

STULZ

CLIMATE. CUSTOMIZED.



An efficient way to optimum air quality

Optimize processes, save energy, ensure quality –
with Stulz UltraSonic air humidifying systems

STULZ UltraSonic – the humidifying system with maximum energy efficiency

In computer rooms, laboratories, equipment rooms, hospitals and offices – humidification is a vital element of optimum air conditioning everywhere. For printing presses, lithographers, photo labs and electronics factories, made-to-measure humidifier solutions ensure highly efficient production. Humidification also plays an important role in the leather and textile industry. In baking firms and cheese factories, in warehouses for fruit and

vegetables and in food counters, humidification preserves quality and optimizes the production process. In all these cases, STULZ UltraSonic humidifying systems provide tailor-made humidification, ensuring optimum processes and high quality standards.

The STULZ UltraSonic system is available in different versions, e.g. for direct room installation or fitting in an air duct.

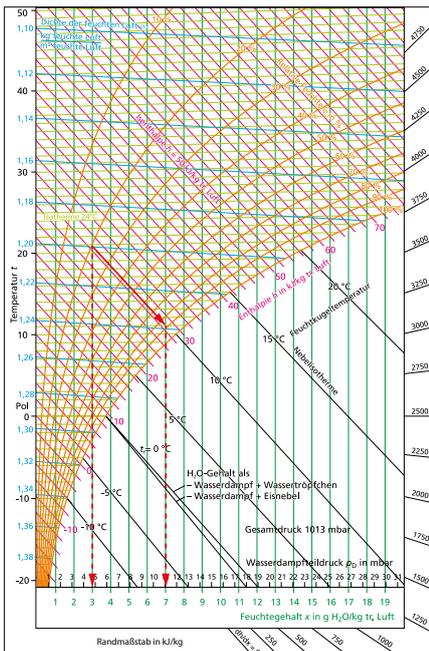




Adiabatic humidification

The energy required for the adiabatic humidification process is removed from the air as heat energy, and a cold mist is produced that humidifies the room.

This change of state is clearly illustrated in the h,x diagram.



Example:

Air at 21 °C / 3 g/kg is humidified to 7 g/kg.

Advantages at a glance

Maximum energy savings

STULZ UltraSonic uses up to 93 % less electricity than electrode/resistance steam humidifiers with the same capacity.

Excellent control characteristics

Full humidifier capacity is available without delay as soon as the unit is switched on, and humidification stops as soon as the unit is switched off.

Energy-saving cooling effect

Due to the laws of physics, room humidification with STULZ UltraSonic also cools the room. This considerably reduces the running time of the compressors when air conditioning units are used at the same time.

Efficient control technology/flexible MSR integration

Different control modules ensure optimum integration of STULZ UltraSonic humidifiers for every type of project.

Short humidification distance

The water particles measure just 0.001 mm on average. This very fine mist is absorbed by the air straight away.

Long service life

The principal components of STULZ UltraSonic humidifying systems are made of stainless steel or high-grade plastic. The oscillators have a minimum running time of 10,000 operating hours at nominal capacity.

Rapid payback/future-proof investment

STULZ UltraSonic humidifying systems pay for themselves within a very short time. In the face of rising energy prices, the STULZ UltraSonic system is a future-proof investment!

Hygienic humidification

Thanks to a continual supply of fresh water (no recirculating water!) and a special purging or flushing cycle, humidification is always perfectly hygienic.





STULZ UltraSonic ENS humidifiers for duct installation

Units from the STULZ UltraSonic ENS model series are available for use in ventilation and air conditioning systems. They can be installed in ventilation ducts, box-type units, and air conditioning units, for example. Units from the modular ENS 1200 A to ENS 9600 A series are made of high-grade plastic. The ENS 14 A/18 A models are available in a stainless steel casing. Since the units can be installed directly in an air duct, for example, no internal fan

is required either – the airflow in the duct is all that is needed to transport the mist out of the humidifier. Tried and tested controller components ensure that the desired room humidity is precisely maintained. This system is used in all properties where a ventilation system is installed, and where optimum humidity is essential for production, storage or the room climate.



ENS humidifiers for integration

| Model | Humidifier capacity (kg/h) | Number of oscillators | Dimensions H x W x D (mm) | Power consumption (W) | Weight without water (kg) |
|------------|----------------------------|-----------------------|---------------------------|-----------------------|---------------------------|
| ENS 1200 A | 1.2 | 2 | 157 x 220 x 145 | 65 | 1.5 |
| ENS 2400 A | 2.4 | 4 | 157 x 340 x 145 | 125 | 2.2 |
| ENS 3600 A | 3.6 | 6 | 157 x 460 x 145 | 185 | 2.9 |
| ENS 4800 A | 4.8 | 8 | 157 x 580 x 145 | 240 | 3.6 |
| ENS 6000 A | 6.0 | 10 | 157 x 700 x 145 | 310 | 4.3 |
| ENS 7200 A | 7.2 | 12 | 157 x 820 x 145 | 375 | 5.1 |
| ENS 8400 A | 8.4 | 14 | 157 x 940 x 145 | 435 | 5.8 |
| ENS 9600 A | 9.6 | 16 | 157 x 1,060 x 145 | 495 | 6.5 |
| ENS 14 A | 14.0 | 24 | 175 x 885 x 230 | 750 | 11.0 |
| ENS 18 A | 18.0 | 30 | 175 x 1,050 x 230 | 960 | 13.0 |



STULZ UltraSonic BNB humidifiers for direct room humidification

Units from the STULZ UltraSonic BNB 1000 A to BNB 8000 A model series are especially suitable for direct room humidification. The principal components of this unit are made of stainless steel or high-grade plastic. A fan integrated in the housing distributes the cold mist, which is generated in the water bath, around the room. Tried and tested controller components ensure that the

desired room humidity is precisely maintained. This unit is used to humidify production rooms, computer rooms, storage facilities, printing plants, museums, restoration workshops, theaters, and many other areas in which optimum humidity is essential for production, storage or the room climate.



BNB direct room humidifiers

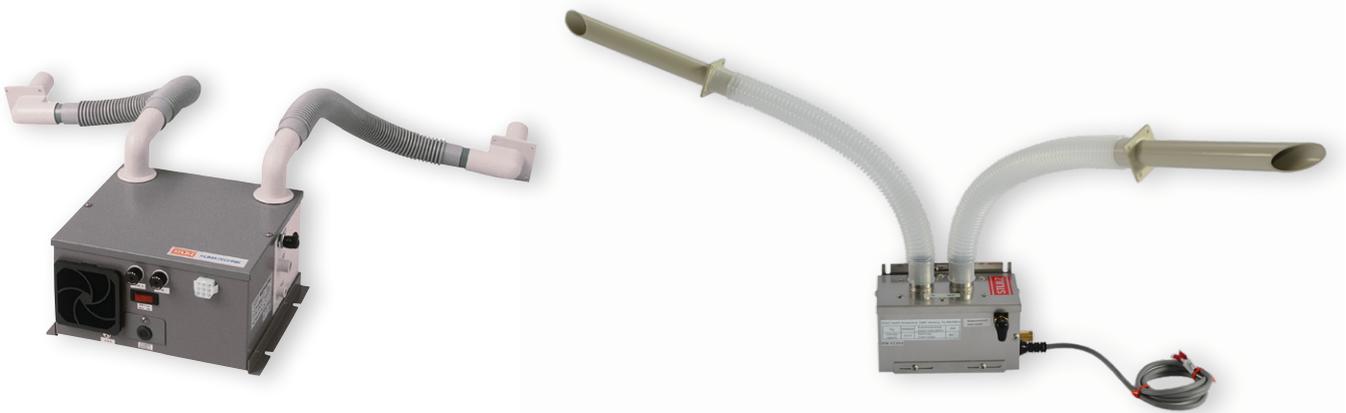
| Model | Humidifier capacity (kg/h) | Number of oscillators | Dimensions H x W x D (mm) | Power consumption (W) | Air throughput (m ³ /h) | Weight without water (kg) |
|------------|----------------------------|-----------------------|---------------------------|-----------------------|------------------------------------|---------------------------|
| BNB 1000 A | 1.0 | 2 | 255 x 254 x 200 | 100 | 72 | 7.1 |
| BNB 2000 A | 2.0 | 4 | 255 x 364 x 200 | 180 | 108 | 9.3 |
| BNB 3000 A | 3.0 | 6 | 255 x 474 x 200 | 250 | 144 | 11.2 |
| BNB 4000 A | 4.0 | 8 | 255 x 584 x 200 | 340 | 216 | 14.0 |
| BNB 5000 A | 5.0 | 10 | 255 x 694 x 200 | 430 | 252 | 16.1 |
| BNB 8000 A | 8.0 | 16 | 255 x 1,024 x 200 | 670 | 396 | 23.0 |



STULZ UltraSonic SCA and FN humidifiers with distribution system

STULZ UltraSonic SCA and FN humidifying systems were developed for special applications requiring pinpoint humidification. The SCA system features a universal distribution system, which is able to supply humidifying

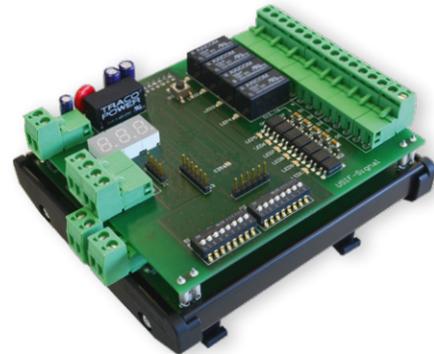
mist to fresh food counters and climatic chambers, for example. And the compact FN models were designed for installation in air conditioning units, laboratory cabinets, automated brewing systems, ventilation cabinets, etc.



BNB direct room humidifiers

| Model | Humidifier capacity (kg/h) | Number of oscillators | Dimensions H x W x D (mm) | Power consumption (W) | Air throughput (m ³ /h) | Weight without water (kg) |
|---------------------------|----------------------------|-----------------------|---------------------------|-----------------------|------------------------------------|---------------------------|
| SCA 1000 A | 1.0 | 2 | 195 × 272 × 220 | 100 | - | 6.0 |
| SCA 2000 A | 2.0 | 4 | 195 × 272 × 220 | 160 | - | 7.0 |
| SCA 1000 AX ¹⁾ | 0.2 - 1.0 | 2 | 195 × 272 × 220 | 100 | - | 6.0 |
| SCA 2000 AX ¹⁾ | 0.2 - 2.0 | 4 | 195 × 272 × 220 | 160 | - | 7.0 |
| FN 400 HDA | 0.4 | 1 | 95 × 158 × 90 | 40 | - | 1.7 |

The right humidification solution for every project



STULZ UltraSonic-Controller USM/USS – the universal control solution. The STULZ UltraSonic-Controller is integrated in a master-slave control solution that enables up to 15 humidifiers to be actuated. For each humidifying system, only one controller with plain text display for setpoint input, display of control actual values and error messages is required in the USM master control unit. All other humidifiers in the system are controlled by the connected USS slave control units. The USM/USS control units can be used to regulate the humidity using humidity sensors based on PI controllers, or for proportional control via an external power request. The various control options also include further electrical inputs/outputs, such as alarm/status signals, remote On/Off, optional water quality monitoring, and a great deal more.

STULZ UltraSonic Interface – integrating the control system in existing MSR peripheral equipment. The STULZ UltraSonic Interface was developed because many projects already feature complex MSR technology, and there is a need to integrate STULZ UltraSonic humidifiers simply and inexpensively. Using an external control signal, up to four STULZ UltraSonic Interface units or STULZ UltraSonic humidifiers can be combined to create an overall system with an output from 0–100 %. The various control options also include further electrical inputs/outputs, such as alarm/status signals, remote On/Off, optional water quality monitoring, and a great deal more.

| | STULZ UltraSonic-Controller USM/USS | STULZ UltraSonic Interface |
|---|---|---|
| Type of delivery | Wired ready for operation | Packaged loose for installation |
| Possible type of control | Rel. humidity / proportional / On-Off | Proportional / On-Off |
| Possible connection of humidity sensors | Yes, up to two humidity sensors | No |
| Hygienic flushing to VDI 6022 | Yes, external flush valve required | Yes, external flush valve required |
| Master-slave circuit | Synchronous control of up to 15 STULZ UltraSonic units | Cascade control of up to 4 STULZ UltraSonic units |
| Digital inputs | Remote On/Off, external enable, optional water quality monitoring | External enable, optional water quality monitoring, error reset |
| Digital outputs | Collective alarm, status signal, external flush valve | Collective alarm, status signal, external flush valve |

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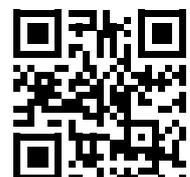
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Close to you around the world

With specialist, competent partners in ten German branches and in subsidiaries and exclusive sales and service agents around the world.

Our ten production sites are situated in Europe, North America and Asia.

For further information, please visit our website at www.stulz.com



You can find out more
on our product page.