



AQUAFIDES

PHARMA

Maximum Hygiene is Our Standard

*UV Disinfection Solutions
for the Pharmaceutical Industry*

AQUAFIDES

aquafides.com

AQUAFIDES Quality meets Pharmaceutical and Ultrapure Water Standards

For many decades, UV technology has been the method of choice when it comes to safe, chemical- and residue-free disinfection of pharmaceutical water (PW and WFI according to USP, EP, JP, ChP) or ultrapure water (UPW). The well-proven AQUAFIDES Compact series has been successfully developed and enhanced especially for applications in the pharmaceutical, biotechnology, life sciences and semiconductor industries.

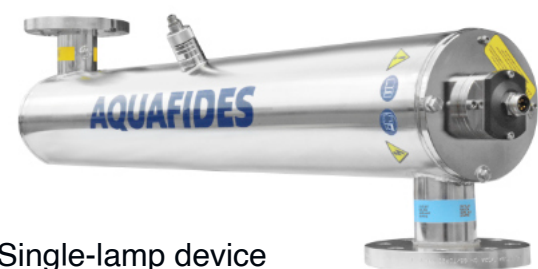
The new AQUAFIDES Compact PH series is based on a validated disinfection performance with a UV dose of 400 J / m² (reduction-equivalent fluence) according to DVGW W294-2 / ÖNORM M5873.

For applications such as disinfection and oxidation, chlorine, ozone, or TOC degradation in pharmaceutical or in ultrapure water, safe disinfection performance must come along in particular with a superior uncompromising hygienic design with best materials and surface quality.



Validated AQUAFIDES Compact PH Series

- ✓ Disinfection performance validated according to DIN / ÖNORM
- ✓ Uncompromising hygienic design
- ✓ UV irradiation chamber, 1.4404 electropolished (Ra <0.8 µm)
- ✓ Tri-Clamp DIN / ISO connections
- ✓ FDA-compliant sealing materials
- ✓ Low-gap design and option for fully draining
- ✓ Calibrated UV radiometer (ÖNORM M 5873 / DIN 19294)
- ✓ Extremely economical thanks to powerful, dimmable 300 respectively 400-Watt amalgam UV lamps
- ✓ Suitable for CIP / SIP



Single-lamp device
electropolished in Z-shape



Multi-lamp device
electropolished with tri-clamp flanges

Options



- Large 7" graphics display with extended control and dimming functions
- Bus interface for external monitoring and control
- Electropolished irradiation chamber, R_a <0.5 µm
- U- & Z-shapes of the pipe connections
- Special versions with 185 nm UV lamps for oxidation and TOC degradation

AQUAFIDES Compact Pharma Series

UV Dose [J/m ²]		1 AF45 PH	1 AF90 PH	1 AF300 PH	2 AF300 PH	3 AF300 PH	1 AF400 PH	3 AF400 PH
		Max. possible volume flow for the corresponding UV dose [m ³ /h]						
400	OVGW DVGW SVGW	4,3	9,4	23,6	59,3	86,9	41,4	193,5
	PSS	7,2	13,9	43,9	99,4	183,9	71,7	307,1
800	OVGW DVGW SVGW	2,2	4,7	11,8	29,7	43,4	20,7	96,7
	PSS	3,6	7,0	21,9	49,7	91,9	35,9	153,5
1.000	OVGW DVGW SVGW	1,7	3,8	9,4	23,7	34,8	16,6	77,4
	PSS	2,9	5,6	17,5	39,7	73,5	28,7	122,8
1.200	OVGW DVGW SVGW	1,4	3,1	7,9	19,8	29,0	13,8	64,5
	PSS	2,4	4,6	14,6	33,1	61,3	23,9	102,4
1.800	OVGW DVGW SVGW	1,0	2,1	5,2	13,2	19,3	9,2	43,0
	PSS	1,6	3,1	9,7	22,1	40,9	15,9	68,2

Validated disinfection performances based on drinking water certification:



Flow values at UV transmittance of T₁₀ = 98,95% or T₁₀₀ = 90%. Further devices, target UV doses on request.

UV applications

Disinfection

In pharmaceutical and ultrapure water systems continuous disinfection is extremely important to safely prevent any microbiological growth. Usually the UV devices are installed after pre-filtration and before reverse osmosis. Additional UV devices will be placed before and/or after the electro-deionization (EDI), in front of storage tanks and in the loop.

TOC Reduction

USP and EP regulations prescribe TOC levels of less than 500 ppb in pharmaceutical water (Aqua Purificata AP and water for injections WFI). AQUAFIDES relies on specially developed UV systems, equipped with ozone-generating UV lamps that use UV light with a wavelength of 185 nm to oxidize the TOC in a targeted manner.

Residual Ozone Destruction

In some cases, ozonation is additionally used to disinfect pipes and tanks, with the ozone before the final use (POU) must be removed. Ideally, the UV light with a wavelength of 254 nm is also very effective to destroy residual ozone. With the AQUAFIDES Compact Series typical residual ozone concentrations of 0.2 ppm are safely reduced below the detection limit.

Chlorine Destruction

Free chlorine or chloramine added to the drinking water can damage the sensitive membranes of the filtration or RO systems. UV light is also the means of choice here, to remove chlorine or chloramines easily and safe. This avoids expensive consequential damages.

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