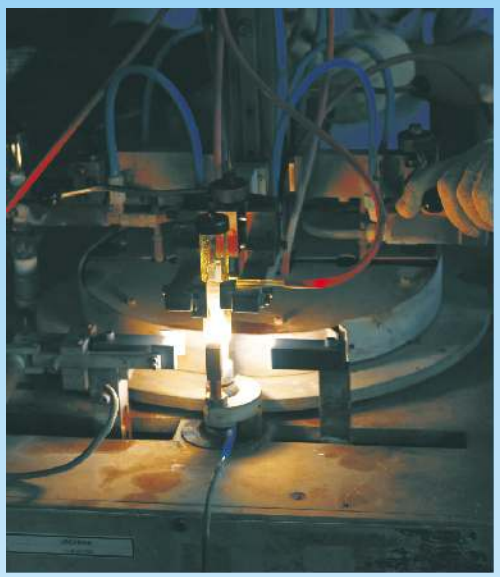
ARKLITE®
SPECIALITY LAMPS

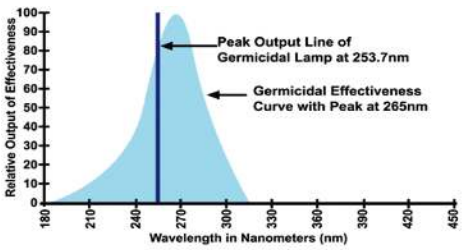
UV Germicidal Lamps
Air, Water & Surface Disinfection



Company Profile

- Arklite Speciality Lamps Limited has been a pioneer in manufacturing of niche products for lighting and non-lighting applications: namely **Metal Halide Lamps, Flood Lighitng Systems, Ultra-Violet Lamps & Systems, Graphic Art Lamps.**
- Established in the year 1996, core competence of Arklite is in lamp technology, particularly in lamps made from quartz glass and in their applications.
- Arklite annually exports around 5,00,000 lamps to Europe, USA, UK, Australia, etc; accounting for 70% of its sale.
- **The only manufacturer of UV Quartz lamps in India.**
- Being a UV lamp manufacturer as well as a customized solution provider for air, water & surface disinfection, Arklite has a clear edge over others.

LAMP OUTPUT vs. EFFECTIVENESS



Germicidal UV Technology

- Low-pressure mercury lamps are specially designed to produce the highest amount of UV radiation, emitting **85%** of energy at **253.7nm**. This radiation is very close to the peak of the germicidal effectiveness curve and extremely lethal wavelength to micro-organisms. The other major UV radiation is at **185nm.**

Applications of UV Lamps

Air	Water	Surface
Indoor Air Quality	Drinking Water	Food Preservation
Odour Removal	Waster Water	Cooling Coil in AHU

Arklite Advantage

- **Getter Technology** : Getter within lamp eliminates impurities continuously, enhancing lamp life and UV maintenance
- **Coating Technology** : For improving lamp life and UV maintenance (Patent Pending).
- **Wide Range** : Wattages from 4W to 320W
- **Quartz UV lamp** : Have higher UV output and superior UV maintenance as compared to soft glass UV lamps.
- **Ozone forming** : Use of quartz gives an option of manufacturing either ozone forming or non-ozone forming UV lamps. Both are available.
- **Bases** : Wide range of bases available (see figure); custom design possible.
- **Custom Solution** : Designing capabilities for a complete solution with Lamp, Jacket & Control gear helps to deliver optimized solutions to customers.

Low Pressure UV Lamps

- The spectral radiation from low pressure mercury plasma is dominated by 253.7 nm. The UV radiation (253.7nm) is absorbed by DNA, disrupting its structure and leading to deactivation of living cells.
- UV radiation of 185 nm converts oxygen into ozone by a photochemical reaction. Normally 185 nm is absorbed by the lamp wall; only in ozone forming lamps a special glass is used which transmits 185nm to produce ozone. Ozone is useful for odour removal and disinfection.
- Arklite manufactures 3 different types of UV Lamps. Regular lamps, High Output lamps and Amalgam lamps.

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Regular UV Lamps

The regular lamps are available in variety of lengths and wattages

Lamp Code Preheat Start Lamp	Lamp Code Instant Start Lamp	Length	Electrical Parameter			UV O/P		Rated Life	Recommended Control Gear**
		(BFL)	Wattage	Current	Voltage	@ 1m	@ surface		
		mm	(W)	(mA)	(V)	µW/ sq.cm	(W)	Hrs	
GPH212 T5	G6 T5	212	6	160	42	15	2	8000	G6T5UVL
GPH287 T5	G8 T5	288	8	150	56	21	3	8000	G8T5UVL
GPH212 T5	G11 T5	212	11	330	37	26	4	8000	G11T5UVL
GPH287 T5	G16 T5	288	16	350	46	45	5	8000	G16T5UVL
GPH436 T5	G21 T5	436	21	425	62	72	7	8000	G20T5UVL
GPH842 T5	G36 T5	842	39	425	120	148	13	10000	G36T5UVL
GPH1274 T5		1274	56	425	180	210	19	10000	G64T5UVL
GPH1554 T5	G64T5	1554	65	425	220	280	22	10000	G64T5UVL

High Output (HO) lamps

In HO lamps pressure of mercury is reduced by a special electrode design which permit 80% higher wattage in the same length with correspondingly higher UV output. These are the second generation of UV lamps, packing higher output in the same length.

Lamp Code Preheat Start Lamp	Lamp Code Instant Start Lamp	Length	Electrical Parameter			UV O/P		Rated Life	Recommended Control Gear**
		(BFL)	Wattage	Current	Voltage	@ 1m	@ surface		
		mm	(W)	(mA)	(V)	µW/ sq.cm	(W)	Hrs	
GPH436 T5/HO	G21HO T5	436	40	800	62	115	13	10000	GHO36T5UVL
GPH723 T5/HO		723	64	800	80	205	21	10000	GHO36T5UVL
GPH842 T5/HO	G36HO T5	842	75	800	120	230	25	10000	GHO36T5UVL
	G48HO T5	1554	150	800	210	442	50	10000	GHO64T5UVL
GPH1554 T5/HO	G64HO T5	1554	130	800	180	420	43	10000	GHO64T5UVL

H- Beam Lamps:

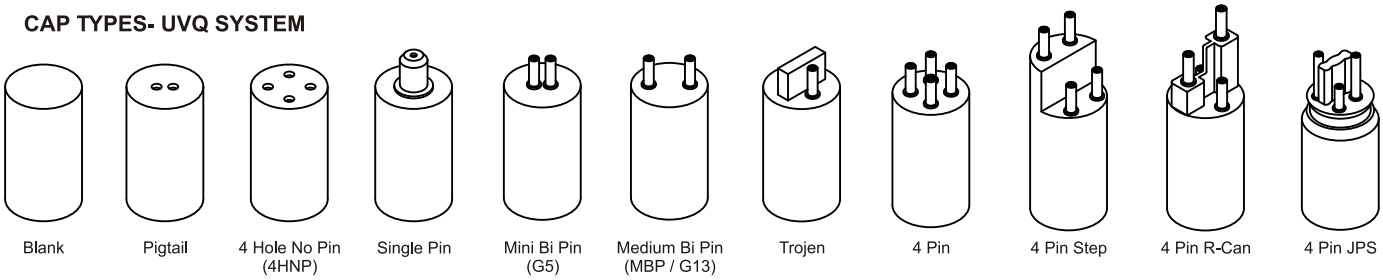
These lamps are available in both regular and HO type. The H shape of the lamps gives additional flexibility in adjusting higher UV output in small lamp length. The special 2G11 base used in the lamp gives option of using either preheat or instant operation of these lamps.

Lamp Code Preheat Start Lamp	Lamp Code Instant Start Lamp	Length	Electrical Parameter			UV O/P		Rated Life	Recommended Control Gear**
		(BFL)	Wattage	Current	Voltage	@ 1m	@ surface		
		mm	(W)	(mA)	(V)	µW/ sq.cm	(W)	Hrs	
G18T5/H		225	18	370	60	54	6	8000	G16T5UVL
GHO35T5/H		225	35	800	45	110	12	8000	GHO36T5UVL
G36T5/H		415	36	425	105	110	12	8000	G36T5UVL
GHO60T5/H		415	60	800	118	166	20	8000	GHO36T5UVL
G55T5/H		535	55	450	110	156	18	8000	G64T5UVL
GHO95T5/H		535	95	800	120	290	32	8000	GHO36T5UVL

NOTE:

1. BFL - Base Face Length
2. Above electrical measurements are on magnetic ballast
3. * UV measurements are at one meter
4. ** All these ballasts are high Frequency (25kHz) electronic ballasts
5. Quartz Jacket can be supplied as per the requirement.
6. Holders for standard bases can also be provided by us.

CAP TYPES- UVQ SYSTEM



Amalgam Lamps

- Introduction of Amalgam Lamps was the next breakthrough for economic UVC generation. Use of mercury amalgam further reduces the mercury vapour pressure (below $1X10^{-5}$ bar) thereby reducing self absorption of UV.
- Output of amalgam lamp increases almost 3 times as compared to regular UV lamps.
- Amalgam lamp has higher UV output over wide range of temperature. Thus compared to regular lamps, 3 times higher absolute electrical power can be consumed by the lamps of same lengths, leading proportionately the higher UVC-flux per unit length [up to 1000 mW/cm].

Lamp Code Preheat Start Lamp	Lamp Code Instant Start Lamp	Length	Electrical Parameter			UV O/P		Rated Life	Recommended Control Gear**
		(BFL)	Wattage	Current	Voltage	@ 1m	@ surface		
		mm	(W)	(mA)	(V)	µW/ sq.cm	(W)	Hrs	
GPHA842T5		842	105	1200	95	448	35	10000	GA110UVL
GPHA842T6		842	130	1800	27	480	43	10000	GA130UVL
GPHA1200T6		1200	160	1800	90	650	53	10000	GA160UVL
GPHA1554T5		1554	290	1800	160	850	97	10000	GA250/320UVL
GPHA1554T6		1554	258	2000	128	850	86	10000	GA250/320UVL
GPHA1554T6		1554	320	2100	150	975	107	10000	GA250/320UVL

T5 Lamps which can replace T8 size lamps

Fluorescent lamps in T5 (15mm dia) are 15% more efficient than T8 (25mm dia). The same is true for UV lamps. Arklite is the only company which has developed and launched lamps to replace UV lamps in T8 made from soft glass with T5 lamps in quartz glass. Electrically the T5 lamps are identical to T8 lamps and run on the same control gear. Also, both these lamps have same G13 base which makes T8 lamps completely replaceable with Arklite T5 lamps.

Lamp Code Preheat Start Lamp	Lamp Code Instant Start Lamp	Length	Electrical Parameter			UV O/P		Rated Life	Recommended Control Gear**
		(BFL)	Wattage	Current	Voltage	@ 1m	@ surface		
		mm	(W)	(mA)	(V)	µW/ sq.cm	(W)	Hrs	
	G15 T5	437	15	330	51	48	5	10000	G16T5UVL
	G25 T5	437	25	600	46	69	8	10000	GHO36T5UVL
	G30 T5	894	30	370	100	100	10	10000	G36T5UVL
	G55HO T5	894	55	770	83	150	18	10000	GHO36T5UVL
	G75HO T5	1200	75	840	108	220	25	10000	GHO36T5UVL

Quartz Jackets:

Arklite also provides wide range of quartz jackets useful in water and other systems. The jackets are available in both end open or one end closed option.

	OD	Wall	Length	Tolerances				
				OD	Wall	Length	Ovality	Bow / mtr
	mm	mm		%	%	mm	%	mm
ARKQJ0001	23.0	1.5	500< L <1700	±2.5	±10.0	10.0	1.5	1.5
ARKQJ0002	24.5	1.3	500< L <1700	±2.5	±10.0	10.0	1.5	1.5
ARKQJ0003	28.0	1.5	500< L <1700	±2.5	±10.0	10.0	1.5	1.5
ARKQJ0004	44.0	1.6	500< L <1700	±3.0	±10.0	10.0	1.5	2.0

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