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AMALGAM LOW PRESSURE UV LAMPS MODEL HAL

UV low pressure amalgam lamps don't contain only mercury: inside the lamp there is a solid amalgam, that is to say an alloy of mercury with other metals.

The low-pressure amalgam lamps produced by Helios are the best solution for ultraviolet disinfection and oxidation of water, air and surfaces because they combine a very long working life (up to 20,000 hours) with an excellent UVC efficiency at 254 nm (up to 45%) and a much higher power density than traditional low pressure or mercury medium pressure lamps, as shown in the table below.



The data in the table are only general information.

The "High Output" UVC have a yield of up to 60% higher Compared to base models with the same length.

LAMP TYPE	Low pressure (High Output)		Am Iow p	algam ressure	Medium pressure	
Model	H	OGL	ŀ	IAL	HMPL	
Input power	10 -	160 W	50 -	1500 W	1 - 30 kW	
Power density	0,7 -	1 W/cm	1 - 6 W/cm		80 - 300 W/cm	
UVC Radiation	< 350	µW/cm	< 100	0 µW/cm	< 35000 µW/cm	
Wavelength/Efficiency	185 nm	254 nm	185 nm	254 nm	Broad band polychromatic	
	2%	25% - 35%	2%	< 45%	5 a 15%	
Surface temperature	> 50 °C		90 - 120 °C		500 a 950 °C	
Current	0,8 - 1,3 A		1,2 - 5 A		0,3 - 0,4 A	
Lifetime	> 12000 h		> 12000 h		9000 h	
Influence of environment temperature	High		High		Low	

The main features of the low-pressure UV amalgam lamps manufactured by Helios are as follows:						
Quartz tubes: Natural Quartz (OF) – efficiency at 254 nm – Natural Quartz (OG) – Syntetic Quartz (OG)						
Outer diameter (OD) of the quartz tubes from 10 mm to 38 mm						
Arc length from L. 100 mm up to L. 2600 mm and Power range from 50 W to 1500 W						
Lamp Body shape: Linear – U form – Spiral – Other forms available upon request						
Max nominal power density per unit length (to be checked in prototyping phase): 6W/cm						
UVC max power intensity per unit length (to be checked in the prototyping stage): 4 W/cm						
Coefficient of electric power conversion in UVC radiation at 254 nm up to 45%						
Lifetime (lab tested and according to lamp power) up to 20000 hours						
Working temperature from 1°C to 60°C with stable UVC emission						
Maximum loss of efficiency at the end of its useful life from 5% to 20%.						

(OF) Libre de Ozono (OG) Generadora de Ozono



UV amalgam lamps produced by Helios, thanks to their high power and long-lasting quality, represent a convenient solution for UV disinfection systems, containing the operating and maintenance costs due to the decrease of the total number of the lamps and electronic components to be installed.

A special coating process of the glass quartz allows the amalgam and low pressure UV lamps to maintain a nearly constant germicidal action throughout the life cycle of the lamp, thus increasing its durability.



Helios can produce medium pressure UV lamps suitable for almost all UV systems; below a list of the necessary information for spare parts:

- Electrical Data (Power [W], input tension [V0 VL] or input current [A0 AL])
- Total length of the lamp (inclusive of terminal ceramic) (1)
- Arc length (2)
- Diameter of the quartz tube (3)
- Cable length (4)
- Type of ceramic terminal (5)
- Type of electrical connection needed (6)
- Lamp production of ozone Yes/No
- · Code of the lamp to be replaced

5 Ceramic caps





Ozone is one of the strongest oxidizing agent available, that reacts with a multitude of polluting organic compounds to oxidize and disinfect air and water from molds, alga, bacteria and virus.

Lamps produced in synthetic quartz glass (ozone generating)

Using the synthetic quartz glass you have a greater efficiency of UV transmission at 185 nm; these lamps represent a good solution for oxidation processes.

Lamps produced with doped natural quartz glass (ozone free)

Made of doped quartz glass (Ti), the "Ozone Free" lamps are used for disinfection, when you need only one wavelength peak at 254 nm. It is important to note that lamps that emit at this wavelength can also be used for the destruction of ozone.









GERMICIDAL MODEL HOGL

Model	Ø Tube	Total Length	Arc length	Power	Current	Voltage	UV Emission at 254 nm	
HOGL436T5L	15 mm	436 mm	360 mm	48 W	800 mA	60 V	120 µW/cm ²	13 W
HOGL36T5L	15 mm	842 mm	755 mm	87 W	800 mA	110 V	260 µW/cm ²	28 W
HOGL846T5L	15 mm	846 mm	767 mm	90 W	800 mA	113 V	265 µW/cm ²	29 W
HOGL893T5L	15 mm	893 mm	815 mm	95 W	800 mA	120 V	270 µW/cm ²	30 W
HOGL64T5L	15 mm	1554 mm	1421 mm	155 W	800 mA	195 V	395 µW/cm ²	54 W

GERMICIDAL MODEL HAL

Model	Ø Tube	Total Length	Arc length	Power	Current	Voltage	UV Emission at 254 nm	
HAL357T5L	15 mm	357 mm	278 mm	42 W	1,2 A	36 V	110 µW/cm ²	11 W
HAL843T5L	15 mm	843 mm	764 mm	110 W	1,2 A	88 V	320 µW/cm ²	35 W
HAL1000T5L	15 mm	1000 mm	921 mm	127 W	1,2 A	107 V	370 µW/cm ²	42 W
HAL15547T5L	15 mm	1554 mm	1475 mm	190 W	1,2 A	164 V	500 µW/cm ²	68 W
HAL357T6L	19 mm	357 mm	278 mm	57 W	1,8 A	32 V	130 µW/cm ²	13 W
HAL843T6L	19 mm	843 mm	764 mm	127 W	1,8 A	71 V	400 µW/cm ²	43 W
HAL1000T6L	19 mm	1000 mm	921 mm	150 W	1,8 A	84 V	460 µW/cm ²	52 W
HAL1554T6L	19 mm	1554 mm	1475 mm	240 W	1,8 A	134 V	630 µW/cm ²	87 W
HAL357T6L-H	19 mm	357 mm	278 mm	65 W	2,1 A	31 V	140 µW/cm ²	14 W
HAL843T6L-H	19 mm	843 mm	764 mm	172 W	2,1 A	82 V	490 µW/cm ²	54 W
HAL1000T6L-H	19 mm	1000 mm	921 mm	207 W	2,1 A	99 V	570 µW/cm ²	65 W
HAL1554T6L-H	19 mm	1554 mm	1475 mm	320 W	2,1 A	154 V	750 µW/cm ²	105 W
HAL1554T10L	32 mm	1554 mm	1434 mm	471 W	5 A	95 V	1160 µW/cm ²	157 W

We produce the above models with all configurations of the caps, also in Soft Glass and with configurations H and VH. Lamp data is based on measurements performed under laboratory conditions in air at room ambient temperature. Measurements were performed on a high-frequency, current limited electronic ballast and represent average values at 1 meter. HAL lamps are designed for operation on a preheat balast only, unless otherwise noted.

ELECTROMAGNETIC BALLAST WITH STARTER/IGNITORS

They represent the most widely used method to operate correctly the mercury low pressure UV lamps.

ELECTRONIC BALLASTS

Electronic power supplies (ballasts) are commonly used in UV mercury low pressure amalgam lamps disinfection systems.



