

SANIRAY

a MELLIFIQ brand

**SANIRAY HIGH
PERFORMANCE
UV RANGE FOR
WATER AND
AIR TREATMENT**

The Benefits of UV Technology

Saniray UV Systems

Saniray UV Systems, where innovation meets excellence in air and water treatment. As pioneers in the field, we offer a comprehensive range of high-performance UV systems designed to meet your diverse needs. From medium pressure to low pressure solutions, our products and expertise ensure efficient and effective treatment solutions for a wide range of applications. We believe in a complete systems approach, integrating advanced automation and cutting-edge technology to deliver seamless solutions for your most complex challenges. Explore our catalog and discover how Saniray UV Systems can elevate your treatment processes to new heights of performance and reliability.

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Saniray Zeeron A-Series



The Saniray Zeeron A-series is engineered and designed to cater to a spectrum of industries, spanning from food & beverage and pharmaceuticals to healthcare, electronics, beverage production, and aquaculture.

Engineered with energy-conscious UV light sources and adaptable power configurations, our Zeeron A-Series delivers a compact solution with horizontally installed configurations with thread connections for quick installation. Units are delivered with ballasts and control panel.

Saniray offer unparalleled UV disinfection technology with the Zeeron A-series UV Disinfection system, meticulously designed to surpass industry standards, guaranteeing optimal efficiency and efficacy in water treatment applications.

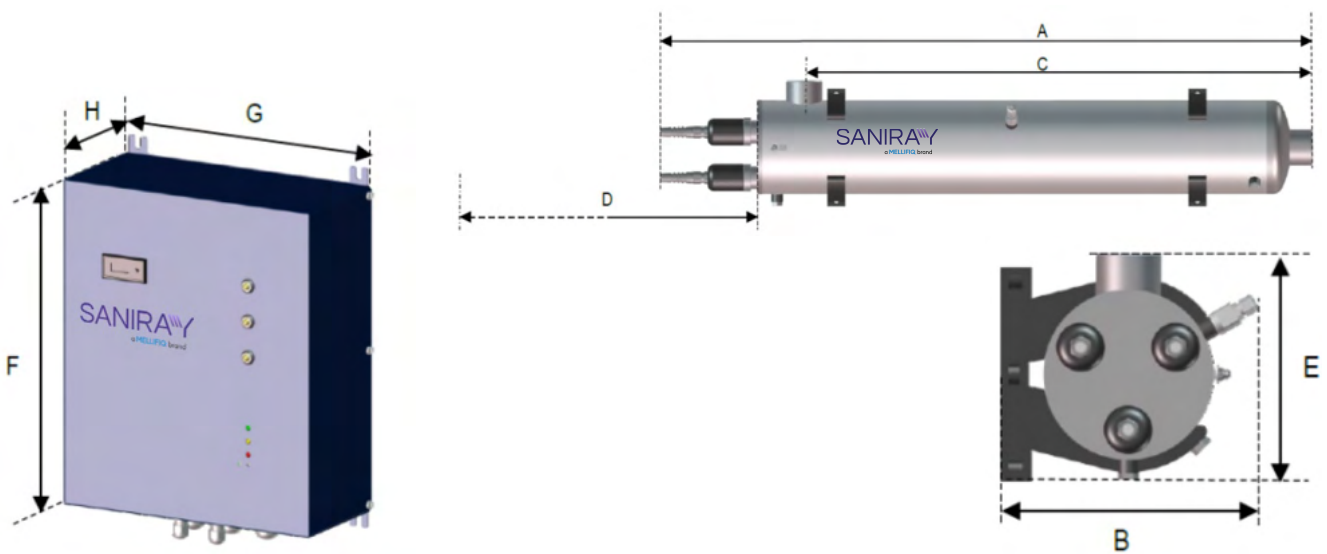
Benefits

- Compact reactors for easy installation
- UV sensors and monitor offering LED alarm
- Low energy consumption
- Designed for industrial applications
- Wide range of water treatment
- State-of-the-art UV treatment technology
- Diverse technical uses

Zeeron A series

Designation	Unit	Zeeron A1	Zeeron A2
Reactor			
A) Full length	mm	1064	1146
B) Width	mm	129	265
C) Fixation spacing	mm	868	901
D) Service spacing	mm	950	1040
E) Depth	mm	136	321
Type of connection	-	Male BSP thread	Male BSP thread
Connection	-	1"	4"
Position I/O	-	L	L
Cabinet			
F) Height	mm	320	515
G) Width	mm	270	270
H) Depth	mm	121	121

DIMENSIONS



General description

Designation	Unit	Zeeron A1	Zeeron A2
Certifications/Approvals	-	CE, ACS, WRAS	CE, Chlorine approval Fr
Without manual cleaning	-	Yes	Yes
With manual cleaning	-	Not available	Not available
Environment of use			
Place	-	Indoors conditions	Indoors conditions
Minimum ambient Temperature	°C	+5	+5
Maximum ambient Temperature	°C	+40	+40
Maximum relative humidity	-	80% non condensating	80%
Water quality			
Water Temperature	°C	+10 to +35	+10 to +35
Transmittance range	%	>50%	70%
Reactor			
Material	-	SS316L	SS316L
Finishing	-	Sand Blasted	Sand Blasted, pickled and passivated
Dry weight	kg	4.8	20
Reactor volume	l	5	27
Drain in high point	-	Yes	Yes
Drain in low point	-	No	Yes
Max Service Pressure	bar	10	10

Designation	Unit	Zeeron A1	Zeeron A2
Cabinet			
Material	-	Painted steel	Painted steel
Cabinet/Reactor cable length	m	5	5
Weight	kg	4	8
Cabinet ventilating	-	No	Yes
Power supply	V	220-240	220-240
Frequency	Hz	50/60	50/60
Amperage	A	0,45-0,42	2,86-2,63
Cable Type/Gauge	mm ²	3G0,75	3G0,75
Power	W	99	593
Protection	-	Fuse 2A	Fuse 4A
Ingress Protection	-	IP54	IP54
UV Lamps			
Number of lamps	-	1	6
Lamp power at ballast	W	87	87
Type of lamp	-	High Output	High Output
Technology	nm	Low pressure 254	Low pressure 254
UV lamp power	W	28	28
Total UV power	W	28	168
Lifetime	h	13000	13000



Monitoring

Designation	Zeeron A1	Zeeron A2
Lamp indicator	Indicator (s) indicating that the lamp (s) are working	Indicator (s) indicating that the lamp (s) are working
ON/OFF switch	Switch to turn the unit on and off	Switch to turn the unit on and off
Hour counter	Counts the number of hours of operation of the lamp (s)	Counts the number of hours of operation of the unit
Interface	-	Monitor UV with LEDs
Teflon UV sensor	-	Enables reading the UVC radiation output of the 0-10V device
LED pre-alarm	-	Orange LED indicating a low UV level
LED alarm	-	Red LED indicating a low UV level
Main-alarm dry contact UV irradiance	-	Potential free alarm contact. The contact opens when the UV level is too low.
Data outputs contact	-	5-60Vdc, 5-230Vac, 1A

Possible options

Options	Zeeron A1	Zeeron A2
Upstream/downstream sampling valves	OPT003103	OPT015582
Inlet/Outlet chemical cleaning	OPT014969	OPT014970
PN16 bars without flanges	OPT012333	OPT014972
Flange connections (see grid)	Yes	Yes
SMS connections complete DN63	OPT014973	-
Fittings complete CLAMP max dn65	OPT014974	OPT014974
110V 50-60Hz	OPT014966	OPT014962
IP55 plastic cabinet	OPT012331	-
Contact defect lamp	OPT014952	OPT014952
Contact status ON/OFF	OPT015015	OPT015015
Stainless steel 304 cabinet	OPT014953	-
Restart delay	-	-





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Options	Zeeron A1	Zeeron A2
PC cabinet IP55 + Monitor with LED (PTFE sensor, contacts main and pre-alarm UV)	-	OPT014958
PC cabinet IP55 + M3 (UV Sensor + 4-20mA output, contacts general defect, pre-alarm UV and lamp fault, Remote control)	-	OPT014960
PTFE sensor replacement with SS316L sensor without measurement window	-	OPT014963
Temperature sensor (add OPT014959/OPT014967/OPT014960)	-	OPT006202
SS304 cabinet for MIII	-	OPT014954
Accessories		
Connections 3 pieces	-	KIT018941
CIP standard kit (PVC valves) (add OPT014970)	-	CIP0008-003
CIP all stainless steel kit (add OPT014970)	-	CIP0008-007
Multi reactor PVC fittings kit	-	KIT018891
Multi reactor stainless steel fittings kit	-	KIT018893
Vertical support kit	-	KIT018960

Saniray Zeeron B-Series

Introducing the Zeeron B-series UV disinfection system, designed to redefine water disinfection standards. Engineered by our team at Mellifiq, these reactors utilize state-of-the-art UV technology to ensure superior purification by eliminating harmful microorganisms from water sources.

The B-series are designed to be used in a wide range of water applications including municipal, industrial, or commercial use. The Zeeron B-series guarantee the highest level of water purity and safety, perfect for food industry and pure water applications. Low-pressure UV ensures low power consumption and long lamp life time.

Our B-series can handle flows up to 40 m³/h depending on the applications and required UV dose.



Benefits

- Up to 1,400 GPM maximum flow rate
- Industrial grade, high-performance water treatment
- Easy maintenance, reduce downtime
- Effective UV treatment resulting in cost-effective disinfection
- Designed for industrial applications



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Zeeron B-series UV System

Common Option Features		
Features	Standard Chamber Specifications	Options
Lamp Life	9,000 Hours	
Technology	Medium pressure	
Lamp design	TWISTLOK™ Quick Release, Enhanced Safety	
Lamp Access	Single Ended Access	
Design Pressure	10 Barg Design (15 Barg Test)	
Sensors	Not as Standard	1 Monitor Package Incl NIST UV Sensor + PT100 Temp Sensor
Power	Fixed	
Connection Type	EN 1092	DIN 32676
Material of Construction	316L Stainless Steel	
Internal / External Finish	0.4 Ra	
Internal / External Surface Treatment	Machine Polish	Electropolish
Quartz Type	High Purity Quartz Sleeves	
Installation/Mounting	Adjustable Inlet/Outlet Orientation Suitable for Vertical Mounting	
Vent Port	Yes	
Drain Port	Yes	
Seal Material	EPDM	FDA Viton



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Common Option Features (continued)		
Features	Standard Control Panel Specifications	Options
Material	Epoxy Coated Mild steel - RAL 7035	Stainless Steel (304)
Control Type	Microprocessor	
Power supply	Electronic Ballast	
Ingress Protection	IP56	
Ventilation	None	
Interface	Spectra Membrane	
Communication	Modbus (RS-422 / RS-485)	Profibus DP
Protection	Door Locked MCB Isolator	
Operating Temperature	Max Working Ambient +40°C	
Digital Inputs	2 selectable	
Digital Outputs	2 selectable	
Analogue Inputs	1 selectable	
Analogue Outputs	1 selectable	
Voltage	200-240V (50/60 Hz)	
Cable Length	10m	15m, 30m

Unique Features			
UV System	B1	B2	B3
Number of Lamps	1	1	2
Connection Size (mm/inch)	DN 50/2"	DN 50/2"	DN 50/2"
Power Consumption (W)	80	80	160

**UV DISINFECTION
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UV System	Zeeron B1	Zeeron B2	Zeeron B3
Chamber Dimensions			
A (mm / inches)	701 / 27.6	701 / 27.6	701 / 27.6
B (mm / inches)	370 / 14.6	370 / 14.6	370 / 14.6
C (mm / inches)	204 / 8	204 / 8	204 / 8
D (mm / inches)	128 / 5	128 / 5	128 / 5
E (mm / inches)	456 / 18	448 / 17.6	448 / 17.6
F (mm / inches)	137 / 5.4	171 / 6.7	171 / 6.7
G (mm / inches)	89 / 3.5	126 / 4.9	126 / 4.9
H (mm / inches)	688 / 27.1	688 / 27.1	688 / 27.1
J (mm / inches)	250 / 9.8	250 / 9.8	250 / 9.8
K (mm / inches)	170 / 6.7	220 / 8.7	220 / 8.7
L (mm / inches)	120 / 4.7	140 / 5.5	140 / 5.5
M (mm / inches)	155 / 6.1	185 / 7.3	185 / 7.3
N (mm / inches)	175 / 6.9	225 / 8.9	225 / 8.9

Panel Dimensions

Standard Enclosure

H mm 400

W mm 400

D mm 200

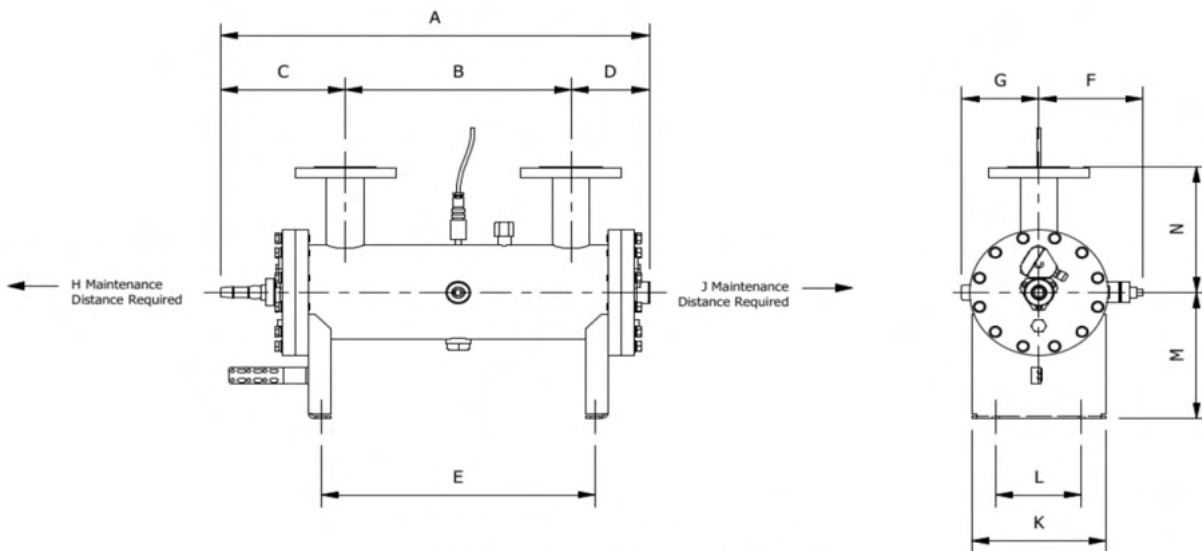
SS/IP56 Enclosure

H mm 400

W mm 400

D mm 210

DIMENSIONS



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Saniray Zeeron C-Series



Saniray's Zeeron C-series range from the Saniray UV family of products is designed for superior disinfection of industrial water in applications requiring performance at low UV transmittance or requiring high doses. The environmentally friendly, chemical-free technology is fully configurable to meet individual system needs whether the application is food & beverage, pharmaceutical manufacture, healthcare, electronics, beverage production or aquaculture disinfection.

Using energy efficient UV light sources and the latest variable power electronic ballasts, Saniray's Zeeron C-series range provides cost-effective and efficient water treatment with flexible options for easy integration. The medium pressure polychromatic lamps, combined with the variable power option allows the operator to minimize OPEX costs while still delivering the required treatment effectiveness.

The range of configurable options, from surface finishes to pipe connections allows the user to configure the product easily to their specific requirements. Where required, the highly efficient automatic wiper system can be added as an option, reducing maintenance downtime even further for applications of poor water quality.

Benefits

- Efficient and enhanced power control
- High performance lamps
- Simple, fast, and reliable maintenance
- Enhanced performance monitoring by sophisticated control system
- Built in safety features
- MODBUS or PROFIBUS connectivity
- Effective UV treatment resulting in cost-effective disinfection
- Designed for industrial applications



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Zeeron C-series UV System

Certification/Approvals: NSF61, SE Marked.

Common Option Features		
Features	Standard Chamber Specifications	Options
Lamp life	9,000 hours	
Technology	Medium pressure	
Lamp design	TwistLok™ Quick Release, Enhanced Safety, Medium Pressure Lamp	
Lamp and Wiper Access	Single Ended Access (Excl + C3/C4)	
Design Pressure	10 Barg Design (15 Barg Test)	
Variable Power	100% to 30% Power (Automatic Dose Pacing)	
Connection Type	EN 1092 PN10	DIN 32676 EN 1092 PN16, ASME Class 150, DIN 32676, ASME BPE DIN 11851 (C3 Only)
Material Construction	316L Stainless Steel	
Internal Surface Finish	0.8 Ra [C1/C2, C3/C4 Only] 1.6 Ra [C5, C6, C7, C8 Only]	0.4 Ra [C1/C2 Only] 0.8 Ra [C5, C6, C7, C8 Only]
Internal / External Surface Treatment	Machine Polish	Electropolish [C1/C2, C3/C4 Only]
Quartz Type	High Purity Quartz Sleeves	TiO2 Doped Quartz
Installation / Mounting	Adjustable Inlet/Outlet Orientation	Z-type [C3/C4 Only]
Wiper System	Not Included as standard	Automatic Wiper System [Excl C3]
Vent Port	BSP	NPT, DIN 32676, ASME BPE DIN 11851
Drain Port	BSP	NPT, DIN 32676, ASME BPE DIN 11851
Seals	EPDM	





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Common Option Features (continued)		
Features	Standard Control Panel Specifications	Options
Material	Epoxy Coated Mild steel - RAL 7035	Stainless Steel (304)
Control Type	Microprocessor	
Power supply	Electronic Ballast	
Ingress Protection	IP54	
Ventilation	Forced Air cooled (Fan)	
Interface	Spectra Membrane	Spectra Touch
Communication	Modbus (RS-422 / RS-485)	Profibus DP
Protection	Door Locked Isolator	
Operating Temperature	Max Working Ambient +45°C	
Digital Inputs	3 selectable	Additional 3
Digital Outputs	3 selectable	Additional 3
Analogue Inputs	1 selectable	Additional 1
Analogue Outputs	1 selectable	Additional 1

System Information								
Zeeron UV Systems	C1	C2	C3	C4	C5	C6	C7	C8
Number of Lamps	1	1	1	1	2	4	6	8
Connection Size (mm/ inch)	DN 50/2" DN 75/3"	DN 50/2" DN 75/3" DN 100/4"	DN 50/2"	DN 50/2" DN 75/3"	DN 75/3" DN 100/4" DN 150/6" DN 200/8"	DN 75/3" DN 100/4" DN 150/6" DN 200/8"	DN 75/3" DN 100/4" DN 150/6" DN 200/8"	DN 100/4" DN 150/6" DN 200/8" DN 250/10"
Power Consumption (W)	2,750	2,750	8,800	8,800	13,200	24,400	39,600	52,800
200 - 240v 50/60hz	Standard	Standard	N/A	N/A	N/A	N/A	N/A	N/A
380v - 480v 50/60hz	Option	Option	Standard	Standard	Standard	Standard	Standard	Standard

Cable Length

10m / 15ft	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
15m / 45ft	Option	Option	Option	Option	Option	Option	Option	Option
30m / 90ft	Option	Option	Option	Option	Requires local JB	Requires local JB	Requires local JB	Requires local JB





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Zeeron UV Systems	C1*	C2	C3	C4*	C5	C6	C7	C8
Chamber Dimensions								
A (mm / inches)	873 / 34.37	771 / 30.35	1259 / 49.57	1518 / 59.76	1161 / 45.71	1161 / 45.71	1161 / 45.71	1161 / 45.71
B (mm / inches)**	330 / 12.99	300 / 11.81	960 / 37.80	930 / 36.61	550 / 21.65	550 / 21.65	550 / 21.65	480 / 18.9
C (mm / inches)**	213 / 8.39	345 / 13.58	200 / 7.87	213 / 8.39	441 / 17.36	441 / 17.36	441 / 17.36	476 / 18.74
D (mm / inches)**	330 / 12.99	126 / 4.96	100 / 3.94	376 / 14.80	171 / 6.73	171 / 6.73	171 / 6.73	206 / 8.11
E (mm / inches)	17.13	419 / 16.5	1039 / 40.91	1035 / 40.75	743 / 29.25	743 / 29.25	743 / 29.25	733 / 28.86
F (mm / inches)	137 / 5.39	170 / 6.69	122 / 4.80	137 / 5.39	223 / 8.78	223 / 8.78	223 / 8.78	248 / 9.76
G (mm / inches)	97 / 3.82	124 / 4.88	75 / 2.95	97 / 3.82	177 / 6.97	177 / 6.97	177 / 6.97	202 / 7.95
H (mm / inches)	506 / 19.92	390 / 15.35	1150 / 45.28	1150 / 45.28	619 / 24.37	619 / 24.37	619 / 24.37	619 / 24.37
J (mm / inches)	388 / 15.58	250 / 9.84	250 / 9.84	987 / 38.86	250 / 9.84	250 / 9.84	250 / 9.84	250 / 9.84
K (mm / inches)	180 / 7.09	220 / 8.66	135 / 5.31	180 / 7.09	330 / 12.99	330 / 12.99	330 / 12.99	380 / 14.96
L (mm / inches)	120 / 4.72	140 / 5.51	80 / 3.15	120 / 4.72	220 / 8.66	220 / 8.66	220 / 8.66	250 / 9.84
M (mm / inches)	155 / 6.10	185 / 7.28	120 / 4.72	155 / 6.10	245 / 9.65	245 / 9.65	245 / 9.65	265 / 10.43
N (mm / inches)	175 / 6.89	225 / 8.86	150 / 5.91	175 / 6.89	275 / 10.83	275 / 10.83	275 / 10.83	325 / 12.80
Wet Weight (kg / lbs)	31 / 68.34	40 / 88.18	20 / 44.09	33 / 72.75	119 / 262.35	122 / 268.96	126 / 277.78	176 / 388.01
Dry Weight (kg / lbs)	37.5 / 82.67	51 / 112.44	22.5 / 49.60	43 / 94.80	177 / 390.22	180 / 396.83	177 / 390.22	256 / 564.38



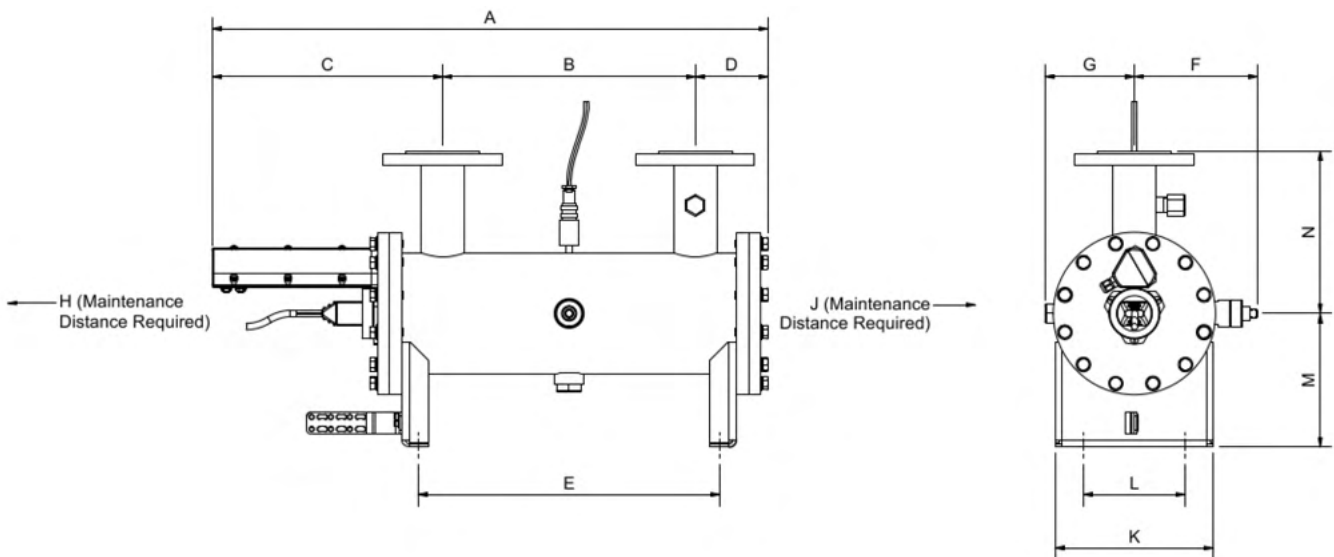
**Zeeron UV System
(continued)**

Zeeron UV Systems	C1*	C2	C3	C4*	C5	C6	C7	C8
Panel Dimensions								
H mm	800 / 31.5	800 / 31.5	1600 / 63	1600 / 63	1600 / 63	1600 / 63	1600 / 63	1600 / 63
W mm	600 / 23.6	600 / 23.6	600 / 23.6	600 / 23.6	600 / 23.6	600 / 23.6	600 / 23.6	600 / 23.6
D mm	300 / 11.8	300 / 11.8	660 / 26	660 / 26	660 / 26	660 / 26	660 / 26	660 / 26
Weight (kg / lbs)	50 / 110	50 / 110	140 / 309	140 / 309	140 / 309	160 / 353	180 / 397	200 / 441

* Wiper motor fitted on opposite end - For full dimensions please see specific GA drawing

** Dimensions may vary depending on connection type/size

Dimensions



Saniray Zeeron D-Series



The Zeeron D-series UV disinfection systems is an industrial grade reactor that has been developed to meet stringent requirements for the production of drinking water. Whether disinfecting raw water or serving in pre-treatment processes, they excel in reducing the need for oxidizing biocidal agents, showcasing their versatility and efficiency.

The Zeeron D-series can also be used in pre-treatment to either reduce the use of oxidizing biocidal agents. The industrial grade reactors are designed to treat and purify water in a wide range of applications including, drinking water as well as in food & beverage facilities.

The state-of-the-art UV disinfection system, engineered for high performance and ease of maintenance. Equipped with advanced features like sampling valves, amalgam low-pressure lamps, and dedicated electronic ballasts, it ensures reliable operation. This series allows for flexible connection configurations and is optimal for both vertical and horizontal installations.

Benefits

- Reduces chemical handling
- Industrial grade, high-performance water treatment
- Effective disinfection: UV treatment targets resistant parasites
- Cost-efficient: Economical investment and operation
- Suitable for diverse water application



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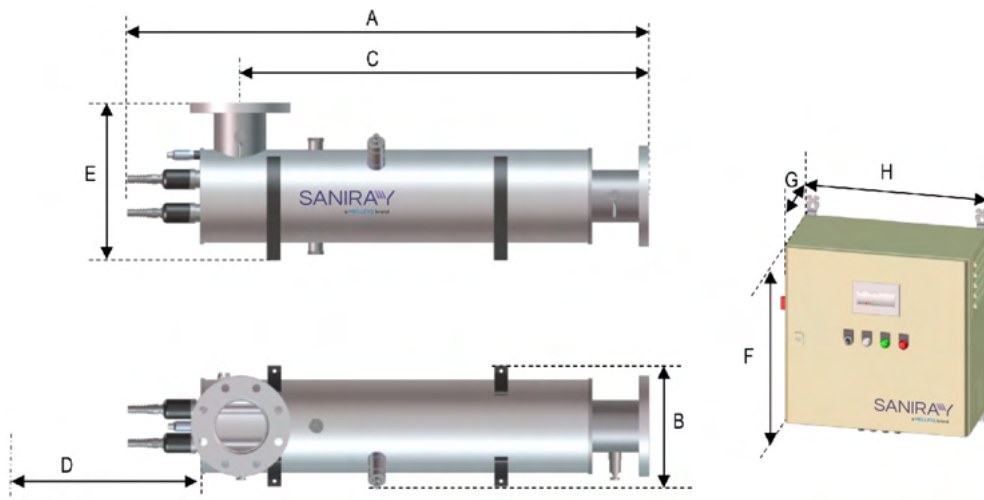
Zeeron D-series UV System

UV System	D1	D2	D3
Reactor			
Finishing	Sand Blasted	Sand Blasted	Sand Blasted
A) Full length (mm)	1149	1149	1341
B) Width (mm)	314	300	368
C) Fixation spacing (mm)	901	901	993
D) Service spacing (mm)	850	850	1050
E) Depth (mm)	306	347	415
Type of connection	Flanges	Flanges	Flanges
Connection	DN100	DN100	DN200
Position I/O	L	L	U
Cabinet			
F) Height (mm)	515	600	847
G) Width (mm)	270	600	636
H) Depth (mm)	121	300	300

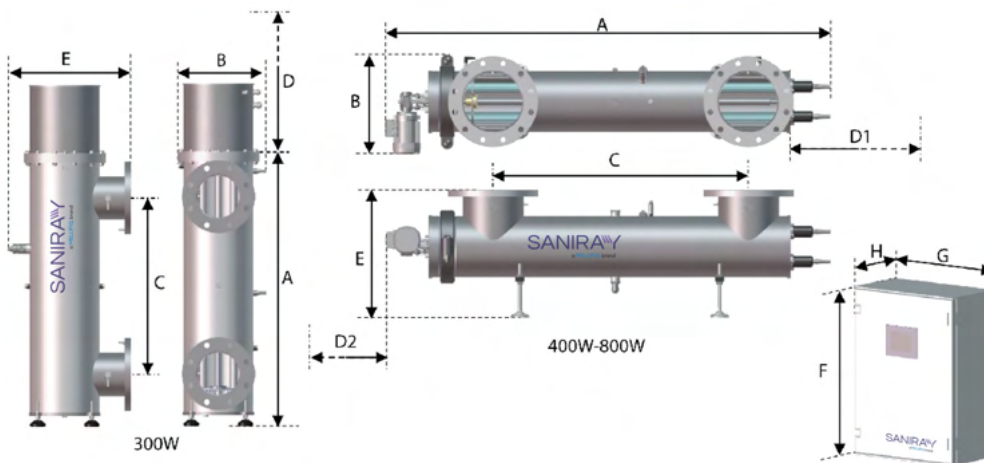


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Dimension drawing of Zeeron D1/D2 models



Dimension drawing of Zeeron D3 model





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UV System	D1	D2	D3
Certifications / Approvals	CE, Önorm, ACS	CE, Önorm, ACS	CE, ACS, WRAS
Version			
Without manual cleaning		Yes	-
With manual cleaning		Yes	-
Environment of use			
Place	Indoor conditions	Indoor conditions	Indoor conditions
Minimum ambient temperature (°C)	+5	+5	+5
Maximum ambient temperature (°C)	+40	+40	+40
Maximum relative humidity	80% non condensating	80% non condensating	80% non condensating
Water quality			
Water temperature (°C)	+10 to +35		+5 to +60
Transmittance range (%)	> 80%	> 80%	> 80%
Reactor			
Material	SS316L	SS316L	SS316L
Weight (kg)	27	30	83
Drain in high point		Yes	1/4" (cap)
Drain in low point		Yes	1/4" (cap)
Sampling valves	Upstream downstream	Upstream downstream	Upstream downstream
Inlet/Outlet chemical cleaning	Upstream downstream		1"
Max service pressure (bar)	10	10	10
Standard mounting	Horizontal vertical		Vertical



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UV System	D1	D2	D3
Cabinet			
Material	Painted steel		Polyester
Cabinet/Reactor cable length (m)	10		5
Weight (kg)	8	30	35
Cabinet ventilating	Yes		No
Power supply (V)	220-240	220-240	220-240
Frequency (Hz)	50/60	50/60	50/60
Amperage (A)	1.22-1.12	2.34-2.15	5,18-4,75
Cable type/gauge (mm ²)	3G1,5	3G1,5	-
Total input power (W)	267	505	1095
Differential protection	No	30mA	30mA
Protection (A)	Fuse 4	10	10
Ingress protection	IP54		IP65
UV Lamps			
Number of lamps	2	4	4
Lamp power at ballast (W)	120		270
Type of lamp	Amalgam	Amalgam	Amalgam
Technology	Low pressure 254 nm	Low pressure 254 nm	Low pressure 254 nm
UV lamp power (W)	37		85
Total UV power (W)	74	148	340
Lifetime (h)	16 000		13 000



Monitoring D1/D2

Interface	Millenium III
Voltage indicator	White indicator of voltage presence in the control cabinet (no indicator for units 1 and 2 lamps)
Lamp indicator	Green light indicating that the lamp is working (Orange indicator for units 1 and 2 lamps)
Main alarm indicator	Red LED indicating a device fault
ON/OFF Switch	Switch to turn the unit on and off
Remote (ON/OFF lamps)	Allows remote control of the device with a potential free switch
Screens	Radiation UVC in W / m ² , Reactor temperature in ° C (Optional), System hour meter, System start counter, Power regulation level, System status (On-Off, Pre-alarm, Alarm)
Önorm UV sensor with measurement window	Reads the UVC radiation of the device
4-20mA Output UV irradiance	4-20mA output signal copying the UV sensor, 0 W / m ² = 4mA, Sensor Caliber = 20mA
Main-alarm dry contact	Potential-free alarm contact combining the UV alarm and overheating reactor (Option). The contact opens when the UV level is too low or the reactor overheats (Option)
Pre-alarm dry contact UV irradiance	Pre-alarm UV contact free of potential. The contact opens in case of low UV level
Lamp alarm dry contact	Contact defect lamp (s) free of potential. The contact opens when the lamp is stopped during operation
Pump dry contact	Contact allowing the circulation of water when the necessary UV dose is reached
Data outputs contact	150Vdc, 250Vac, 5A
Auto regulation on UV (Option)	Adapts the power of the lamps according to the UV radiation read by the sensor
Auto Flow/UV Dimming (Option)	Adapts the power of the lamps according to the UV radiation read by the sensor correlate to the flow rate given by the flow meter of the customer (except models DW1114 55W and DW1150 120W)

Monitoring D3

Interface	Touch screen 5.7 inches
Screens	Process, Menu, Settings, System, Ballasts / Lamps, Alarms, Event, Curves
Data	UVC radiation in% or W / m ² or mJ / cm ² , Cabinet / reactor temperature in ° C, Lamp and system hour meters, System start-up counter, Power regulation level
Önorm UV sensor with measurement window	Reads the UVC radiation of the device
Temperature sensor	Allows reading of the reactor temperature from 0 to 73 ° C
4-20mA Output UV irradiance	4-20mA output signal copying the UV sensor, 0 W / m ² = 4mA, Sensor Caliber = 20mA
4-20mA Output Temperature	4-20mA output signal copied from the reactor temperature sensor, 0 ° C = 4mA, 73 ° C = 20mA





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Input Flow 4-20mA	Used to retrieve the flow value in the device (Customer Flow Meter)
Output General Alarm contact	Alarm contact grouping all UV alarms, cabinet temperature, reactor temperature, flow controller or flowmeter. The contact opens in the event of an alarm
Output Alarm contact 1	Configurable alarm contact, choice between UV alarm, cabinet temperature, reactor temperature, flow controller or flowmeter. The contact opens in the event of an alarm
Output Alarm contact 2	same as Alarm contact 1
Output Warning contact	Warning contact grouping the UV warning, cabinet temperature and reactor, flow controller and flowmeter. The contact opens in the event of an alarm
Data outputs contact	12-24Vdc, 90-250Vac, 3A
Power dimming	The device adapts-reduces the electric power of the lamps to obtain the necessary dose
Remote (ON/OFF lamps)	Allows remote control of the device with a potential free switch
Alarms, events, data storage	Alarms, events and sensor data are stored on a USB stick
Communication	ModbusTCP communication protocol, allows you to read the data in real time and control the device remotely
Dimming modes	
Manual dimming	Adapts the power of lamps from 50 to 100%
Auto/UV Dimming	Adapts the power of the lamps according to the UV radiation read by the sensor
Auto Flow/UV Dimming	Adapts the power of the lamps according to the UV radiation read by the sensor correlate to the flow rate given by the flow meter of the customer

Possible options D1/D2

UV system	D1	D2
Monitoring		
Temperature sensor		OPT006202
Inlet/Outlet chemical cleaning		Serial
Sampling valves		Serial
Power dimming		OPT014619
PN16	OPT014971	OPT014972
Cabinet IP55		To be defined



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Possible options D3

UV system	D3
Air / air heat exchanger on electrical box and IP55	Not concerned
Feet: horizontal mounting	OPT004160
PN16	OPT008862
Cable lengths	$\geq 5\text{m}$ and $\leq 30\text{m}$
Accessories	
lamp protection cover	ASM008843
Motor cleaning protection cover	ASM007822
Protection cover for UV sensor, temperature and limit switch	ASM007530

Cleaning system of quartz sleeves D1/D2

Chemical cleaning	
Isolation valves (not supplied) are mandatory at reactor inlet and outlet.	
The chemical cleaning device performs cleaning cycles by using a cleaning solution made of phosphoric or citric acid (effective against ferric deposits).	
The chemical cleaning cycle is started when the UV reactor is stopped and hydraulically isolated.	
It is connected to connections installed on reactor inlet and outlet in order to run the chemical solution in a loop.	
Dry weight (kg)	9
Capacity	11 l
Dimensions (mm)	570x300x560
Piping length (m)	2
Inlet/Outlet diameter (mm)	15x21
Supply voltage (V)	230 (single phase)
Frequency (Hz)	50
Total power rate (W)	120





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Cleaning system of quartz sleeves D3

Cleaning with scraper

The automatic cleaning system is designed to reduce the formation of organic and inorganic deposits on quartz sleeves.

It uses reinforced Teflon rings mounted on a stainless steel trolley to scrape the surface of the quartz sleeves of each lamp.

The automatic system ensures the cleaning at predetermined and configurable intervals by means of a trapezoidal screw driven by an electric motor by performing a round trip all along the quartz sleeves.

Unlike chemical cleaning, scraping operations that do not require lamp shutdown and hydraulic isolation of the UV reactor are carried out during operation of the UV device.

Benefits

The cleaning system minimizes the fouling of the quartz sleeves.

Provides a constant UV dose.

Operates in line while lamps perform disinfection, thus reducing downtime.

Can be set to clean lamp sleeves at adjustable intervals of one hour (Auto only).

Manual cleanings with chemical cleaning agents previously frequent become exceptional.



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Saniray Zeeron E-Series



Saniray's Zeeron E-series is engineered for superior performance in low UV transmittance conditions, these systems are adaptable to various industries, including food & beverage, pharmaceuticals, healthcare, electronics, beverage production, and aquaculture.

With energy-efficient UV light sources and variable power options, they offer cost-effective treatment while ensuring seamless integration. Plus, customizable features and an optional automatic wiper system streamline maintenance, making them the ideal solution for demanding water treatment needs.

Experience market leading UV disinfection technology with Saniray's Zeeron E-series UV Disinfection system, designed to exceed expectations and ensure the highest standards of water treatment efficiency and effectiveness.

Choose our Zeeron E-series range when you require high flow capacities while maintaining long lamp life time with amalgam low-pressure UV lamps.

The E-series offers high UV irradiance and dose with minimal power consumption.

Benefits

- Single sided maintenance / access
- Quick release enhanced safety Twistlok™ Lamps
- Robust, chemical free automatic wiper system
- Lamp changes without removing wiper motor
- Wiper rings can be replaced without removing wiping carriage from chamber
- Designed for industrial applications



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Saniray Zeeron E-series – 800 WATT AMALGAM SYSTEMS

UV System	E1	E2	E3	E4	E5
Performance					
3rd party validation	USEPA UVDGM (2006)				
Certification	CE Marked				
UV Lamps and Monitoring					
Lamp power	800 W	800 W	800 W	800 W	800 W
Lamp number	1	3	6	16	30
Lamp life	16,000 hours				
Lamp design	TWISTLOK™ PLUS Connector - Quick release, Enhanced safety - 800 Watt high output Amalgam low pressure				
Validated UV monitoring	Validated UV monitor - AT-900 (calibrated) - IP66				
Variable power	100% power to 30% power (variable automatic dose pacing)				
UV Chamber					
Connection size (mm/ inch)	DN200/8"	DN250/10"	DN400/16"	DN600/24"	
Connection type	BS4504 PN10 RF Flange				
Design pressure	7 Barg Design (10.5 Barg test)				
Material construction	316L Stainless Steel				
Internal / external-finish	0.8 µm Ra internal / Bead blasted				
Lamp and wiper access	Single ended access				
Quartz type	High purity quartz thimble				
Mounting	Legs				
Wiper system	Automatic wiper system				
Temperature probe	AT-487 (PT-100) - IP66				
Vent & drain ports	Yes				
Access hatch	Yes				
Ingress protection	IP66				
Installation	Horizontal				
Chamber options	Electropolish upgrade / super duplex 25% chrome steel / connection types				



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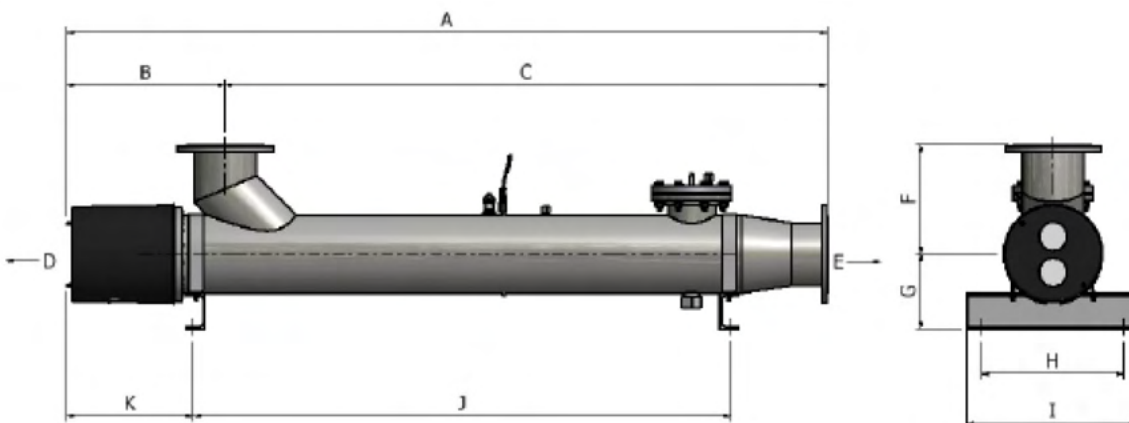
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Spectra II / Spectra II touch - local control cabinet					
Design	Epoxy coated mild steel - IP54 standard				
Control type	Microprocessor				
Interface	Soft touch push button with 4 line text display / 7" touch screen HMI		7" touch screen HMI - full colour display		
Communication options	Ethernet / modbus RTU / Data Stream (other fieldbus options available)				
Lamp power supply	800 Watt electronic ballast				
Power consumption	880 W	2,649 W	5,280 W	14,080 W	26,400 W
Mains power	230 V (other voltages available)			400 V (other voltages available)	
Power requirements	1 phase + neutral + earth			3 phase + neutral + earth	
Frequency	50 Hz (60 Hz Optional)				
Protection	Door locked isolator, MCB protection				
Operating temperature	Max working ambient +45 °				
Operational information	Spectra II			Spectra II touch	

UV System	E1	E2	E3	E4	E5
Chamber Dimensions					
A	2144 mm	2587 mm	2796 mm	3079 mm	3092 mm
B	405 mm	479 mm	586 mm	666 mm	806 mm
C	1590 mm	2108 mm	2210 mm	2413 mm	2286 mm
D	1729 mm	1760 mm	1640 mm	1640 mm	1640 mm
E	250 mm	N/A	N/A	N/A	N/A
F	225 mm	381 mm	483 mm	635 mm	889 mm
G	147 mm	275 mm	350 mm	379 mm	506 mm
H	-	250 mm	350 mm	700 mm	900 mm
I	-	300 mm	400 mm	800 mm	1000 mm
J	-	1750 mm	1725 mm	Adjustable	
K	-	479 mm	475 mm	479 mm	493 mm
Dry weight	64 kg	175 kg	335 kg	460 kg	1145 kg
Wet weight	100 kg	285 kg	640 kg	1110 kg	2330 kg

Panel dimensions	Spectra II	Spectra II		Spectra II Touch	
Width	740 mm	740 mm	940 mm	1400 mm	2000 mm
Height	600 mm	1000 mm	1400 mm	2000 mm	2000 mm
Depth	250 mm	340 mm	340 mm	600 mm	600 mm
Weight	50 kg	85 kg	195 kg	680 kg	950 kg
Standard cable length	5 m				
Maximum cable length	35 m				

KEY FOOTPRINT DIMENSIONS



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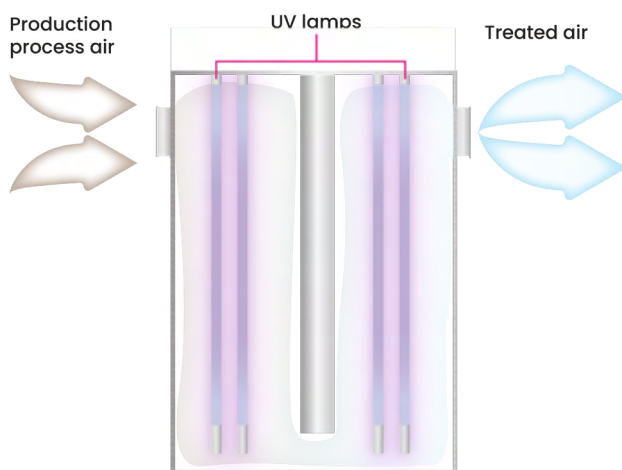


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Saniray Aurora A-Series

The Aurora A-series UV system is an industrial grade, multi purpose UV reactor with a flexible range of options & additions to fit any air or gas stream. The chamber is constructed with a baffle wall to provide a long reaction time throughout the unit. One to six high efficiency UV-lamps ensure an evenly distributed irradiance throughout the reaction chamber. High efficiency low pressure lamps make our Aurora product line an environmentally friendly air treatment system with low running cost.

Available as an option, any Aurora A-series can be complemented with filtration media fitted before or after the UV chamber. The power of UV is combined with advanced catalytic or adsorption media as an intergrated feature of the Aurora A-series. Filling is done to ensure minimal pressure drop and even flow distribution.



Aurora A-series
 Advanced UV treatment

Operating principle of the Saniray Aurora A-series.

Treatment of

- Odors from industry, waste, sewage, food production
- Air disinfection
- Impurities removal from gases
- HVAC indoor air
- VOCs - Volatile organic compounds
- H₂S - Hydrogen sulfide

Benefits

- Multipurpose – disinfection, odor & impurities removal
- Industrial grade, high-performance air treatment
- Active carbon addition available
- Effective UV treatment combined with catalytic or adsorption media available in our x-models
- Minimal pressure drop
- Long reaction time
- Corrosion resistant materials
- Compact & modular
- Easy maintenance



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Technical specifications Saniray Aurora A-series

UV System	A1/A1X	A2/A2X	A3/A3X	A4	A5	A6
Nominal Wall Dose (mj/cm ²) ¹	8-11	14-22	18-31	28-40	40-55	33-47
Nominal Average Dose (mj/cm ²) ¹	31-44	55-88	74-125	111-158	131-187	147-211
Power Consumption, W	820-970	1,440-1740	2,460-2,910	3,280-3,880	4,100-4,850	4,920-5,820
Weight, kg	170/245	170/245	170/245	180	180	180
Dimensions WxDxH, mm	1,160 x 760 x 2,070					
Certification	CE marked, ISO 15727					

UV Lamps & Configuration						
Wavelength, nm	185 and/or 254	185 and/or 254	185 and/or 254	185 and/or 254	185 and/or 254	185 and/or 254
UV Output Power, W	200 - 225	400 - 450	600 - 675	800 - 900	1000 - 1125	1200 - 1350
Lamp Number	1	2	3	4	5	6
Lamp Life, Rated Average, h	12,000-16,000					
Lamp Connections	EN 1.4404 custom-made Viton gaskets. Resistance to high temperatures, UV radiation and advanced oxidation conditions.					
Lamp Design	High performance, low pressure					
Material Lamp and Sleeves	Natural fused quartz					

Filtration Media Option X	
Positioning	Inlet or outlet
Additional Pressure Drop ¹	150-300 Pa
Additional Weight, kg	175
Media Alternatives	NGAC-5 (4x8) / NGAC-6 (4x8) / OCM-4E / OCM-4C / COL-A4 For sulphur compound removal: OCM-SulfCAT (4mm) / DAC SuperSulf S (4mm)

¹3600m³/h at Wall UV dose (Fluence) (mj/cm²)
²10,000m³/h Average UV dose (Fluence) (mj/cm²)
³Depending on configuration

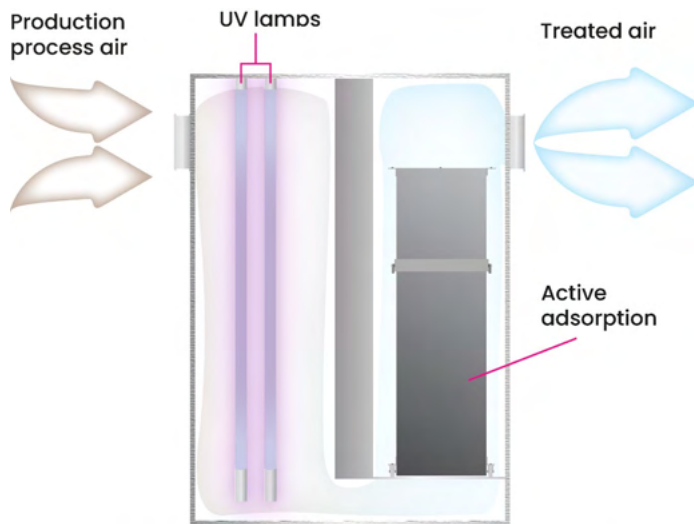
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**Saniray Aurora
A-Series**

Operating Conditions	A1/A1X	A2/A2X	A3/A3X	A4	A5	A6
Flow Through, m ³ /h ¹	100 - 5000					
Temperature, °C	4 - 150 (air/gas temp), 5 - 45 ambient					
Pressure Drop, Pa	5-30 (estimated)					
Relative Humidity, %	0 - 99 RH in chamber, 0 - 90 RH ambient					
Warmup Time, min	15					
Ballast Specifications						
Operating Mode	Pre-heat ignition					
Efficiency, %	>94					
Rated Power, W	600-800	1,200-1,600	1,800-2,400	2,400-3,200	3,000-4,000	3,600-4,800
Cabinet	IP54 enclosure, ventilated, corrosion resistant coating, wall mounted					
Max. Distance To Lamp, m	5					
Optional	Error relay output					

¹Depending on configuration



Aurora AX-series
Advanced UV treatment

Operating principle of the Saniray Aurora AX-series.

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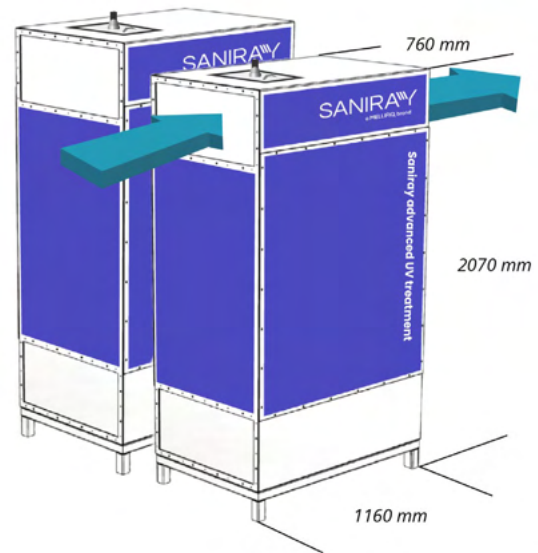
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UV Chamber	A1/A1X	A2/A2X	A3/A3X	A4	A5	A6
Connection Size, mm	754 x 380 or 1,154 x 380					
Connection Type	Flange, short side of the unit					
Material Construction	SS304L/EN 1.4307 (SS316L/EN 1.4404 optional)					
Baffle	Yes					
Placement	Four feet, to be placed on leveled surface					
Wiper System	Yes (optional)					
Temperature Probe	Yes					
Drain	One drain on each side of baffle					
Lamp Access	Mounted on retractable frame. Handles for safe and easy lift during maintenance.					
Ingress Protection	IP 54					
Chamber Options	Construction material upgrade / connection type / special coating					

Automation & Power Requirements	
HMI	7" touch screen (optional)
Design/Placement	Wall mounted
Control Type	HMI manual control / external 4-20 mA signal / SCADA interface
Communication	Modbus TPC (optional)
Mains Voltage, V	230V 1-phase / 400V 3-phase
Mains Frequency, Hz	50 - 60



Dimensional drawing of the Saniray Aurora A-series.



¹Enlarged drawing of the typical layout for touch interface.

²Ballast cabinet.

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Saniray Aurora B-Series

The Saniray Aurora B-series is an industrial grade, multi-purpose UV system with a wide range of performance & additions to fit any air system or gas stream. The chamber is designed through CFD modelling to ensure evenly distributed irradiation and minimal pressure loss with increasing flow. High efficiency, low pressure lamps make the Saniray Aurora an environmentally friendly air treatment system with low running cost.

Depending on configuration and application the Saniray Aurora B-series can effectively treat air flows of up to 20 000 m³/h. Depending on treatment requirements 1-6 lamp frames with each multiple UV lamps are fitted in the reactor. The lamps are mounted on retractable frames for easy access and maintenance.



Operating principle of the Saniray Aurora B-series in side view.

Treatment of

- Odors from industry, waste, sewage, food production
- Impurities removal from gases
- HVAC indoor air
- VOCs - Volatile organic compounds
- Air disinfection

Benefits

- Industrial grade, high-performance air treatment
- Handles large flows of up to approximately 20 000 m³/h
- Minimal pressure drop
- Long reaction time
- Corrosion resistant materials
- Compact & modular





Aurora UV system	B1	B2	B3	B4	B5	B6
Nominal Wall Dose ¹	13-18	25-36	38-58	51-73	63-91	76-109
Nominal Average Dose ²	51-73	101-145	152-218	203-291	254-363	304-436
Intensity (mW/cm ²)	154-221	154-221	154-221	154-221	154-221	154-221
Weight, kg	170	190	210	300	320	340
Dimensions WxDxH, mm	1,640 x 874 x 1,152					
Certification & Standards	CE Marked, ISO15727 UV-C devices — Measurement of output of UVC lamp					

UV Lamps & Monitoring						
Wavelength, nm	185 and/or 254					
Lamp Number	3	6	9	12	15	18
Lamp Life, Rated Average, h	LT200: 16,000, H210: 12,000, H225: 8000					
Lamp Connections	EN 1.4404 custom-made Viton gaskets. Resistance to high temperatures, UV radiation and advanced oxidation conditions.					
Lamp Design	High performance, low pressure					
Material Lamp and Sleeves	Natural fused quartz					

Installed Configuration (W)						
H210 Lamps	1890	3780	5670	7560	9450	11340
H225 Lamps	2400	4800	7200	9600	12000	14400
LT200 Lamps	2400	4800	7200	9600	12000	14400

¹10,000m³/h at Wall UV dose (Fluence) (mJ/cm²)
²10,000m³/h Average UV dose (Fluence) (mJ/cm²)

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Saniray Aurora B-Series

Operating Conditions	B1	B2	B3	B4	B5	B6
Flow Through, m ³ /h	8,000 - 20,000					
Temperature, °C	4 - 200 in chamber, 5 - 45 ambient					
Pressure Drop, Pa	5 - 50 (estimated)					
Relative Humidity, %	0 - 99 RH in chamber, 0 - 90 RH ambient (non-condensing)					
Warmup Time, min	15					
Service Space, m	2 minimum clearance on one short side					

Ballast Specifications	
Operating Mode	Pre-heat ignition
Efficiency, %	>94
Rated Power, W	LT200: 600, H210: 700, H225: 800 times number of lamps
Cabinet	IP54 enclosure, ventilated, corrosion resistant coating, wall mounted
Max. Distance To Lamp, m	5

*10,000m³/h at Wall UV dose (Fluence) (mJ/cm²)



The Aurora UV system lines are design with superior maintenance flexibility and parts replacement.

UV Chamber	B1	B2	B3	B4	B5	B6
Connection Size, mm	1600 x 900 inlet & outlet					
Material Construction	EN 1.4301 stainless steel					
Placement	Four feet, to be placed on leveled surface					
Wiper System	Wiper system optional					
Temperature Probe	Temperature optional					
UV Monitoring, mA (optional)	AT-463 (4-20mA) - IP66					
Lamp Access	Mounted on retractable frames.					
Drain	Yes					

Automation & Power Requirements (optional)	
HMI	Optional automation system with 7" HMI
Control Unit	Wall mounted
Communication	Modbus TPC (option)
Mains Voltage, VAC	185 - 253
Mains Frequency, Hz	50 - 60

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About Mellifiq

Mellifiq is a multi-awarded environmental service company group, that has since the early nineties evolved into a world leading system and solution provider with multiple groundbreaking applications for industrial, municipal, and real estate clients. We supply cutting-edge technologies to manage the most sophisticated air, water, and energy challenges.

Mellifiq offers a complete range of air and water treatment technologies and solutions across multiple industries such as processing industry, energy sector, food and beverage, pharmaceutical, wastewater treatment and commercial real estate. Mellifiq offers strong and renowned brands, such as Ozonotech, Nodora and Water Maid, and world-class engineering services combined an excellent track record of more than 40 years of innovation. We help our clients achieve the most efficient and sustainable solutions while creating the maximum value for their businesses.

With several business units across Europe, Mellifiq is headquartered in Stockholm where research and development, production, QA and certification all take place. Our unique technology and our extensive expertise have made us the Center of Excellence for the world's most complex projects, and a global player with installations on all six continents.

Everyday millions of people rely on our solutions for ventilation, disinfection, sanitation, and odor control. We are committed to raising the bar for the concept of clean and the industry standard for engineering, technical services and general contracting.

For additional information, visit our website at www.mellifiq.com

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