

Description

K 143

Main Applications

Disinfection of clear fresh water to meet relevant biological standards:

- Municipal drinking water supplies

Water temperature	recommended range	5 - 35 °C
	possible range	0 - 45 °C

UV transmittance (@ 254 nm, 1 cm) as certified (refer to K143 Design Tool)

Flow capacity (certified flow) per reactor		max. 11,118 m ³ /h
	K 143 (13 rows)	max. 70 MGD

Technical Description

- High grade stainless steel reactor with progressive radiation geometry
- Rows of high efficiency low pressure UV lamps, perpendicular to flow, easily removable
- Calibrated UV intensity monitoring system with display in W/m² and standard output-signal
- UV lamp supervision system

UV REACTOR	<i>Vessel:</i>	material SS 316 L, bead blasted incl. baffle plate upstream
	<i>Manholes:</i>	material SS 316 L, Ø 500 mm weight 115 kg each(crane required for lifting)
	<i>UV lamp sleeves:</i>	fused quartz, one open end designed for easy removal
	<i>Mounting:</i>	horizontal mounting rack (SS 304) included
	<i>Seals (water contact):</i>	o-rings, fluorocarbon, KTW-approved
	<i>Flange connections:</i>	according to DIN-EN 1092 / PN 10
	<i>Draining system:</i>	material PVC, DN 50, slip on flange acc. to DIN 8063 (DN 50 / PN 10)
<i>UV Lamp</i>		Cylindrical Wedeco Ecoray UV lamp with electronic ballast, highly temperature stability due to Indium-Amalgam
<i>UV Sensor</i>		Calibrated, "dry sensor", ÖVGW certified, 100% day-light blind, accuracy ± 3%, selectivity > 90% at 254 nm, temperature stability up to 70°C during continuous operation

Description

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**ELECTRICAL
CABINETS**

Painted sheet steel enclosures, stand-alone incl. plinth 100 mm
RAL 7035

Design

Ready for connection, incl. reactor cables
Protection class IP 54,
Supply voltage 3 x 400/230 V, 50 / 60 Hz
(TN-S-net or TN-C-net)
Ambient temperature range 5 - 30°C
Ambient humidity max. 95% @ 25°C

Components

Mains isolator switch
Selector switch (2x): *Local – Off – Remote*
UV reactor: Auto – Hand

Cooling fan
LED indicators *failure, system running, UV reactor on*
LC display *UV intensity (W/m²), operation hours (2x),
on/off cycles, individual lamp on/off status,
individual lamp failure, alarm messages*

Terminals

Volt free contacts

- Out:*
- *system running*
 - *low priority alarm*
 - *high priority alarm*
 - *flow interlock (2x)*
 - *UV transmittance (in case TMO IV is selected; required acc. to validation)*
- In:*
- *flow rate*

Technical Data

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UV Reactor	
Flange connections	DN 1,200 / PN 10
Dimensions	please refer to the respective drawing
Volume (l) approx.	please refer to the respective drawing
Total weight, dry (kg) approx.	please refer to the respective drawing
Operating / testing pressure (bar), max.	1.5 / 2
Protection class	IP 65
Manholes	2
Air vents	1"
Drain valves	1 1/2"
Connector for cleaning lance	1 1/4"

UV Lamps	
Type	Ecoray ELR30
Lamp power (W)	285
UV-C output 254 nm (W)	150
Quantity of lamp rows	4 5 6 7 8
Lamps / row	12
Total lamps	48 60 72 84 96
Lamp life (h)	Up to 14,000
Lamp cable length (m)	25 m

Calibrated UV Monitoring System	
UV sensor	SO 13599
Electronics	PLC
Standard output signal	0/4 – 20 mA
Quantity	1 per lamp row

Electrical Cabinets	
Dimensions	please refer to respective drawing
Weight (kg) max. (per cabinet)	400
Ballast type	Electronic
Power factor (cos phi)	~1
Power consumption (kW) approx.	17.4 21.8 26.1 30.5 34.8
Protection class	IP 54
Mains terminals	3 L / N / PE

Options / Accessories (extra charges)	
<ul style="list-style-type: none"> • Analogue UV intensity signal (1 per row) (0/4 – 20 mA) • Sample valves (2x) (1/4" acc. to DIN 38402) • ASE cleaning system incl. cleaning lances • Online UV transmittance monitor (TMO IV) • Electrical design for TT-net 	

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