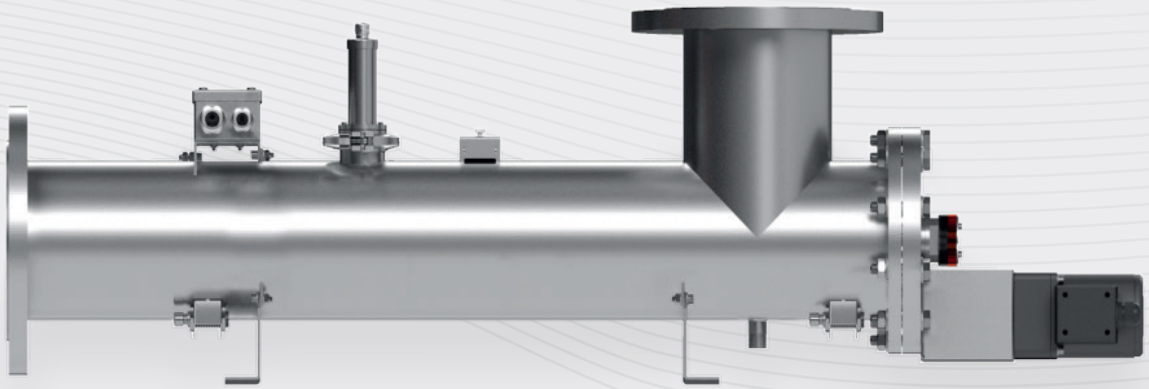
NUVONIC

formerly Aquionics, Berson, Hanovia and Orca GmbH



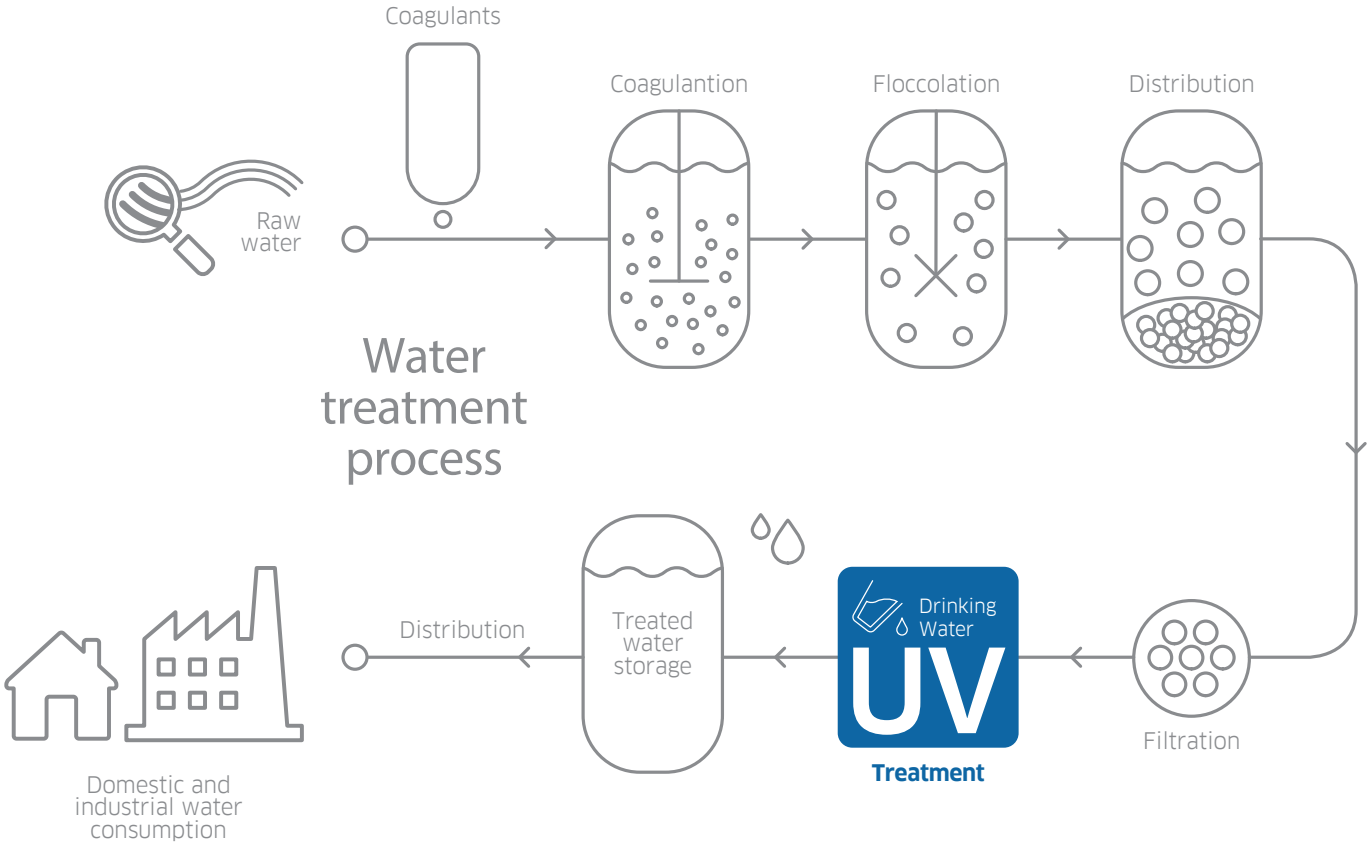
ProLine PQ EO

VALIDATED UV TREATMENT FOR DRINKING WATER

Our **ProLine PQ EO** UV systems are aimed specifically at providing third party validated UV treatment for Drinking Water. Even at low doses UV provides protection against Chlorine resistant pathogens such as Cryptosporidium and Giardia. UV is used for Drinking Water worldwide as a Cryptosporidium barrier. Often used in conjunction with Chlorine UV provides an additional level of safety and allows lower Chlorine consumption at much lower costs than Ozone or membrane filtration. At higher doses UV provides general treatment and provide Virus protection. Integrating an innovative single medium pressure lamp chamber with sensors and intelligent control to automatically deliver optimum performance. Each system comes with a certified dry UV sensor that measures.

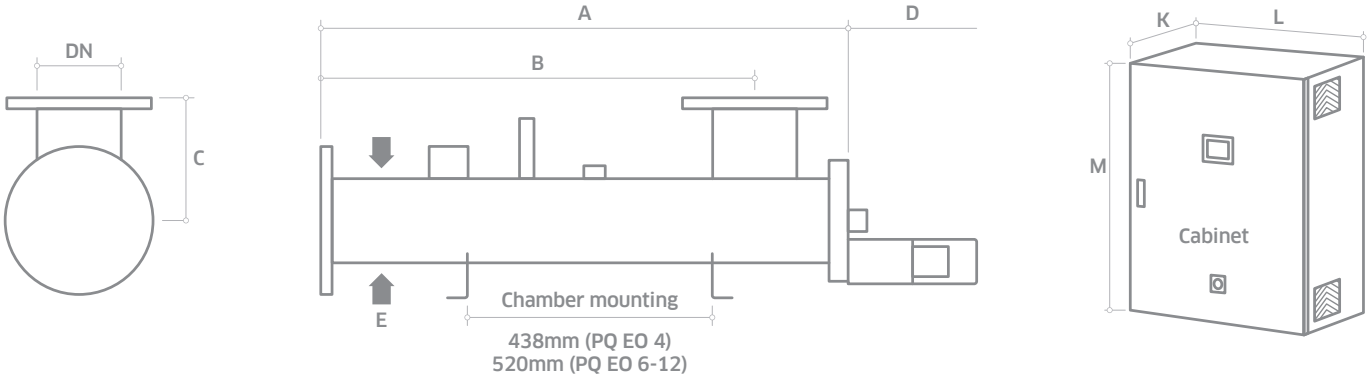
Application Optimised UV for Drinking Water

POTENTIAL LOCATION OF THE PROLINE PQ EO™ IN DRINKING WATER TREATMENT PROCESS



KEY FEATURES	WHAT IT GIVES YOU	BENEFITS FOR YOU
INTELLIGENCE		
UV sensor	Continuous verification of performance with in-built low UV dose alarm	Easy to monitor and log system performance
UVGuard™ on UV sensor window	Protects against UV exposure when checking a UV duty sensor with a reference sensor while the system is operating	Ability to safely audit the UV performance without interrupting operation
Flow and UV transmittance (UVT) meter inputs	Stepless adjustment of lamp power based on real time operating conditions	Optimised use of energy, saving operating costs
OPTIMISATION		
Third party validated UV systems tested in accordance with the USEPA UV Disinfection Guidance Manual	UV system dose equations and sizing have been independently derived	Confidence the system will perform as stated
Single medium pressure lamp	Provides germicidal wavelengths to treat your drinking water	Does not affect taste and odour
		No chemicals
	High treatment capacity with a single lamp	Compact footprint and reduced operating cost
Innovative chamber design	Maximises the water's exposure to UV light	Reduces energy costs
Designed for treatment of drinking water	Flanged connections	Designed to international standards
	FDA and EC approved seals	Industry compliant materials
	Automatic wiper	Self cleaning to maintain performance
INTEGRATION		
Designed for your process	*Skid mountable	Easy to install
	*UVShield™ power cut-out for lamp access	Enhanced operator safety when changing a lamp
	*Water leak detection	Increased product safety
	RS 485 Industrial Ethernet	Easy integration to SCADA or plant control systems

Option



MODEL NUMBER	MAX POWER (KW)	MIN T10(%)	DIMENSIONS (MM)														APPROX WEIGHT (KG)		
	Starting		Chamber							Control Cabinet (fan cooled)			Control Cabinet (with A/C)			Chamber	Control Cabinet	
			Unwiped A	Wiped A	B	C	D	E	DN	K*	L	M**	K*	L	M**	(Empty)	Fan cooled	With A/C
ProLine PQ EO 4	4.5	80	1009	1232	823	165	900	114	100	400	800	1200	400	1250	1200	30	96	120
ProLine PQ EO 6	4.5	80	1035	1286	850	245	950	168	150	400	800	1200	400	1250	1200	44	96	120
ProLine PQ EO 8	4.5	80	1110	1361	875	320	1000	210	200	400	800	1200	400	1250	1200	65	96	120
ProLine PQ EO 10	4.5	80	1190	1441	903	430	1100	273	250	400	800	1200	400	1250	1200	96	96	120
ProLine PQ EO 12	6.8	80	1430	1685	1093	475	1325	324	300	400	800	1200	400	1250	1200	145	96	120

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 requirements.
* Allow dimension L in front of cabinet for door opening and panel access.
** M dimension includes the space for the cabinet mounting brackets but you need to allow space below the cabinet for cable entry and access (minimum of 250 mm).

UV CHAMBER	
Material:	StSt 316L / 1.4404
Internal finish:	As made pipe and tube, welds as laid, electropolished and passivated
External finish:	BS EN 10088-2 or 10088-3, 1J or 2J and ASTM No. 4
Process (mating) connections:	Flange EN 1092-1 PN16
Drain connection:	BSPT
End plate:	Removable end plate
Degree of protection:	IP65 equivalent to NEMA 4 but not for outside use
Wiper:	Automatic (electrically driven)
Arc tube (lamp):	Medium pressure
Arc tube enclosure:	Doped quartz (F240)
Number of arc tubes (lamps):	1
Expected lamp life:	9000 hours
Temperature sensor:	Yes
UV sensor:	Calibrated DVGW compliant dry sensor with UVGuard™ sensor window
Working fluid temperature:	1°C to 60°C
Hydrostatically pressure tested:	Yes to PED requirements EN 13445
Chamber mounting:	Horizontal only
Operating pressure:	6 bar (positive pressure only)
Seals:	EPDM, ADI free, EC 1935/2004, FDA 21 CFR 177.2600 approved

OPTIONS
Document Support Pack
Cabinet: Stainless steel 304
Cabinet: Stainless steel 304 with air conditioning (5°-50°C), IP66 (NEMA 4X), relative humidity <95% non condensing
Cabinet: Stainless steel 316 with air conditioning with slooping roof (5°-50°C), IP66 (NEMA 4X), relative humidity <95% non condensing
Operation and Maintenance manual and printed Installation and Commissioning manual in Chinese, English, French, German and Spanish
Flange options: ANSI 150 (NPT drain), JIS, Table 'E'
Lead length: 20 and 29 m
Welder Document Pack for chamber construction
Skid mounting (not ship board or earthquake zone)
Operating pressure: 10 bar or 16 bar

OPTION (CONTINUED)
Vent valve: Manual valve, BSP/NPT (if ANSI flange)
Aggressive water package: For 400 ppm to 20000 ppm chloride water
Water leak detection: Detects water leaking from the UV lamp enclosure
UVShield™: Power cut-out for lamp access
UL 508A
In field UV reference sensor kit

CABINET (CONTROLLER UVTOUCH™)	
Material:	Polyester coated carbon steel
Degree of protection:	IP55 / NEMA 12
Supply voltages:	380 V to 480 V (-5% to +10%), 50/60 Hz
Operating temp range:	5°C to 40°C
Relative humidity:	<85% non-condensing
Cooling fans:	Yes

CABINET (GENERAL)	
Ballast power adjustment:	Stepless variable power (30 to 100% of maximum ballast rating
Interconnecting cable:	10 m cabinet to chamber

CUSTOMER OUTPUTS	
4-20 mA passive outputs:	UV RED dose, UV intensity and chamber temperature
VFC outputs:	Lamp ready (enable flow), system running, common warning, common trip, low dose warning, water leak detected, system in remote

CUSTOMER INPUTS	
4-20 mA active or passive inputs:	Flow meter and transmittance meter
VFC inputs:	Remote stop/start, remote reset, reduce power
24 V dc pulsed inputs:	Start and stop

CUSTOMER COMMUNICATIONS PORT	
RS 485:	Industrial Ethernet

APPROVALS
CE marked, USEPA (UVDGM)

ProLine PQ EO

Also available in our Drinking Water product range...

PROLINE PQ IL

Compact medium pressure range with USEPA validation

PROLINE PQ AF

Small community, low energy amalgam range with USEPA validation

PROLINE PQ AL

Small-mid sized region, low energy lamp amalgam range with USEPA validation UVT compensation

PROLINE PQ IL DVGW

Compact medium pressure range with DVGW certification,

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NUVONIC

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