ORGANISATION

Cumulus® is the market leader for humidification and accompanying water treatment in the Benelux region. Outside the Benelux, we have a global network of partnerships and agents. We are a flexible and innovative organisation, with more than 30 years of experience. High quality and safety are of great importance to us. We specialise in turnkey humidification projects, for both new builds and renovations. With more than 30 employees, our specialist teams know how to use the right humidity to increase efficiency and comfort at your facility. Rest assured that that you will benefit from our systems for a long time.

REQUEST CUSTOM SOLUTIONS

Do you want to know more about adiabatic cooling or adiabatic pre-cooling? We understand that every customer is unique and has different requirements. Our experts will be happy to visit you to assess your situation. Working together we will find the best solution for your company.

Contact us for tailor-made advice.

cumulus®
engineers in humidification

Cumulus Nederland BV
Korte Beijerd 3a | 5431 NP Cuijk, Nederland
Tel: +31-485-47 88 55 | Fax: +31-485-47 84 36
info@cumulus.nl | www.cumulus.nl

TÜV NORD
Tested Hygiene Safety of CUMULUS Humidification Technology SEG-678/10

Adiabatic Cooling

cumulus®
engineers in humidification

OUR MISSION

The right humidity is essential for a productive and comfortable indoor climate. We believe that this is best achieved when the entire process is provided by one party. Starting with advice, engineering, production, installation and ending with preventive maintenance. This way we can offer the best possible solutions for our customers; sustainable, safe and energy-efficient. Our installations can easily be tailor-made for specific projects. It is not without reason that our slogan is: More Capacity, Comfort and Confidence!

ADIABATIC COOLING

ADIABATIC PRE-COOLING

High summer temperatures place a heavy load on your cooling unit. Once these become too high, the efficiency drops. Ultimately, the excessive demands on the system can cause it to shut down. This can have a huge impact on goods in cold storage rooms or freezer units.

The Cumulus® adiabatic pre-cooling system reduces the load on your coolers by using water atomisation to cool the air surrounding the outdoor condensers. The water is filtered by an osmosis filter, pressurised to high-pressure nozzles and dispersed as a fine mist that cools the air. The integrated automatic control activates the system based on either the outside temperature or the pressure within the cooling system.

This system ensures their optimal performance, regardless of the external temperatures. Expensive investments to expand the existing cooling capacity to cope with the peaks during hot periods are no longer necessary. Our adiabatic pre-cooling is always combined with a reverse osmosis (RO) unit in order to ensure Legionella safety and to prevent the water nozzles from clogging.

ADVANTAGES

- Energy savings
- Increased cooling capacity
- Reduced water usage
- Retrospective installation
- Short payback period (often below 1 year)
- Prevents overload and shutdown
- Low maintenance
- Flexible and scalable
- Installed very quickly within a short lead time

WHY ADIABATIC COOLING?

Adiabatic cooling is the process by which evaporating water cools the air. The effect can be applied directly into the required area or indirectly via an air handling unit (AHU). The technology is highly-efficient and easy to install, and can even be added retrospectively to existing cooling units.

Cumulus® has been utilising adiabatic cooling for many years. The cooled air produced can be used to reduce the cooling load and even replace a cooling unit. When the cooled air is distributed directly within a building it reduces the temperature inside. When applied indirectly, the system can be used to increase the efficiency of dry coolers by reducing the temperature on the roof. Further it will prevent failure due to high pressure in the cooling circuit.

INDIRECT ADIABATIC COOLING

High summer temperatures are becoming increasingly common. When combined with heat-producing machinery, the temperature in your building can become very high, resulting in an uncomfortably warm climate.

Adiabatic cooling reduces the air temperature inside the building by evaporating water, which cools the air. This technology can be applied indirectly via the air handling unit, where the adiabatic cooling takes place in the return air flow. A heat exchanger then returns the cold to the ingoing air flow. The excess heat produced by the machinery can be utilised for the evaporation process. Our adiabatic cooling is always combined with a reverse osmosis (RO) unit in order to ensure Legionella safety.

ADVANTAGES

- Energy-efficient
- Can be used as cooling unit
- Ideal for pre-cooling
- Legionella-safe atomisation
- Low maintenance
- Flexible and scalable

	AllinOne Min 60 WS	AllinOne Min 120 WS	AllinOne Min 220 WS	AllinOne Min 280 WS	AllinOne Min 380 WS	AllinOne Min 480 WS
Part number	11626	11627	11628	11629	11630	11631
Max. capacity high pressure pump [l/h]	60	120	220	280	380	480
Size in mm [height x length x width]	1,560 x 1,250 x 770					
Weight [kg]	150	170	175	180	185	190
Conductivity water [µS/cm]	5-20					
Operating pressure [Bar]	70-100					
Power consumption [kW]	0.9	1	1.5	1.8	1.9	2
Control signal [V / mA]	0-10 / 4-20					
Water softener included	Yes, with storage vessel					
Can be connected to AHU	Yes					
Can work stand alone	Yes					
Maximum zones	12					
WaterFresh® safety	Yes					
Auto restart after power failure	Yes					
External warning signal	Optional					
Maintenance warning	Yes					
Monitoring at distance	Optional					
Water pressure safety	Yes					
Overload protection	Yes					
Pipe rupture protection	Yes					
UV-C disinfection unit	Optional					
Reverse osmosis	Optional					