

merlin[®]
SUPERIOR HUMIDIFICATION **TECHNOLOGIES**

AIR HUMIDIFICATION

Product catalogue

ENGLISH



merlin[®]

SUPERIOR HUMIDIFICATION **TECHNOLOGIES**



**MAKE YOUR
BUSINESS
SMILE!**

OVERVIEW

| | |
|---|-----------|
| About merlin® | 4 |
| Company & customers | 6 |
| Air humidification | 8 |
| Why air humidification | 10 |
| Industries & benefits | 12 |
| High-pressure | 14 |
| Direct room | 16 |
| VISCORE | 16 |
| ALPHA | 18 |
| AER & AER v humidification units | 20 |
| Duct | 22 |
| ORBIT WING | 22 |
| Ultrasonic | 24 |
| PURUS | 26 |
| FORTE | 26 |
| FINESSE | 26 |
| SENSO | 26 |
| Rotation lamella | 28 |
| AIR-C 250 / 500 with & without ventilation unit | 30 |
| Compressed air | 32 |
| IQ | 34 |
| Water treatment | 36 |
| Filtration | 38 |
| Water softening | 38 |
| Reverse osmosis | 39 |
| Disinfection | 39 |
| Superior Services | 40 |
| Quality & service | 42 |

A modern building with a dark blue facade and large glass windows. The Merlin Technologies logo is prominently displayed on the right side of the building. The logo consists of the word 'merlin' in a light blue, lowercase, sans-serif font, followed by a registered trademark symbol (®). Below 'merlin' is the tagline 'SUPERIOR HUMIDIFICATION TECHNOLOGIES' in a smaller, uppercase, sans-serif font, with 'TECHNOLOGIES' in red.

merlin®
SUPERIOR HUMIDIFICATION TECHNOLOGIES

About merlin®

A healthy climate for people,
materials and machinery

Innovation by passion – since 1995

„The company's determination, ingenuity and the efforts of our motivated team mean that merlin®'s future is looking bright, with the many innovations in the pipeline set to light up the market.“



A handwritten signature in black ink, appearing to read "Johann Reisinger".

Johann Reisinger, merlin® founder

About merlin®

A healthy climate for humans,
materials and machines

Perfect ambient climate has a name: merlin®

Founded in 1995, today our family-run company is one of the world's leading suppliers of air humidification systems and moisture measuring devices. Our roots are in Upper Austria and customers around the world reap the benefits of our work. Like, for example Mercedes-Benz, Audi and Volkswagen. Like FACC, BOSCH and IKEA. Like VELUX, Canon, HiPP and Nestlé.

They all appreciate the merlin® reliability, perfection and quality. And we are proud to be able to say that our products and services have contributed to the success of these – and many other – companies. Because only a perfect ambient climate provides the conditions needed to improve productivity, success and well-being.

Certificates

merlin® has won many innovation awards
and has multiple ISO certifications:



Other standards

Austrian standard (ÖNORM) H 6020-1:2007 'Ventilation Systems in Medical Institutions – Planning, Construction and Inspection'

ISO 13485:2012 'Medical Devices – Quality Management Systems – Requirements for Regulatory Purposes'



And all this for a single purpose:

To offer our customers **superior humidification technologies**.
You can take our word for it.

Information about our patent statements

Humidification units
Patented in AT

Step and pressure control
Patented in AT, PCT patent pending

ORBIT WING® elements
Patented in AT, PCT patent pending

Quick-Change humidifier nozzle
Patented by the producer

Superior humidification technologies

As a specialist for **air humidification systems and measuring devices**, Merlin Technology GmbH, whose roots go back to 1995, stands for excellent quality and top service. We guarantee optimal climatic conditions for humans, materials and machines and create the perfect prerequisites for increasing productivity, success and well-being.

With innovative technologies and industry-specific know-how, we set new standards. For good reason, this is why merlin® air humidification systems are used by renowned companies around the world and offer convincing productivity-increasing advantages:

- ✓ Constant ambient humidity
- ✓ Preservation of high-value products
- ✓ Less dust formation
- ✓ Lower electrostatic charges
- ✓ Tangible quality improvement
- ✓ Lower energy consumption
- ✓ Healthy ambient climate
- ✓ Minimal maintenance
- ✓ Easy handling
- ✓ Perfect system integration

When it comes to controlling moisture content, merlin® is one of the leading suppliers of non-destructive measuring devices for wood, paper and building materials. Our portable measuring devices have enjoyed an outstanding reputation for 20 years and are exported to more than 70 countries.

Customers extract

Wood

4B Fenster
 ATOMIC
 BENE
 Bulthaup
 C. Bechstein
 Dula
 F. LIST
 Fischer Sports
 Gaulhofer
 GIR
 IKEA
 Josko
 Lindner Group
 M. Kaindl
 MAJA-WERK
 Pfeifer
 Schachermayer
 Scheucher
 Schösswender
 Schweighofer
 STABILO
 TEAM 7
 Team Styria
 VEDDER
 VELUX
 Weitzer Parkett

Electronics

BOSCH
 DEUTA-WERKE
 Frauscher
 Hekatron
 Novotech

Construction Automotive

American
 Embassy Riga
 Nuremberg
 University of Music
 Hoval
 ÖBB (Austrian
 Federal Railways)
 RZL Software
 Scheuch Ligno
 Sign
 The Belvedere, Vienna

Printing & paper

Canon
 Flyeralarm
 Hunkeler
 Mondi
 Océ
 STI Group
 WRH Global
 Xerox

Food

Gölles
 HiPP
 KOTANYI
 Nestlé

Composite materials

FACC
 Fischer Sports
 Lenzing Fibers
 Model Pack
 QUIN
 SINOPLASTICS

Plastics

Biolink
 Borgers
 Greiner Packaging
 Lenzing Plastics
 Velcro



AIR HUMIDIFICATION

merlin® air humidification systems
for healthy business



Make your business smile!

The **relative humidity** in indoor areas such as offices, production halls and storage rooms is a key success criterion for a healthy company – economically healthy and with healthy employees. A relative humidity between 40 % and 60 % is ideal for human, materials and machines.

AIR HUMIDIFICATION

merlin® air humidification systems
for healthy business



A healthy climate for humans, materials and machines

If the ambient air is too dry, this can lead to unwanted form and dimension changes in materials and products or to problems resulting from electrostatic charges. A “poor climate” not only slows down production, it also results in more material being consumed and lower employee productivity – and can even lead to longer absences due to sick leave.

The ambient humidity also influences how people experience warmth. If the ambient air is too dry, then its temperature has to be increased by 1 to 2 °C so that people feel as comfortable as when the air humidity is ideal.*

merlin® air humidification systems solve this problem in a targeted manner! State-of-the-art technologies in many different designs guarantee maximum efficiency. The well-engineered, globally proven solutions from merlin® usually pay off within the first year, because scrap, claims, sick leave and energy costs are all reduced, while productivity increases.

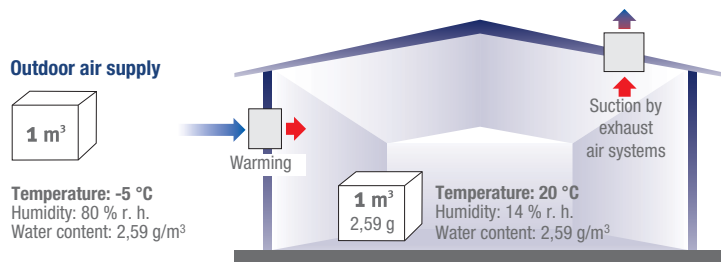
All merlin® air humidification systems are designed to be integrated into existing climate systems as well as to be implemented as standalone solutions.

* Source: R. G. Steadman (1979)



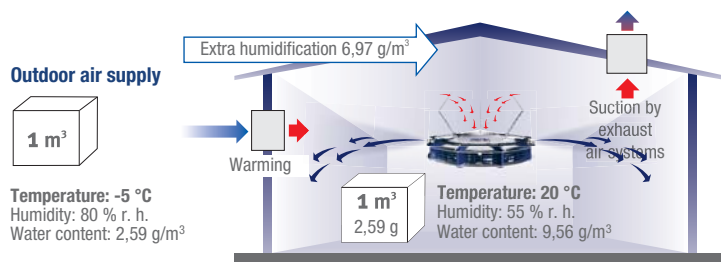
The theory behind humidification

Outdoor air supply in winter WITHOUT air humidification



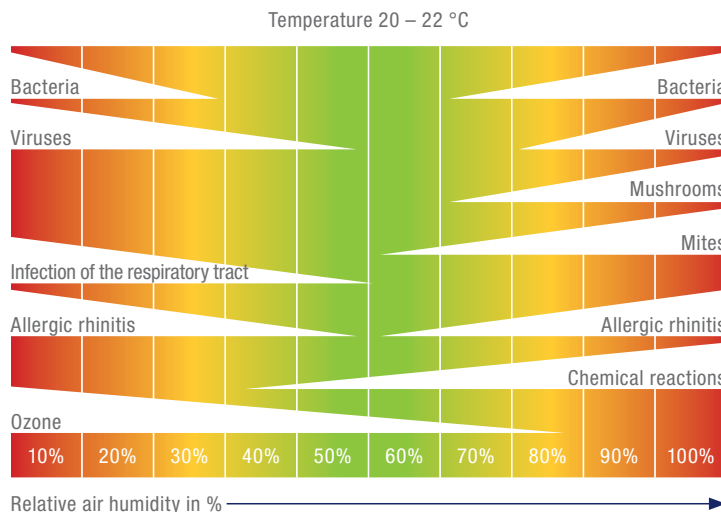
If 1 m³ of outside air with an average temperature of -5 °C and a relative air humidity of 80 % is fed into a room and warmed to 20 °C, the relative air humidity reduces to 14 % per m³ with the same water content.

Outdoor air supply in winter WITH air humidification



In order to obtain the desired indoor relative air humidity of 55 % at 20 °C, 6.97 g of water must be added to each m³ of fresh air supplied to achieve the necessary water content of 9.56 g/m³.

Air humidification is not a luxury, but a necessity!



Medical experts recommend relative air humidity of 40 to 60 percent. In this state, the individual perceives the air in a room as being optimally humidified. And it is then also ideal for health, for the animals and plants in the room, for furniture, instruments and much more besides.

Furthermore, the individual's heat sensitivity is also influenced. If the air humidity is too low then the room air must be heated approx. 1 – 2 °C higher, in order that the sense of well-being is the same as with optimum air humidity. This naturally also results in significant energy cost savings.

AIR HUMIDIFICATION

This wouldn't have happened with merlin®!



Success stories require top-quality!

- ✓ Higher output thanks to fewer paper jams and less machine downtime
- ✓ Perfect print and color results
- ✓ Consistently high paper quality



Top workability is the norm!

- ✓ Zero-tension wood storage thanks to constant air humidity
- ✓ Less scrap thanks to optimal dimensional stability without waste
- ✓ Perfect production conditions thanks to dust reduction
- ✓ Optimal bonding and gluing conditions



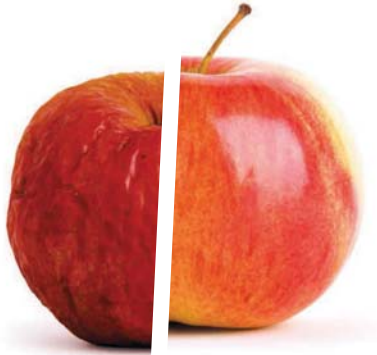
Only brilliant surfaces put the sparkle in customers' eyes!

- ✓ Effective suppression of fine dust thanks to binding to the micro spray mist
- ✓ Consistent surface tension thanks to constant air humidity
- ✓ Higher output thanks to less rework



Because there is simply less tension in the air!

- ✓ Prevention of static charges thanks to constant air humidity
- ✓ Adiabatic cooling effect thanks to micro atomization
- ✓ Top-quality with less scrap thanks to constant production conditions



True freshness sells better!

- ✓ Constant quality thanks to humidity compensation
- ✓ Less product loss thanks to optimized storage conditions
- ✓ Higher revenue thanks to satisfied customers



For a perfect working atmosphere!

- ✓ Optimal air humidity for a healthier working climate
- ✓ Fewer absences and interruptions due to sick leave
- ✓ Higher productivity thanks to ideal working conditions



Because even flexibility needs constants!

- ✓ Optimal workability without distortion or shrinkage
- ✓ Less scrap thanks to humidity control
- ✓ Satisfied customers thanks to constant product quality



What belongs together is what remains together!

- ✓ Safe handling for sensitive materials
- ✓ Prevention of static charge hazards
- ✓ Homogeneous products in top-quality thanks to optimal workability



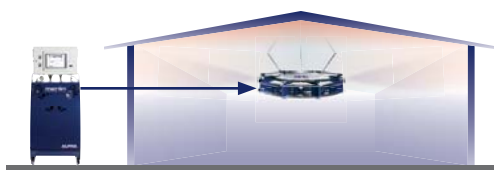
HIGH-PRESSURE AIR HUMIDIFICATION

MICRO DROP technology from merlin®

Air humidification at its best! All merlin® high-pressure air humidification systems are equipped with our **MICRO DROP technology** for extremely fine atomization. This means that the water will be finely atomized on the ceiling (in the case of direct room humidification) or in a ventilation shaft (in the case of duct humidification).

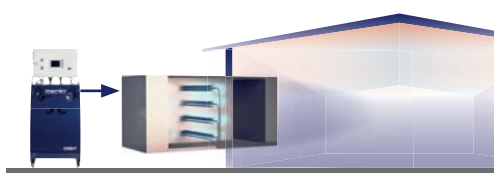
The two types of high-pressure air humidification:

Direct room



The merlin® **ALPHA** and **VISCORE** air humidification systems are used when the room is directly humidified. In this case, the MICRO DROP technology transfers the treated water via a high-pressure system to innovative humidification units. These units are installed on the ceiling or the wall where they emit finely vaporized water into the room.

Duct



In the new patented* **ORBIT WING®** air humidification system, the air is humidified by MICRO DROP high-performance nozzles directly inside the duct. Unlike the ALPHA and VISCORE direct room humidification systems, this system does not require any humidification units on the ceiling or wall.

* Patented in AT, PCT patent pending

VISCORE

MICRO DROP direct room humidification



Your benefits

- ✓ MICRO DROP atomisation
- ✓ Easy self-assembly
- ✓ Almost zero maintenance required
- ✓ Adjustable humidification system for different room sizes
- ✓ High level of reliability and safety
- ✓ High standard of hygiene
- ✓ Intuitive, compact design
- ✓ Minimal operating costs
- ✓ Frequency-controlled water hydraulic pump (MZ)
- ✓ Operation period and pause time individually adjustable
- ✓ Each zone is individually adjustable
- ✓ Expandable at any time: up to 4 zones (MZ)
- ✓ High-pressure monitoring
- ✓ Hygiene interval switching
- ✓ PLC control with graphic touch panel (colour display)
- ✓ Modular design:
can be combined in one unit with water treatment



Advanced quality in a intuitive design

Treated drinking water is compressed by a high-pressure pump and conveyed via high-pressure pipes to the individual zones, where it is spread across the humidification units. The **MICRO DROP high-performance nozzles** ensure the finest atomisation over a long lifetime.

A central control unit regulates run and pause time of the humidification process, while humidity sensors transmit the current air humidity value to the graphic touch panel of the PLC control.

The new design not only implements the user-friendly and up-to-date **plug-and-play-principle**, but is also technologically and not least optically future-oriented.

Features



FS150 humidity sensor

The sensor measures the relative air humidity in individual humidification zones. If needed, the humidity can be adjusted in each individual zone. The FS150 humidity sensor performs perfectly with its fast reaction time and high level of accuracy.



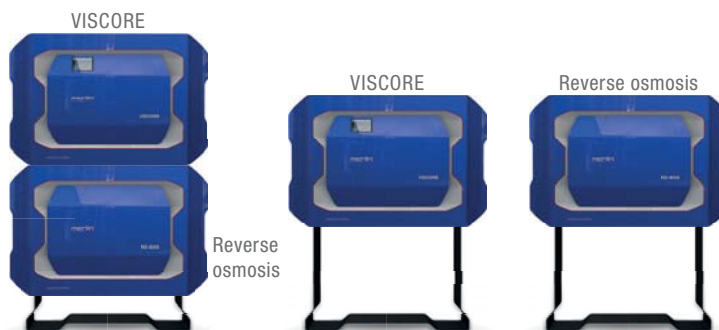
Graphic touch panel

PLC control

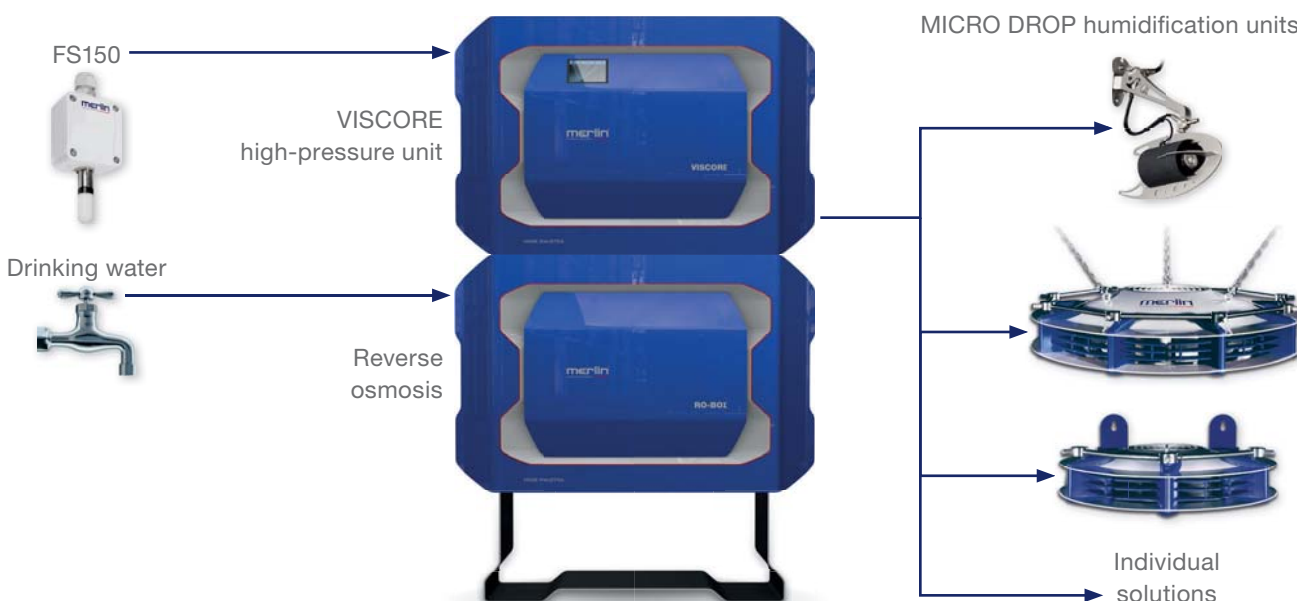
The intelligent PLC control with graphic touch panel and the easy menu navigation reads out the values of the humidity sensors and ensures perfect room air humidity. The zones are individually controllable.

Flexible in every aspect

The modular design offers the right solution for every requirement. The high-pressure system and reverse osmosis can be combined in one unit or used individually. The system can be expanded from 1 to 4 zones (MZ) at any time.



Set-up diagram



ALPHA

MICRO DROP direct room humidification

Your benefits

- ✓ Frequency-controlled water hydraulic pump (oil and maintenance free)
- ✓ MICRO DROP atomisation
- ✓ Low maintenance and minimal operating costs
- ✓ Modular and functional design
- ✓ Adjustable humidification system
- ✓ High level of reliability and safety
- ✓ High standard of hygiene
- ✓ All water-bearing components are made of anti-corrosive V2A stainless steel or food-tested plastics
- ✓ Hygiene interval switching
- ✓ PLC control
- ✓ Low energy consumption
- ✓ Easy handling
- ✓ Visualization and data storage on PC possible
- ✓ Individual interface to building control systems



Multifunctional high-end system

The ALPHA air humidification equipment is the high-end system from merlin® for direct room humidification. It works with filtered and hygienically safe water. If desired, the water can first run through a water softener, a reverse osmosis filter and a disinfection unit. Then the water is pumped through a stainless steel hydraulic pump at a pressure of 70 bar to the humidification units where it is finally atomized with the **MICRO DROP high-performance nozzles**.

The flexible PLC multizone control with touchscreen in combination with high-quality humidity sensors ensures precise and constant ambient humidity.

The optional PC visualization gives you an overview of the entire system at all times. It is also possible to record data.



Features



FTS112 humidity & temperature sensor

The sensor measures the relative air humidity and temperature in individual humidification zones. If needed, the humidity can be adjusted in each individual zone. The FTS112 humidity and temperature sensor performs perfectly with its fast reaction time, high level of accuracy and extra mechanical safety humidistat.



HPD high-performance nozzle

The new nozzle, with its high-quality workmanship and flow-optimised design, is a development based on the MICRO DROP nozzle. Made of noncorrosive, acid-proof stainless steel.

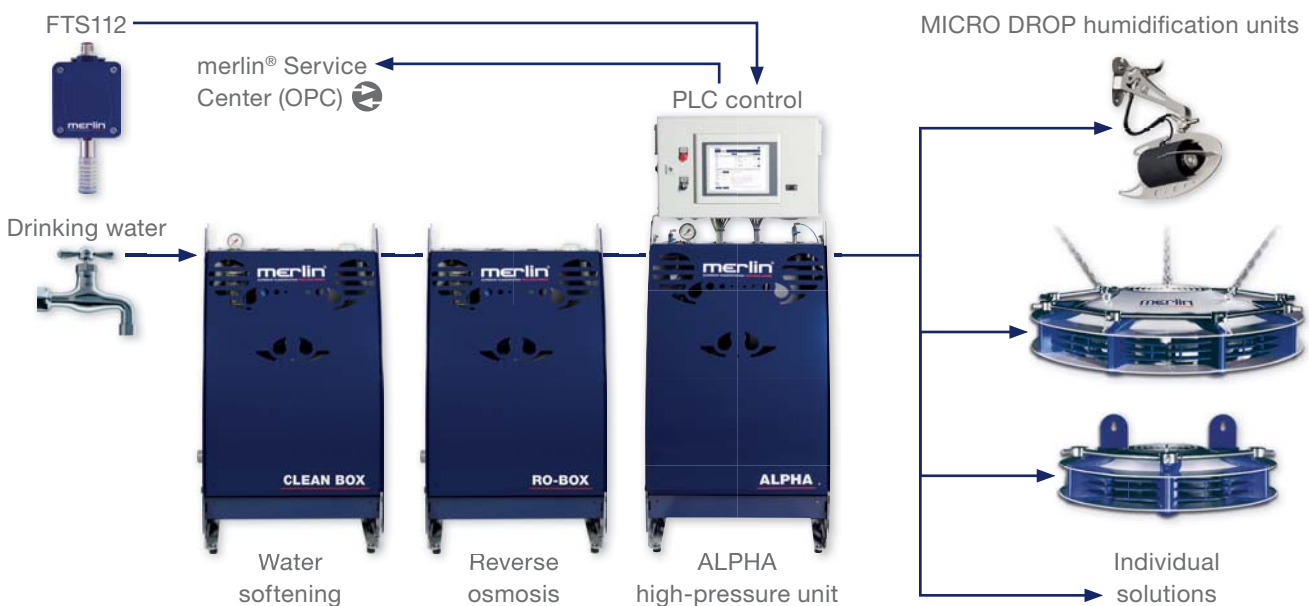


Colour display / touchscreen

PLC control

The smart PLC control manages the whole water treatment process as well as the humidity and temperature sensors, resulting in perfect air humidity levels in your room. OPC interface as standard. PC visualisation and data recording optional.

Set-up diagram



AER

Humidification units without ventilation



Ceiling & wall mounting



AER 1 work



AER 1 office



AER 2



AER 3



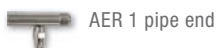
AER 5



AER 5 pipe



AER 1 pipe



AER 1 pipe end



AER 6



AER 9

Wall mounting

Ceiling mounting

AER and AER v – the originals

The merlin® humidification units with smallest possible height, low energy consumption and **MICRO DROP technology** for extremely fine atomization are installed to suit the given room situation, ensuring the most efficient humidity quality. There are humidification units for mounting on pillar, ceilings and walls. Special solutions are also available.

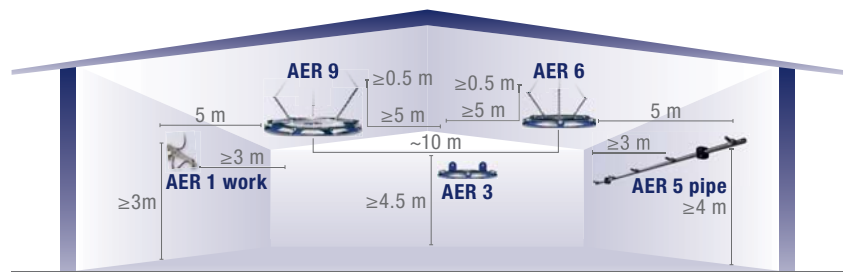
Automatic self-venting

The special redesigned nozzle ring enables the automatic self-venting of the entire high-pressure system, which practically eliminates the need for maintenance.

Humidification units without ventilation

can be installed under the right ambient conditions. Due to their **quiet operation**, they are especially suitable for showrooms and offices.

Mounting options



The number in the unit name indicates the number of nozzles. Optimal distribution of humidity is achieved if the recommended installation distances are observed.

AER v

Humidification units with ventilation



Accessories

For all AER and AER v



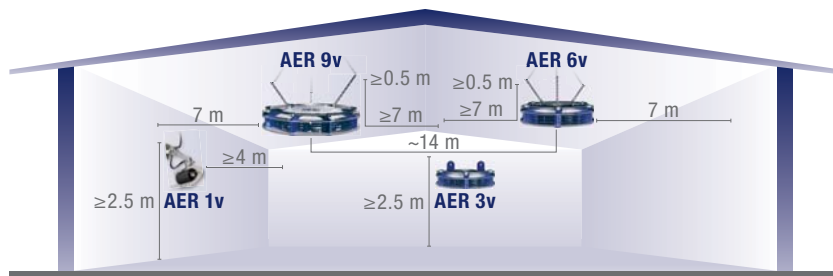
Air filter for AER 3v, 5v, 6v, 9v



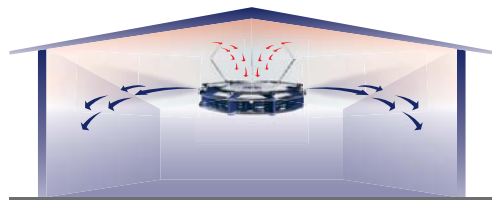
Humidification units with ventilation

suck in the warm ambient air from above and create a warm air cushion. This enables fast evaporation while ensuring an **even humidity distribution** throughout the room. An optionally installed dust filter actively cleans the air that passes through. Due to the air that is suck in from above, warm air from under the ceiling is actively recirculated.

Mounting options



Heat distribution



merlin®
~ 25 °C
~ 22 °C

Even heat concentration and lower temperature gradient.

AER v suck in warm ambient air from above and ensure fast and optimal humidity distribution.



AER 1v



AER 3v



AER 5v



AER 6v



AER 9v

Ceiling & wall mounting

Wall mounting

Ceiling mounting

About merlin®

Air humidification

High-pressure

Ultrasonic

Rotation lamella

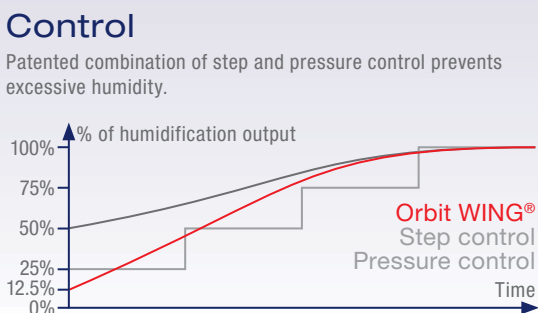
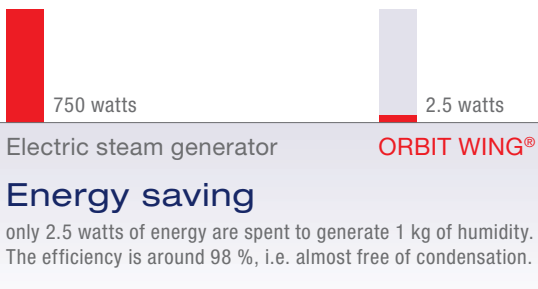
Compressed air

Water treatment

Superior Services

ORBIT WING®

MICRO DROP duct humidification



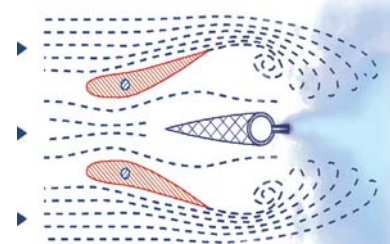
Your benefits

- ✓ Minimal energy consumption of only 2.5 watts
- ✓ No chemicals used to maintain the water quality
- ✓ Minimal loss of pressure thanks to optimal droplet separator (100 Pa at 2 m/s)
- ✓ Modular design for easiest installation
- ✓ Can be integrated into any duct system (can be replaced and retrofitted)
- ✓ Patented* combination of step control and pressure regulation
- ✓ High level of reliability and safety
- ✓ All water-bearing components are made of anti-corrosive V2A stainless steel or food-tested plastics
- ✓ Fine water filtration, dry-running and heat protection
- ✓ Minimum maintenance
- ✓ Short evaporation distance (-50 %)
- ✓ Energy-saving alternative to steam humidification (uses 90 % less energy)
- ✓ frequency-controlled water hydraulic pump (oil and maintenance free)

For integration in ventilation and air conditioning systems

The patented* merlin® air humidification system ORBIT WING® can easily be integrated into existing ventilation and air conditioning systems. Together with humidity sensors and automatic control system, it delivers efficient and economical air humidification.

The patented* **ORBIT WING® elements** make it possible to specify the aerosol swirling on the separation edge. The aerosol flies in a circle, flying longer for a shorter distance. This results in extremely short evaporation distances, which has proven to be highly hygienic and particularly space-saving.



* Patented in AT, PCT patent pending



Features



Technical details

| Volume of air m ³ /h Max. humidity addition 7gr/mm ³ | High-pressure pump type | Humidification output l/h | Power kW | Voltage V / Hz | Number of nozzles (type #2 / 4.5 l/h), pcs | Number of nozzles (type #3 / 7.2 l/h), pcs |
|--|-------------------------|---------------------------|----------|----------------|--|--|
| 5.000 – 25.000 | PAH-2.0 | 50 – 220 | 2.2 | 400 V / 50 Hz | 12 – 50 | – |
| 10.000 – 45.000 | PAH-3.2 | 90 – 400 | 2.2 | 400 V / 50 Hz | 20 – 90 | – |
| 14.000 – 55.000 | PAH-4.0 | 120 – 500 | 2.2 | 400 V / 50 Hz | 30 – 110 | 20 – 70 |
| 22.000 – 95.000 | PAH-6.3 | 200 – 850 | 2.2 | 400 V / 50 Hz | 40 – 190 | 30 – 110 |
| 35.000 – 150.000 | PAH-10.0 | 300 – 1.350 | 4.0 | 400 V / 50 Hz | 70 – 300 | 40 – 180 |



ULTRASONIC AIR HUMIDIFICATION

The efficiency of aerosols



Atomization

In this type of air humidification, the water is atomized by ultrasonic vibrations in tiny water aerosols (1 μm). Meanwhile the **CONTRA-KEIM® disinfection program** and **AQUADRAIN® hygiene management** guarantee an ideal hygiene standard.

FORTE | SENSO | PURUS | FINESSE

Ultrasonic air humidification



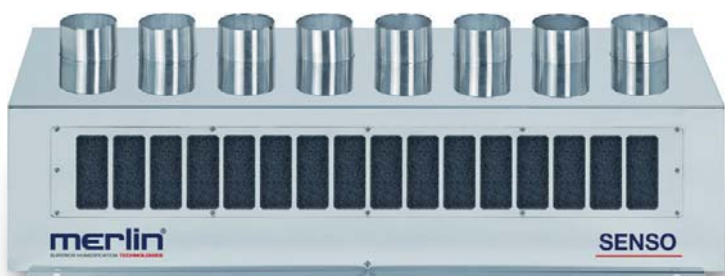
Variants

FORTE

Duct humidification

Easy to integrate into almost every ventilation or air conditioning system.

Humidification output up to 25.2 kg/h



SENSO

Universal humidification

Universal use, easy installation, compact design.

Humidification output up to 12.0 kg/h



PURUS

Direct room humidification

Accurate and highly efficient humidification output in the smallest areas.

Humidification output up to 8.0 kg/h



FINESSE

Food humidification

Significantly extends the freshness and shelf life of food.

Humidification output up to 3.0 kg/h



PURUS

Your benefits

- ✓ Top performance with low energy consumption – up to 93 % energy savings compared to steam humidification
- ✓ Highest hygiene standards
- ✓ 100 % humidity in just a few seconds
- ✓ Continuously adjustable from 0 to 100 %
- ✓ Can be integrated in existing air conditioning solutions
- ✓ Can be used as a standalone solution
- ✓ In normal operation condensate-free
- ✓ In normal operation no waste water

Always highly hygienic – with ultrasonic!

Osmosis water is atomised into 1 µ aerosols using 1.7 MHz ultrasonic vibrations. The ultrasonic technology consumes an average of only 50 W/h for each kg of humidification.

The **CONTRA-KEIM® disinfection program** and **AQUADRAIN® hygiene management** systems set new hygiene standards for humidification.

merlin® predetermines the ideal moisture parameters for a given application on the basis of the results of measurements and then uses the most suitable ultrasonic air humidification system to create the ideal climatic conditions for your business.

Technical details

| | |
|-------------------|---|
| Max. air humidity | up to 95 % relative humidity |
| Air temperature | 5 °C – 45 °C |
| Water pressure | min: > 1 bar dynamic max: < 6 bar static |
| Water quality | demineralised (< 20 µS/cm ³) |
| Low voltage | 48 VAC – 230 V / 50 Hz |

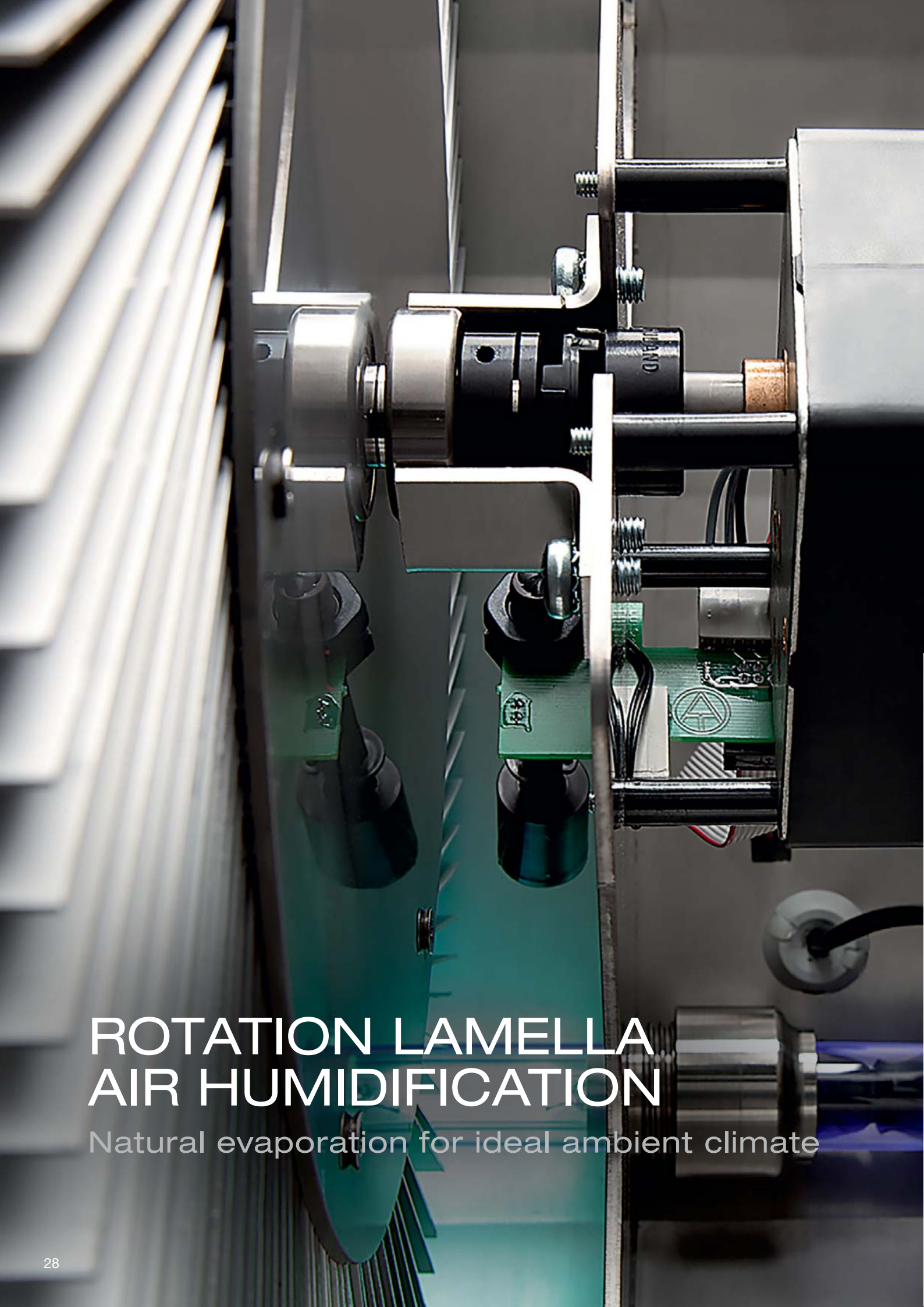
Features

Device description

- Anti-corrosive V2A stainless steel
- Dry running, heat and overflow protection
- Ceramic piezo vibrating element
- Overvoltage protection
- AquaDrain® hygiene management
- Contra-Keim® disinfection program FINESSE

Optional accessories

- Duct humidity and temperature sensor FORTE
- Control cabinet FORTE
- 2-step room humidistat for ON/OFF control PURUS
- Control cabinet incl. room humidity transmitter and continuous regulation SENSO + PURUS + FORTE
- Reverse osmosis systems
- Online conductometry
- Transformers



ROTATION LAMELLA AIR HUMIDIFICATION

Natural evaporation for ideal ambient climate



Evaporation

Rotation lamella air humidification not only ensures a **natural, aerosol-free** (i.e. fog-free) ambient humidity, it can also be used to regulate the temperature of the emitted air to support ventilation, air conditioning and heating systems.

AIR-C250 | AIR-C500

Rotation lamella air humidification

Variants

AIR-C 250 / AIR-C 500 without ventilation unit

For integration into existing ventilation and air conditioning systems. Optionally with electrical or water heating coil.



AIR-C 250 / AIR-C 500 with ventilation unit

Can be used as a standalone solution for direct room humidification.



Your benefits

- ✓ Can be integrated into existing air conditioning solutions and home ventilation systems
- ✓ Can be used as a standalone solution
- ✓ Hygiene tested and certified
- ✓ Integrated reverse osmosis and UV disinfection
- ✓ Electronic signal output
- ✓ Low maintenance
- ✓ Easy installation

Natural evaporation

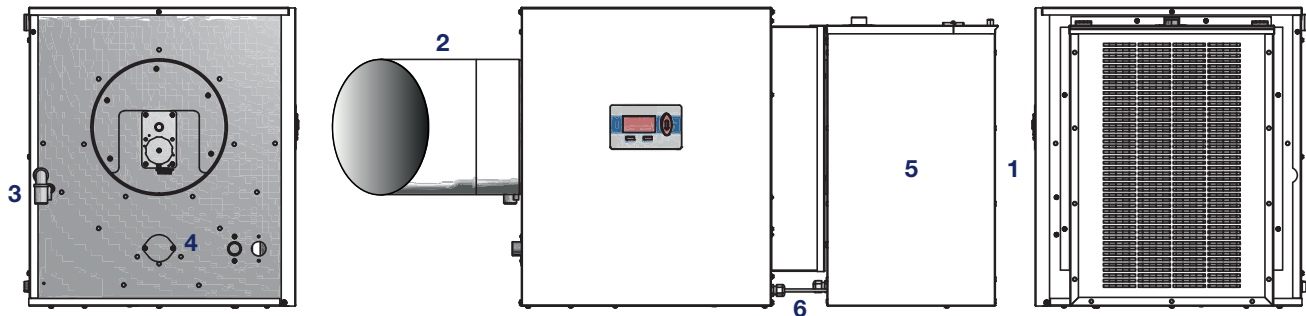
The basic physical principle of rotation lamella air humidification is simple. The rotation lamella evaporator is located in a humidification tank, which is supplied with water. As cold air enters, it is warmed by an integrated heating unit for the generation of evaporation energy.

A **UV disinfectant** ensures that only sterile water is evaporated. Rotating lamellas 'scoop' a precise percent of moisture – which you can set to any value between 40 % and 60 % r. h. – into the ambient air and keep the air humidity constant. This design principle ensures along with ideal relative humidity also tested, maximum hygiene.



Set-up diagram

- 1 Air inlet
- 2 Air outlet
- 3 Water outlet
- 4 Water inlet
- 5 Ventilation unit
- 6 Mains connection



Technical details

| | Unit | AIR-C 250 | AIR-C 500 |
|------------------------------------|-------------------|-----------|-----------|
| Air flow rate | m ³ /h | max. 250 | max. 500 |
| Adjustable air humidity | % | 40 – 60 | 40 – 60 |
| Adjustable air temperature | °C | 15 – 25 | 15 – 25 |
| Evaporation output | l/h | max. 2 | max. 4 |
| Water change | l/day | 1 – 10 | 2 – 30 |
| Loss of pressure | Pa | max. 30 | max. 80 |
| Mains connection | V / Hz | 230 / 50 | 230 / 50 |
| Air connection | ∅ mm | 160 | 250 |
| Water connection | ∅ inches | 3/4 | 3/4 |
| Water inlet pressure min. / max. | bar | 3.5 – 7.0 | 3.5 – 7.0 |
| Water temperature min. / max. | °C | 8 – 30 | 8 – 30 |
| Protection class for wall mounting | IP | 20 | 20 |
| PTC electric heater battery | | | |
| PTC heating element output | W | 1300 | 1300 |
| Water outlet | ∅ | 40 mm | 50 mm |
| Input power | W | 23 W | 23 W |



COMPRESSED AIR HUMIDIFICATION

Clever air humidification with compressed air



Compact

merlin® IQ compressed air humidification is a versatile and **individually configurable solution** that is also ideal especially for smaller production areas that have nooks and crannies, such as storage rooms and workshops.

IQ

Compressed air humidification

Your benefits

- ✓ Suitable for small spaces – targeted humidity supply
- ✓ Very fine atomisation of drinking water
- ✓ Compact design
- ✓ Easy installation and self-assembly
- ✓ Variable humidification output from 625 to 2,500 m³ of room air (4.5 to 18 l/h)
- ✓ Easy-to-extend, modular design by adding or removing the Quick-Change nozzles
- ✓ Mechanical or digital humidity sensor
- ✓ Ceiling or wall mounting – can be adapted to any room arrangement



Compact and multifunctional

IQ is the optimal solution for smaller production areas and storage rooms, with its excellent value-for-money performance.

The compact IQ humidification units can be mounted on the wall or ceiling. The specially designed nozzles ensure fine atomization, even at a working pressure of 1 bar. Thanks to **Quick-Change technology**, the system can be easily extended up to four freely hanging nozzles or three wall-mounted nozzles. The optional humidity sensor control (digital or mechanical) regulates a relative humidity up to 70 %. No water treatment is required.



Features



Technical details

Maximum output

For areas up to **800 m²** or suction up to **2,500 m³/h** at 21 °C room temperature and 50 % humidity with 4 nozzles in operation

2 installation options

- 1 – 4 nozzle operation, free-hanging
- 1 – 3 nozzle operation, wall-mounted

Set-up diagram

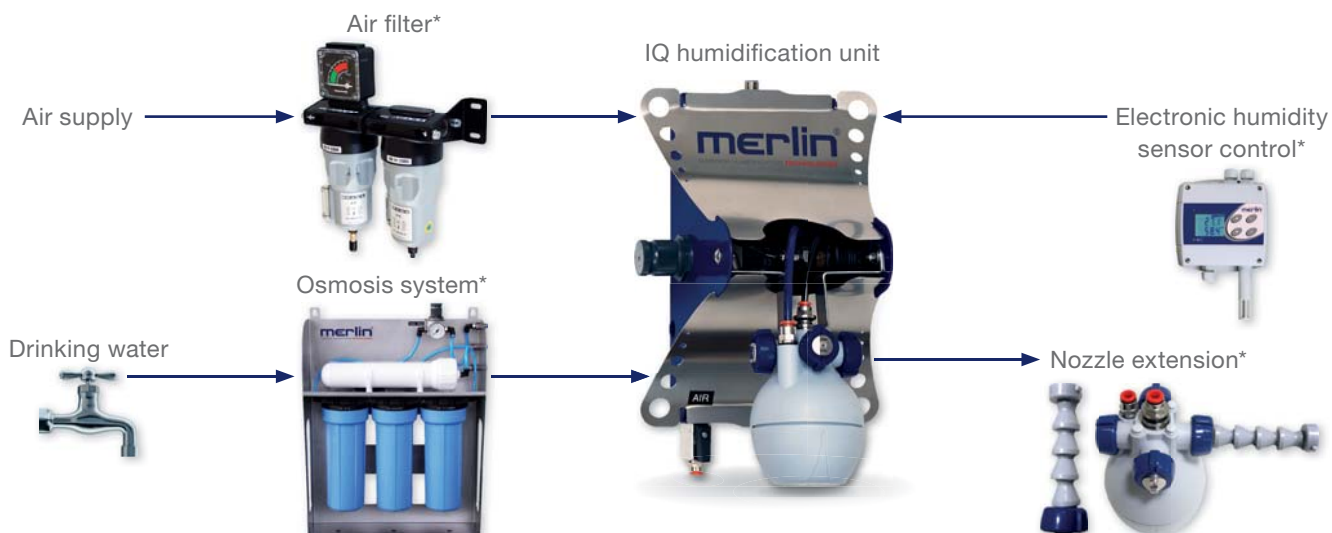


Illustration photo
*optional



WATER TREATMENT AND HYGIENE

The merlin® hygiene principle



A clean business!

All merlin® air humidification systems work with perfectly filtered and hygienically safe water. Depending on requirements, the water passes through a **filtration, water softening, reverse osmosis and disinfection unit**. You can rest assured that merlin® air humidification systems always provide maximum process reliability, efficiency and hygiene.

FILTRATION | SOFTENING OSMOSIS | DISINFECTION

Your benefits

- ✓ Individual water treatment
- ✓ Absolutely perfect hygiene
- ✓ Easy installation
- ✓ Modular design
- ✓ Low maintenance
- ✓ Fast amortization
- ✓ No chemicals used to maintain the water quality (with the exception of online disinfection)

| Particle size | 0.001 µm | | 0.01 µm | | 0.1 µm | 1.0 µm | 10 µm | 100 µm (0.1 mm) |
|------------------------------------|-----------------|-----|------------------|-------|-----------------------------|--------|---------------------|-----------------|
| Molecular weight (dalton) | 100 | 200 | 1000 | 10000 | 20000 | 100000 | 500000 | |
| Relative size of various materials | Dissolved salts | | Humic substances | | Activated carbon | | Sand | |
| | Metal ions | | Pyrogens | | Pigments | | | |
| | Monovalent ions | | Sugars | | Bacteria | | | |
| | Divalent ions | | Viruses | | Legionella | | | |
| | Halocarbons | | Cigarette smoke | | Industrial dust | | | |
| | | | | | Glass dust & abrasive dusts | | | |
| Separation processes | Reverse osmosis | | | | Ultra-filtration | | Particle filtration | |
| | Nanofiltration | | | | Cross-flow microfiltration | | Volume filtration | |

Drinking water



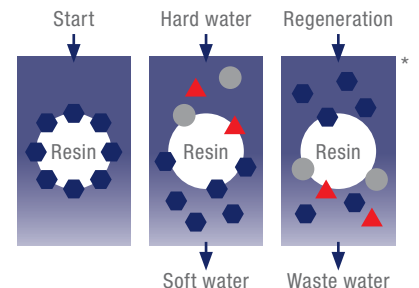
Filtration unit

The water filter combination, including integrated water counter, prevents the particles and suspended solids in the feed water from entering our air humidification systems. The filtration unit consists of coarse filtration that can be cleaned by backwashing and subsequent fine filtration – for absolutely reliable protection.



Water treatment unit

To prevent calcify on the high-quality system parts and atomizer nozzles, water softening is introduced. The water previously purified in the filtration unit transforms to 0° German hardness by an ion exchange process. Different systems will be used to meet the individual requirements and needs of customers.



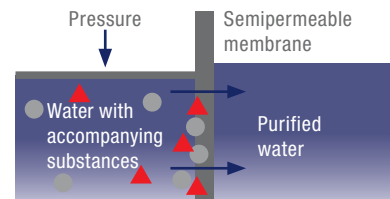
Ion exchangers are small plastic balls (permitted in drinking water) which can absorb ions from water and replace these with other ions. The ‚hard‘ water flows through the system and the dissolved calcium and magnesium ions removed and replaced with sodium ions. This softens the water.



Reverse osmosis unit

The reverse osmosis unit is used to demineralize water and is an indispensable part of the overall air humidification system in all areas where the presence of minerals is undesired (e.g. pressure and painting applications).

Filtered and also softened water is pressed through a membrane. The result is pure water, the residues are washed down the drain. The special advantage of reverse osmosis is that in addition to removing dissolved minerals, it also separates out bacteria, germs, particles and dissolved organic substances.



Reverse osmosis units with different liter capacities are integrated into the overall project based on customer-specific requirements. Reverse osmosis can also be used for process water (e.g. for printing machines).



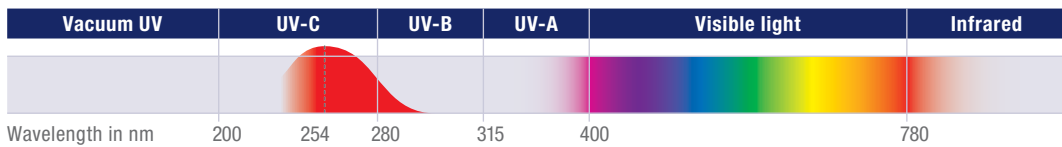
Disinfection

To guarantee the hygiene in the merlin® air humidification systems, either a selective disinfection process or an online disinfection process is implemented.

Selective disinfection

Softened water or reverse osmosis water is conveyed under a UV lamp, exposing it to UV light of approx. 200 – 280 nm (UV-C range). This renders any existing bacteria, viruses, etc. harmless.

Part of the electromagnetic spectrum



Online disinfection

For online disinfection of the entire air humidification system, merlin® uses, for example, the additive chlorine dioxide. Continually adding small amounts of this additive ensures that the entire air humidification system – from the feed water to the atomizer nozzle – is kept perfectly hygienic at all times.

SUPERIOR SERVICES

Make your business smile!

merlin[®]
SUPERIOR HUMIDIFICATION TECHNOLOGIES





Proven quality since 1995

Whether simple devices for use in the end customer's home or more complex systems for large concerns, merlin® can always offer customers optimal solutions given their high level of expertise and quality standards.

SUPERIOR SERVICES

Make your business smile!



Top quality at a fair price

The brand merlin® stands for a dynamic, innovative and international company. Highest quality standards and reliability distinguish our company.

Hygiene and optimal operations

merlin® air humidification systems are a reliable and energy-saving way of achieving an optimum indoor climate.



Other standards

Austrian standard (ÖNORM) H 6020-1:2007 'Ventilation Systems in Medical Institutions – Planning, Construction and Inspection'

ISO 13485:2012 'Medical Devices – Quality Management Systems – Requirements for Regulatory Purposes'



Hygiene and maintenance agreements

The reliable and energy-saving merlin® air humidification systems ensure an optimal ambient climate as long as the components are regularly maintained. You can easily perform the maintenance by yourself. If you do not have the necessary personnel or time resources, we would be happy to perform the maintenance for you as part of a service agreement. This allows you to fully focus on the success of your company.

Spare parts delivery within 48 hours

Our fast spare parts delivery helps minimize or even totally eliminate downtimes.

Internationally trained personnel

Our service employees are multilingual and internationally trained. This allows us to quickly respond in (almost) every part of the world.

Remote support service and customer support

Our remote support service allows us to help you quickly. The customer support of Merlin Technology GmbH is connected to you virtually and provides remote diagnostics for error messages that might occur.

Technology and hygiene training

We would be pleased to offer you training to ensure maximum operational safety. This training will allow you to perform maintenance and repairs by yourself.

Service hotline

Our customer service is available for you. We look forward to receiving your inquiry.

Tel. +43 (0) 7752 71966

Monday – Thursday: 07.30 a.m. – 5 p.m.

Friday: 7.30 a.m. – 12.15 p.m.

Tel. +43 (0) 699 1400 1452

Our service hotline is also available during our company holidays.



**MAKE
YOUR BUSINESS
SMILE!**



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