impact a person's general well-being.

Dry air also affects the function of the mucous membranes in the respiratory channels and makes it less capable of protecting the human body against bacteria and viruses. Humidifying the ambient air provides a healthier learning and working environment for students, lecturers and employees in the building.

The advantages at a glance

- Lower sickness rates among students, lecturers and staff
- Reduces dust pollution in lecture halls and technical rooms
- Improves university ranking
- Protects against electrostatic discharge

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HYGROMATIK®
WE HUMIDIFY THE AIR

AN **OPTIMAL INDOOR CLIMATE** INCREASES THE SHOPPING EXPERIENCE

Air humidification in shopping centres and department stores

Customers enjoy shopping experiences in a pleasant and comfortable atmosphere. Optimum air humidity significantly contributes to an enjoyable atmospheric environment which can lead to customers staying longer. It also makes people feel more active and motivated. In particular, unpleasant electric shocks are reduced by the discharge of electrostatic voltages.

Hygroscopic products that quickly exchange moisture with their environment require an appropriate regulation of the air humidity to maintain its freshness, quality or function. Examples are fresh food, paper and stationery, furniture or musical instruments.

The advantages at a glance

- Creates comfort zones to increase customer satisfaction
- Reduces the rate of staff on sick leave due to a healthier environment
- Increases quality assurance by protecting sensitive products
- Protects against electrostatic discharge
- Increases the property value and attractiveness for commercial tenants

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HygroMatik®
WE HUMIDIFY THE AIR

AN OPTIMAL INDOOR CLIMATE ON THE AGENDA…

Air conditioning in hotels and conference centres

One of the most important aspects for hotels and conference centres is to make sure that guests have a pleasant experience. A healthy and comfortable indoor climate plays an important role here. This is influenced, among other things, by optimum air humidity. If the air is too dry, people emit moisture from their water balance into the atmosphere. This causes the skin, lips and eyes to dry out which can negatively impact a person's general well-being.

Dry air can also affect the function of the mucous membranes in the respiratory channels and makes it less capable of protecting the human body against bacteria and viruses. Humidified air binds dust particles much better than dry air. Reduced dust deposits and air circulation can minimise any respiratory problems for allergy or asthma sufferers.

The advantages at a glance

- Creates a healthy and work-friendly environment for guests and staff
- Increases employee performance
- Reduces dust pollution for allergy or asthma sufferers
- Protects against electrostatic discharge
- Increases object value and attractiveness for organisers and companies

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Air humidification in hospitals and doctor's surgeries

Patient treatment and recovery is the main focus of hospitals and doctor's surgeries. A health-promoting indoor climate is therefore a very important building block in the entire range of a medical facility.

With regard to indoor air conditioning in the healthcare sector, standards and regulations usually have to be observed: Guidelines such as DIN 1946-4 in Germany, ÖNorm H 6021 in Austria, SWKI VA104-01 in Switzerland and etc. The strict hygiene requirements for the entire ventilation and humidification system require the use of equipment that is highly reliable and easy and thorough to clean. Humidification systems certified by accredited institutes offer the security of verifiable, durable and safe compliance with these binding regulations.

The advantages at a glance

- Improves patient well-being due to optimal indoor climate
- Increases employee performance
- Ensures adherence to hygienic conditions
- Complies with strict hygiene regulations (e.g. in operating theatres)
- Reduces dust pollution for allergy or asthma sufferers
- Protects against dangerous electrostatic charge

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WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY INCREASES PRODUCTIVITY

Air humidification in the print and paper industry

In the print and paper industry, in order to ensure high-quality goods, regulated air humidification is essential, as both materials and processes react strongly to changes in air humidity. Regulated air humidification to a constant relative humidity between 50 and 60% RH reduces possible causes of production disturbances and quality losses.

In addition, the use of adiabatic humidification systems achieves advanced, environmentally friendly air cooling. This is used to compensate existing process heat during production and achieve an optimum indoor climate.

The advantages at a glance

- Consistent quality and colour
- Increases material and process efficiency due to high performing machinery and stabilisation of the production process
- Creates a healthy and pleasant working environment for operational employees
- Reduces operating costs due to energy-efficient cooling performance

Constant humidity
for industry and processes

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WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES HIGHEST QUALITY

Air humidification in the textile industry

Controlled air humidification can achieve noticeable productivity increases in the production and processing of textile materials – a key factor for quality assurance. Dry ambient air quickly removes moisture from yarns, fabrics and even leather.

These natural materials thus lose elasticity and tear resistance. Modern air humidification systems stabilise the air humidity and reduce the risk of thread breakage in the production of textiles, for example.

Electrical charges caused in dry ambient air by the friction of natural and especially synthetic textile fibres make a trouble-free and high-quality processing process more difficult. Constantly controlled humidity reduces electrostatic charges and avoids costly production interruptions.

The advantages at a glance

- Reduces production downtime
- Increases productivity and product quality
- Protects against dangerous electrostatic discharge
- Creates a healthy and pleasant working environment for employees
- Reduces operating costs through energy-efficient generation of cooling capacity

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HYGROMATIK®
WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES HIGHEST QUALITY

Air humidification in the plastics industry

Plastics tend to become electrostatically charged due to friction during production and transport. Targeted and constant humidification ensures reduced charging and improved dissipation via the room air and thus avoids production interruptions and damage.

Humidified room air binds dust particles much better than dry air. Reducing the presence of dust deposits on sensitive components and surfaces will decrease the failure rate and enhance quality assurance. Air humidification is therefore an important component for quality assurance in the plastics industry.

If high thermal loads are generated by production processes or operational systems, the cooling effect of an air humidification system is an additional benefit. The operating costs can be cleverly reduced by the temperature control in an overall view.

The advantages at a glance

- Protects against dangerous electrostatic discharge
- Increases productivity and product quality
- Creates a healthy and pleasant working environment for the employees
- Reduces operating costs due to energy-efficient cooling performance

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HYGROMATIK®
WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES HIGHEST QUALITY

Air humidification in the pharmaceutical industry

Developing and manufacturing medical products requires a controllable air humidity to ensure maximum quality and effectiveness while providing a trouble-free, hygienic process. That's why most medicines are manufactured in specially air-conditioned and humidified clean rooms.

Temperature and air humidity must meet the legally required standards and be maintained at optimum levels. To prevent contamination of drugs during the manufacturing process, particularly hygienic air humidification systems are used.

The advantages at a glance

- Optimises the viscosity and thus improves the usability of substances
- Influences the speed of chemical reactions
- Prevents the proliferation of bacteria and other biological contaminants
- Reduces evaporations and alterations of liquids
- Avoids contamination through reduced dust formation
- Prevents electrostatic charges during dosing and filling
- Creates a healthy and pleasant working environment for the employees

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WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES HIGHEST QUALITY

Air humidification in laboratories and clean rooms

In many industries, parts of the production take place in adjustable, air-conditioned clean rooms. The production process or legal requirements presuppose precise and constant humidity regulation as well as an optimally controlled temperature of the room air. In industries such as semiconductor production, medical research, pharmaceutical industry, life sciences and nanotechnology, the facilities of specially air-conditioned rooms are generally unavoidable.

Work in laboratories and clean rooms requires stable and controllable environmental conditions. Thus results become comparable, consistent and usable. The optimum humidity plays an important role as it influences the viscosity and usability of materials as well as the speed of chemical reactions. These climatic conditions also prevent the proliferation of bacteria and other biological contaminants.

The advantages at a glance

- Guarantees comparability of results
- Flexible and realistic set up of test scenarios
- Ensures reproducibility and reliability of results
- Creates a healthy and pleasant working environment for the employees

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WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES HIGHEST QUALITY

Air humidification in the electronic and high-tech industry

In a room, uncontrolled electrical discharges are more likely if the air is too dry. Damage to sensitive components or disturbances in production processes are often the expensive and avoidable consequences. The conductivity of the air can be regulated by a controlled air humidity, whereby possible electrostatic charges are discharged permanently and safely.

Humidified room air binds dust particles much better than dry air. A reduction of dust deposits on sensitive components or surfaces reduces the subsequent failure and the error rate. Humidification also contributes to the improvement of employees' working conditions, preventing common health risks associated with a dry working environment.

The advantages at a glance

- Protects against dangerous electrostatic discharge
- Improves the quality of electrical components
- Improves material and process efficiency through reduced failure rate
- Creates a healthy, pleasant working environment for the employees
- Reduces operating costs due to energy-efficient cooling performance

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WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES YIELD AND FRESHNESS

Air humidification in the agricultural industry

Healthy plant growth depends above all on sufficiently high humidity and room temperature. Too little humidity can cause stress in plants, which can lead to slower growth or even a stop in growth. This is already the case with a relative humidity below 30% (RH). Therefore a control of the air humidity in greenhouses is an economic necessity in order to optimise plant growth and thus the yield.

The right air humidity also plays a decisive role in the maturing and storage of the harvested natural products for long-lasting freshness and preservation of weight and value.

The advantages at a glance

- Optimises yields through healthy plant growth
- Improves the controlled ripening process
- Increases shelf life during storage
- Ensures quality and freshness of the products

Constant humidity
for industry and processes

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HYGROMATIK®
WE HUMIDIFY THE AIR

A CONSTANT HUMIDITY ENSURES QUALITY AND FRESHNESS

Air humidification in the food and luxury food industry

In the production of many foods, quality and freshness can only be achieved through optimum air humidity. Air humidification protects e.g. against dehydration and weight loss or promotes the maturing process of some foods.

Example bakery: In professional baking best results are achieved with different humidity values of the air in the different stages of the baking process. High humidity promotes the fermentation process of the yeast dough and prevents the formation of skin on the surface of the dough blanks. During baking, the air humidity in the oven influences the consistency of the baked goods. Towards the final minutes of baking, a short-term increase in moisture provides a particularly crisp, shiny surface for bread and rolls.

Example cheese dairy: The aroma and taste of cheese can only develop properly if the cheese is maturing at a temperature of 2-15°C and a relative humidity of 75-95% (RH).

The advantages at a glance

- Ensures quality and freshness of the products
- Establishes optimal conditions for the production process
- Increases storage life

Constant humidity
for industry and processes

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