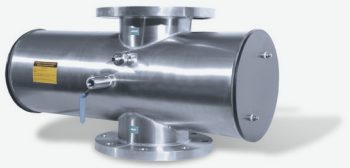
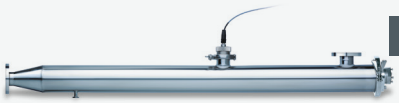
PureLine PQ™

UV TECHNOLOGY FOR FOOD AND BEVERAGE

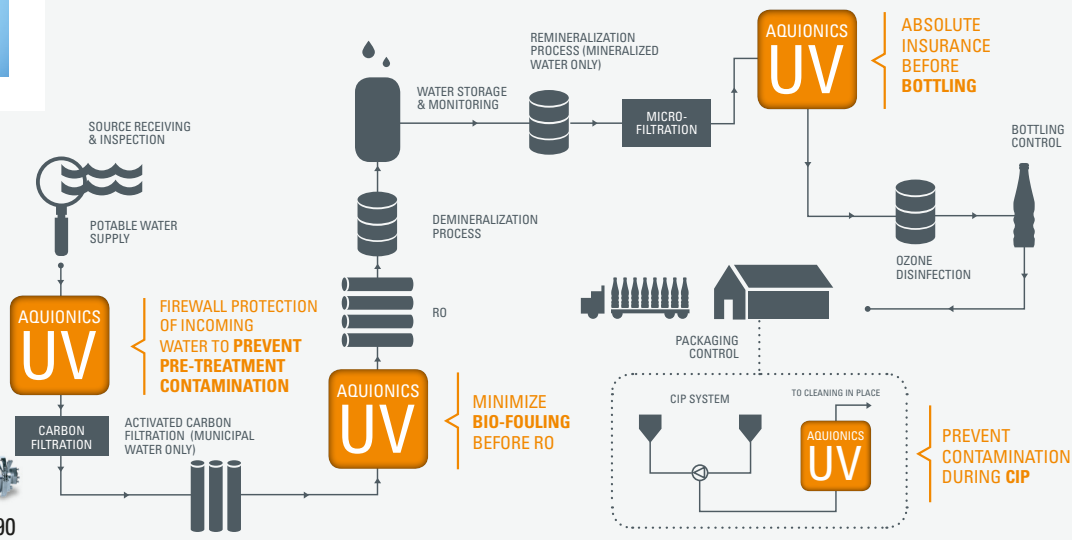


PureLine PQ: 0200, 0360, 1100, 1400



PureLine PQ: 0005, 0008, 0016, 0030, 0090

BOTTLED WATER PROCESSING LINE

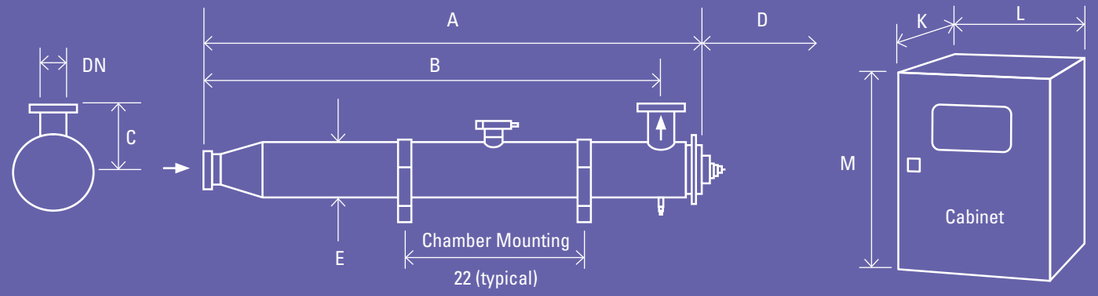


VALIDATED UV TREATMENT FOR FOOD AND BEVERAGE

- Aquionic's PureLine PQ systems are aimed specifically at providing third party validated UV disinfection for product and process waters used in the food and beverage industry.
- By using a third party validated 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 readout 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.

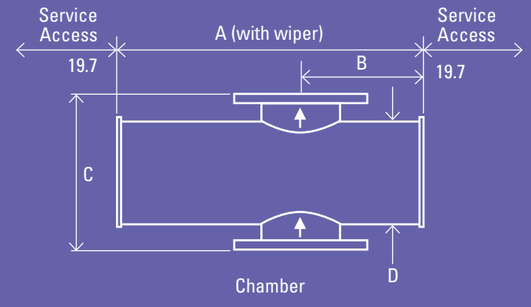
KEY FEATURES	WHAT IT GIVES YOU	BENEFITS FOR YOU
INTELLIGENCE		
Dry DVGW approved UV sensor measuring germicidal wavelengths	Continuous verification of performance with real time RED dose reading and built-in low dose warning	Easy to monitor and log system performance
Flow and UV transmittance (UVT) meter inputs	Dose reading based on actual process conditions when meters are connected	Accurate UV dose reading guaranteed under wide range of operating conditions
OPTIMIZATION		
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
UV water disinfection	Protect your product and processes from microbiological contamination including chlorine resistant *Cryptosporidium* and *Giardia*	Does not affect taste and color 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	Industry compliant materials
	*Chamber with tri-clamp connections and < 32 µin internal finish	Sanitary design
	*Automatic wiper (quartz cleaning)	Self cleaning to maintain performance
INTEGRATION		
Compact design	Can be fitted to skids	Easy integration
	Can be retrofitted to existing process	
RS 485 Modbus	Single cable connection to customer control system	

* Option



			Dimensions (inches)									Approx weight (lb)	
Model	Maximum Power (W)	Min T_{10}(%)	A	B	C	D	E	DN	K*	L	M**	Chamber (Empty)	Control Cabinet
PureLine PQ 0005	125	60	54.6	50.1	3.2	51.2	4	1.5	8.8	23.6	35	19.8	79.4
PureLine PQ 0008	200	60	54.6	50.1	3.2	51.2	4	2	8.8	23.6	35	19.8	79.4
PureLine PQ 0016	350	60	54.6	50.1	3.2	51.2	4	2	8.8	23.6	35	19.8	79.4
PureLine PQ 0030	350	60	56.6	51.2	5.9	51.2	6.6	3	8.8	23.6	35	52.9	79.4
PureLine PQ 0090	750	60	78	71.9	7.9	74.8	8.1	6	8.8	23.6	35	101.4	79.4

* 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 9.8 Inches).
All dimensions are approximate for clearance purposes only. Aquionics has a policy of continuous product development, exact drawings are available on request. All specifications are subject to change without notification.
Your distributor or Aquionics account manager can advise on correct sizing and specification requirements.



			Dimensions (inches)									Approx weight (lb)	
Model	Maximum Power (kW)	Min T_{10}(%)	A	B	C	D	DN	K*	L	M**		Chamber (Empty)	Control Cabinet
PureLine PQ 0200	5.6	65	30.7	12.2	15.7	10.7	8	11.8	39.4	47.2		169.8	264.6
PureLine PQ 0360	11	50	30.7	12.2	15.7	10.7	8	11.8	39.4	47.2		169.8	286.6
PureLine PQ 1100	17.5	65	35.3	14.5	21.7	16	14	23.6	39.4	79.1		330.7	617.3
PureLine PQ 1400	26	50	35.3	14.5	21.7	16	14	23.6	39.4	79.1		330.7	661.4

* Allow dimension L in front of cabinet for door opening and panel access.
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Your distributor or Aquionics 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:	Sateen polish (120 grit) electropolished and passivated
Process (mating) connections:	Flange ANSI 150
Drain connection:	Tri-clamp to ISO 2037
End plate:	Removable tri-clamp except PQ 0090 which is flanged
Degree of protection:	IP65 equivalent to NEMA 4 but not for outside use
Arc tube (lamp):	Low pressure amalgam
Arc tube enclosure:	Pure quartz
Number of arc tubes (lamps):	1
Expected lamp life:	12000 hours
Temperature sensor:	Yes
UV sensor:	Dry DVGW compliant UV sensor with UVGuard™ window
Working fluid temperature:	41°F to 104°F
Maximum CIP temperature:	203°F with cabinet electrically isolated
Hydrostatically pressure tested:	Yes to PED requirements EN 13445
Chamber mounting:	Horizontal only
Operating pressure:	10 bar
Seals:	EPDM, ADI free, EC 1935/2004, FDA 21 CFR 177.2600 approved

OPTIONS

- Transmittance compensating dose equation
- Document Support Pack
- Cabinet material: Stainless steel 304 or 316 with sloping roof
- Operation and Maintenance manual and printed Installation and Commissioning manual in Chinese, French, German and Spanish
- Wiper: Automatic (pneumatically driven)
- Flange options: EN 1092-1 PN16, JIS, Table 'E' and tri-clamp
- Chamber internal finish: Tri-clamp chamber only <15 µin, welds left as laid, electropolished and passivated
- Lead length: 65.6 & 91.9 ft PQ 0005 - 0008, 45.9 ft PQ 0016 - 0090
- Maximum CIP temperature: 266°F (panel switched off)
- In-field UV reference sensor kit

OPTIONS (CONTINUED)

- Welder Document Pack for chamber construction
- Bleed: Hygienic valve with tri-clamp connection supplied loose
- Skid mounting
- Variable power: Yes on PQ 0090 only (40% reduction from max ballast power, 20% dose reduction)

CABINET

Material:	Polyester coated carbon steel
Degree of protection:	IP66 / NEMA 4
Supply voltages:	230 V (207 V to 253 V) 50/60 Hz
Operating temperature range:	41°F to 104°F
Relative humidity:	<95% non-condensing
Cooling fans:	No
Interconnecting cable lengths:	32.8 ft

HMI / CONTROL

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

CUSTOMER OUTPUTS

4-20 mA active outputs:	UV dose or UV intensity
24 V dc 10 mA max outputs:	Lamp ON, any trip, any warning, system ready, system in remote, bleed valve

CUSTOMER INPUTS

4-20 mA active or passive inputs:	Flow meter and transmittance meter
VFC inputs:	Remote stop/start and remote reset

CUSTOMER COMMUNICATIONS PORT

RS 485:	Modbus

APPROVALS

CE marked, $_{c}$ETL$_{us}$ to UL 61010-1, IEC 61010-1

UV CHAMBER

Material:	StSt 316L / 1.4404
Internal finish:	< 32 µin Ra, welds as laid, electropolished and passivated
External finish:	Brushed to K280, electropolished and passivated
Process (mating) connections:	Flange ANSI 150
Drain connection:	Tri-clamp to ISO 2037
End plate:	Removable end plate
Degree of protection:	IP54 equivalent to NEMA 12
Wiper:	Automatic (electrically driven)
Arc tube (lamp):	Medium pressure
Arc tube enclosure:	Doped quartz
Number of arc tubes (lamps):	2 (PQ 0200), 4 (PQ 0360-1100), 6 (PQ 1400)
Expected lamp life:	9000 hours
Temperature sensor:	Yes
UV sensor:	Dry DVGW compliant UV sensor (one per lamp)
Working fluid temperature:	41°F to 104°F
Maximum CIP temperature:	203°F with cabinet electrically isolated
Hydrostatically pressure tested:	Yes
Chamber mounting:	Flow horizontal or vertical (lamps horizontal only)
Operating pressure:	6 bar
Seals:	EPDM, ADI free, EC 1935/2004, FDA 21 CFR 177.2600 approved

OPTIONS

- Document Support Pack
- Cabinet material: Stainless steel 304 or 316 with sloping roof
- Operation and Maintenance manual and printed Installation and Commissioning manual in Chinese, French, German and Spanish
- Wiper: Remove automatic wiper
- Flange options: EN 1092-1 PN10, JIS, Table 'E' and tri-clamp
- Lead length: 65.6 and 95.1 ft
- In-field UV reference sensor kit
- Bleed: Hygienic valve with tri-clamp connection
- Control cabinet: Air conditioning in carbon steel or stainless steel raises control ambient limit to 122°F (in shade) IP rating 65 (NEMA 4 or 4X)
- Water leak detection: Detects water leaks from quartz sleeve

CABINET

Material:	Polyester coated carbon steel
Degree of protection:	IP54 NEMA 12
Supply voltages:	PQ 0200-0360 200-277 V (2ph L1,L2 or 1ph L1+N) PQ 1100-1400 380-480 V (3ph L1, L2, L3) 50/60 Hz (voltage tolerance ±10% of nominal)
Operating temperature range:	41°F to 95°F
Relative humidity:	<95% non-condensing
Cooling fans:	Yes
Interconnecting cable lengths:	32.8 ft
Variable power:	Yes (66% 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 active outputs:	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 temperature warning, water/cabinet temperature alarm

CUSTOMER INPUTS

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

CUSTOMER COMMUNICATIONS PORT

RS 485:	Modbus

APPROVALS

CE marked, UL 508A shop, USEPA tested to UVDGM

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