nuvonic

formerly Aquionics, Berson, Hanovia and Orca GmbH

PharmaLine ECO

OPTIMIZED UV TREATMENT FOR PHARMACEUTICALS & HEALTHCARE

ECO is purpose-built to ensure uncompromised purity, offering an unmatched level of confidence in critical pharmaceutical and healthcare processes.
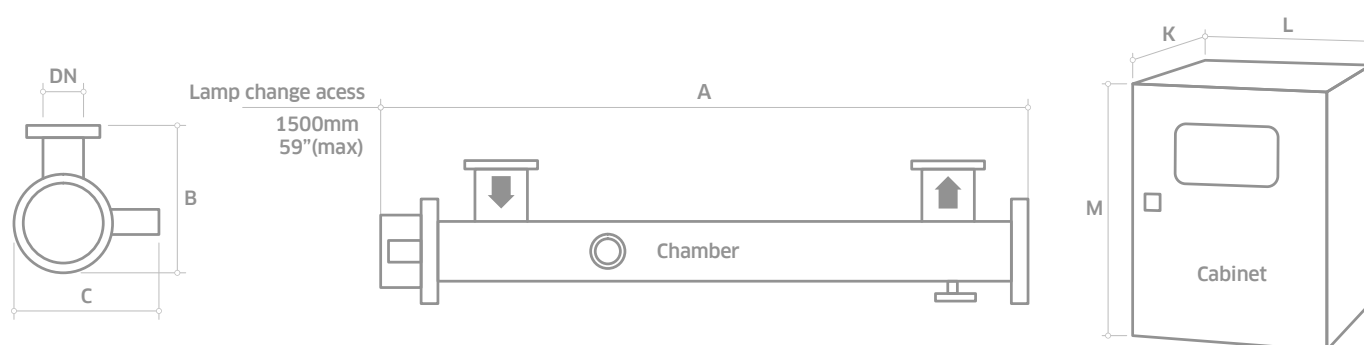
Efficiency: Reduce your carbon footprint significantly while maintaining the highest quality standards in your operations.

Compact Brilliance: ECO fits where others can't, delivering uncompromised results in limited space.

Optimized Performance: ECO is optimized for peak performance, providing consistently reliable water treatment solutions.

Application Optimized UV for Pharmaceuticals

KEY FEATURES	WHAT IT GIVES YOU	BENEFITS FOR YOU
INTELLIGENCE		
UV intensity monitor measuring active wavelengths	Continuous verification of performance with in-built low dose alarm	Easy to monitor and log system performance
OPTIMIZATION		
UV water treatment	Protect your process waters from microbiological contamination including chlorine resistant Cryptosporidium and Giardia	Does not affect taste and colour of final product
		No chemicals
Designed for biopharmaceutical	FDA-approved materials used for all wetted parts	Industry compliant materials
	Chamber with tri-clamp connections and 0.38 µm internal finish	Sanitary design
INTEGRATION		
Compact design	Can be retrofitted to existing process	Easy integration

MODEL NUMBER	FLOW* (m³/h) (GPM)	MAX POWER (W)	LAMP (QTY)	CHAMBER SIZE (mm) [in]				APPROX WEIGHT (kg){ lb}
				A	B	C	DN	Chamber
Pharmaline ECO 4	4.1 [18.1]	90	1	745 [29.3]	210 [8.3]	245 [9.5]	25 [1]	10.5 [23.1]
Pharmaline ECO 8	8.6 [37.9]	150	1	1245 [49]	230 [9.1]	255 [10.0]	50 [2]	18.5 [40.7]
Pharmaline ECO 15	17.8 [78.4]	250	1	1245 [49]	230 [9.1]	255 [10.0]	50 [2]	18.5 [40.7]
Pharmaline ECO 32	32 [140.9]	360	1	1785 [70.3]	230 [9.1]	275 [10.7]	80 [3]	24.3 [53.6]
Pharmaline ECO 40	41 [180.5]	380	1	1785 [70.3]	335 [13.2]	305 [12.0]	80 [3]	42.7 [94.1]
Pharmaline ECO 85	86 [378.6]	750	2	1785 [70.3]	335 [13.2]	320 [12.6]	100 [4]	42.7 [94.1]
Pharmaline ECO 125	125 [550.4]	1080	3	1785 [70.3]	335 [13.2]	305 [12.0]	*125 [*5]	43.0 [94.8]

*the DN is 150mm [6"] when connection type is Tri-clamp
** The disinfection capacity is based on 30mJ/cm2 at 99% (T10) UVT, end of lamp life
All dimensions are approximate for clearance purposes only. We have a policy of continuous product development, exact drawings are available on request.
All specifications are subject to change without notification. Your distributor or our account manager can advise on correct sizing and specification

UV CHAMBER	
Material:	StSt 316L / 1.4404
Process (mating) connection:	Tri-Clamp BS4825
End plate:	Removable plate
Drain connection:	Tri-Clamp 1" BS4825
Degree of protection:	IP54 equivalent to NEMA 12
Internal finish:	< 0.38 µm Ra (Welds ground out)
Lamp type:	Low Pressure Amalgam
Expected lamp life:	9000 hours
UV sensor:	Dry sensor
Temperature sensor	Yes
Seals:	EPDM, FDA 21 CFR 177.2600
Maximum CIP temperature:	95°C with cabinet electrically isolated
Working fluid temperature	0-40°C
Operating pressure:	10 bar
Document support pack	Included

OPTIONS
Interconnecting cable lengths: 5 m
ANSI B 16.5 Class 150 process (mating) connection
PN10 to EN1092-1 process (mating) connection
Internal finish < 0.5 µm Ra (Welds ground out)
Carbon steel cabinet

Document support pack	Included

MODEL NUMBER	LAMP (QTY)	STANDARD IP54, NEMA 12 CABINET SIZE mm [in]			OPTIONAL IP56, NEMA 4X CABINET SIZE * mm [in]			MAX. CABINET WEIGHT kg [lb]
		M	L	K	M	L	K	Chamber
Pharmaline ECO 4 - ECO 40	1 lamp systems	535 [21.1]	470 [18.5]	180 [7.1]	665 [26.2]	547 [21.5]	240 [9.4]	20.5 [45.2]
Pharmaline ECO 85 - ECO 125	2-3 lamp systems	600 [23.6]	490 [19.3}	210 [8.3]	750 [29.5]	557 [21.9]	270 [10.6]	29.1 [64.2]

Allow dimension L in front of cabinet for door opening and panel access.
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CABINET (UV CONTROLLER)	
Material:	Stainless Steel 304
Controller:	UV Controller
HMI:	7" Touch screen
Interconnecting cable lengths:	5 m
IP rating:	IP54 / NEMA 12
Power supply:	220 V ± 10%, 50/60 Hz, single phase, L+N+G.
Operating temperature range:	5-40°C
Humidity:	< 90% non- condensing
Control & Display:	Stepless power adjustment 50-100% (excluding ECO 4-8)
	All alarms and warnings
	Fixed dose running
	Water temperature
	Lamp running hours
	Flow rate (m³/h or gpm)
	UV dose
Alarm & Warning:	Low UV dose
	Lamp end pre-warning (time adjustable)
	Lamp fault alarm
	Chamber over temperature alarm
	UV sensor fault alarm
	Temperature sensor fault alarm
	Warning for lamp and quartz resetting
Input:	Flow 4-20 mA
	T_{10} 4-20 mA
	Remote On/Off
Output:	UV dose 4-20 mA
	Any system alarm VFC
	Any system warning VFC
	Low UV dose alarm VFC
	Lamp fault alarm VFC
	Lamp preheat VFC
	Lamp ready VFC

APPROVALS
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PharmaLine ECO

Also available in our ECO product range...

PURELINE ECO

Utility and service water treatment

TOCLINE ECO

Breakdown and reduction of TOC

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