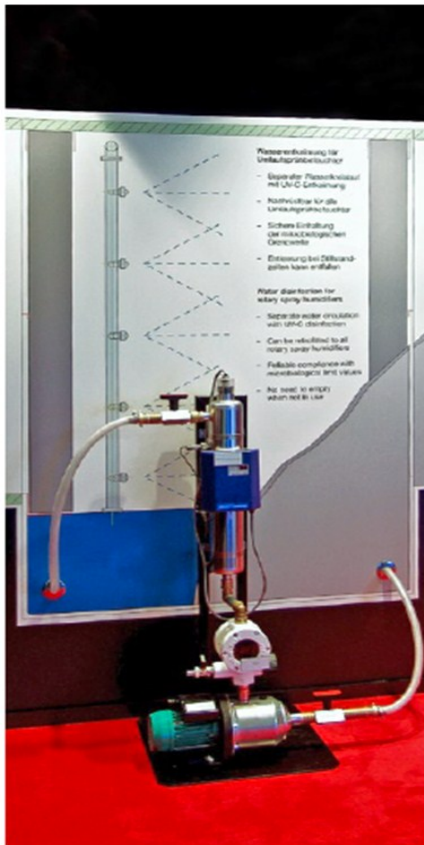


## Water disinfection system for rotary spray humidifiers/re-cooling plants



Air in HVAC systems is often humidified using rotary spray humidifiers. The excellent humidification effect is set against an increased microbial hygiene risk. This is why the German standard VDI 6022 "Hygienic requirements for ventilating and air

conditioning systems and air handling units" details the requirements for the construction and operation of humidifiers. For example, in the hygiene parameters defined for circulating water the total colony number must not exceed 1,000 CFU/ml.

To ensure this, regular hygiene checks that also include microbiological germ counts should be carried out. A problem is that even under good conditions germs can multiply in the circulating water – and therefore also in the air stream. Micro-organisms such as bacteria and moulds are distributed around the whole building via the HVAC system and present a risk to human health. This means that it is essential to prevent germination in the circulation water.

Our water disinfection system achieves this aim. A pump directs the circulating water through a separate water circulation where it passes through a filter and the UV-C disinfection system. The separate circulation ensures that even when the HVAC system is not operating the disinfection of the water prevents dangerous germination of germs. This means that it is not necessary to empty the water during shutdown time. Longer intervals for microbiological checks are a further positive aspect.

The same problem applies to the operation of re-cooling plants. When cooling water is sprayed it also enters the air flow. As the water also circulates here there is a great risk of germs germinating. The development of biofilms is reduced with the use of a circulating UV-C system. The standard UV-C disinfection system is available for recirculation of 3 or 9 m<sup>3</sup>/h, corresponding to 1 or 3 m<sup>3</sup> of water in a basin.

The germs are destroyed by means of UV radiation on a wavelength of 253.7 nm. This wavelength has a lethal effect on micro-organisms, such as bacteria, moulds and yeasts. Low-pressure UV-C emitters serve to generate shortwave UV-C radiation, which provides a high level of radiant efficiency. The UV-C emitters are monitored and controlled with a display that continuously measures the irradiance and immediately reports any faults via a potential-free output.

We supply a completely preassembled installation kit which simply requires two pipes to be connected. The straightforward retrofitting to existing rotary spray humidifiers is a great advantage. The shut-off valves used allow quick cleaning of the system. Optimum hygiene is achieved with a combination of water disinfection and by using one of our downstream air disinfection systems.

Challenge us and see what we can do for you!

### Delivery scope:

UV-C water disinfection system, circulation pump, filter, shut-off valves, pipework



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Technical description of UV-C system	UV-C water disinfection system for rotary spray humidifiers	
	3 m <sup>3</sup> /h	9 m <sup>3</sup> /h
Product no.		
Width	210 mm	320 mm
Height	570 mm	1,090 mm
Depth	140 mm	200 mm
Supply voltage	230V ~ 50 Hz	230V ~ 50 Hz
Power consumption	130 Watt	230 Watt
UV-C emitter in quartz glass protective tube	85 Watt	193 Watt
UV-C output	23 Watt	66 Watt
UV-C emitter product no.	368503	3619303
Emitter service life	8,000 h	8,000 h
UV dose	400 J/m <sup>2</sup>	400 J/m <sup>2</sup>
Safety class	I	I
Protection class	IP 65	IP 65
Material	Stainless steel 316 L, electropolished	
Reactor weight	10 kg	23 kg
Control box	Material: polystyrene, fitted with an igniter, selector switch, ballast, UV monitoring board	