PHARMALINE DC PH

Also available in our Pharmaceutical product range...

PHARMALINE PQ+PQH

3rd party validated systems for critical disinfection or as a pathogen barrier

PHARMALINE D+DH

Disinfection as part of a multi barrier approach or secondary hygiene maintenance

PHARMALINE DO

Ozone removal and disinfection

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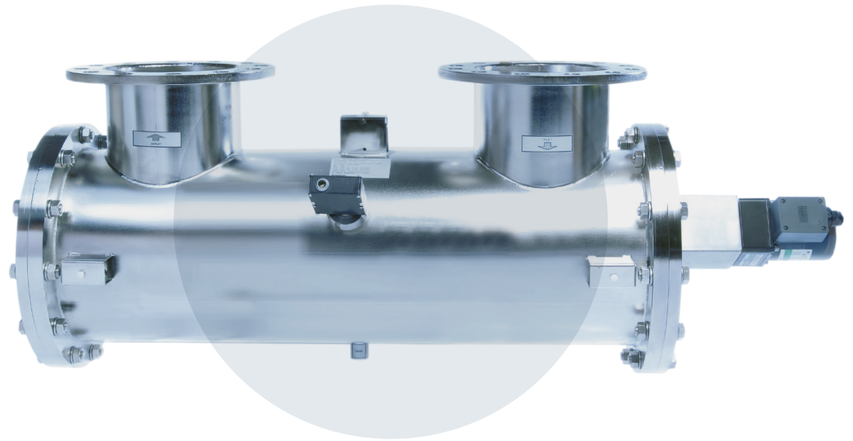
We UVCare...

Application Optimised UV for Pharmaceuticals

PHARMALINE DC PH



UV Dechlorination for Pharmaceuticals

Our PharmaLine DC PH UV systems deliver guaranteed high UV doses for effective free chlorine removal and disinfection for the pharmaceutical and cosmetic industries. By using UV to remove the free chlorine we protect RO membranes and ion-exchange technologies (EDI) from both residual free chlorine and bio-fouling. UV dechlorination provides distinct advantages over traditional technologies such as Activated Carbon Filtration (ACF) or Sodium Metabisulphite dosing (SMB). These chlorine removal methods are prone to microbial contamination and require significantly more operator involvement and plant room space than UV leading to higher lifetime costs.

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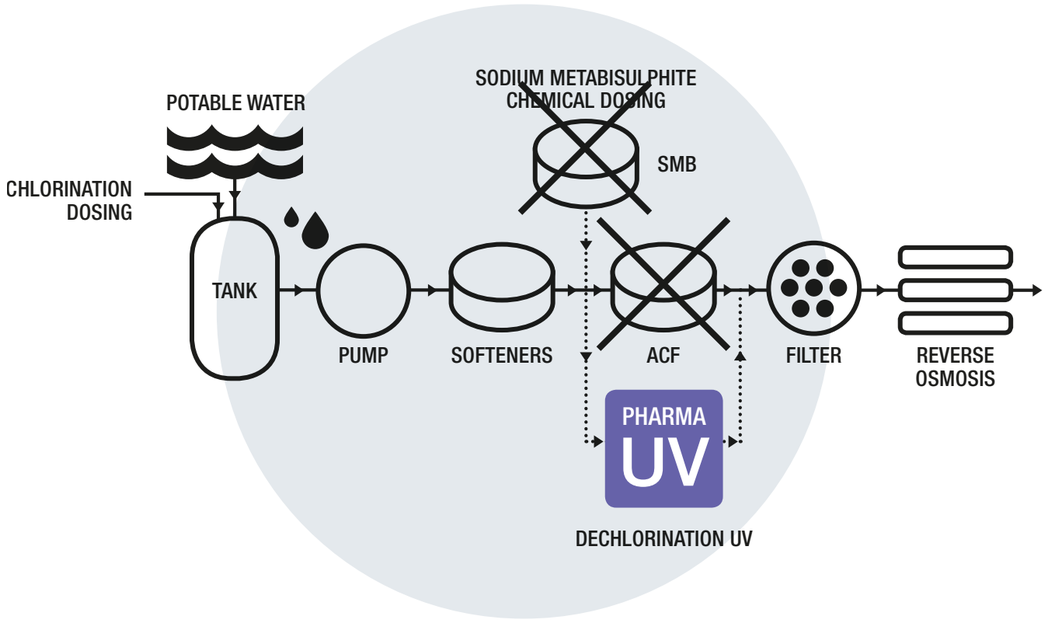
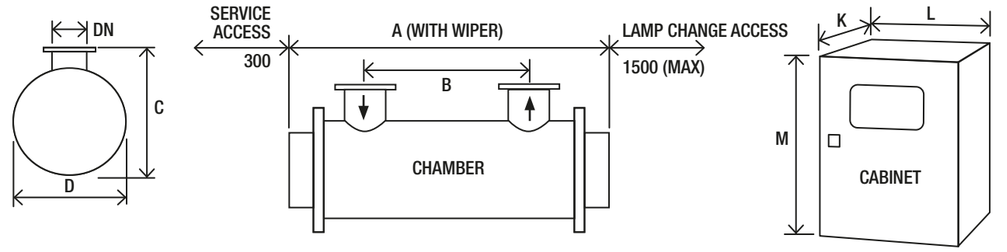
The Operating Cycle of the PharmaLine DC PH™



KEY FEATURES	WHAT IT GIVES YOU	BENEFITS FOR YOU
INTELLIGENCE		
UV intensity monitor	Continuous verification of performance with in-built low intensity alarm	Easy to monitor and log system performance
OPTIMISATION		
Medium pressure lamp	Provides high intensity UV light at 200 to 400 nm wavelengths ideal for the destruction of free chlorine (HOCl and OCl-)	Prolongs the life of RO and EDI equipment by removing free chlorine
	Chemical free reduction of free chlorine	No risk of contamination or running out of chemical
	Unlike ACF does not require backwashing or media replacement	Saves on water and maintenance costs
	Provides high intensity germicidal wavelengths to disinfect the water	Prolongs the life of RO and EDI equipment compared to ACF by reducing the bio-burden
Designed for pre-treatment processes in the pharmaceutical industry	Flanged connections, standard internal finish	Reduced system costs when cGMP design not required
	FDA-approved materials used for all wetted parts	Industry compliant materials
Option of sanitary design for the pharmaceutical industry based on cGMP principles	Sanitary design with <0.38 µm internal surface finish and tri-clamp connections as standard	Industry compliance; reduced risk of microbiological contamination; enhances control of your process as part of a multi-barrier system
INTEGRATION		
Compact design	Can be fitted to skids	Easy integration
	Can be retrofitted to existing process	
Robust design	Maximum of 2 service visits annually	Easy to maintain compared to ACF and SMB dosing



		Dimensions (mm)									Approx weight (Kg)	
		Chamber					Cab.	Cabinet (fan cooled)			Chamber	Cabinet
Model Number	Maximum Power (kW)	Min T_{10}(%)	A	B	C	D	DN	No***	K*	L	M**	Empty	Fan cooled
PharmaLine DC PH 50	1.6	85	850	200	319	240	40	1	330	750	850	45	80
PharmaLine DC PH 100	2.7	85	1300	682	319	240	40	1	330	750	850	50	85
PharmaLine DC PH 200	4.2	85	1300	674	319	240	40	1	330	750	850	50	85
PharmaLine DC PH 250	5.8	85	1300	674	319	240	40	1	330	900	1100	50	165
PharmaLine DC PH 300	5.8	85	1300	674	319	240	50	1	330	900	1100	50	165
PharmaLine DC PH 320	12.5	85	1300	674	420	290	80	1	330	1100	1600	65	265
PharmaLine DC PH 360	16.5	85	1300	674	420	290	100	1	330	1100	1600	65	282
PharmaLine DC PH 400	25.2	85	1300	674	505	410	50	1 CC	330	900	1100	140	165
								1 PC	330	1100	1600		282
PharmaLine DC PH 500	25.2	85	1300	674	505	410	100	1 CC	330	900	1100	140	165
								1 PC	330	1100	1600		282

* 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.
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:	Stainless steel 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 EN 1092-1 PN16
Drain connection:	Tri-clamp to ISO 2852 Table 2
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:	Pure quartz
Number of arc tubes (lamps):	1 (DC PH 50-300), 3 (DC PH 320), 4 (DC PH 360), 6 (DC PH 400-500)
Expected lamp life:	8000 hours, 4000 hours DC 250 and 300
Temperature sensor:	Yes
UV monitor:	Wet UV monitor
Working fluid temperature:	5°C to 60°C (80°C unwiped)
Maximum CIP temperature:	95°C with cabinet electrically isolated
Hydrostatically pressure tested:	Yes to PED requirements EN 13445
Chamber mounting:	Horizontal only
Operating pressure:	6 bar
Seals:	EPDM, FDA 21 CFR 177.2600, USP Class VI 121°C approved

OPTIONS
Document Support Pack
Cabinet material: Stainless steel 304
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: <0.38 µm welds polished out, electropolished and passivated
Lead length: 20 m, 30 m or 50 m cabinet to chamber
Maximum CIP temperature: 130°C (panel switched off)

OPTIONS (CONTINUED)
Welder Document Pack for chamber construction
Bleed valve: Hygienic valve with tri-clamp connection
Skid mounting
Operating pressure: 10 bar
Vent valve: Manual valve hygienic design
Cabinet IP rating: Air to air heat exchangers stainless steel IP 66, NEMA 4X. If fitted no UL listing
Aggressive water package: For 400 ppm to 20000 ppm chloride water
UVShield™: Power cut-out for lamp access (except DC 320 to 500)
Water leak detection: Detects water leaks from quartz sleeve

CABINET	
Material:	Polyester coated carbon steel
Degree of protection:	IP54 NEMA 12
Supply voltages (nominal):	DC PH 50-100: 95 V to 260 V DC PH 200-300: 190 V to 480 V DC PH 320-500: 380 V to 480 V 50/60 Hz (voltage tolerance ± 10% of nominal)
Operating temperature range:	5°C to 40°C
Relative humidity:	<85% non-condensing
Cooling fans:	Yes
Interconnecting cable lengths:	10 m cabinet to chamber

CUSTOMER OUTPUTS	
4-20 mA passive output:	UV intensity %
VFC outputs:	System warning, lamp ready, low UV intensity, common trip, remote reset, ELCB or water leak, system available, local or remote mode

CUSTOMER INPUTS	
4-20 mA passive or active input:	Flow meter
VFC outputs:	Remote stop/start and remote reset

CUSTOMER COMMUNICATIONS PORT
None

APPROVALS
CE marked, UL listed E 149108