Water disinfection systems of UST.

For professional water treatment.

Disinfection with ultraviolet light.
Electromagnetic waves with a spectrum of 280 to 180 nanometre (nm) represent the short waved **ultraviolet light, UVC**. The irradiation at that wavelength is **damaging the cell structure of bacteria, viruses**, algae and other microorganisms. **At 254 nm the DNA of microorganism is most effectively disrupted.** In result they can no longer reproduce and die-off subsequently.

The UVC emitting elements in **ULTRA V** are focused on precisely that wavelength of 254nm. The process does not require extended holding time like other disinfection methods, **the effect shows instantly**.

Enhanced disinfection with UVC + OZONE
OZONE is the strongest force of oxidation applied in water disinfection. The method is most effective, dissolving the cell membrane of any microorganisms, even humic substances, pesticides, cyanide, phenol are oxidized by ozone. It also reduces odour.

ULTRA V/O3 combines the instant disinfection of UVC and the powerful oxidation through OZONE. The system operates with a special emitter generating irradiation of 254nm for direct disinfection. Additionally, electromagnetic waves of 185nm are produced which are used to crack oxygen molecules to enable the formation of O3 (ozone). For the process ambient air is introduced to the system, no additional substances are required.

Advantages:
- **Safe disinfection:** Works immediately, even against resistant germs
- **Cost savings: The acquisition costs of an ULTRA V system**
  The costs range between €1,000 and €20,000 and are offset by the savings from biocide use within 3-6 months.
- **Environmentally friendly:** a clean alternative to chemical methods
- **Easy to use:** no dosing required, always full power
- **Low maintenance:** hardly any wear parts

UST Umwelt-System-technik.

Dedicated to build the best water treatment solutions.

The company, **established 1991 in Gera/ Thuringia is a small and innovative firm, specialized on the design and production of water treatment devices**.

Since 2004 over 15,000 devices using UVC for the water disinfection have been installed all over the world. In 2018 **ULTRA V was introduced with a special focus to provide solutions for larger capacities in the field of industrial water treatment**.

Over the last years **ULTRA V** units have been proving their effectiveness in a wide range of industries, such as vegetable packaging, production of adhesion and forming of glass and metal. **ULTRA V ensures germ-free water in vegetable washing machines, it eliminates legionella in cooling water circuits and reduces COD in waste water.**

UST

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ULTRA V

Water disinfection with UVC and OZONE.

UST
WATER DISINFECTION
Hygienic Water Through UV-C & Ozone

Made in Germany

ULTRA V

UVC - Flow-through device

	Electrical power	99.99% Desinfection guaranteed at:
ULTRA V 40	40 W	2,3 m³/h
ULTRA V 75	75 W	3,1 m³/h
ULTRA V 120	120 W	6,0 m³/h
ULTRA V 150	150 W	7,5 m³/h
ULTRA V 300	300 W	15,0 m³/h

General
- Flow rate (max.): 20 – 40 m³/h
- Temperature (max.): 40°C

Reactor 1
- Stainless Steal 1.4404
- Surface: electropolished •
Connections: DN 50
- Operating pressure: PN 6

Ballast 2
- Type: electronical
- Voltage: 110 – 230 VAC
- Frequency: 50/60 Hz

ULTRA Vk

4-beam UVC - Flow-through device

	Electrical power	99.99% Desinfection guaranteed at:
ULTRA V 0.6k	600 W	50 m³/h
ULTRA V 1.2k	1.200 W	100 m³/h

General
- Flow rate (max): 100 m³/h
- Temperature (max.): 40°C
- Lamps: 4

Reactor 1
- Stainless Steel 1.4571
- Surface: electropolished
- Flange: 2 × DN 100 / 125 / 150
- Turbulator: 2 × grid
- Operating pressure: PN 10 / PN 16

Ballast 2
- Type: electronical
- Voltage: 110 – 230 VAC
- Frequency: 50/60 Hz

ULTRA V/TS

UVC - Submersible emitter

	Electrical power	Number emitter
ULTRA V 50/TS	50 W	1
ULTRA V 150/TS	150 W	1
ULTRA V 100/MTS	100 W	2
ULTRA V 300/MTS	300 W	2

General
- Temperature (max.): 40°C

Emitter 1
- Length: 500 mm – 1. 700 mm

Ballast 2
- Type: electronical
- Voltage: 110 – 230 VAC
- Frequency: 50/60 Hz

ULTRA V/ O_3

UVC + OZONE flow-through device

	Electrical power	99.99% Desinfection guaranteed at:
ULTRA V 41/O_3	41 W	2,3 m³/h
ULTRA V 87/O_3	87 W	3,1 m³/h
ULTRA V 120/O_3	120 W	6,0 m³/h
ULTRA V 150/O_3	150 W	7,5 m³/h
ULTRA V 1.2k/O_3	1.200 W	100 m³/h

General
- Flow rate (max.): 20 m³/h
- Temperature (max.): 40°C
- Dimension (L×W×H): 1.200 × 450 × 300 mm

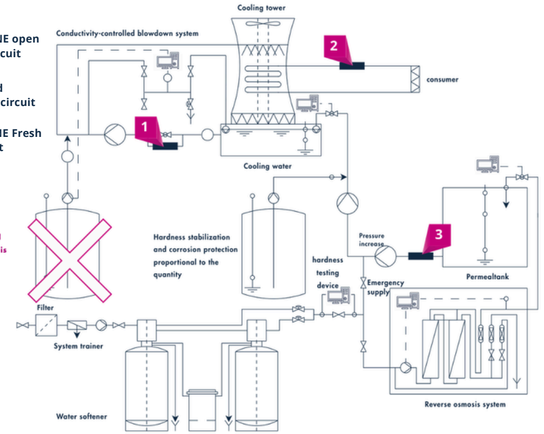
Reactor 1
- Material: Stainless Steal 1.4404
- Surface: electropolished
- Water connections: DN 50
- Operating pressure: 2–3 bar

Ballast 2
- Type: electronical
- Voltage: 110 – 230 VAC
- Frequency: 50/60 Hz

ULTRA V

Deployment plan for UVC and ozone systems for cooling towers

1. UVC/OZONE open cooling circuit
2. UVC closed consumer circuit
3. UVC/OZONE Fresh water inlet



Cooling circuits / Cooling towers

Legionella

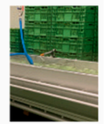
Irrigation / greenhouse farming

Norovirus, Fungi

Drinking Water

Escherichia coli,Vibrio cholerae

Vegetable washing



Escherichia coli

Fish farming

Algae

Waste Water

BOD & COD