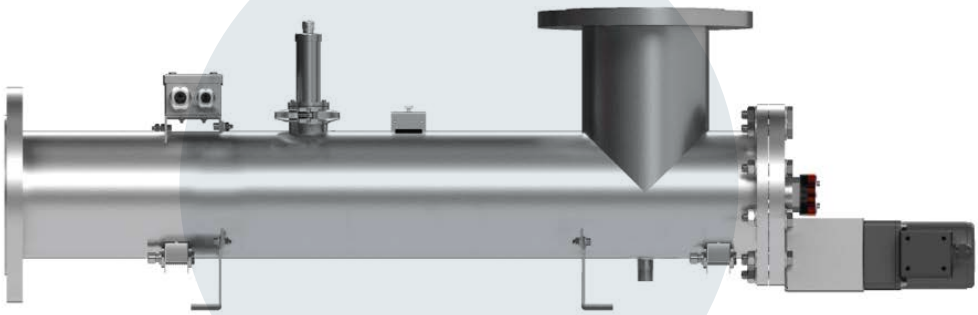
We UVCare...

Application Optimised UV for Food & Beverage

PURELINE PQ EO



Bioassayed UV treatment for Food & Beverage

Our PureLine PQ EO UV systems are aimed specifically at providing third party bioassayed UV disinfection for product and process waters used in the food and beverage industry. The PQ EO integrates an innovative single medium pressure lamp chamber design with sensors and intelligent control technology to automatically deliver optimum disinfection performance with high operational efficiency. The PQ EO will eliminate harmful micro-organisms, reduce the bioburden, protect against bio-fouling, lead to fewer CIP / SIP cycles and lower operating costs. Each system comes with a certified dry UV sensor that 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.

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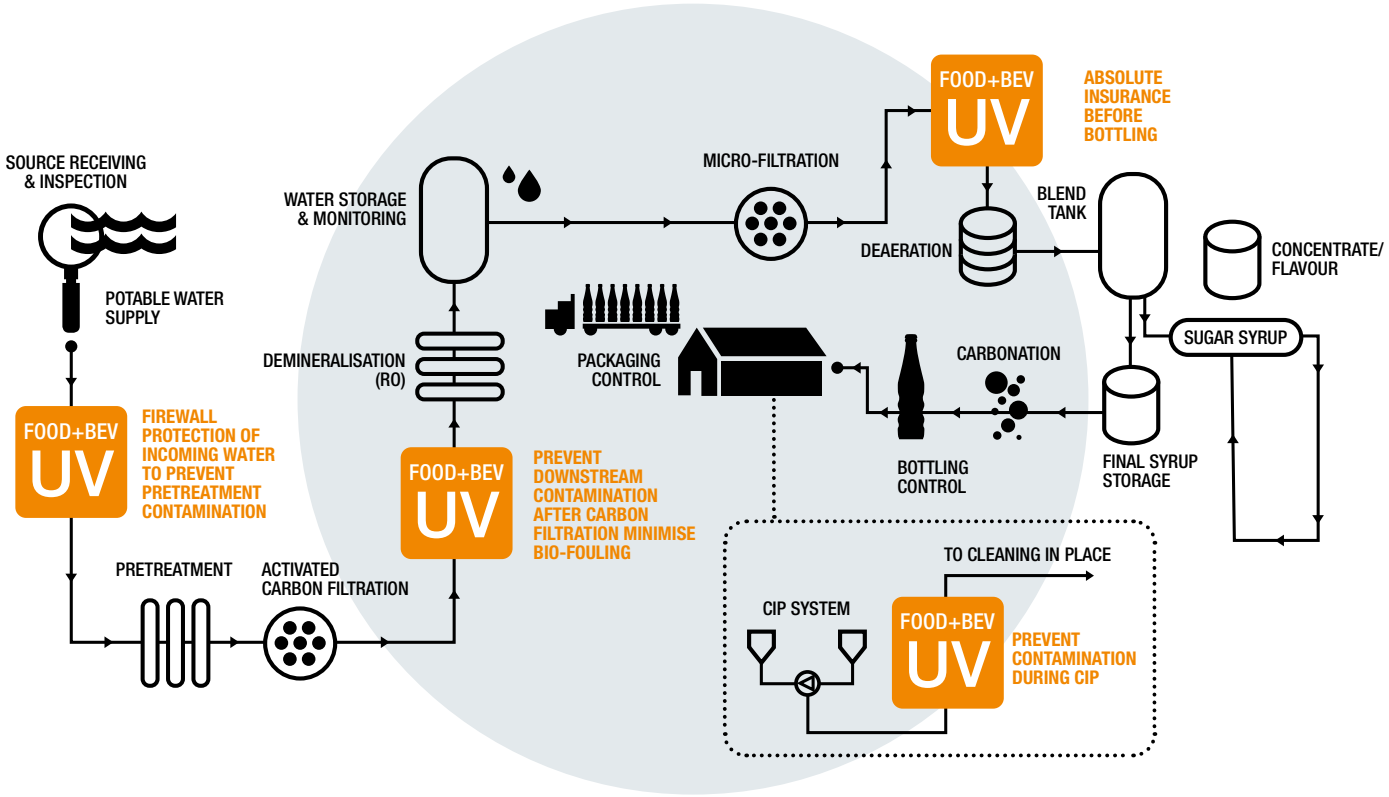
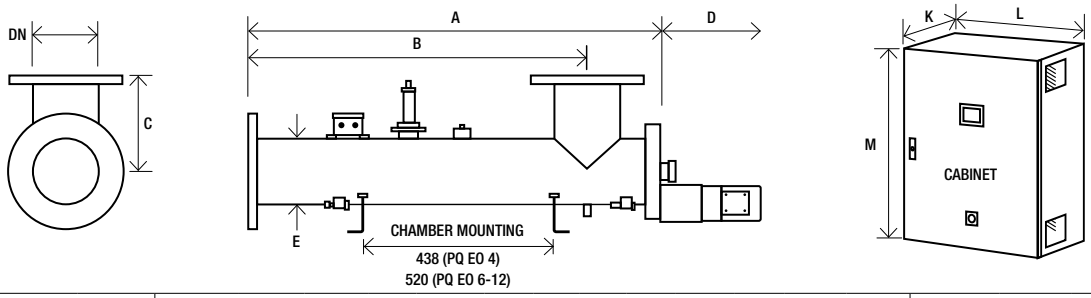
Potential locations of the PureLine PQ EO™



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 production
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		
Single medium pressure lamp	Provides germicidal wavelengths to disinfect your product or process water	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
	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 specifically for the food and beverage industry	Flanged connections, standard internal finish	Reduced system cost where sanitary design is not critical
	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



			Dimensions (mm)														Approx weight (Kg)		
			Chamber								Control Cabinet (fan cooled)			Control Cabinet (with A/C)			Chamber	Control Cabinet	
Model	Max Power (kW)	Min T_{10}(%)	A		B	C	D	E	DN	K*	L	M**	K*	L	M**	Empty	Fan cooled	With A/C
	Starting		Unwiped	Wiped															
PureLine PQ EO 4	4.5	80	1009	1232	823	165	900	114	100	400	800	1200	400	1250	1200	30	96	120
PureLine PQ EO 6	4.5	80	1035	1286	850	245	950	168	150	400	800	1200	400	1250	1200	44	96	120
PureLine PQ EO 8	4.5	80	1110	1361	875	320	1000	210	200	400	800	1200	400	1250	1200	65	96	120
PureLine PQ EO 10	4.5	80	1190	1441	903	430	1100	273	250	400	800	1200	400	1250	1200	96	96	120
PureLine PQ EO 12	6.8	80	1430	1685	1093	475	1325	324	300	400	800	1200	400	1250	1200	145	96	120

* 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).
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.

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:	Tri-clamp blanked off
End plate:	Removable end plate
Degree of protection:	IP65 equivalent to NEMA 4 but not for outside use
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 (80°C unwiped)
Maximum CIP temperature:	95°C lamp off and CIP request acknowledged
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
Wiper: Automatic (electrically driven)
Flange options: ANSI 150, JIS, Table 'E' and tri-clamp
Chamber internal finish: <0.6 µm Ra or <0.38 µm Ra, welds polished out, electropolished and passivated
Lead length: 20 and 29 m
Max CIP temp: 130°C lamp turned off and CIP request acknowledged
Operating pressure: 10 bar or 16 bar
Vent valve: Manual valve hygienic design
Aggressive water package: For 400 ppm to 20000 ppm chloride water

OPTIONS (CONTINUED)

UVShield™: Power cut-out for lamp access
Bleed valve: Hygienic valve with tri-clamp connection
Skid mounting (not ship board or earthquake zone)
Welder Document Pack for chamber construction
Water leak detection: Detects water leaking from the UV lamp enclosure
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 lengths:	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, OK to CIP

CUSTOMER INPUTS

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

CUSTOMER COMMUNICATIONS PORT

RS 485:	Industrial Ethernet

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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