

WEDECO · UV DISINFECTION FOR HIGH-PURITY AND ULTRAPURE WATER

WEDECO PureTube

In-line glass-reactor UV systems for pharmaceutical, cosmetic and semiconductor water, with residual ozone destruction.



Overview

WEDECO PureTube is an in-line UV system for high-purity and ultrapure water in pharmaceutical, cosmetic, semiconductor and similar production. Water flows straight through a quartz-glass reactor with no inserts or dead zones, while the UV lamps sit outside it, around the central quartz tube. The high-dose design inactivates resistant pathogens such as adenovirus and also destroys residual ozone without by-products. Lamps and sensors are thermally isolated from the water, so the system can be sanitised at up to 144 °C. PureTube replaces the WEDECO ME series and can be fitted into existing ME installations.

Ozone UV Solutions supplies PureTube systems as an authorised WEDECO reseller and supports them locally: sizing, installation, commissioning, servicing, lamps and spare parts.

Key features

- Third-party validated to the US EPA UVDGM (2006); removes resistant pathogens including adenovirus
- High-dose design for by-product-free destruction of residual ozone
- Straight-through quartz-glass reactor: no inserts, no dead zones, full drainage, lowest possible head loss
- Lamps and sensors thermally isolated from water and steam; sanitisable up to 144 °C
- Ecoray LPHO lamps, dimmable, rated lamp life 14,000 hours; OptiDose sensor-based dose control
- DIN 11864-2 hygienic connections [Tri-Clamp]; [pipe extensions to match WEDECO ME units] for retrofit

Design and operation

Hygienic in-line design

Water flows through a quartz-glass tube with no internal parts, so nothing obstructs drainage or lets water stand. Materials in contact with water are quartz glass and stainless steel 1.4404 (ASTM 316L). Because the lamps and sensors are outside the water path and thermally isolated, the reactor can be sanitised with hot water or steam at up to 144 °C.

Irradiation

The UV-C lamps are arranged around the central quartz tube with high-efficiency reflectors. This gives an even dose across the whole chamber without shadows or dark spots, and a high UV-C dose even when the lamps are dimmed.

Controls

OptiDose watches flow, UV transmittance and UV intensity in real time and sets the dose. The EcoTouch controller gives access to process data and configurable alarm outputs, with SCADA communication over Profibus, Profinet, Modbus or EtherNet/IP.

Installation and retrofit

The compact in-line design installs straight into the pipe run. With the available adapters, PureTube can replace an existing ME unit without changing the pipework or adding pumping.



Typical applications

- Purified and ultrapure water in pharmaceutical production
- Cosmetic production water
- Semiconductor and microelectronics ultrapure water
- Destruction of residual ozone after ozone sanitisation

Supplied and supported by Ozone UV Solutions

System selection and UV dose sizing · Installation and commissioning · PLC/SCADA integration · Planned servicing and lamp changes · Genuine WEDECO lamps, spare parts and consumables · 24/7 technical support line
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Model selection

The right model depends on flow rate, UV transmittance (UVT) of the water and the dose required, for disinfection or for ozone destruction. Send us these figures and we will confirm the model and configuration.

PureTube models

Model	Max. flow (m ³ /h)	UV lamps	Power per lamp	UV sensors	Reactor length (mm)*	Reactor weight	Power consumption
PureTube 60	25	2	220 W	1 or 2	837	33 kg	0.55 kW
PureTube 80	49	4	220 W	1 or 4	837	34 kg	1.01 kW
PureTube 100	106	4	350 W	1 or 4	1,107	38 kg	1.40 kW

Options are shown in [square brackets]. * Overall reactor length; various adapters are available. All models: UVT range 85–99% (1 cm), process connection DN125, pressure rating PN 10.

Common specifications

UV LAMPS & MONITORING	
Lamp type	Ecoray low-pressure high-output (LPHO), 220 W (60, 80) or 350 W (100), dimmable
Rated lamp life	14,000 hours
UV sensors	Type SO20206 (DIN 19294): 1 or 2 (PureTube 60), 1 or 4 (PureTube 80, 100)
Dose control	OptiDose: real-time flow, UVT and UV intensity
Validation	US EPA UVDGM (2006), third-party tested
REACTOR	
UVT range	85–99% (1 cm)
Materials in contact with water	Quartz glass, stainless steel 1.4404 (ASTM 316L)
Process connection	DN125, DIN 11864-2 [Tri-Clamp] · [pipe extensions to match WEDECO ME units]
Pressure rating	PN 10
Sanitisation	Up to 144 °C (lamps and sensors thermally isolated)
Protection class	IP54
ELECTRICAL CABINET	
Ballast	Electronic, high efficiency, variable output
Operator interface	EcoTouch with configurable alarm outputs
Outputs	System status, lamp status, alarm messages, process values
SCADA interfaces	Profibus, Profinet, Modbus, EtherNet/IP
Cabinet	IP54 · max. ambient temperature 35 °C · standard cable length 15 m
Electrical standards	CE
Power supply	1 L/N/PE, 230 V ±10%, 50–60 Hz (TN-S, TN-C net)

Request sizing or a quote

Send us your flow rate, water quality (UVT if known), the purpose (disinfection, ozone destruction or both), your connection standard and, for a retrofit, the existing ME model. We will recommend the PureTube model and quote supply, installation and ongoing service.

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Specifications subject to change without notice.