merlin®

SUPERIOR HUMIDIFICATION **TECHNOLOGIES**

AIR HUMIDIFICATION

Product catalogue

ENGLISH

AIR HUMIDIFICATION

merlin® air humidification systems for healthy business

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

HIGH-PRESSURE AIR HUMIDIFICATION

MICRO DROP technology from merlin®

COMPRESSED AIR HUMIDIFICATION

Clever air humidification with compressed air

IQ

Compressed air humidification

Your benefits

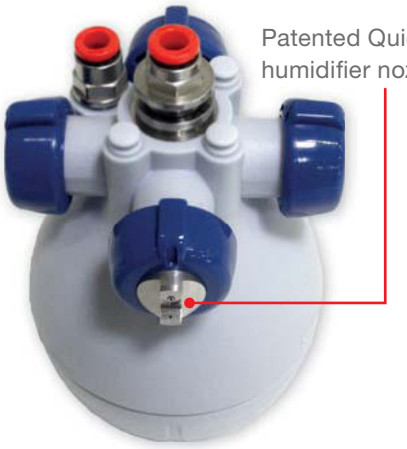
- Suitable for small spaces – targeted humidity supply
- Very fine atomisation of drinking water
- Compact design
- Easy installation and self-assembly
- Variable humidification output from 625 to 2,500 m^3 of room air (4.5 to 18 l/h)
- Easy-to-extend, modular design by adding or removing the Quick-Change 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



Patented Quick-Change humidifier nozzle

Quick-Change humidifier nozzle detail

Pivotable nozzle adapter*

Cleaning kit

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

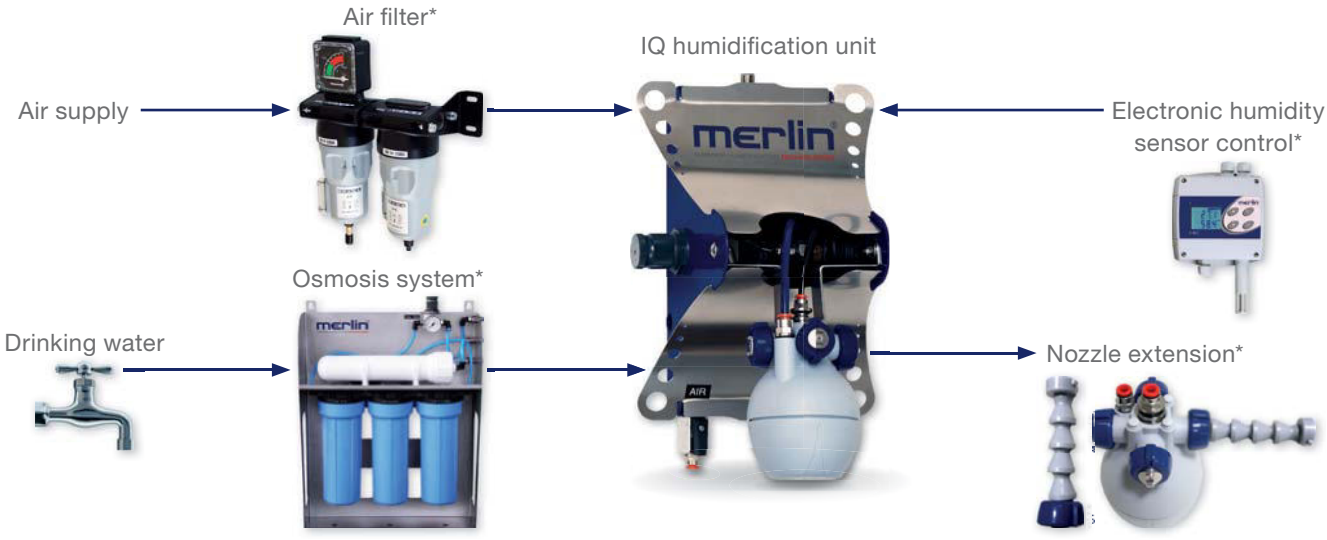
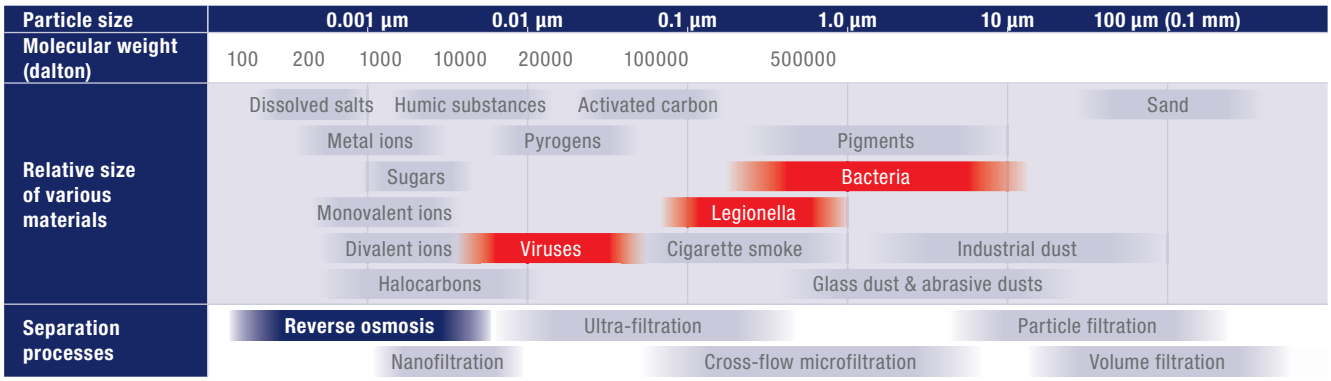


Illustration photo
*optional

FILTRATION | SOFTENING OSMOSIS | DISINFECTION

Your benefits

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

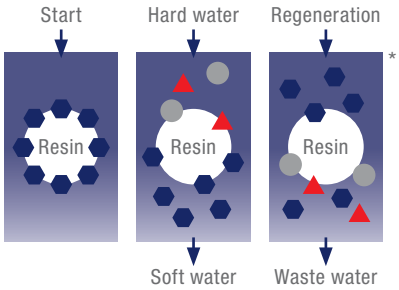


Drinking water

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.

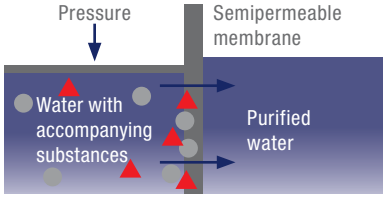
Ion exchangers are small plastic balls (permitted in drinking water) which can absorb ions from water and replace these with other ions. The ‚hard' water flows through the system and the dissolved calcium and magnesium ions removed and replaced with sodium ions. This softens the water.

* ⬣ Sodium ions ● Calcium ions ▲ Magnesium ions

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).

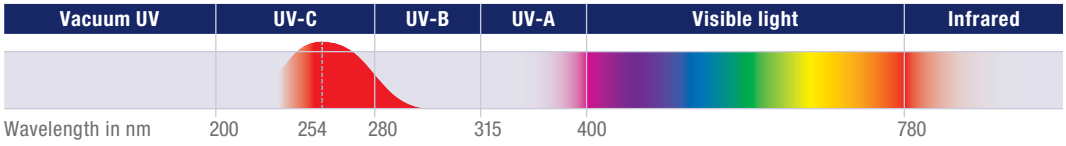
Disinfection

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.