

The background image shows an industrial facility with several large, rectangular metal tanks or ducts. In the foreground, a metal pipe with a nozzle is spraying a fine mist of water. The scene is set outdoors on a paved area with gravel at the bottom right. The sky is overcast.

CAPACITY COMFORT CONFIDENCE

High-Pressure Humidification Systems

OUR MISSION

The correct humidity is essential for a comfortable and productive indoor climate. It is our belief that this can only be achieved effectively when the entire chain is managed by one party. Starting with good, solid advice, then the design, manufacturing, and installation, and ending with the proper maintenance. In this manner we offer our clients the best possible solutions: long-lasting, safe, and energy efficient. Our installations can also be tailor-made to suit the demands of the most specific projects.

HIGH-PRESSURE HUMIDIFICATION SYSTEMS

FOR USE IN AIR HANDLING UNITS (AHU)

If you are looking for humidification with a capacity of above 20 litres an hour we advise choosing a high-pressure unit. These units are extremely energy efficient, hard-wearing, and hygienic. There is no use of silver ionisation and there are no chemicals added. The Cumulus® system consists of three main segments: stainless steel lances and stainless steel nozzles, a high-pressure pump, and a central water treatment system.

The lances are fitted in the 'wet section' of the AHU. The internal construction is fully rust-free steel, with a vertical separator and horizontal lances. An extremely sophisticated system of solenoid valves, connected to a LanceControl (control unit) enables the whole installation to deliver precise humidification in a series of 15 steps. The LanceControl controls which lances should be switched on or off at any time.

The Cumulus® high-pressure nozzles are also made of stainless steel and can easily be removed or exchanged for cleaning and maintenance. This makes them perfect for a long-lasting humidification system with low maintenance costs. The water, with a pressure of between 70 and 100 Bar is forced through a tiny hole in the nozzle, which in combination with the in-built swirl chamber results in a fine spray. The water droplets are so fine that they are absorbed almost immediately into the surrounding air.

It is important that the humidified water is clean, conforming to the most recent safety regulations and guidelines. We recommend including water treatment as part of the humidification system to ensure that the water will be free from bacteria and viruses. This also ensures the desired conductivity of between 5 and 20 µS/cm (microSiemens per cm).



WHY REVERSE OSMOSIS?

Cumulus® includes a reverse osmosis water treatment unit as part of their installations for the following reasons:

- For clean and Legionella-free humidification in the AHU.
- To remove the salts and minerals from the water, as well as the bacteria and viruses.
- To prevent limescale from blocking the nozzles.
- To fully conform with the guidelines as detailed in the ISSO 55.3 Publication.
- To fully conform with the rules for VDI-6022 certification.

A reverse osmosis filtration system works most efficiently with soft water with a water hardness of 0°dH. Therefore we always recommend using a water softener, complete with salt level alarm, before the reverse osmosis unit.



THE KEY FEATURES OF A HIGH-PRESSURE INSTALLATION IN AN AHU

- Extremely accurate capacity control
- Quick and easy to install
- Optimal absorption into the air stream
- Easily adapted to suit different configurations of air handling units
- The nozzles are fitted with a swirl chamber for minimal droplet size and faster absorption
- Perfect synergy between the water treatment and high-pressure pump units
- Bacteriologically safe: reverse osmosis
- No water storage
- WaterFresh® system (periodic flushing)
- TÜV certification, conforming to VDI 6022
- Low maintenance
- Adaptable system, easily expanded

Fully Integrated HPE and CombiCompact® System (reverse osmosis and high-pressure pump in one unit)

Type	Dimensions L x H x W in mm	Connection Value in kW	Usage in kW	Weight in Kg
HPE Plus 30	850 x 700 x 430	1,2 (400 V)	0,9	70
HPE Plus 60	850 x 700 x 430	1,3 (400 V)	1,0	75
CombiCompact HD120 / RO140	850 x 800 x 400	1,5 (400 V)	1,0	70
CombiCompact HD220 / RO280	850 x 800 x 400	2,0 (400 V)	1,5	75
CombiCompact HD280 / RO280	850 x 800 x 400	2,4 (400 V)	1,8	80
CombiCompact HD380 / RO280	850 x 800 x 600	2,9 (400 V)	2,2	85

Separate Units (reverse osmosis units and high-pressure pumps)

Type	Dimensions L x H x W in mm	Connection Value in kW	Usage in kW	Weight in Kg
Reverse Osmosis Cumro 250	600 x 1.300 x 600	0,7 (400 V)	0,4	65
Reverse Osmosis Cumro 500	600 x 1.300 x 600	1,2 (400 V)	0,7	100
Reverse Osmosis Cumro 750	600 x 1.300 x 600	1,7 (400 V)	1,2	135
Reverse Osmosis Cumro 1000	600 x 1.300 x 600	2,2 (400 V)	1,7	170
Reverse Osmosis HQ 140	850 x 800 x 350	0,65 (230 V)	0,55	54
Reverse Osmosis HQ 280	850 x 800 x 350	0,70 (230 V)	0,60	57
Reverse Osmosis HQ 420	850 x 800 x 350	0,75 (230 V)	0,65	62
Reverse Osmosis HQ 560	850 x 800 x 350	0,80 (230 V)	0,70	65
Booster Pump Plus 120	850 x 800 x 400	1,0 (400 V)	0,7	70
Booster Pump Plus 220	850 x 800 x 400	1,7 (400 V)	1,3	78
Booster Pump Plus 280	850 x 800 x 400	2,0 (400 V)	1,6	86
Booster Pump Plus 380	850 x 800 x 400	2,1 (400 V)	1,7	94
Booster Pump MIN 120	680 x 1.110 x 490	1,0 (400 V)	0,7	60
Booster Pump MIN 220	680 x 1.110 x 490	1,7 (400 V)	1,3	68
Booster Pump MIN 280	680 x 1.110 x 490	2,0 (400 V)	1,6	76
Booster Pump MIN 380	680 x 1.110 x 490	2,1 (400 V)	1,7	84
Booster Pump MIN 480	680 x 1.110 x 490	2,2 (400 V)	1,8	92
Booster Pump MIN 680	680 x 1.110 x 490	2,3 (400 V)	1,9	92

Note: The Booster Min pumps can also be supplied as a duo version with optional cascade control.

Extras

Type	Dimensions L x H x W in mm	Connection Value in kW	Usage in kW	Weight in Kg
LanceControl	250 x 150 x 250	0,2 (230 V)	0,1	2
Water Softener 8	400 x 600 x 600	0,2 (230 V)	0,1	25
Water Softener 12	400 x 1.200 x 600	0,2 (230 V)	0,1	30
Water Softener 30	800 x 1.200 x 600	0,4 (230 V)	0,2	35
Water Softener 30, twin version	1.200 x 1.200 x 600	0,6 (230 V)	0,4	65
Water Softener 40, twin version	1.200 x 1.200 x 800	0,8 (230 V)	0,5	85

Note: The weights of the water softeners shown are the weights when empty, without salt and water.

REFERENCES

Cumulus is active and experienced in many different industries and sectors. We will be pleased to explain how humidification can benefit your business.

CHASSÉ | THEATER

Schiphol
Amsterdam Airport

DISTRISPORT

DE COLONEL
STATIONSPLEIN MAASTRICHT

ING  BANK

NLON

STEDELJK
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ROYAL SENS
THE LABEL IN PACKAGING

provincie
Gelderland


Universiteit Utrecht

HEESEN



Careyn


P.G. & F.
AMSTERDAM





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