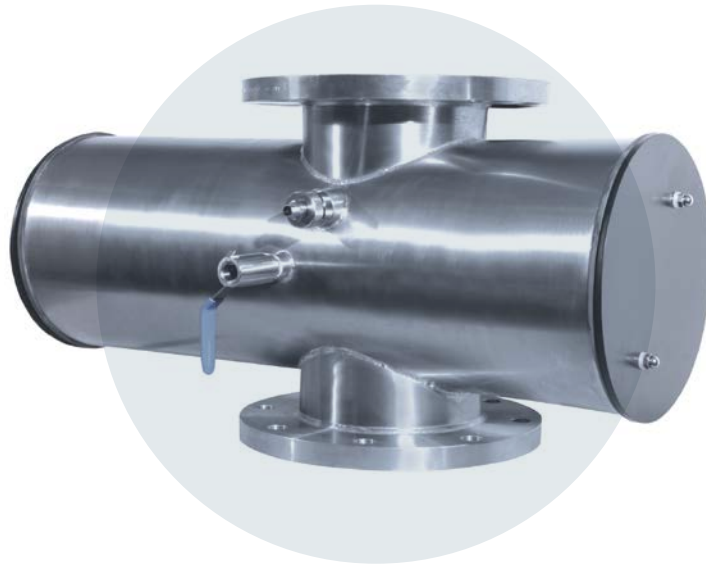


We UVCare...

# Application Optimised UV for Food & Beverage



PURELINE PQ IL



## Bioassayed UV treatment for Food & Beverage

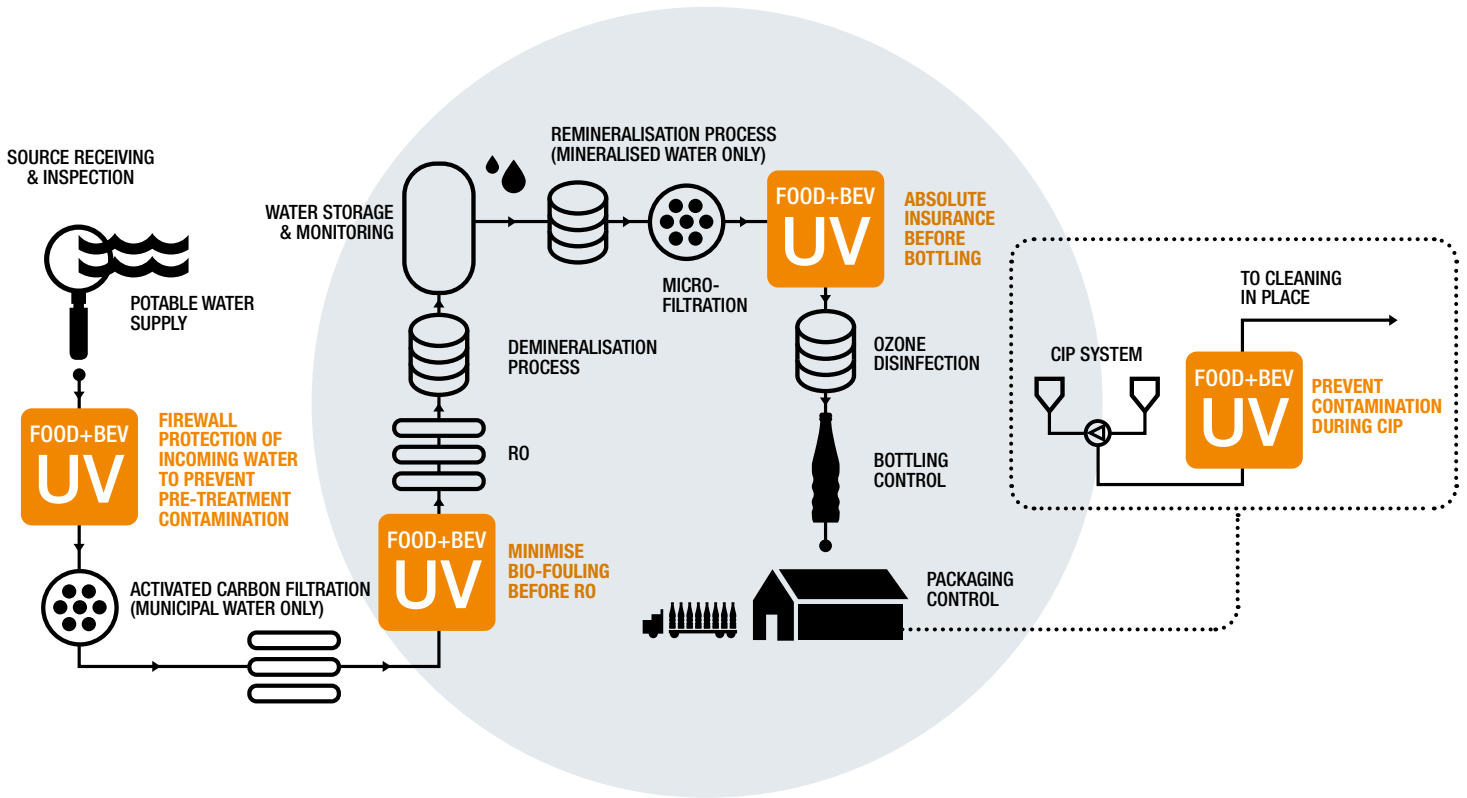
Our PureLine PQ IL systems are aimed specifically at providing third party bioassayed UV disinfection for product and process waters used in the food and beverage industry. By using a third party bioassayed UV system you can be certain that the UV dose being produced will disinfect the water, eliminate harmful micro-organisms, reduce the bio-burden, protect against bio-fouling, lead to fewer CIP / SIP cycles and lower operating costs. Each system comes with a certified dry UV sensor allowing checking of UV performance. The UV sensor measures the germicidal output of the UV system and a UV dose read out makes it easy to monitor and log performance. The control system also has the ability to take flow and transmittance meter inputs and calculate the UV dose based on real time operating conditions.

berson

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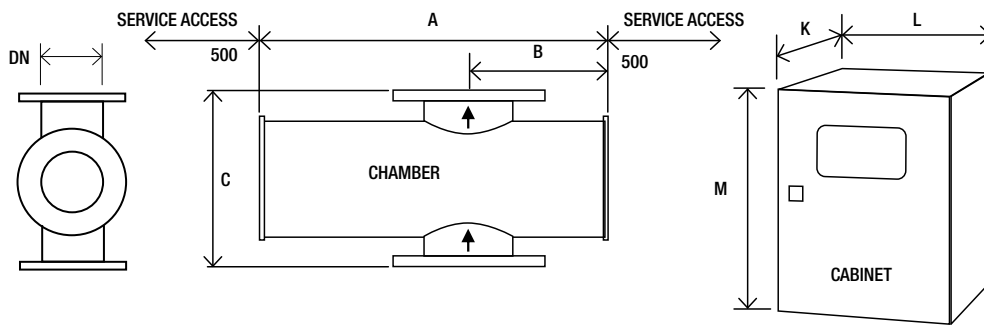
aquionics

# Potential locations of the PureLine PQ IL™ in bottled water processing line



KEY FEATURES	WHAT IT GIVES YOU	BENEFITS FOR YOU
<b>INTELLIGENCE</b>		
Dry DVGW approved UV sensor measuring germicidal wavelengths	Continuous verification of performance with real time RED dose reading and in-built low dose warning	Easy to monitor and log system performance
Flow and UV transmittance (UVT) meter inputs	Dose reading based on actual process conditions when meters are connected	Accurate UV dose reading guaranteed under wide range of operating conditions
<b>OPTIMISATION</b>		
Third party bioassayed 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
UV water disinfection	Protect your product and processes from microbiological contamination including chlorine resistant <i>Cryptosporidium</i> and <i>Giardia</i>	Does not affect taste and colour of final product No chemicals Protects pre-treatment equipment and RO filters from bio-fouling, reducing CIP frequency and downtime
Designed for the food and beverage industry	FDA-approved materials used for all wetted parts Chamber with flanged connections and < 0.8 µm internal finish *Automatic wiper (quartz cleaning)	Industry compliant materials Sanitary design, designed to international standards Self cleaning to maintain performance
<b>INTEGRATION</b>		
Compact design	*Can be fitted to skids Can be retrofitted to existing process	Easy integration

\* Option



\* 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).  
 \*\*\* CC: Control cabinet, PC: Power cabinet  
 a Attention: the optional cabinet with A/C is bigger. Ask for dimensions.  
 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.

Model Number	Max. power (kW)	No of lamps	Dimensions (mm)									Approx weight (Kg)	
			Chamber				Cab.	Cabinet (fan cooled) <sup>a</sup>			Chamber	Cabinet	
			A	B	C	DN	No***	K*	L	M**	Empty	Fan cooled	
PureLine PQ IL 450	5.6	2	780	310	400	200	1	300	1000	1200	78	80	
PureLine PQ IL 1000	11	4	780	310	400	200	1	300	1000	1200	78	100	
PureLine PQ IL 4000	17.5	4	896	368	550	350	1	600	1000	2100	150	180	
PureLine PQ IL 4500	26	6	896	368	550	350	1	600	1000	2100	150	200	
PureLine PQ IL 12000	39	6	1052	446	680	500	1 CC	400	600	2000	240	130	
							1 PC	600	1200	2100	260		
PureLine PQ IL 14000	52	8	1052	446	680	500	1 CC	400	600	2000	240	130	
							1 PC	600	1200	2100	290		

### UV CHAMBER

Material:	StSt 316L / 1.4404
Internal finish:	< 0.8 µm Ra, welds ground out, electropolished and passivated
External finish:	Brushed to K280, electropolished and passivated
Process (mating) connections:	Flange EN 1092-1 PN10
Drain connection:	Tri-clamp
Air vent connection:	Tri-clamp
End plate:	Removable end plate
Degree of protection:	IP54 equivalent to NEMA 12
Arc tube (lamp):	Medium pressure
Arc tube enclosure:	Doped quartz (F240)
Number of arc tubes (lamps):	See table above
Expected lamp life:	12000 hours
Temperature sensor:	Yes
UV sensor:	Dry DVGW compliant UV sensor (one per lamp)
Working fluid temperature:	1°C to 60°C (unwiped 1° to 80°C)
Maximum CIP temp:	95°C with cabinet electrically isolated
Hydrostatically pressure tested:	Yes
Chamber mounting:	Flow horizontal or vertical (lamps 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 & Spanish	
Flange options: PN16, ANSI 150, JIS, Table 'E' and tri-clamp (IL 450 & 1000 only)	
Lead length: 20 and 29 m	
In-field UV reference sensor kit	
Bleed: Hygienic valve with tri-clamp connection	
Wiper: Automatic (electrically driven)	
Operating pressure: 10 Bar	
UL 508A shop approval	

\* See sales drawings for dimensions

### OPTIONS (CONTINUED)

Welder pack	
Aggressive water package: For 400 ppm to 20000 ppm chloride water	
Water leak detection: Detects water leaks from quartz sleeve	
Water level sensor: UV chamber full water detection	

### CABINET (CONTROLLER UVTRONIC)

Material:	Polyester coated carbon steel, RAL 7035
Degree of protection:	IP54 (NEMA 12)
Supply voltages:	PQ IL 450-1000: 200-277 V (+/-10%) (2ph L1,L2 or 1ph L1+N) PQ IL 4000-14000: 380-480 V (-5% to +10%) (3ph L1, L2, L3) 50/60 Hz
Operating temperature range:	5°C to 35°C
Relative humidity:	<85% non-condensing
Cooling fans:	Yes
Interconnecting cable:	10 m
Variable power:	Stepless variable power (70% reduction from maximum ballast power)

### HMI / CONTROL

Display:	4 line LCD, indicating system status including alarms
Operating menu:	3 levels (2 with password protection)
Fault finding:	Event log

### CUSTOMER OUTPUTS

4-20 mA passive output:	UV dose, UV intensity, ballast power
VFC outputs:	Standby in remote, system standby, system cooling down, any trip, any warning, UV dose failure, system ready, wiper failure, lamp failure, water leak, water temp warning, water or cabinet temp alarm

### CUSTOMER INPUTS

4-20 mA active or passive inputs:	Flow meter and UVT transmittance meter
VFC inputs:	Remote stop/start, remote reset, remote wipe, remote set power high

### CUSTOMER COMMUNICATIONS PORT

Modbus RS 485 serial RTU for SCADA connection
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### APPROVALS

CE marked



**PURELINE PQ**

Also available in our Food & Beverage product range...



**PURELINE DC+DCD**

Dechlorination and Chlorine  
Dioxide removal



**PURELINE DO**

Ozone removal and  
disinfection



**PURELINE D**

Disinfection as part of a  
multi barrier approach



**PURELINE S**

Sugar syrup disinfection



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