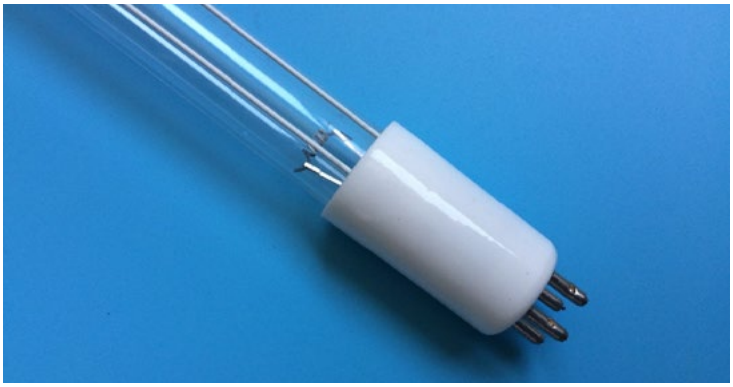
CRN TECNOPART, S.A.
Sant Roc 30
08340 VILASSAR DE MAR (Barcelona)
Tel: 937 591 484 Fax: 937 591 547
e-mail: crn@crntp.com - www.crntecnopart.com

UV-160.12E

MERCURY LOW PRESSURE UV LAMPS
MODELS HGL - HOGL - HSGL

The low pressure UV lamps, also called “germicidal lamps”, exploit UVC light to get the rapid sterilization of bacteria, molds, fungi, viruses and microorganisms both in air and in water. In this category of lamps about 40% of electricity is converted directly into UVC radiation with monochromatic emission at 254 nm for germicidal applications and at 185 nm for the oxidation of surfaces.



The data in the table are only general information.

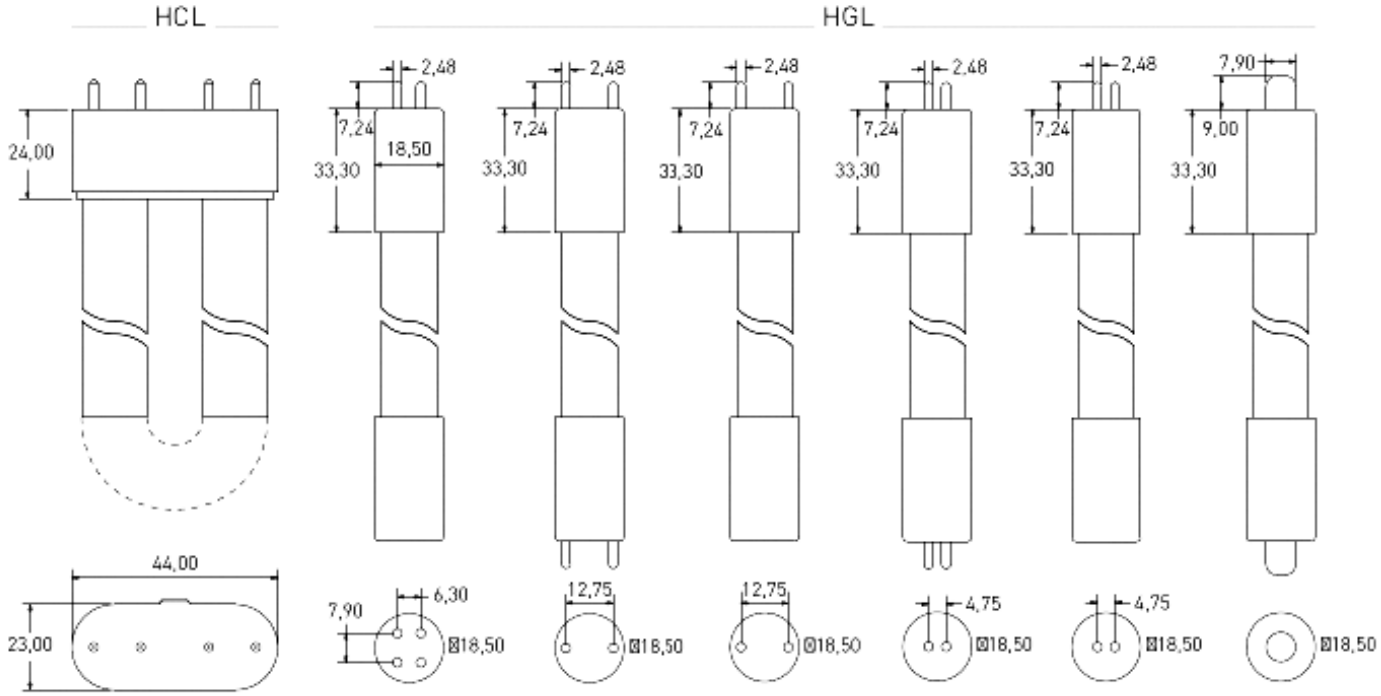
“High Output” UVC models have a performance that can be up to 60% higher than the basic model with the same wavelength.

Lamp type	Quartz low pressure (Standard)		Quartz low pressure (High Output)		Soft glass low pressure
Model	HGL		HOGL		HSGL
Input power	4 - 80 W		10 - 160 W		4 - 80 W
Power density	0,3 - 0,5 W/cm		0,7 - 1 W/cm		0,25 - 0,3 W/cm
UVC Radiation	< 200 µW/cm		< 350 µW/cm		< 200 µW/cm
Working temperature	50 ºC		50 ºC		50 ºC
Wavelength/Efficiency	185 nm	254 nm	185 nm	254 nm	254 nm
	2%	40%	2%	25% - 35%	35%
Surface temperature	30 a 50 ºC		> 50 ºC		30 a 50 ºC
Current	0,3 - 0,4 A		0,8 - 1,3 A		0,3 - 0,4 A
Lifetime	16000 h		> 12000 h		16000 h
Influence of environment temperature	Alta		Alta		Alta

The main features of the low-pressure UV lamps manufactured by Helios are as follows:
Quartz tube: • Natural Quartz (OF) • Natural Quartz (OG) • Synthetic Quartz (OG)
Outer diameter (OD) of the quartz tubes from 10 mm to 38 mm
Arc length from L. 50 mm. to L. 2000 mm and **Power range from 5 W to 200 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): 1W/cm
UVC max power intensity per unit length (to be checked in the prototyping stage): 0,4 W/cm
Lifetime (lab tested and according to lamp power) up to 16000 hours
Working temperature from 5°C to 40°C with stable UVC emission
Maximum loss of efficiency at the end of its useful life: 40%

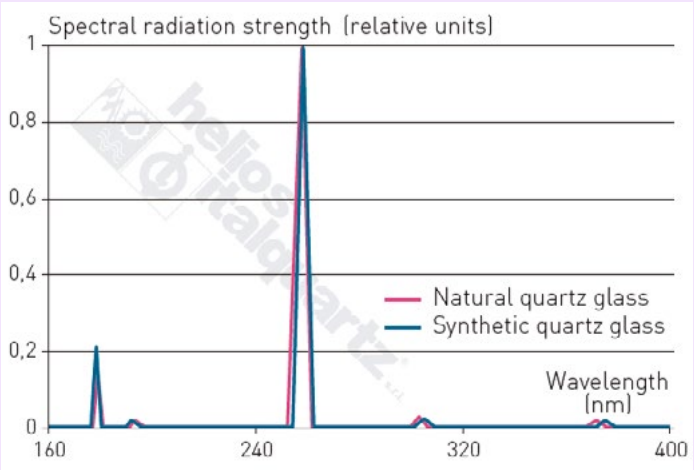
OF Ozone Free - OG Ozone Generating

Configuration of the different terminals



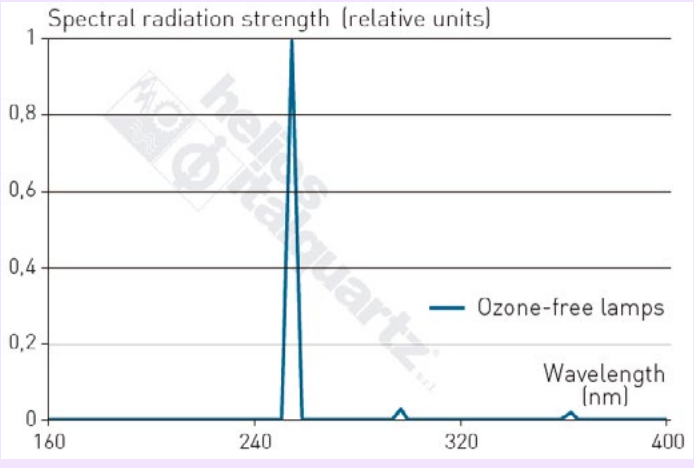
Depending on the materials used, mercury low pressure UV lamps can be divided into two large families: “Ozone Generating” lamps and “Ozone Free” lamps.
Helios usually chooses quartz glass for the production of low-pressure UV lamps because it ensures very high levels of UV transmission (equal to or higher than 90%); moreover, it is very resistant to solarization phenomenon and little susceptible to mechanical failures or to thermal shocks. However, for less important applications or for smaller budgets, Helios provides the same lamps in Soft Glass.

Lamps produced in undoped natural quartz glass (ozone generating)
Ozone is the strongest oxidizing agent available: it reacts with a multitude of organic compounds and can oxidize and disinfect air and water. Ozone is a highly efficient deodorant and it is able to sterilize complete surfaces, mold in the air and bacteria. Helios provides two different types of Ozone generating lamps: “H”
(high ozone generation) and “VH” (very high ozone generation).
Lamps produced in synthetic quartz glass (ozone generating)
By using synthetic quartz glass it is possible to obtain a higher efficiency of UV transmission at 185 nm; these lamps represent a good solution for the processes of oxidation.



Lamps produced in natural doped quartz glass (ozone free)
Helios, using suitably doped quartz glass (Ti), produces “L” (ozone free) germicidal lamps which can be used for ultraviolet disinfection with a UV emission peak (monochromatic) at 254 nm, a wavelength useful also for the destruction of the ozone.

Lamps produced in soft glass (ozone free)
Germicidal lamps, produced with Soft Glass (SG), have a peak wavelength at 254 nm where the germicidal efficiency is about 30%.



GERMICIDAL MODEL HGL

Model	Ø Tube	Total length	Arc length	Power	Current	Voltage	UV Emission at 254 nm	
HGL4T5L	15,7 mm	134,7 mm	77 mm	4 W	180 mA	23 V	9 µW/cm^2	0,9 W
HGL6T5L	15,7 mm	210,9 mm	154 mm	6 W	180 mA	34 V	16 µW/cm^2	1,6 W
HGL8T5L	15,7 mm	287,1 mm	231 mm	8 W	180 mA	45 V	21 µW/cm^2	2,1 W
HGL10T5L	15 mm	357 mm	277 mm	17 W	425 mA	42 V	57 µW/cm^2	5,7 W
HGL15T8L	25,7 mm	436,2 mm	353 mm	15 W	350 mA	44 V	47 µW/cm^2	4,8 w
HGL20T10L	32,5 mm	588,5 mm	505 mm	19 W	360 mA	58 V	76 µW/cm^2	7,5 W
HGL24T5L	15 mm	692 mm	612 mm	32 W	425 mA	77 V	95 µW/cm^2	11 W
HGL25T8L	25,7 mm	436,4 mm	353 mm	25 W	620 mA	41 V	71 µW/cm^2	7,2 W
HGL30T8L	25,7 mm	893,4 mm	810 mm	30 W	380 mA	80 V	100 µW/cm^2	11,3 W
HGL36T5L	15 mm	843 mm	762 mm	41 W	425 mA	98 V	150 µW/cm^2	16 W
HGL40T5L	15,7 mm	842 mm	767 mm	41 W	425 mA	98 V	141 µW/cm^2	15,6 W
HGL48T5L	15 mm	1148 mm	1067 mm	55 W	425 mA	135 V	180 µW/cm^2	22 W
HGL64T5L	15 mm	1554 mm	1474 mm	75 W	425 mA	179 V	240 µW/cm^2	33 W
HGL67T5L	15 mm	1630 mm	1550 mm	79 W	425 mA	189 V	252 µW/cm^2	34,5 W
HGL135T5L	15 mm	135 mm	55 mm	5 W	425 mA	15 V	10 µW/cm^2	1,2 W
HGL150T5L	15 mm	150 mm	70 mm	6 W	425 mA	18 V	14 µW/cm^2	1,5 W
HGL212T5L	15 mm	212 mm	132 mm	10 W	425 mA	25 V	26 µW/cm^2	2,7 W
HGL237T5L	15 mm	237 mm	157 mm	11 W	425 mA	30 V	30 µW/cm^2	3 W
HGL265T5L	15 mm	265 mm	185 mm	12 W	425 mA	35 V	33 µW/cm^2	3,4 W
HGL287T5L	15 mm	287 mm	207 mm	14 W	425 mA	34 V	40 µW/cm^2	4 W
HGL303T5L	15 mm	303 mm	223 mm	15 W	425 mA	35 V	43 µW/cm^2	4,3 W
HGL317T5L	15 mm	317 mm	237 mm	16 W	425 mA	46 V	48 µW/cm^2	4,8 W
HGL357T5L	15 mm	357 mm	277 mm	17 W	425 mA	42 V	57 µW/cm^2	5,7 W
HGL436T5L	15 mm	436 mm	356 mm	21 W	425 mA	51 V	72 µW/cm^2	7,3 W
HGL793T5L	15 mm	793 mm	713 mm	38 W	425 mA	92 V	125 µW/cm^2	13,5 W
HGL843T5L	15 mm	843 mm	762 mm	41 W	425 mA	98 V	150 µW/cm^2	16 W
HGL1148T5L	15 mm	1148 mm	1067 mm	55 W	425 mA	135 V	180 µW/cm^2	22 W
HHL1554T5L	15 mm	1554 mm	1474 mm	75 W	425 mA	179 V	240 µW/cm^2	33 W
HGL1630T5L	15 mm	1630 mm	1550 mm	79 W	425 mA	189V	252 µW/cm^2	34,5 W

“HIGH OUTPUT” Models

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

We produce the above models with all configurations of the caps also in mod. SGL 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..