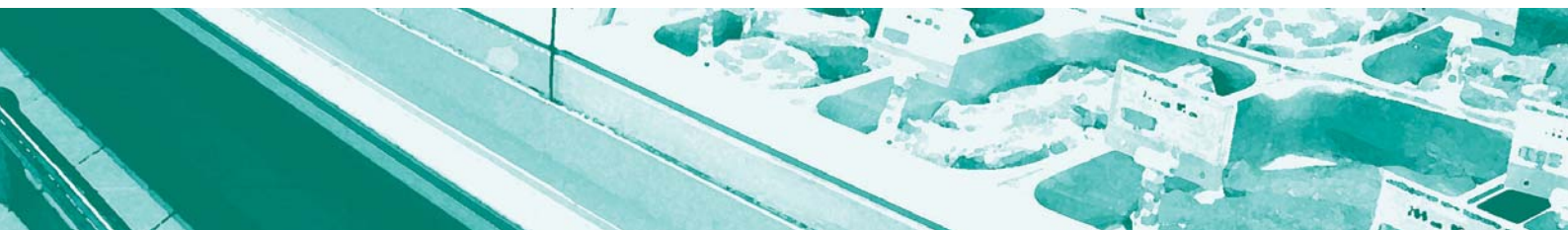
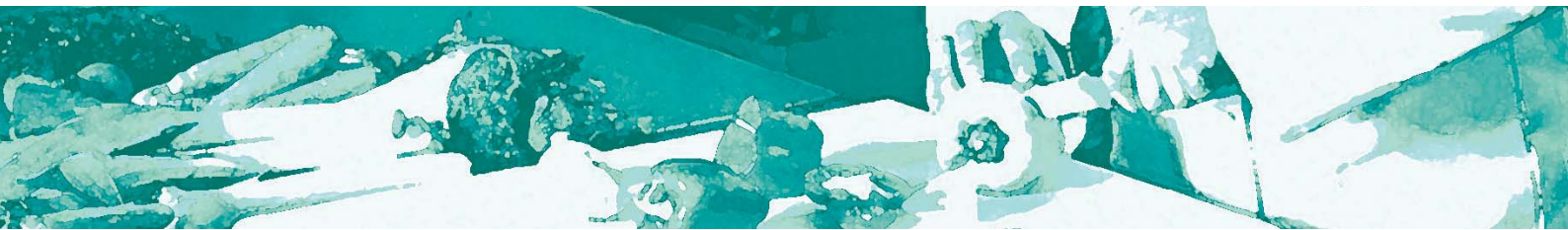
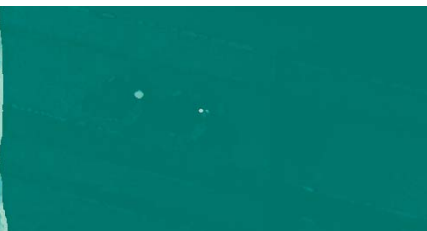
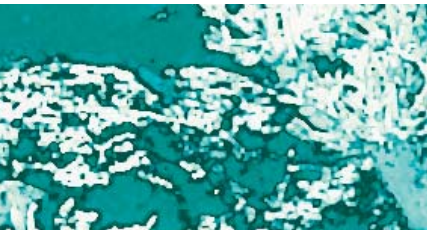
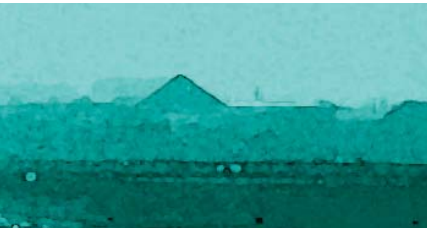


Special Applications

Catalogue 2013







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HAVELLS SYLVANIA

Havells Sylvania is a leading full-spectrum provider of lighting solutions building on a century of expertise in lamps and fixtures. All over the world, people rely on powerful brands like Concord®, Lumiance® and Sylvania®* for top quality, energy-efficient solutions to their individual lighting needs.

Formed in April 2007, Havells Sylvania is owned by Havells India Ltd. Havells is one of the largest and fastest growing manufacturers of electrical components and systems in India. With 94 branches and representative offices and 8,000 professionals in more than 50 countries, the group has grown rapidly to a 1 billion US\$ company.

At 15 manufacturing plants in India, Europe, Latin America & Africa, the group produces globally acclaimed products such as switchgear, cables, wires, fixtures and lamps.

* In Australia, Canada, Mexico, New Zealand, Puerto Rico and the USA the brand name is with different owners.

SYLVANIA LAMPS

Havells Sylvania is one of the world's largest producers of light sources and manufactures a wide range of lamps: incandescent, halogen, low-energy, fluorescent, LED and a comprehensive range of HID lamps and other specialist lighting products for the professional specifier and user.

Sylvania lamps are distributed from stock, via our national sales organisations around the world, to original equipment manufacturers and retail outlets and through professional wholesale distribution to installers and end users.



Erlangen (Germany)



Neemrana (India)



Tienen (Belgium)

FACTORIES

Sylvania has created Competency Centres for its major lamp product groups – bringing specific design, marketing and production engineering skills, for each key lamp group, together in one place: to co-ordinate and focus the years of experience this brings to new product development; and to bring products into the marketplace efficiently and effectively.

- **Erlangen** (Germany): produces fluorescent lamps of all types.
- **Neemrana** (India): produces innovative, energy-saving compact fluorescent lamps.
- **Tienen** (Belgium): specialises in low voltage and mains voltage halogen lamps, HID lamps, incandescent lamps and LEDs.



PHOTO OPTIC DISCHARGE LAMPS 5

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BRITEARC SINGLE ENDED NON HOT RESTRIKE

BriteArc Single Ended Non Hot Restrike lamps are compact light sources with excellent performance, specially designed for a wide variety of audio-visual applications. The BriteArc lamps are filled with mercury and rare earth elements to obtain a high efficacy and a stable colour with a very good rendering index. They can be re-struck after 10 minutes. These lamps can be operated in any position.



Features

- High luminous efficacy
- Low infrared
- Colour stability
- Excellent lumen maintenance
- Physical ruggedness

Applications

- Show lighting
- Theatre
- Discotheque lighting
- Follow spots
- Effect lighting
- Architectural

Directions for use

- Burning position: universal
- Restrike after 10 minutes
- Only use in closed fixtures
- Can be operated on an electronic power supply or on a magnetic ballast

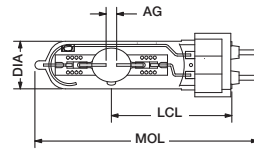


Fig. 1

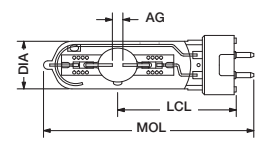


Fig. 2

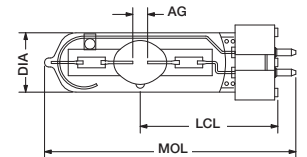


Fig. 3

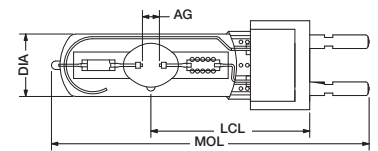


Fig. 4

Item description	Watt	Voltage	Current	Ignition Pulse	Average Life	Replacement Time	Luminous Flux	Colour Temp.	CRI	Total UV-output
	W	V	A	kV	hrs	hrs	lm	K		W
BA SE NHR										
BA 150 SE NHR	150	95	1.8	1.9	1000	1500	12400	5600	90	15
BA 400 SE NHR	400	67	6.9	2.2	650	750	33000	6200	92	40
BA 575 SE NHR	575	95	6.95	2.2	750	1000	49000	5600	90	60
BA 1200 SE NHR	1200	100	13.8	2.5	750	1000	110000	6000	95	100
BA SE D (LONG LIFE)										
BA 70 SE T	70	108	0,98	3.5	8000	10000	5500	6000	80	UV-STOP
BA 150 SE T	150	95	1.8	3	7000	9000	10000	6000	90	UV-STOP
BA 250 SE T	250	95	3	1.9	1250	1000	18000	5900	80	UV-STOP
BA 200 SE D	200	70	3.3	1.9	3000	3500	14000	5600	70	15
BA 250 SE D	250	95	3	1.9	3000	3500	18800	5800	80	18
BA 575 SE D	575	95	6.95	2.2	2000	2500	49000	5600	90	60
Item description	Cap	Dimensions			Max. bulb Temp.	Max. pinch Temp.	Figure Nr.	Packing Quantity	Ordering Code	
		MOL mm	AG mm	Dia mm	LCL mm	C°	C°			
BA SE NHR										
BA 150 SE NHR	GY9.5	80	5	17	37	700	350	2	10	0023987
BA 400 SE NHR	GX9.5	112	6	23	62	700	350	3	10	0023958
BA 575 SE NHR	GX9.5	125	7	30	65	700	350	3	10	0023960
BA 1200 SE NHR	G22	175	10	40	85	700	350	4	10	0023935
BA SE D (LONG LIFE)										
BA 70 SE T	G12	108	9	20	56	500	350	1	10	0023982
BA 150 SE T	G12	108	11	23	56	500	350	1	10	0023978
BA 250 SE T	G12	108	5	23	56	500	350	1	10	0023814
BA 200 SE D	GY9.5	108	5	23	55	500	350	2	10	7220168
BA 250 SE D	GY9.5	108	5	23	55	500	350	2	10	7220169
BA 575 SE D	GX9.5	125	7	30	65	600	350	3	10	0023981

Nominal values measured at rated wattage in horizontal position.

BRITEARC SINGLE ENDED HIGH COLOUR TEMPERATURE (BA/2 SE)

BriteArc Single Ended/2 lamps are compact light sources with a very high colour temperature offering stable crisp bright light during the complete lamp life. They can be re-struck after about 10 minutes. These lamps can be operated in any position.



Features

- Crisp bright light
- High luminous efficacy
- Low infrared
- Colour stability
- Excellent lumen maintenance
- Physical ruggedness

applications

- Show lighting
- Theatre
- Discotheque lighting
- Effect lighting

directions for use

- Burning position: universal
- Restrike after 10 minutes
- Only use in closed fixtures
- Can be operated on an electronic power supply or on a magnetic ballast

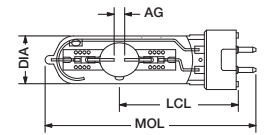


Fig. 1

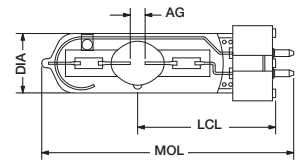
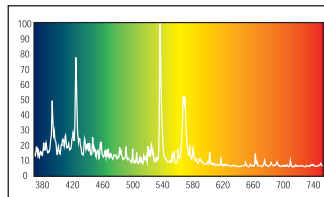


Fig. 2

BA/2 8500 K



Item description	Watt	Voltage	Current	Ignition Pulse	Average Life	Replacement Time	Luminous Flux	Colour Temp.	CRI	Total UV-output
	W	V	A	kV	hrs	hrs	lm	K		W
BA 250/2 SE D 8.5	250	95	3	1.9	3000	3500	18000	8500	65	30
BA 575/2 SE NHR 7.2	575	95	6.95	2.2	1000	1200	45000	7200	85	65
BA 575/2 SE NHR 8.5	575	95	6.95	2.2	1000	1200	44000	8500	80	65

Item description	Cap	Dimensions			Max. bulb Temp.	Max. pinch Temp.	Figure Nr.	Packing Quantity	Ordering Code	
		MOL mm	AG mm	Dia mm						LCL mm
BA 250/2 SE D 8.5	GY9.5	108	5	23	55	500	350	1	10	0023998
BA 575/2 SE NHR 7.2	GX9.5	125	7	30	65	700	350	2	10	0024002
BA 575/2 SE NHR 8.5	GX9.5	125	7	30	65	700	350	2	10	0024000

Nominal values measured at rated wattage in horizontal position.



BRITEARC SINGLE ENDED HOT RESTRIKE (BA SE HR)

BriteArc Single Ended Hot Restrike lamps are compact light sources, designed for optimum optical efficiency. The BriteArc lamps are filled with mercury and rare earth elements to obtain a high efficacy and a stable colour with a very good rendering index. They can be re-struck at any time with a voltage peak from 25 to 55 kV. These lamps can be operated in any position.



Frosted top



Features

- High luminous efficacy
- Low infrared
- Colour stability
- Excellent lumen maintenance
- Physical ruggedness
- Hot restrike

Applications

- TV-Studio lighting
- Photo studios
- Show lighting
- Theatre
- Follow spots

Directions for use

- Burning position: universal
- Only use in closed fixtures
- Can be operated on an electronic power supply or on a magnetic ballast

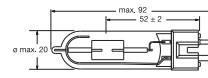


Fig. 1

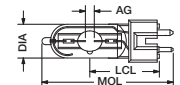


Fig. 2

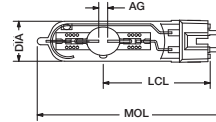


Fig. 3

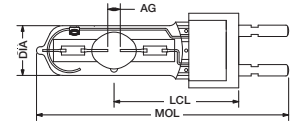


Fig. 4

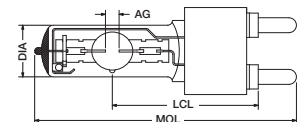


Fig. 5

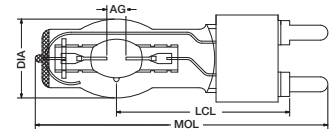


Fig. 6

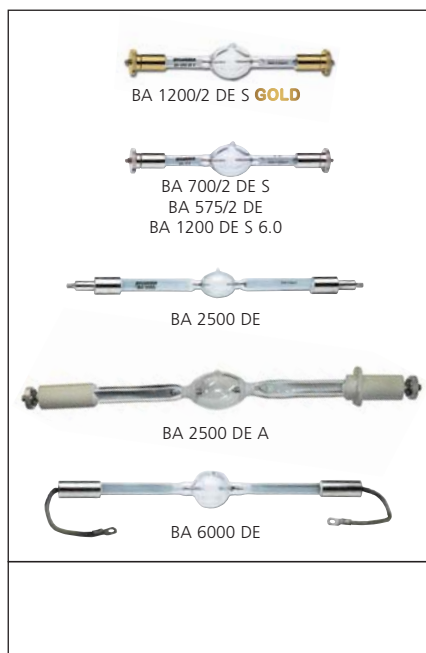
Item description	Watt	Voltage	Current	Ignition	Average	Replacement	Luminous	Colour	CRI	Total UV-output
	W	V	A	Pulse kV	Life hrs	Time hrs	Flux lm	Temp. K		
BA 200 SE HR LCL 3200K	200	70	2.7	25	1000	1500	19000	3200	88	UV-STOP
BA 200 SE HR LCL 5600K	200	70	3.3	25	200	450	15000	5600	95	UV-STOP
BA 200 SE HR	200	70	3.3	25	200	450	15000	5600	95	UV-STOP
BA 200 SE HR FULL FROST	200	70	3.3	25	200	450	15000	5600	95	UV-STOP
BA 400 SE HR	400	67	6.9	25	650	750	33000	6200	92	UV-STOP
BA 400 SE HR FULL FROST	400	67	6.9	25	650	750	33000	6200	92	UV-STOP
BA 575 SE HR	575	95	6.9	25	750	1000	49000	5600	90	UV-STOP
BA 575 SE HR DIM 3200K	575	67	6.9-8	25	650	750	40000	3200	90	UV-STOP
BA 800 SE HR	800	95	8.5	25	1000	1500	64000	6000	95	UV-STOP
BA 1200 SE HR	1200	100	13.8	45	750	1000	110000	6000	95	UV-STOP
BA 1600 SE HR	1600	110	16.7	45,0	500	750	145000	5600	95	UV-STOP
BA 1800 SE HR	1800	100	20	45	750	850	170000	6000	>90	225
BA 2500 SE HR	2500	115	25.6	45	500	750	240000	6000	95	200
BA 4000 SE HR	4000	200	24	50	500	750	380000	6300	95	150

Item description	Cap	Dimensions				Max. bulb Temp. C°	Max. pinch Temp. C°	Figure Nr.	Packing Quantity	Ordering Code
		MOL mm	AG mm	Dia mm	LCL mm					
BA 200 SE HR LCL 3200K	GZY9.5	92	-	20	52	700	350	1	10	0023940
BA 200 SE HR LCL 5600K	GZY9.5	90	5	20	52	700	350	1	10	0023944
BA 200 SE HR	GZY9.5	80	5	20	39	700	350	2	10	0023941
BA 200 SE HR FULL FROST	GZY9.5	80	5	20	39	700	350	2	10	0023803
BA 400 SE HR	GZZ9.5	110	6	23	60	700	350	3	10	0023883
BA 400 SE HR FULL FROST	GZY9.5	110	6	23	60	700	350	3	10	0023990
BA 575 SE HR	G22	145	7	30	70	700	350	4	10	0023932
BA 575 SE HR DIM 3200K	GZZ9.5	110	4	30	60	700	350	4	10	0023892
BA 800 SE HR	G22	145	7	31	70	700	350	4	10	0023992
BA 1200 SE HR	G38	200	10	40	107	700	350	5	10	0023933
BA 1600 SE HR	G38	200	10	40	107	700	350	5	1	0023893
BA 1800 SE HR	G38	200	10	40	107	700	350	5	1	0023810
BA 2500 SE HR	G38	240	14	60	127	700	450	6	1	0023934
BA 4000 SE HR	G38	250	20	75	142	700	450	6	1	0023937

Nominal values measured at rated wattage in horizontal position.

BRITEARC DOUBLE ENDED (BA DE)

BriteArc Double Ended lamps are metal halide light sources with excellent performance, specially designed for a wide variety of audio-visual applications. The BriteArc lamps are filled with mercury and rare earth elements to obtain a high efficacy and a stable colour. They can be re-struck at any time with a voltage peak from 25 to 55 kV.



Features

- High luminous efficacy
- Low infrared & Colour stability
- Excellent lumen maintenance
- Physical ruggedness, Hot restrike

Applications

- Show lighting & Theatre
- Discotheque lighting
- Follow spots
- Effect lighting & Studio lighting
- Architectural lighting

Directions for use

- Burning position: universal for 575W, 700W and 1200W; horizontal plus or minus 30 degrees for BA 2500 DE, BA 2500 DE S; horizontal plus or minus 15 degrees for BA 2500 DE A, 4000W, 6000W and 12000W
- Only use in closed fixtures
- Can be operated on an electronic power supply or on a magnetic ballast

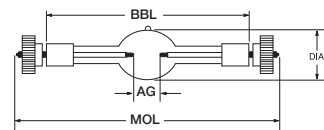


Fig. 1

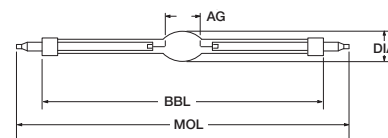


Fig. 2

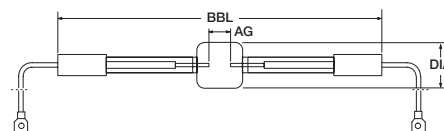


Fig. 3

Item description	Watt	Voltage	Current	Ignition	Average	Replacement	Luminous	Colour	CRI	Total UV-output
	W	V	A	Pulse kV	Life hrs	Time hrs	Flux lm	Temp. K		
BA 575 DE	575	95	7	25,0	750	1000	49000	5600	70	70
BA 575/2 DE	575	95	7	25,0	750	1000	44000	8000	70	100
BA 700/2 DE S 7.5	700	70	11.2	25,0	1000	1250	56000	7500	70	100
BA 700/3 DE S 3200K	700	70	11.2	25,0	750	1000	60000	3200	92	100
BA 1200 DE	1200	100	13.8	45,0	750	1000	110000	5600	80	140
BA 1200 DE S 6.0 GOLD	1200	105	13.8	25,0	750	1000	110000	6000	90	130
BA 1200/2 DE S 7.2 GOLD	1200	100	13.8	25,0	750	1000	95000	7200	77	160
BA 1800 DE	1800	100	20	5,0	750	850	170000	6000	>90	225
BA 2500 DE	2500	115	26.6	45,0	500	750	240000	5600	90	310
BA 2500 DE S	2500	115	26.6	45,0	500	750	240000	5600	90	310
BA 2500 DE A	2500	120	21.7	45,0	2000	2400	250000	5600	90	150
BA 4000 DE	4000	200	24	65,0	500	750	380000	6000	85	640
BA 6000 DE	6000	123	55	50,0	350	450	570000	6000	90	1000
BA 12000 DE	12000	160	82	65,0	500	550	1100000	6000	90	2200

Item description	Cap	Dimensions				Max. bulb Temp. C°	Max. pinch Temp. C°	Figure Nr.	Packing Quantity	Ordering Code
		MOL mm	AG mm	Dia mm	LCL mm					
BA 575 DE	SFc10-4	136	7	21	115	800	230	1	10	0023921
BA 575/2 DE	SFc10-4	138	7	21	115	800	230	1	10	0023917
BA 700/2 DE S 7.5	SFc10-4*	136	4	18	115	1000	500 ETP**	1	10	0023994
BA 700/3 DE S 3200K	SFc10-4*	136	4	18	115	1000	500 ETP**	1	10	0023993
BA 1200 DE	SFc15.5-6	220	10	28	180	800	230	1	10	0023922
BA 1200 DE S 6.0 GOLD	SFc10-4*	138	7	22,5	115	800	450 ETP**	1	10	0023995
BA 1200/2 DE S 7.2 GOLD	SFc10-4*	136	7	21	115	800	500 ETP**	1	10	0023996
BA 1800 DE	SFc15.6	220	10	28	180	800	230	2	1	0023811
BA 2500 DE	SFa21-12	355	20.5	32	290	800	230	2	1	0023923
BA 2500 DE S	SFa21-12	210	20.5	32	-	800	230	2	1	0023918
BA 2500 DE A	SFc	364	25	36,5	182	800	230	2	1	0023911
BA 4000 DE	SFa21-12	405	34	40	340	800	230	2	1	0023924
BA 6000 DE	S25.5X60	-	22	52	450	900	230	3	1	0023925
BA 12000 DE	S30X70	-	32	65	470	900	230	3	1	0023927

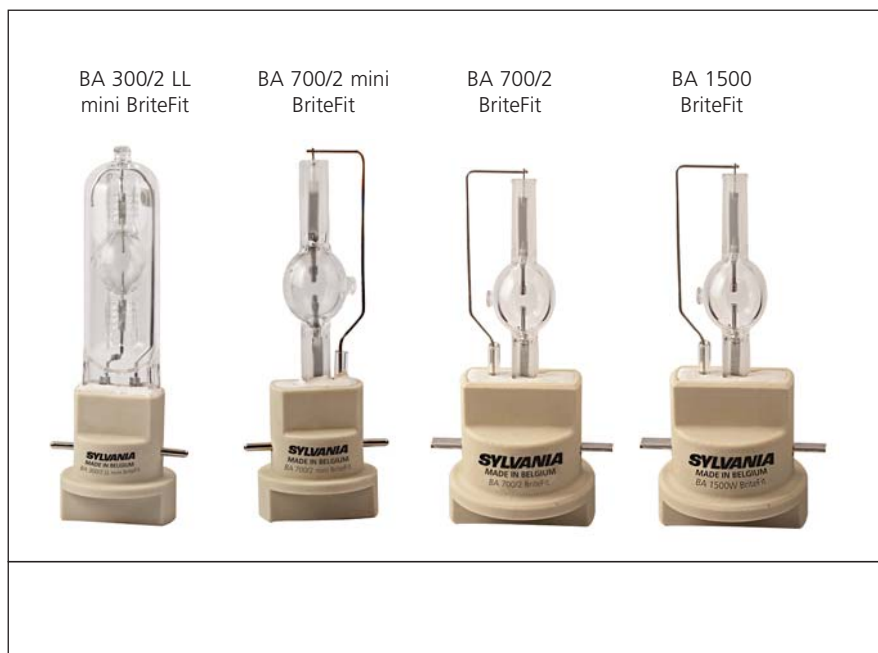
* Pre-focussed base. Nominal values measured at rated wattage in horizontal position.

** Extreme Temperature Protection. Maximum allowed pinch temperature 500°C.



BRITEARC "BRITEFIT"

BriteArc "BriteFit" lamps are metal halide light sources with excellent performance, specially equipped with a bayonet system "BriteFit", for fast and easy replacement.



Features

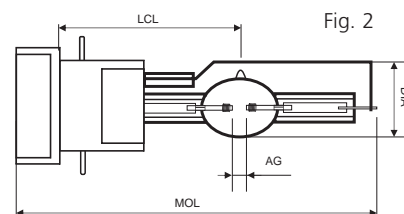
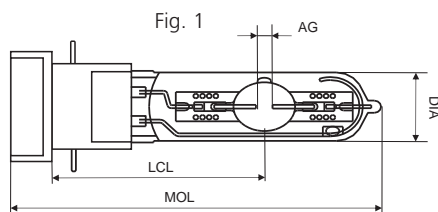
- Easy replacement system Sylvania BriteFit
- No outer bulb : allows reduced lamp dimensions
- High luminous efficacy
- Low infrared
- Very good colour stability and quality
- Excellent lumen maintenance
- Physical ruggedness

Applications

- Show lighting
- Theatre
- Discotheque lighting
- Effect lighting
- Studio lighting

Directions for use

- Only use in closed fixtures
- Can be operated on electronic power supply or on a magnetic ballast
- Burning position: universal



Item description	Watt	Voltage	Current	Ignition Pulse	Average Life	Replacement Time	Luminous Flux	Colour Temp.	CRI	Total UV-output
	W	V	A	kV	hrs	hrs	lm	K		W
BA 300/2 mini BriteFit - NEW	300	95	3.8	1.9	750	1000	23000	8400	2a	60
BA 300/2 LL mini BriteFit - NEW	300	95	3.8	1.9	2000	2200	22000	8500	2a	60
BA 575/2 mini BriteFit - NEW	575	95	7	2.5	750	1000	38600	7500	2a	75
BA 700/2 mini BriteFit - NEW	700	70	10.2	2.5	750	1000	50000	7500	2a	100
BA 700/2 BriteFit - NEW	700	70	10.2	2.5	750	1000	50000	7500	2a	100
BA 700/3 mini BriteFit - NEW	700	70	10.2	2.5	750	1000	50000	3200	1b	100
BA 700/3 BriteFit - NEW	700	70	10.2	2.5	750	1000	50000	3200	1b	100
BA 1500 BriteFit- NEW	1500	100	16	3.5	750	1000	135000	6000	1a	200

Item description	Cap	Dimensions				Max. bulb Temp. C°	Max. pinch Temp. C°	Figure Nr.	Packing Quantity	Ordering Code
		MOL mm	AG mm	Dia mm	BBL mm					
BA 300/2 mini BriteFit - NEW	PGJX28	122	5	23	67	500	350	1	10	0023805
BA 300/2 LL mini BriteFit - NEW	PGJX28	122	5	23	67	500	350	1	10	0023809
BA 575/2 mini BriteFit - NEW	PGJX28	112	4	23	56	1000	450	2	10	0023812
BA 700/2 mini BriteFit - NEW	PGJX28	112	4	23.2	56	1000	450	2	10	0023800
BA 700/2 BriteFit - NEW	PGJX50	125	4	23.2	65	1000	450	2	10	0023806
BA 700/3 mini BriteFit - NEW	PGJX28	112	4	23.2	56	1000	450	2	10	0023807
BA 700/3 BriteFit - NEW	PGJX50	125	4	23.2	65	1000	450	2	10	0023808
BA 1500 BriteFit- NEW	PGJX50	128	5	27	65	1000	450	2	10	0023801

PULSED XENON

Instant ignition lamps creating a strobe effect.



Features

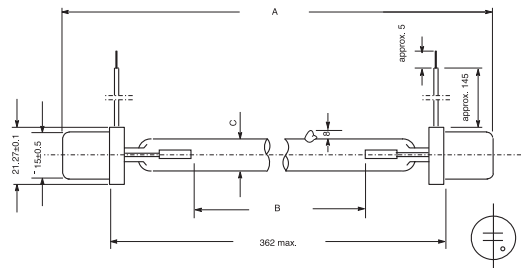
- Near continuous spectrum ranging from 200-1000nm
- Colour temperature: 5400K.
- Xenon spectrum, similar to daylight
- Instant ignition, no warming up time
- Can be dimmed

Applications

- Strobe lights in discos

Directions for use

- Operate on a semi resonant ballast
- Ignitor providing a starting pulse of 10kV required
- Forced –air cooling needed
- Due to the high starting voltage, use only insulated lampholders
- The UV radiation must be cut out with a filter glass



Item description	Watt	Lamp current	Cap	Rated Av. Life h	Max. Pinch Temp. C°	Max. Bulb Temp. C°	Dimensions (mm)			Packing Quantity	Ordering Code
	W	A					A	B	C		
XP 750W	750	12.3	Cable 15.8/14.7	500	350	650	244	158	12	10	0060900
XP 1500W	1500	10.7	Cable 15.8/14.7	500	350	650	398	312	12	10	9023475
XP 2500W	2500	16	Cable 15.8/14.7	500	350	650	543	457	12	10	9023401



BLACKLIGHT MERCURY LAMPS

Thanks to a special bulb made from nickel-doped Wood's Glass, these mercury lamps represent a powerful source of blacklight at 365nm. The dark coloured envelope filters out virtually all visible light and dangerous short-wave UV rays, while allowing the deep violet and near UV-A to escape. This produces brilliant fluorescence effects with many materials. The compact source allows a powerful beam to be projected with the use of a polished aluminium reflector.



Features

- Outer bulb in Wood's Glass
- Powerful, compact source of UV-A
- 15% UV depreciation per thousand hours
- Operates on conventional mercury ballast
- 160W version requires no ballast

Applications

- Effect lighting
- Theatrical and stage lighting
- Leak and crack detection
- Advertisements and sign boards
- Geological investigation of stones and rocks
- Textile and Food Industries

Directions for use

- Burning position for 125, 250 and 400W: universal
- Burning position for 160W: Vertical $\pm 30^\circ$
- 160W is a self ballasted lamp

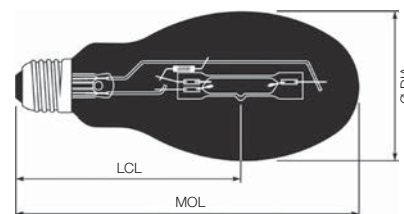


Fig. 1

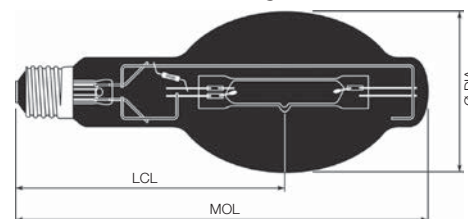
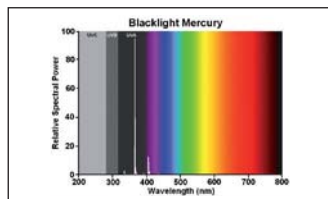


Fig. 2



Item description	Watt W	Voltage V	Current A	UV-A@1m mW/m ²	Average Life hrs	Circuit	Cap	Bulb
HSW 125	125	125	1,15	400	4000	External ballast	E27	ED75
HSW 250	250	130	2,13	700	4000	External ballast	E40	BT90
HSW 400	400	135	3,25	1200	4000	External ballast	E40	BT120
HSBW 160	160	230/240	0,8	150	2000	Self-ballasted	E27	ED75

Item description	MOL mm	LCL mm	Max Diam mm	Max Bulb Temp °C	Max Base Temp °C	Figure Nr.	Packing Quantity	Ordering Code
HSW 125	178	115	76	400	210	1	10	0023970
HSW 250	228	145	91	400	250	2	10	0023971
HSW 400	292	178	122	400	250	2	10	0023972
HSBW 160	178	105	76	400	210	1	10	0023973





PHOTO OPTIC HALOGEN LAMPS 15

Dichroic Reflector 50mm (MR 16) GZ6.35	17
Dichroic Reflector 42/50mm (MR 13/MR 16) GX5.3	18
Dichroic Reflector 50 mm (MR 16) GY5.3	20
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Capsule Lamps Low Voltage	22
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Studio/Film Double Ended	26
Studio/Film Single Ended	27
Stage/Theatre Single Ended	28
Stage/Theatre Single Ended HPL for Etc "Source Four" Fixtures	29
Studio U-shaped	30



DICHROIC REFLECTOR 50 MM (MR 16) GZ6.35



Features

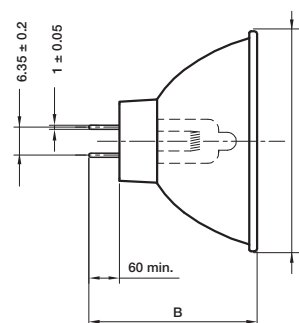
- Compact filament
- Highly efficient reflector/lamp combination
- Dichroic reflector, which radiates 75% of heat rearwards

Applications

- Film projectors
- Fiber optics
- Enlargers
- Overhead projectors
- Slide projectors

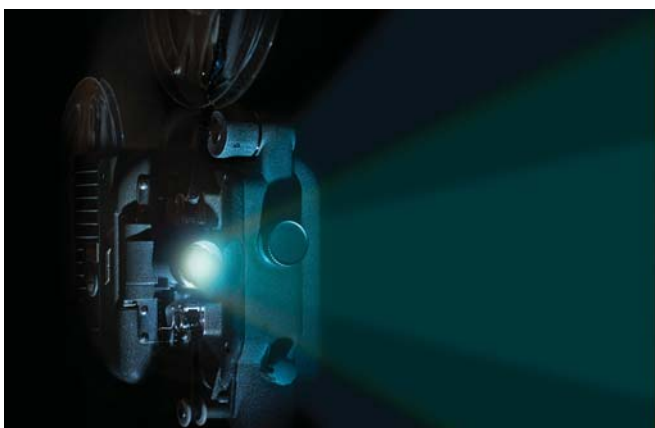
Directions for use

- No dimming lower than 10% of rated voltage



Item description	ANSI	LIF	Base	Voltage	Watt	Dimensions		Working distance mm	Colour Temp. K	Rated Av. Life h
				V	W	A mm	B mm			
EFM 8V 50W	EFM	A1/229	GZ6.35	8	50	50	42	0000032	3400	50
EFN 12V 75W	EFN	A1/230	GZ6.35	12	75	50	42	0000032	3400	50
EFP 12V 100W	EFP	A1/231	GZ6.35	12	100	50	42	0000032	3400	50
EFR 15V 150W	EFR	A1/232	GZ6.35	15	150	50	42	0000032	3400	50

Item description	Reflector Surface	Burning Position	Max. perm. pinch temp. C°	Max. perm. bulb temp. C°	Light Output lm	Packing Quantity	Ordering Code
EFM 8V 50W	Smooth	S105	400	900	380	50	0061341
EFN 12V 75W	Smooth	S105	400	900	550	50	0061342
EFP 12V 100W	Smooth	S105	400	900	650	50	0061344
EFR 15V 150W	Smooth	S105	400	900	800	50	0061350



DICHROIC REFLECTOR 42/50 MM (MR 13/MR 16) GX5.3



Features

- Compact filament
- Perfect alignment of the burner
- Highly efficient reflector/lamp combination
- Dichroic reflector, which radiates 75% of the heat backwards
- Long life versions for disco lighting
- Excellent lumen maintenance over life

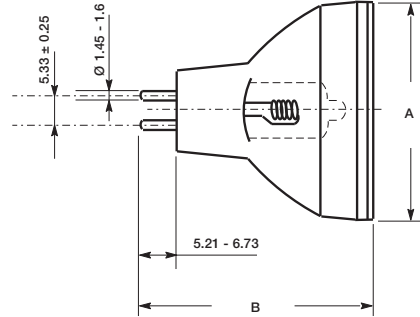
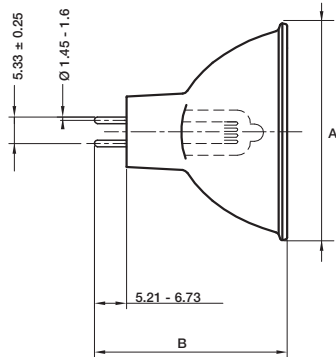
Applications

- Discos and clubs – long life types
- Medical equipment
- Microfilm readers
- Fibre optic applications
- Enlargers
- Overhead projectors
- Slide projectors

Directions for use

- No dimming by more than 10% of their rated voltage. This will reduce life considerably
- Forced cooling necessary

Item description	ANSI	LIF	Base	Voltage	Watt	Dimensions		Filament Type	Working distance mm	Colour Temp. K	Rated Av. Life h
				V	W	A mm	B mm				
ENL 12V 50W	ENL	M/109	GX5.3	12	50	50.7	45	C-8	40	3000	4000
DED 13.8V 85W	DED	F/109	GX5.3	13.8	85	50.7	45	C-8	165	3150	1000
DDM 19V 80W	DDM	-	GX5.3	19	80	50.7	45	CC-6	152.4	3350	50
EPV 14,5V 90W	EPV	F/111	GX5.3	14,5	90	50.7	45	CC-6	155	3150	500
EPX 14,5V 90W	EPX	F/110	GX5.3	14,5	90	50.7	44.5	CC-6	165	3150	500
DDL 20V 150W	DDL	F/114	GX5.3	20	150	50.7	44.5	CC-6	194.5	3150	500
EJM 21V 150W	EJM	-	GX5.3	21	150	50.7	44.5	CC-6	38.1	3400	40
EJV 21V 150W	EJV	-	GX5.3	21	150	50.7	44.5	CC-6	44.5	3400	40
ELD 21V 150W	ELD	F/112	GX5.3	21	150	50.7	44.5	CC-6	165	3400	40
EKE 21V 150W	EKE	-	GX5.3	21	150	50.7	44.5	CC-6	44.5	3250	200
EJA 21V 150W	EJA	-	GX5.3	21	150	50.7	44.5	CC-6	28	3400	40
EWV 24V 200W	EWV	-	GX5.3	24	200	50.7	44.5	CC-8	298.5	3350	50
ELC 24V 250W 50H	ELC	A1/259	GX5.3	24	250	50.7	44.5	CC-6	31.7	3400	50
ELC 24V 250W 500H	ELC/5H	-	GX5.3	24	250	50.7	44.5	CC-6	31.7	3300	500
ELC 24V 250W 1000H	ELC/10H	-	GX5.3	24	250	50.7	44.5	CC-6	31.7	3300	1000
ERV 36V 340W	ERV	-	GX5.3	36	340	50.7	44.5	CC-8	300	3300	75
EXR 82V 300W	EXR	-	GX5.3	82	300	42	44.5	CC-8	152.4	3350	35
FHS 82V 300W	FHS	-	GX5.3	82	300	42	44.5	CC-8	152.4	3300	70



Item description	Reflector Surface	Burning Position	Max. perm. pinch temp. C°	Max. perm. bulb temp. C°	Min. centre intensity lux	Corner centre ratio %	Figure Nr.	Packing Quantity	Ordering Code
ENL 12V 50W	Faceted	ANY	350	900	-	-	1	10	0061738
DED 13.8V 85W	Faceted	S105	350	900	1000	50	1	10	9060967
DDM 19V 80W	Faceted	S90	350	900	680	15	1	10	9060954
EPV 14,5V 90W	Smooth	S105	350	900	-	-	1	10	9061016
EPX 14,5V 90W	Faceted	S105	350	900	-	-	1	10	9060953
DDL 20V 150W	Faceted	S105	350	900	400	90	1	10	9060984
EJM 21V 150W	Smooth	S90	400	900	1200	50	1	10	9061181
EJV 21V 150W	Smooth	S90	400	900	1500	40	1	10	9060833
ELD 21V 150W	Stippled	S90	400	900	320	30	1	10	9060957
EKE 21V 150W	Smooth	S90	400	900	750	40	1	10	9060943
EJA 21V 150W	Smooth	S90	400	900	1200	50	1	10	9060921
EWV 24V 200W	Faceted	S90	400	900	800	32	1	10	9060890
ELC 24V 250W 50H	Faceted	S90	400	900	1200	50	1	10	0061740
ELC 24V 250W 500H	Smooth	S90	350	900	960	50	1	10	0061741
ELC 24V 250W 1000H	Smooth	S90	350	900	640	50	1	10	0061743
ERV 36V 340W	Faceted	S90	350	900	1050	27	1	10	9060812
EXR 82V 300W	Faceted	S90	400	900	1100	46	2	10	9061039
FHS 82V 300W	Faceted	S90	400	900	1000	46	2	10	9060850

DICHROIC REFLECTOR 50 MM (MR 16) GY5.3



Features

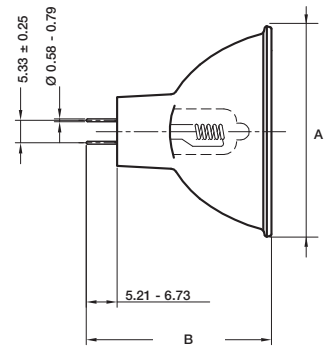
- Compact filament
- Perfect alignment of the burner
- Highly efficient reflector/lamp combination
- Dichroic reflector, which radiates 75% of the heat backwards

Applications

- Microfilm readers
- Medical equipment
- Fiber optic applications
- Enlargers
- Overhead projectors
- Slide projectors

Directions for use

- No dimming by more than 10% of their rated voltage. This will reduce life considerably
- Forced cooling necessary



Item description	ANSI	LIF	Base	Voltage	Watt	Dimensions		Filament Type	Working distance mm	Colour Temp. K	Rated Av. Life h
				V	W	A mm	B mm				
EVW 82V 250W	EVW	-	GY5.3	82	250	50.7	44.5	CC-8	298.5	3300	50
ENX 82V 360W	ENX	-	GY5.3	82	360	50.7	44.5	CC-8	298.5	3300	75
FXL 82V 410W	FXL	-	GY5.3	82	410	50.7	44.5	CC-8	298.5	3300	50
JCR 100V 300W	-	-	GY5.3	100	300	50.7	44.5	CC-8	298.5	3200	50
ESD 120V 150W	ESD	-	GY5.3	120	150	50.7	44.5	CC-8	44.5	3350	12
ENH 120V 250W	ENH	-	GY5.3	120	250	50.7	44.5	CC-8	152.4	3250	175
ELH 120V 300W	ELH	-	GY5.3	120	300	50.7	44.5	CC-8	152.4	3350	35

Item description	Reflector Surface	Burning Position	Max. perm. pinch temp. C°	Max. perm. bulb temp. C°	Min. centre intensity lux	Corner centre ratio %	Packing Quantity	Ordering Code
EVW 82V 250W	Faceted	S90	400	900	1250	40	10	9000017
ENX 82V 360W	Faceted	S90	400	900	4300	25	10	9060846
FXL 82V 410W	Faceted	S90	400	900	4700	34	10	9061768
JCR 100V 300W	Faceted	S90	400	900	5000	20	10	9061063
ESD 120V 150W	Stippled	S90	400	900	350	20	10	9061358
ENH 120V 250W	Faceted	S90	400	900	800	40	10	9060940
ELH 120V 300W	Faceted	S90	400	900	850	45	10	9060813

DICHROIC REFLECTOR 35/44/57 MM (MR 11/MR 14/MR 18)



Features

- Compact filament
- Perfect alignment of the burner
- Highly efficient reflector/lamp combination
- Dichroic reflector, which radiates 75% of the heat backwards

Applications

- Film projectors
- Microfilm readers
- Medical equipment
- Enlargers
- Overhead projectors
- Slide projectors

Directions for use

- No dimming by more than 10% of their rated voltage. This will reduce life considerably
- Forced cooling necessary

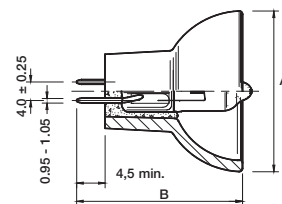


Fig. 1

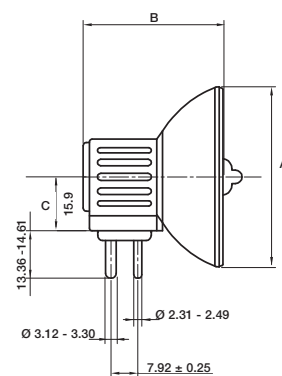
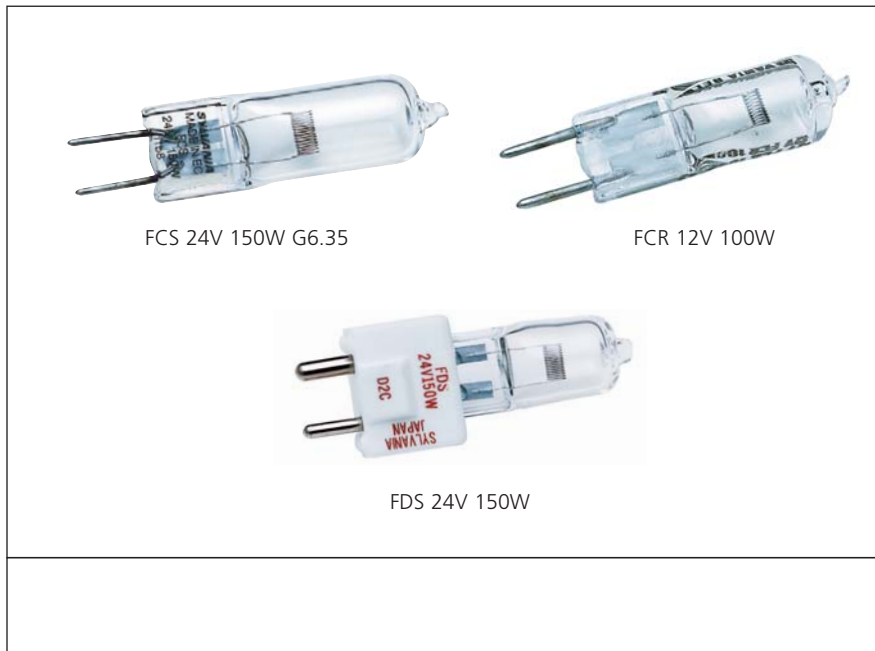


Fig. 2

Item description	ANSI	LIF	Base	Voltage		Dimensions			Filament Type	Working distance mm	Colour Temp. K	Rated Av. Life h
				V	W	A mm	B mm	C mm				
DNF 21V 150W	DNF	A1/266	GX7.9	21	150	57.2	45.1	15.9	CC-6	69.1	3400	25
EMM/EKS 24V 250W	EMM/EKS	A1/258	GX7.9	24	250	44.5	47.5	15.9	CC-6	65.8	3400	50
Item description	Reflector Surface	Burning Position	Max. perm. pinch temp. C°	Max. perm. bulb temp. C°	Min. centre intensity lux	Corner centre ratio %	Figure Nr.	Packing Quantity	Ordering Code			
DNF 21V 150W	Smooth	p4	400	900	2100	50	2	10	9060743			
EMM/EKS 24V 250W	Smooth	p4	400	900	750	55	2	10	9060918			



CAPSULE LAMPS LOW VOLTAGE



Features

- Low voltage, quartz halogen lamp
- Flat filament
- Constant high light output
- Pre-focused based lamps have a better defined filament position

Applications

- Studio lighting
- Film lighting
- Theatre lighting
- Microfilm readers
- Film projectors
- Overhead projectors
- Slide projectors

Directions for use

- No dimming by more than 10% of their rated voltage. This will reduce life considerably

Item description	ANSI	LIF	Base	Voltage	Watt	Dimensions			Type	Filament Dimensions	
						A mm	B mm	C mm		W mm	H mm
BRL 12V 50W	BRL	A1/220	G6.35	12	50	11.5	44	30	CF-6	3.3	1.6
EVB/BRJ 15V 150W	EVB/BRJ	A1/234	G6.35	15	150	11.5	44	30	CF-6	5	3
FCS 24V 150W	FCS	A1/216	G6.35	24	150	13.5	50	32	CF-6	6.1	3
EHJ 24V 250W	EHJ	A1/223	G6.35	24	250	13.5	55	33	CF-6	7.1	3.5
FGX 24V 250W	FGX	M33	G6.35	24	250	13.5	55	33	CF-6	10	5
EWX 24V 250W	EWX	-	G6.35	24	250	11.5	44	29	CC-6	5.6	3.15
FNT 24V 275W	FNT	-	G6.35	24	275	13.5	55	33	CF-6	7.2	3.5
EVD 36V 400W	EVD	A1/239	G6.35	36	400	18.0	60	36	CF-6	9.5	4.7
FCR 12V 100W	FCR	A1/215	GY6.35	12	100	11.0	44	30	CF-6	6.7	4.6
FLW 24V 300W	FLW	-	GY6.35	24	300	11.0	55	33	CF-6	6.7	4.6
JC 24V 300W	-	-	GY6.35	24	300	13.5	55	33	CF-6	6.7	4.6
FDS/FDT 24V 150W	FDS/FDT	A1/262	GZ9.5	24	150	13.5	57	27	CF-6	5.8	2.9
EYB 82V 360W	EYB	-	G5.3	82	360	11.5	57	32	CC-8	7.6	5.1



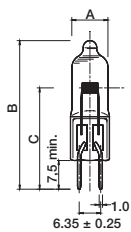


Fig. 1

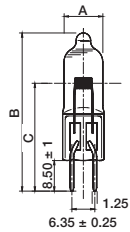


Fig. 2

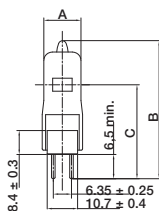


Fig. 3

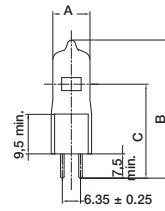


Fig. 4

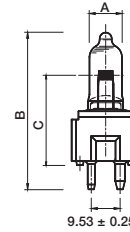
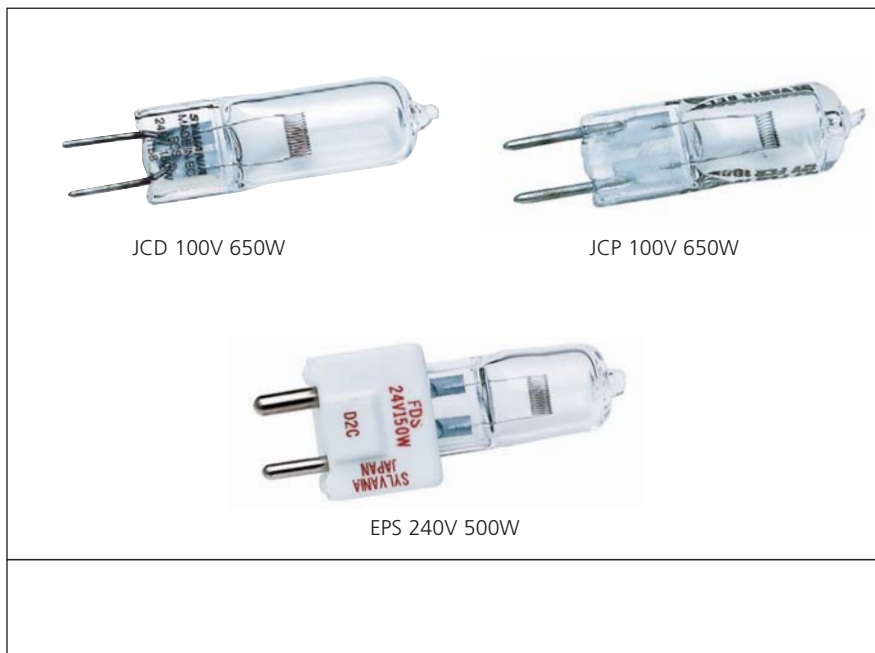


Fig. 5

Item description	Approx. Lumens lm	Colour Temp. K	Rated Av. Life h	Burning Position	Max. pinch temp. C°	Max. bulb temp. C°	Figure Nr.	Packing Quantity	Ordering Code
BRL 12V 50W	1400	3400	50	S90	400	900	1	50	0061300
EVB/BRJ 15V 150W	5000	3400	50	S90	400	900	1	10	0061303
FCS 24V 150W	5000	3400	50	S90	400	900	1	50	0061374
EHJ 24V 250W	10000	3400	50	S90	400	900	1	50	0061367
FGX 24V 250W	8400	3200	300	S90	350	900	1	10	0061465
EWX 24V 250W	8200	3400	50	S90	400	900	1	10	0061494
FNT 24V 275W	10000	3400	75	S90	400	900	1	50	9061150
EVD 36V 400W	16000	3400	50	S90	400	900	1	50	9060826
FCR 12V 100W	3400	3000	50	S90	400	900	2	50	0061373
FLW 24V 300W	10450	3500	50	S90	400	900	3	10	9061142
JC 24V 300W	9900	3400	50	S90	400	900	4	10	9061010
FDS/FDT 24V 150W	5000	3400	50	S90	400	900	5	10	9060924
EYB 82V 360W	11000	3300	75	S90	400	900	5	50	0061495



CAPSULE LAMPS MAINS VOLTAGE



Features

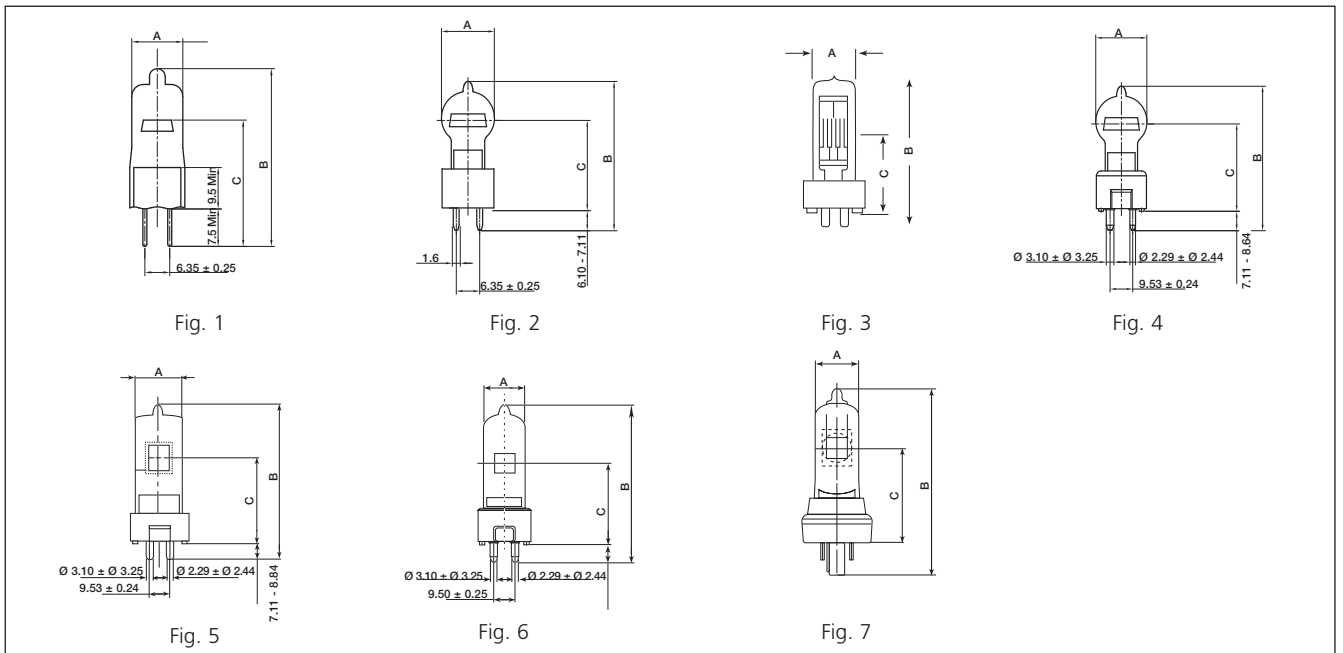
- Compact quartz halogen lamp
- Maximum light output, but relatively low life
- Pre-focused based lamps have a better defined filament position

Applications

- Overhead projectors
- Slide projectors
- Photo printers

Item description	ANSI	LIF	Base	Voltage		Dimensions			Type	Filament Dimensions	
				V	W	A mm	B mm	C mm		W mm	H mm
JCD 100V 650W	-	-	G6.35	100	650	22	63	36.5	CC-6	14	5.3
GKV 240V 600W	GKV	-	G9.5	240	600	18	101	60.5	C-13D	13.5	7.5
DYS/DYV 120V 600W	DYS/DYV	A1/264	GY9.5	120	600	22	63	36.5	CC-6	15	5.2
DYR 240V 650W	DYR	A1/233	GZ9.5	240	650	24	64	37	2 CC-8	12.9	11
JCP 100V 650W	-	-	GY9.5	100	650	18	76	36.5	C-13D	8.6	8.7
EPS 240V 500W	EPS	A1/268	G17t-7	240	500	19.5	89	41	C-13D	9	8.6
A1/244 240V 500W	-	A1/244	GY9.5	240	500	23	75	36.5	C-13	9.5	10.7
BRN 120V 1200W	BRN	-	G17t-7	120	1200	23	95	39.7	C-13D	10.5	12.5
BTG 120V 1200W	BTG	-	G17t-A24	120	1200	23,0	95	39,7	C-13D	10.5	12.5





Item description	Approx. Lumens lm	Colour Temp. K	Rated Av. Life h	Burning Position	Max. pinch temp. C°	Max. bulb temp. C°	Figure Nr.	Packing Quantity	Ordering Code
JCD 100V 650W	17500	3200	150	ANY	400	900	2	10	9061060
GKV 240V 600W	14000	3200	250	ANY	370	900	3	25	0061734
DYS/DYV 120V 600W	17000	3200	75	S90	400	900	4	50	9060779
DYR 240V 650W	16500	3200	50	ANY	370	900	4	50	9060716
JCP 100V 650W	18750	3300	75	ANY	400	900	6	10	9061018
EPS 240V 500W	-1	3250	50	S90	400	900	7	10	9060927
A1/244 240V 500W	13000	3200	75	ANY	370	900	6	50	9061168
BRN 120V 1200W (1)	-	3350	20	S90	400	900	7	10	9060572
BTG 120V 1200W	38200	3350	20	S90	400	900	7	10	9060934



STUDIO/FILM DOUBLE ENDED

Mains voltage double ended halogen lamps mainly used in studio and film.

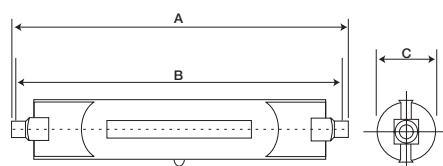
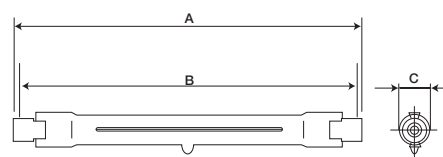
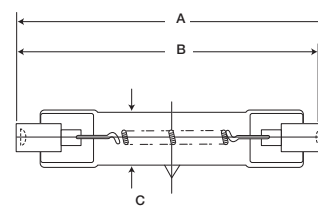


Features

- High constant light output
- High colour temperature

Applications

- Electronic News Gathering (ENG)
- Studio lighting
- Film lighting
- Overhead projectors (FAD type)



Item description	ANSI	LIF	Voltage	Watt	Base	Dimensions			Rated Av. Life h
			V	W		A max mm	B mm	C mm	
FAD 118V 650W	FAD	P2/6	118	650	R7s	80.3	74.9	14	100
DXX 240V 800W	DXX	P2/13	240	800	R7s	80.3	74.9	14	75
FDG 230V 1000W	FDG	P1/12	230	1000	R7s	127.1	121.7	12	15
EME 240V 800W	EME	P2/11	230	800	R7s	119.6	114.2	12	150
FEX 240V 2000W	FEX	P2/27	240	2000	RX7s	141.5	138.1	27	300

Item description	Filament Type	Lumen Output Lm	Colour Temp. K	Burning Position	Max. Permissible pinch temp. C°	Figure Nr.	Packing Quantity	Ordering Code
FAD 118V 650W	CC-8	16500	3200	P4	400	1	50	0061371
DXX 240V 800W	CC-8	20000	3200	P15	400	1	50	0061321
FDG 230V 1000W	CC-8	31000	3400	ANY	450	2	10	0061379
EME 240V 800W	CC-8	20000	3200	P15	400	2	10	9060822
FEX 240V 2000W	CC-8	50000	3200	ANY	400	3	10	0060884

CC= Coiled Coil • SC= Single Coil

STUDIO/FILM SINGLE ENDED

Mains voltage single ended halogen lamps for studio and film lighting applications. Many types feature bi-plane filaments, offering higher performance and replacing the older mono-plane types in parentheses.

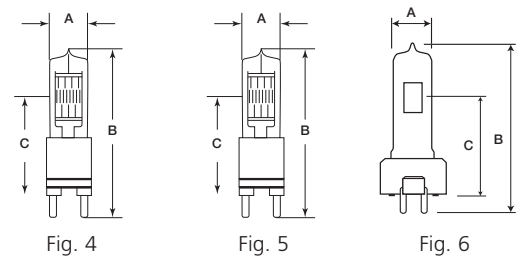
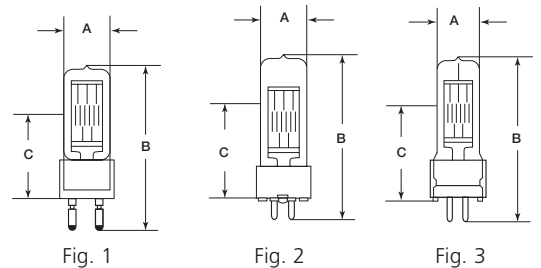


Features

- High light output from a compact filament source
- Compact square filament design
- Colour temperature: 3200K

Applications

- Studio lighting
- Disco lighting
- Film lighting



Item description	ANSI	LIF	Voltage	Watt	Base	Dimensions			Rated Av. Life h
						Diameter A (mm)	MOL B (mm)	LCL C (mm)	
			V	W					
CP/71 FKJ 240V 1000W	(FKJ)	CP/71(CP/40)	240	1000	G22	35	140	63.5	200
CP/73 FKP 240V 2000W	(FKP/FKK)	CP/73 (CP/41)	240	2000	G38	35	210	127.0	400
CP/72 FTL 240V 2000W	(FTL)	CP/72 (CP/43)	240	2000	GY16	35	145	70.0	400
CP/70 FVB 240V 1000W	(FVB)	CP/70 (CP/24)	240	1000	GX9.5	26	110	55.0	200
CP/77 FEP 240V 1000W	FEP	CP77	240	1000	G9.5	20	101	60.5	250
CP/81 FSK 240V 300W	FSK	CP81	240	300	GY9.5	18	90	46.3	150
CP/82 FRJ 240V 500W	FRJ	CP82	240	500	GY9.5	18	90	46.3	150
CP/89 FRM 240V 650W	FRM	CP89	240	650	GY9.5	23	90	46.3	150

Item description	Filament Type	Filament W mm	Dimensions H mm	Lumen Output Lm	Colour Temp. K	Burning Position	Max. Perm. pinch temp. C°	Figure Nr.	Packing Quantity	Ordering Code
CP/71 FKJ 240V 1000W	BPC-13D	13	15	26000	3200	S90	400	1	20	9061116
CP/73 FKP 240V 2000W	BPC-13D	20	19	52000	3200	S90	400	4	1	9061118
CP/72 FTL 240V 2000W	BPC-13D	20	19	52000	3200	S90	400	3	20	9061119
CP/70 FVB 240V 1000W	BPC-13D	13	15	26000	3200	S90	400	2	20	9061121
CP/77 FEP 240V 1000W	CC-8	6	23	26000	3200	ANY	400	5	10	9061385
CP/81 FSK 240V 300W	MCC-13	8	13	7050	3200	ANY	400	6	10	9061122
CP/82 FRJ 240V 500W	MCC-13	8	18	13500	3200	ANY	400	6	10	9061124
CP/89 FRM 240V 650W	BPC-13D	10	10	16250	3200	S90	400	6	25	9061126

BP=Biplane • CC=Coiled Coil • M=M-shaped

STAGE/THEATRE SINGLE ENDED

Mains voltage single ended halogen lamps for stage and theatre. These lamps have bi-plane filaments, offering higher performance and replacing the older mono-plane types in parentheses.



Features

- Compact filament configuration resulting in more light emitted from the focal point
- Longer life than studio and film lamps

Applications

- Stage and theatre
- Effect lighting

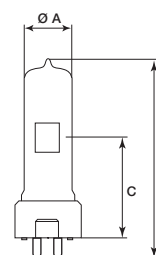


Fig. 1

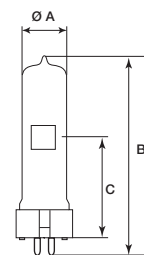


Fig. 2

Item description	ANSI	LIF	Voltage		Base	Dimensions		
			V	W		A max mm	B mm	C mm
T/25 GCJ 240V 500W	GCJ (GCW)	T/25 (T18)	240	500	GY9.5	23	90	46.5
T/27 GCK 230V 650W	GCK (GCT)	T/27 (T/26)	230	650	GY9.5	26	90	46.5
T/27 GCL 240V 650W	GCL (GCS)	T/27 (T/26)	240	650	GY9.5	23	90	46.5
T/19 FWR 240V 1000W	FWR	T/19 (T/11)	240	1000	GX9.5	26	110	55
T/29 FWT 240V 1200W	FWT	T/29	240	1200	GX9.5	27	125	67
M/40 240V 500W	-	M/40	230	500	GY9.5	23	90	46.5

Item description	Filament Type	Filament W mm	Dimensions H mm	Lumen Output Lm	Rated Av. Life h	Burning Position	Max. Perm. pinch temp. C°	Figure Nr.	Packing Quantity	Ordering Code
T/25 GCJ 240V 500W	BPC-13D	10	10	11000	300	S90	400	1	25	9061542
T/27 GCK 230V 650W	BPC-13D	11	11	14500	400	S90	400	1	25	0061736
T/27 GCL 240V 650W	BPC-13D	10	10	14500	400	S90	400	1	25	9061545
T/19 FWR 240V 1000W	BPC-13D	15	13	20500	750	S90	350	2	20	9061548
T/29 FWT 240V 1200W	BPC-13D	15	13	28600	400	S90	350	2	20	9061551
M/40 240V 500W	BPC-13D	11	12.4	8500	2000	ANY	370	1	50	0061733

STAGE/THEATRE SINGLE ENDED HPL FOR ETC "SOURCE FOUR" FIXTURES

The HPL lamps are designed especially for the «Source Four» spotlight family of ETC. The reflector of the spotlight makes optimum use of the filament construction, so that the generated light output (from 750W lamps) is now the same as for an existing 1000W fixture.



Features

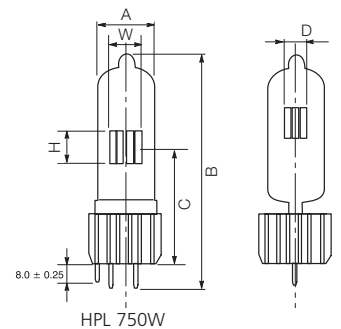
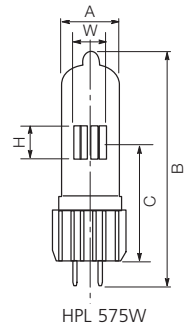
- Ultra compact filament design for high lumen output and accurate aiming
- Optimum system performance
- High beam intensity
- Reinforced pinch seal for extra mechanical resistance
- Special heat sink base reducing seal temperature and maximising life. Suited for use in high temperature applications
- Optimal lamp alignment also ensured by the heat sink base
- Long life versions (LL) ideal for architectural lighting

Applications

- Theatre lighting
- TV and studio
- Entertainment and Architectural applications
- Professional Photography

Directions for use

- To be used in the ETC Source Four range of spotlights only
- Licensed under U.S. patent # 5268613, Japanese patent #2501772



Item description	Voltage	Watt	Base	Coil	Lumen	Life	Burning Position	Colour Temp.
	V	W						
HPL 575W 240V	240	575	G9.5	6-C8	14900	400	Any	3200K
HPL 750W 240V	240	750	G9.5	6-C8	19750	300	Any	3200K
HPL 575W 240V LL	240	575	G9.5	6-C8	11780	1500	Any	3050K
HPL 750W 240V LL	240	750	G9.5	6-C8	15600	1500	Any	3050K

Item description	Dimensions			Filament dimensions			Packing Quantity	Ordering Code
	A mm	B mm	C mm	W mm	D mm	H mm		
HPL 575W 240V	19,0	104,0	60,3	8,7	7,5	9,4	10	0061801
HPL 750W 240V	19,0	104,0	60,3	8,7	7,5	11,5	10	0061803
HPL 575W 240V LL	19,0	104,0	60,3	8,7	7,5	12	10	0061805
HPL 750W 240V LL	19,0	104,0	60,3	8,7	7,5	13	10	0061807



STUDIO U-SHAPED

Mains voltage U-shaped halogen lamps mainly used in TV and photo studios.



Features

- U-shaped quartz halogen lamp
- Single coil construction
- Multiple filament supports
- High resistance against vibration

Applications

- Studio
- Film
- Photography

Suitable as higher performance replacements for conventional single ended Photoflood capsules. Thanks to Sylvania's, unique U-shaped burner, the risk of arcing and premature failures is dramatically reduced.

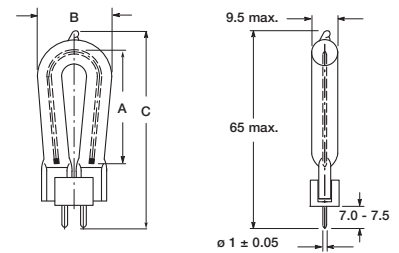


Fig. 1

Item description	L-code	ANSI	LIF	Voltage	Watt	Base	Dimensions			
				V	W		A mm	B mm	C mm	D mm
EWZ 110V 850W	L1222	EWZ	-	110V	850W	GX6.35	30	24	65	9.5
DJE 230V 1000W	L1192	DJE	P2/17	230V	1000W	GX6.35	38.5	24	75	9.5
FHB 230V 1000W	L1168	FHB	P1/15	230V	1000W	GX6.35	30	24	65	9.5
FHG 230V 1250W	L1171	FHG	P1/19	230V	1250W	GX6.35	38.5	24	75	9.5
U-Shape 230V 1250W	L1173	-	P2/26	230V	1250W	GX6.35	38.5	24	75	9.5
EYN 240V 650W	L1221	EYN	P2/17	240V	650W	GX6.35	30	24	65	9.5
EYM 240V 1000W	L1220	EYM	P1/15	240V	1000W	GX6.35	38.5	24	75	9.5

Item description	L-code	Lumen Output Lm	Rated Av. Life h	Colour Temperature K	Burning Position	Max. Perm. pinch temp. C°	Figure Nr.	Packing Quantity	Ordering Code
EWZ 110V 850W	L1222	23000	75	3300	BD +- 90°	400	1	50	0061735
DJE 230V 1000W	L1192	26000	75	3200	BD +- 90°	400	1	50	0061473
FHB 230V 1000W	L1168	33000	15	3400	BD +- 90°	400	1	50	0061391
FHG 230V 1250W	L1171	40000	15	3400	BD +- 90°	400	1	50	0061395
U-Shape 230V 1250W	L1173	35500	75	3200	BD +- 90°	400	1	50	0061510
EYN 240V 650W	L1221	17300	50	3300	BD +- 90°	400	1	50	0061523
EYM 240V 1000W	L1220	28300	75	3300	BD +- 90°	400	1	50	0061520

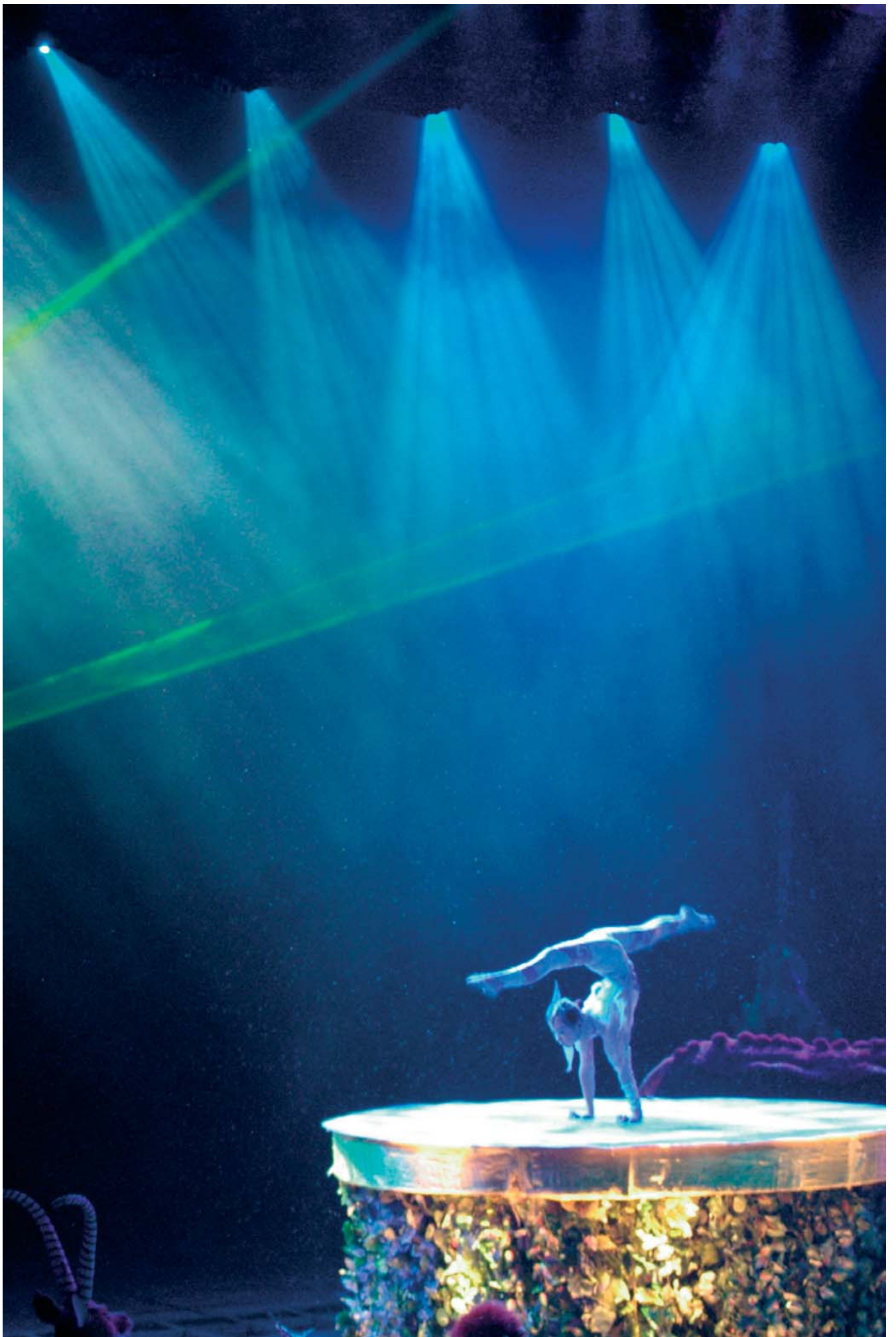


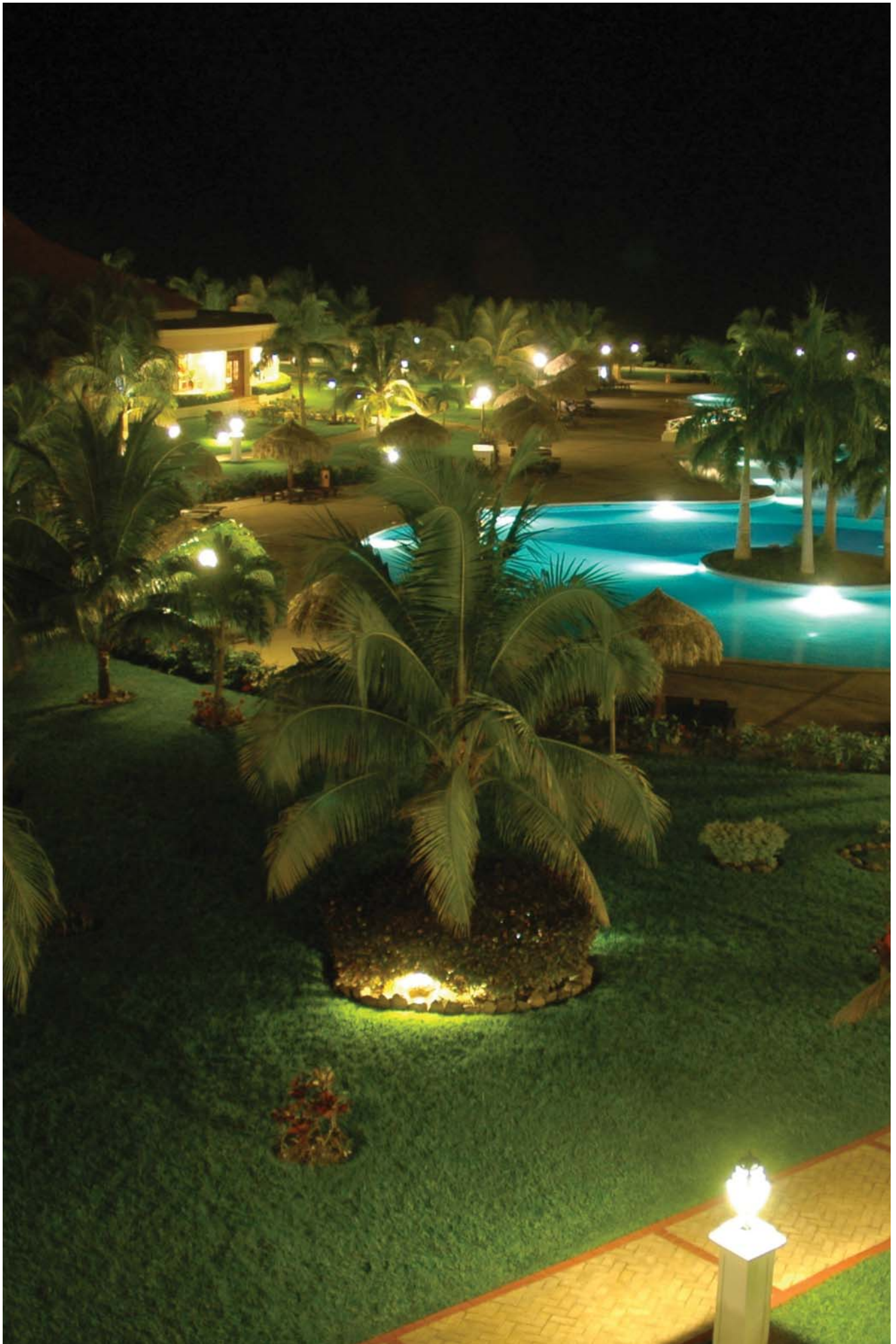




PHOTO OPTIC INCANDESCENT & PAR LAMPS

33

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PAR 38 COLOURED

Incandescent PAR lamps with integral parabolic reflector and coloured front lens.

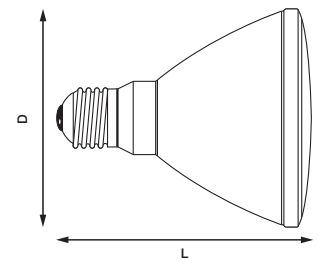
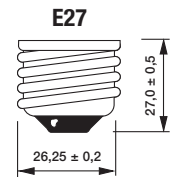


Features

- Parabolic-shaped reflector made from hard glass
- Coloured front lens
- Choice of four colours: Blue, Green Red, and Yellow
- E27 cap

Applications

- Mainly used in commercial accent lighting
- To create special effects in bars, clubs and discos and in shop window displays



Item description	Watt	Volt	Cap	Dimensions		Packing Quantity	Ordering Code
				L mm	D mm		
80W/FL30°PAR38 blue	80	240	E27	136	124	10	0019650
80W/FL30°PAR38 green	80	240	E27	136	124	10	0019651
80W/FL30°PAR38 red	80	240	E27	136	124	10	0019652
80W/FL30°PAR38 yellow	80	240	E27	136	124	10	0019653



PAR 36



Features

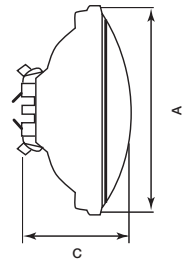
- Pressed glass reflector lamps
- Beam patterns : from very narrow spot through wide angle floods
- Consistency from lamp to lamp
- Economical light source for effects
- Halogen version delivers maintained beam intensity throughout life

applications

- Entertainment and Architectural applications
- Displays
- Museums
- Exhibitions
- Gardens
- Discos

Directions for use

- Easy handling
- Can be used with very economical fixtures (PAR cans)



Item description	ANSI	LIF	Voltage V	Watt W	Beam type	Approx. Beam Spread 10% Peak CD	Base
PAR 36 6,4V 30W Disco (H4515)	-	-	6.4	30	Spot	5x5	Screw Terminal
PAR 36 12,8V 30W (H 4405)	-	-	12.8	30	Spot	6x5	Screw Terminal
PAR 36 12V 50W VNSP			12	50	Very Narrow Spot	6x6	Screw Terminal
PAR 36 120V 650W	DWE	-	120	650	Medium Flood	40x30	Screw Terminal

Item description	Dimensions		Peak Intensity	Colour temp.	Rated Av. Life	Burning Position	Packing Quantity	Ordering Code
	A Diameter mm	C MOL mm	cd	K	h			
PAR 36 6,4V 30W Disco (H4515)	114	70	55000	3200	200	Any	12	0060500
PAR 36 12,8V 30W (H 4405)	114	70	50000	3200	100	Any	12	9020167
PAR 36 12V 50W VNSP	114	70	19000	3000	2000	Any	12	0060508
PAR 36 120V 650W	114	70	24000	3200	100	H15	12	0060503



PAR 56 LOW VOLTAGE



Features

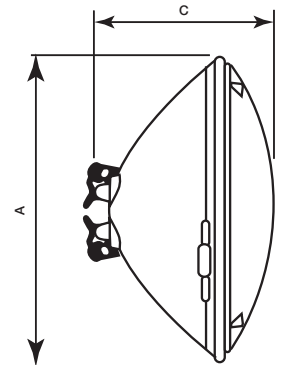
- Pressed glass reflector lamps
- Beam patterns : from very narrow spot through wide angle floods
- Consistency from lamp to lamp
- Instant replaceability without the need to re-focus and re-aim fixtures

Applications

- Theatre lighting
- TV and studio
- Entertainment and Architectural applications
- Displays, Museums & Churches
- Towers, Exhibitions & Gardens
- Discos

Directions for use

- Easy handling
- Can be used with very conomical fixtures (PAR cans)



Item description	ANSI	LIF	Voltage	Watt	Beam type	Approx. Beam Spread 10% Peak CD	Base
			V	W			
PAR 56 12V 100W (4545)	-	-	12	100	Spot	9x5	Screw Terminal

Item description	Dimensions		Peak Intensity	Colour temp.	Rated Av. Life	Burning Position	Packing Quantity	Ordering Code
	A	C	cd	K	h			
	Diameter mm	MOL mm						
PAR 56 12V 100W (4545)	178	114	225000	3200	100	Any	12	0060509



PAR 56 MAINS VOLTAGE



Features

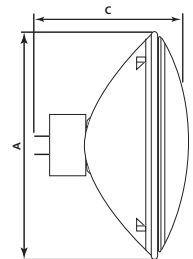
- Pressed glass reflector lamps
- Beam patterns : from very narrow spot through wide angle floods
- Consistency from lamp to lamp
- Instant replaceability without the need to re-focus and re-aim fixtures

Applications

- Theatre lighting
- TV and studio
- Entertainment and Architectural applications
- Displays & Museums
- Churches & Towers
- Exhibitions & Gardens
- Discos

Directions for use

- Easy handling
- Can be used with very economical fixtures (PAR cans)



Item description	ANSI	LIF	Voltage	Watt	Beam type	Approx. Beam Spread		Base
			V	W		10% Peak CD	50% Peak CD	
PAR 56 300W NSP 240V	-	-	240	300	Narrow Spot	20° x 14°	10° x 8°	GX16d
PAR 56 300W MFL 240V	-	-	240	300	Medium Flood	34° x 19°	23° x 11°	GX16d
PAR 56 300W WFL 240V	-	-	240	300	Wide Flood	57° x 27°	37° x 18°	GX16d

Item description	Dimensions		Peak Intensity cd	Colour temp. K	Rated Av. Life h	Burning Position	Packing Quantity	Ordering Code
	A Diameter mm	C MOL mm						
PAR 56 300W NSP 240V	178,6	127	70000	2750	2000	Any	12	0060513
PAR 56 300W MFL 240V	178,6	127	30000	2750	2000	Any	12	0060514
PAR 56 300W WFL 240V	178,6	127	10000	2750	2000	Any	12	0060515



PAR 64 MAINS VOLTAGE



Features

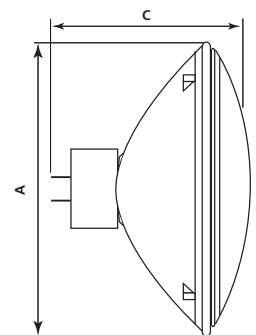
- Pressed glass reflector lamps
- Extremely powerful beam
- Halogen inner capsule, for 100% lumen maintenance through life
- Beam patterns: from very narrow spot through wide angle floods
- Consistency from lamp to lamp
- Instant replaceability without the need to re-focus and re-aim fixtures
- Double internal fused for end of life safety

Applications

- Theatre lighting & TV and studio
- Entertainment and Architectural applications
- Displays, Museums & Churches
- Towers, Exhibitions, Gardens & Discos

Directions for use

- Easy handling
- Can be used with very economical fixtures (PAR cans)



Item description	ANSI	LIF	Voltage	Watt	Beam type	Approx. Beam Spread		Base
			V	W		10% Peak CD	50% Peak CD	
PAR 64 CP86 240V 500W VNSP	-	CP86	240	500	Very Narrow Spot	16x13	10x7	Gx16d
PAR 64 CP87 240V 500W NSP	-	CP87	240	500	Narrow Spot	19x16	11x9	Gx16d
PAR 64 CP88 240V 500W MFL	-	CP88	240	500	Medium Flood	32x19	21x10	Gx16d
PAR 64 CP60 240V 1000W NSP	EXC	CP60	240	1000	Narrow Spot	20x17	12x6	Gx16d
PAR 64 CP61 240V 1000W SP	EXD	CP61	240	1000	Spot	23x20	14x7	Gx16d
PAR 64 CP62 240V 1000W MFL	EXE	CP62	240	1000	Medium Flood	39x24	28x12	Gx16d
PAR 64 CP95 240V 1000W XWFL	EXG	CP95	240	1000	Extra Wide Flood	125x95	70x70	Gx16d

Item description	Dimensions		Peak Intensity cd	Colour temp. K	Rated Av. Life h	Burning Position	Packing Quantity	Ordering Code
	A Diameter mm	C MOL mm						
PAR 64 CP86 240V 500W VNSP	240	152,4	240000	3200	300	Any	6	9061146
PAR 64 CP87 240V 500W NSP	240	152,4	140000	3200	300	Any	6	9061147
PAR 64 CP88 240V 500W MFL	240	152,4	65000	3200	300	Any	6	9061148
PAR 64 CP60 240V 1000W NSP	240	152,4	400000	3200	300	Any	6	9061109
PAR 64 CP61 240V 1000W SP	240	152,4	275000	3200	300	Any	6	9061127
PAR 64 CP62 240V 1000W MFL	240	152,4	130000	3200	300	Any	6	9061128
PAR 64 CP95 240V 1000W	240	152,4	15000	3200	300	Any	6	9061129

PAR 56 12V SWIMMING POOL



Features

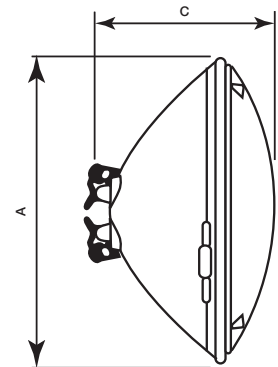
- Low voltage (12V) for safety reasons
- Heat resistant glass
- Sturdily constructed lamp absorbs mechanical shocks
- Wide beam

Applications

- Swimming Pools
- Fountains

Directions for use

- High running current (25A)



Item description	ANSI	LIF	Voltage V	Watt W	Approx. Beam Spread Hor. x Vert. Degrees	Base
PAR 56 12V 300W Swimming Pool	-	-	12	300	50 x 25	Screw

Item description	Dimensions		Peak Intensity cd	Colour temp. K	Rated Av. Life h	Burning Position	Packing Quantity	Ordering Code
	A Diameter mm	C MOL mm						
PAR 56 12V 300W Swimming Pool	178	114	12000	2850	1000	S45	12	9061532



PAR 56 12V LED SWIMMING POOL LAMP

The Sylvania PAR56 LED represents a top class professional development for underwater illumination of swimming pools, fountains etc. By combining high power LEDs of red, green and blue or fixed white colour, together with an internal microprocessor, it is capable of generating the full spectrum of colours. The lamp can be operated in a mode of continuous colour changing, or fixed at any desired colour by briefly switching off and back on again. This is facilitated by the optional Sylvania remote control and receiver.



FEATURES

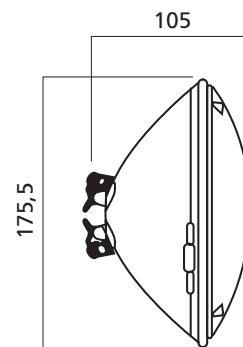
- Choice between RGB Lamps or fixed white version
- Remember last chosen color, by switching on again
- High power LED retrofit for incandescent PAR lamps
- Produces full spectrum of rich colours or white (multi colours)
- Sylvania patent pending colour control technology
- Simple on/off switching sets colour changing or fixed mode (can be achieved by using a standard switch)
- Optional Sylvania remote control and receiver available
- Identical shape to incandescent PAR56 = easy retrofit
- Unique sealing method guarantees IP68 water-tightness
- Die cast aluminium housing cools LEDs for high output
- Chlorine-resistant materials permits use in swimming pools
- Long lamp lifetime >25.000 hours
- Low heat generation

Applications

- All retrofit PAR56
- underwater
- Swimming Pools
- Fountains

directions for use

- Only for use with magnetic (no electronic) transformer



Remote Control



Receiver

Item description	Watt	Voltage	Current	Peak Intensity	Beam Angle	Bulb	Base	Packing Quantity	Ordering Code
	W	V	A	cd	(°)				
New PAR 56 LED RGB+multicolour (18 LED)	25	12	2,75	1000	30	PAR56	Screw Lugs	10	0060527
New PAR 56 LED White colour (12 LED)	20	12	2,60	1800	30	PAR56	Screw Lugs	10	0060528
OPTIONAL REMOTE CONTROL UNIT									
PAR 56 LED Receiver	max. 250	110/250	max. 1A	-	-	-	Screw Terminals	6	0060523
PAR 56 LED Remote Control	-	12V Battery	-	-	-	-	-	6	0060522



HI-SPOT ES50 GU10 COLOURED

Mains voltage halogen reflector lamps with coloured lens and GU10 base. The Sylvania lamps employ a unique lens made of natural coloured glass, instead of the more standard dichroic coatings. This brings the advantages of a purer light colour in the beam. These new front lenses completely eliminate the unsightly halo of rainbow coloured fringes that are seen around the perimeter of the beam with lamps using dichroic coloured lenses.



Features

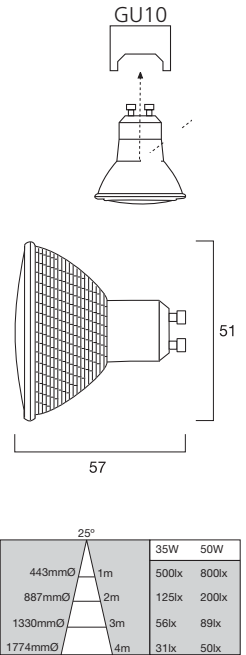
- Transparent lens in real natural coloured glass
- Pure, saturated beam colours without the usual rainbow-effect halo
- Four colours available: red, yellow, green and blue
- Unique, patented, computer designed spiral faceted aluminised reflector
- Available in medium flood version: 25°

Applications

- To bring a touch of colour in a wide range of applications
- Architectural features
- Discos and clubs
- Decorative lighting

Directions for use

- For use in mains voltage fixtures with GU10 base
- Universal burning
- Suitable for exterior use in conjunction with waterproof fixtures
- Can be dimmed using standard dimming switches



Item description	Watt	Voltage	Beam Angle	Luminous intensity cd	Colour	Cap	Average Rated Life hrs	Packing Quantity	Ordering Code
	W	V							
Hi-Spot ES50 50W BLUE 240V	50	240	25°	30	Blue	GU10	2500	10	0021270
Hi-Spot ES50 50W GREEN 240V	50	240	25°	130	Green	GU10	2500	10	0021271
Hi-Spot ES50 50W RED 240V	50	240	25°	225	Red	GU10	2500	10	0021272
Hi-Spot ES50 50W YELLOW 240V	50	240	25°	550	Yellow	GU10	2500	10	0021273

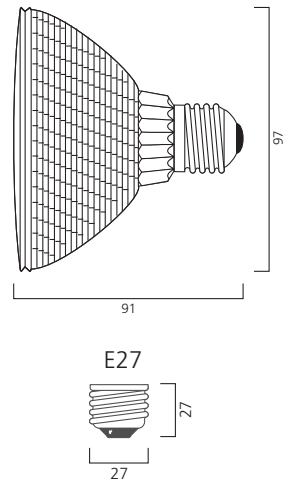


HI-SPOT 95 REINFORCED



FEATURES

- Halogen light without the need for a transformer
- Unique, patented, spiral faceted aluminised reflector
- 100% dimmable
- For use in mains voltage E27 cap downlights, spotlights and luminaires
- Use dichroic lamps for lighting food, textiles and other objects sensitive to heat
- Suitable for outdoor use when protected from direct contact with water
- Reinforced version for use in heavy duty applications



10°		75W	100W
175mmØ	1m	6900lx	10000lx
350mmØ	2m	1725lx	2500lx
525mmØ	3m	767lx	1111lx
700mmØ	4m	431lx	625lx

30°		75W	75W DIC	100W
536mmØ	1m	2200lx	2400lx	3500lx
1072mmØ	2m	550lx	600lx	875lx
1608mmØ	3m	244lx	267lx	389lx
2144mmØ	4m	138lx	150lx	219lx

Item description	Watt W	Voltage V	Beam Angle	Luminous intensity cd	Colour	Cap	Average Rated Life hrs	Packing Quantity	Ordering Code
HI-SPOT® 95									
Hi-SPOT 95 75W SP10° Reinforced	75W	240V	10°	8000 cd	2900K	E27	3000 hrs	15	0021274
Hi-SPOT 95 75W FL30° Reinforced	75W	240V	30°	2600 cd	2900K	E27	3000 hrs	15	0021275







PHOTO OPTIC FLUORESCENT LAMPS

45

PAR 38 CFL Coloured	47
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T8 Coloured	49



PAR 38 CFL COLOURED - ENERGY SAVING

Compact Fluorescent Lamps Par 38 with Integral Parabolic Reflector And Coloured Front Lens

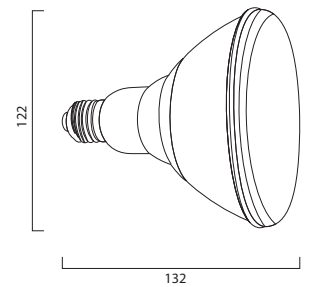
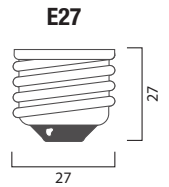


Features

- Parabolic-shaped reflector
- Coloured front lens
- Choice of four colours: Blue, Green Red, and Yellow
- E27 cap

Applications

- Mainly used in commercial accent lighting
- To create special effects in bars, clubs and discos and waterproof gardenspot



Item description	Watt	Volt	Colour	Cap	Average Rated Life Hrs	Dimensions		Packing Quantity	Ordering Code
						L MOL mm	D Ø mm		
MINI-LYNX PAR38 Reflector 23W Red	23	230-240	Red	E27	10000	136	124	10	0060535
MINI-LYNX PAR38 Reflector 23W Green	23	230-240	Green	E27	10000	136	124	10	0060536
MINI-LYNX PAR38 Reflector 23W Yellow	23	230-240	Yellow	E27	10000	136	124	10	0060537
MINI-LYNX PAR38 Reflector 23W Blue	23	230-240	Blue	E27	10000	136	124	10	0060538



BLACKLIGHT BLUE LAMPS

Blacklight Blue lamps differ from standard fluorescent lamps only in the type and composition of phosphor used. The bulb is made of special dark-blue filter glass that absorbs practically all of the visible light, yet freely transmits the ultraviolet radiation. Fixture requirements are simple since the lamp is a completely self-contained blacklight unit.



Features

- The lamps efficiently emit near ultraviolet radiation at 315nm-400nm with strong photochemical and fluorescent effects
- The special deep blue filter glass absorbs visible rays and transmits near (UV-A) ultraviolet rays only
- Shape, electrical characteristics and lighting circuits similar to general fluorescent lamps

Applications

- Special effects
- Counterfeit detection in philately, bank notes, papers, etc.
- Leak and crack detection
- Excitation of fluorescent paints in dark rooms
- Revealing fluorescence of drawings on textiles
- Geological investigation of stones and rocks

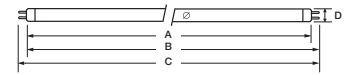


Fig. 1

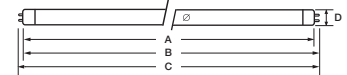


Fig. 2

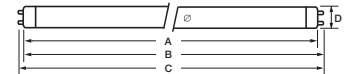


Fig. 3

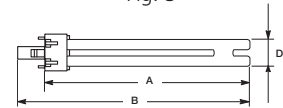
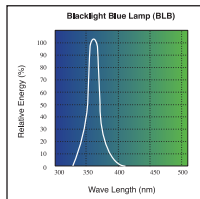


Fig. 4

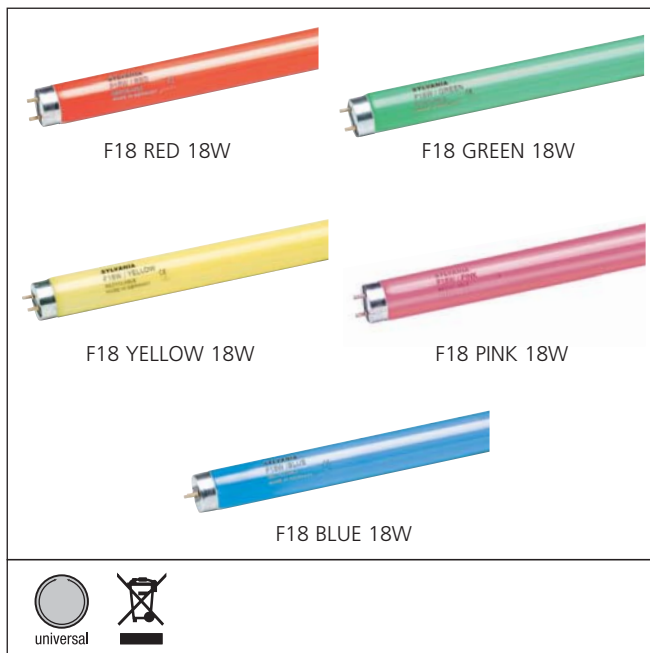


Item description	Watt	Voltage	Current	Spectral Peak	UV-A Irradiance at 1 meter	Cap	Life Hrs
	W	V	A	nm	μW/cm²		
F4 T5 BLB	4	29	0.17	365	≥ 4.5	G5	5000
F6 T5 BLB	6	42	0.16	365	≥ 7	G5	5000
F8 T5 BLB	8	56	0.145	365	≥ 10	G5	5000
F15 T8 BLB	15	55	0.31	365	≥ 22.5	G13	7000
F18 T8 BLB	18	57	0.37	365	≥ 34.5	G13	7000
F30 T8 BLB	30	96	0.365	365	≥ 36.5	G13	8000
F36 T8 BLB	36	103	0.43	365	≥ 39	G13	8000
F20 T12 BLB	20	57	0.37	350	≥ 15.5	G13	7000
F40 T12 BLB	40	103	0.42	350	≥ 17.5	G13	8000
LYNX-S 9W BLB	9	60	0.17	365	≥ 8.5	G23	8000
LYNX-S 11W BLB	11	90	0.155	365	≥ 17.5	G23	8000

Item description	Dimensions				Figure Nr.	Packing Quantity	Ordering Code
	A (mm)	L B (mm)	C (mm)	D (mm)			
F4 T5 BLB	136	143	150	16	1	50	000008
F6 T5 BLB	212	219	226	16	1	50	000018
F8 T5 BLB	288	295	303	16	1	50	000024
F15 T8 BLB	437	445	452	26	2	100	000077
F18 T8 BLB	590	597	604	26	2	100	000698
F30 T8 BLB	895	902	909	26	2	25	000158
F36 T8 BLB	1199	1207	1214	26	2	25	000699
F20 T12 BLB	590	599	604	41	3	25	9000358
F40 T12 BLB	1199	1207	1214	41	3	25	9000186
LYNX-S 9W BLB	145	167	28	12	4	200	0025043
LYNX-S 11W BLB	215	237	28	12	4	200	0025042

T8 COLOURED

Standard halophosphor tubes with a coloured coating for special colour effects.



Features

- High quality fluorescent tubes
- Long life
- Available in four colours: Blue, Green, Red, Pink and Yellow

Applications

- To create special lighting effects in shop windows, bars, fairground attractions, dance halls and discotheques



Item description	Watt W	Colour	Cap	Dimensions		Luminous Flux lm	Packing Quantity	Ordering Code
				L mm	D mm			
F18W/T8/R	18	Red	G13	590	26	30	25	0002572
F36W/T8/R	36	Red	G13	1200	26	70	25	0002573
F58W/T8/R	58	Red	G13	1500	26	100	25	0002574
F18W/T8/Y	18	Yellow	G13	590	26	750	25	0002561
F36W/T8/Y	36	Yellow	G13	1200	26	1550	25	0002565
F58W/T8/Y	58	Yellow	G13	1500	26	2500	25	0002569
F18W/T8/G	18	Green	G13	590	26	1200	25	0002562
F36W/T8/G	36	Green	G13	1200	26	2800	25	0002566
F58W/T8/G	58	Green	G13	1500	26	4000	25	0002570
F18W/T8/B	18	Blue	G13	590	26	300	25	0002563
F36W/T8/B	36	Blue	G13	1200	26	700	25	0002567
F58W/T8/B	58	Blue	G13	1500	26	1000	25	0002571
F18W/T8/P	18	Pink	G13	590	26	750	25	0002560
F36W/T8/P	36	Pink	G13	1200	26	1700	25	0002564
F58W/T8/P	58	Pink	G13	1500	26	2600	25	0002568



If you need to replace natural light – whether for plants, aquariums or terrariums – Sylvania has an extensive collection of lighting solutions available. For example, Sylvania’s GRO-LUX is a world leader in plant illumination. Proper light and UV-radiation is very important for fish and reptiles. Our lighting engineers have developed lamps with specific light spectra for the most diverse uses. Either independently or in combination, Sylvania Aquarium and Terrarium lamps deliver the best results for complex biological requirements. Whether for plants, fish, corals, reptiles, or the entire biotope of aquariums and terrariums - with Sylvania you’ll find the appropriate lighting.



AQUARIUM & TERRARIUM 51

Grolux T5	52
Grolux T8/MiniLynx	53
Aquastar T5	54
Aquastar T8	55
Daylightstar T8	56
Coralstar T5	57
Coralstar T8	58
Marinestar	59
Aquaclassic	60
AquaArc	61
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Reptistar T8	63
Reptistar MiniLynx	64
Reptistar - Infrared Reflector	65
Reptistar - Infrared Halogen	66
Activa T5 & T8	67
BriteGro 2084	68

GROLUX T5

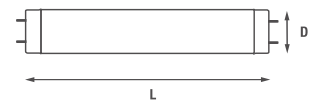


Features

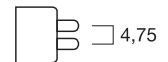
- High level of blue and red radiation helps promote healthy plant growth
- Strengthens the natural colours of aquatic plants and fish in aquariums
- Promotes the process of photo-synthesis in plants
- Oldest, but most optimal light colour for plants and aquaria
- T5 - FHO: high output and lumen per watt in comparison to T8 versions
- New T5 I8 : 50% more light output in comparison to the same length in T8. Ideal for the new generation of aquaria with T5 lamps, but in the length of T8 lamps. The ideal fit of the lamps in the aquarium results in a perfect illumination of the aquarium

Applications

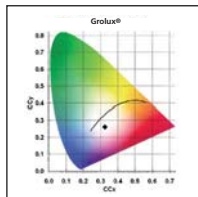
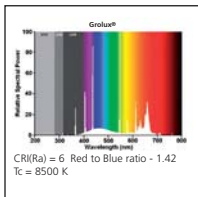
- For lighting of fresh water aquariums
- Complete or additional artificial lighting of plants
- Recommended also for use in greenhouses, indoor gardens, flower shows and conservatories



G5

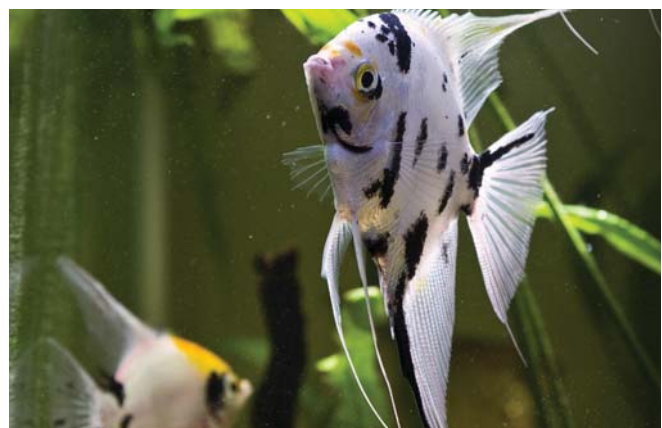


15,75



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Comparable wattage in T8	Dimensions (mm)		Diameter	Watt	Colour	Cap
				L	D				
0000026	-	F8W/GRO	-	288	16	T5	8	GroLux	G5
0002740	0000728	FHO24W/GRO	-	549	16	T5	24	GroLux	G5
0002743	0000729	FHO39W/GRO	-	849	16	T5	39	GroLux	G5
0002746	0000730	FHO54W/GRO	-	1149	16	T5	54	GroLux	G5
0002749	-	FHO80W/GRO	-	1449	16	T5	80	GroLux	G5
-	0002821	F24W T5 I8 Gro-Lux 438mm	15	438	16	T5	24	GroLux	G5
-	0002823	F28W T5 I8 Gro-Lux 590mm	18	590	16	T5	28	GroLux	G5
-	0002825	F35W T5 I8 Gro-Lux 742mm	25	742	16	T5	35	GroLux	G5
-	0002827	F45W T5 I8 Gro-Lux 895mm	30	895	16	T5	45	GroLux	G5
-	0002829	F54W T5 I8 Gro-Lux 1047mm	38	1047	16	T5	54	GroLux	G5
-	0002831	F54W T5 I8 Gro-Lux 1200mm	36	1200	16	T5	54	GroLux	G5

Packaging Note: The sleeve pictured is for retail sales.



GROLUX T8/MINILYNX

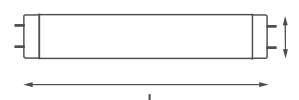


Features

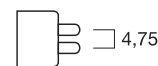
- High level of blue and red radiation helps promote healthy plant growth
- Strengthens the natural colours of aquatic plants and fish in aquariums
- Promotes the process of photo-synthesis in plants
- Oldest, but most optimal light colour for plants and aquaria

Applications

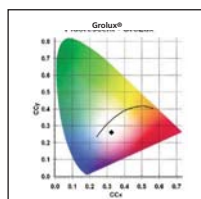
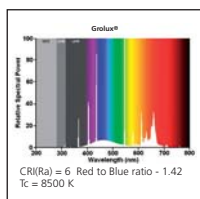
- For lighting of fresh water aquariums
- Complete or additional artificial lighting of plants
- Recommended for use in greenhouses, indoor gardens, flower shows and conservatories



G5



15,75



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Retail Pack Quantity per 20	Item description	Dimensions (mm)		Diameter	Watt	Colour	Cap
				L	D				
0000043	0000707	-	F14W/GRO	361	26	T8	14	GroLux	G13
0000069	0000708	-	F15W/GRO	438	26	T8	15	GroLux	G13
0001523	0000709	-	F18W/GRO	590	26	T8	18	GroLux	G13
0001679	0000710	-	F25W/30"/GRO	742	26	T8	25	GroLux	G13
0000150	0000711	-	F30W/GRO	895	26	T8	30	GroLux	G13
0001524	0000712	-	F36W/GRO	1200	26	T8	36	GroLux	G13
0002213	0000713	-	F38W/GRO	1047	26	T8	38	GroLux	G13
0001525	0000714	-	F58W/GRO	1500	26	T8	58	GroLux	G13
-	-	0026484	Minilyn 20W/GRO	165	52	-	20	GroLux	E27

Packaging Note: The sleeve pictured is for retail sales.



AQUASTAR T5

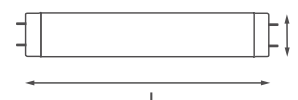


Features

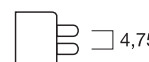
- Light colour: 10000 Kelvin simulating the tropical light spectrum)
- Promotes the growth of coral and aquatic plants through natural red and blue sections of the light spectrum
- Excellent lighting performance
- T5 - FHO: high output and lumen per watt in comparison to T8 versions
- New T5 I8 : 50% more light output in comparison to the same length in T8. Ideal for the new generation of aquaria with T5 lamps, but in the length of T8 lamps. The ideal fit of the lamps in the aquarium results in a perfect illumination of the aquarium

Applications

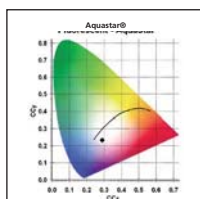
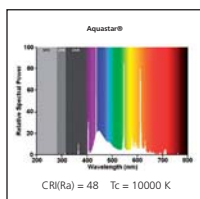
- For all biological organisms in fresh and marine water aquariums
- Excellent results in combination with Daylightstar



G5



15,75



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Comparable wattage in T8	Dimensions (mm)		Diameter	Watt W	Colour Temp. K	Light Output lm	Cap
				L	D					
0002741	0002752	FHO24W/Aquastar	-	549	16	T5	24	10000	1120	G5
0002744	0002753	FHO39W/Aquastar	-	849	16	T5	39	10000	1960	G5
0002747	0002754	FHO54W/Aquastar	-	1149	16	T5	54	10000	2800	G5
0002750	-	FHO80W/Aquastar	-	1449	16	T5	80	10000	3500	G5
-	0002820	F24W T5 I8 Aquastar 438mm	15	438	16	T5	24	10000	900	G5
-	0002822	F28W T5 I8 Aquastar 590mm	18	590	16	T5	28	10000	1200	G5
-	0002824	F35W T5 I8 Aquastar 742mm	25	742	16	T5	35	10000	1700	G5
-	0002826	F45W T5 I8 Aquastar 895mm	30	895	16	T5	45	10000	2100	G5
-	0002828	F54W T5 I8 Aquastar 1047mm	38	1047	16	T5	54	10000	2500	G5
-	0002830	F54W T5 I8 Aquastar 1200mm	36	1200	16	T5	54	10000	2900	G5

Packaging Note: The sleeve pictured is for retail sales.



AQUASTAR T8

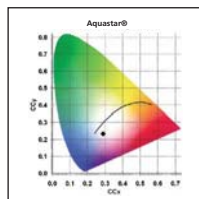
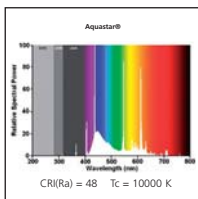
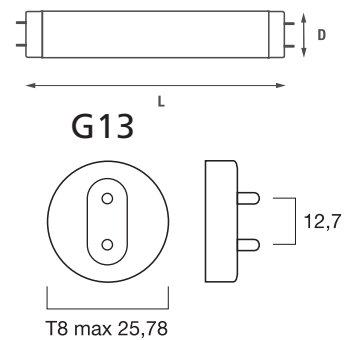


Features

- Light colour: 10000 Kelvin (simulating the tropical light spectrum)
- Promotes the growth of coral and aquatic plants through natural red and blue sections of the light spectrum
- Excellent lighting performance

Applications

- For all biological organisms in fresh and marine water aquariums



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Dimensions (mm)		Diameter	Watt W	Colour Temp. K	Light Output lm	Cap
			L	D					
0002212	0000727	F14W/Aquastar	361	26	T8	14	10000	525	G13
0002224	0000643	F15W/Aquastar	438	26	T8	15	10000	650	G13
0002221	0000644	F18W/Aquastar	590	26	T8	18	10000	900	G13
0002226	0000645	F25W/30"/Aquastar	742	26	T8	25	10000	1500	G13
0002225	0000646	F30W/Aquastar	895	26	T8	30	10000	1700	G13
0002222	0000647	F36W/Aquastar	1200	26	T8	36	10000	2200	G13
0002185	0000648	F38W/Aquastar	1047	26	T8	38	10000	2100	G13
0002223	0000649	F58W/Aquastar	1500	26	T8	58	10000	3550	G13

Packaging Note: The sleeve pictured is for retail sales.



DAYLIGHTSTAR T8

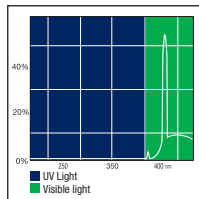
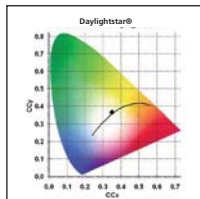
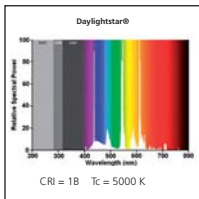
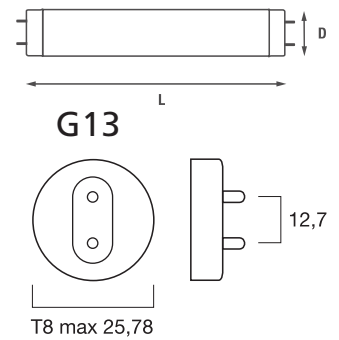


Features

- Reduces algae growth through a special UV-STOP protective sleeve
- Allows fish and plants to be seen in their true colours (high colour rendition)
- 5000K triphosphor lamp with a daylight character
- High colour rendition
- Long life

Applications

- For use in fresh water aquariums
- In combination with Gro-Lux® it produces a well balanced and optimal aquarium life



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Dimensions (mm)		Diameter	Watt	Colour	Cap
			L	D				
-	0000715	F15W/Daylightstar	438	26	T8	15	Daylightstar	G13
-	0000716	F18W/Daylightstar	590	26	T8	18	Daylightstar	G13
-	0000717	F30W/Daylightstar	895	26	T8	30	Daylightstar	G13
-	0000718	F36W/Daylightstar	1200	26	T8	36	Daylightstar	G13

Packaging Note: The sleeve pictured is for retail sales.



CORALSTAR T5



Features

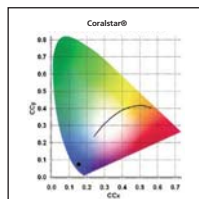
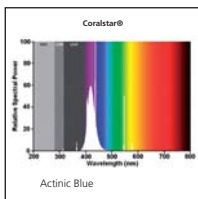
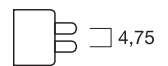
- Reproduces light conditions found at coral reefs through actinic blue light
- Promotes the growth of coral and invertebrates by supporting the growth of zooxanthellae
- See coral in its true colour(s)
- T5 - FHO: high output and lumen per watt in comparison to T8 versions
- New T5 I8 : 50% more light output in comparison to the same length in T8. Ideal for the new generation of aquaria with T5 lamps, but in the length of T8 lamps. The ideal fit of the lamps in the aquarium results in a perfect illumination of the aquarium

Applications

- Lighting to promote growth of coral and invertebrates in marine water aquariums



G5



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Comparable wattage in T8	Dimensions (mm)		Diameter	Watt	Colour	Cap
				L	D				
0002742	0000735	FHO24W/Coralstar	-	549	16	T5	24	Actinic	G5
0002745	0002755	FHO39W/Coralstar	-	849	16	T5	39	Actinic	G5
0002748	0002756	FHO54W/Coralstar	-	1149	16	T5	54	Actinic	G5
0002751	-	FHO80W/Coralstar	-	1449	16	T5	80	Actinic	G5
-	0002757	F28W T5 I8 Coralstar 590mm	18	590	16	T5	28	Actinic	G5
-	0002758	F45W T5 I8 Coralstar 895mm	30	895	16	T5	45	Actinic	G5
-	0002759	F54W T5 I8 Coralstar 1200mm	36	1200	16	T5	54	Actinic	G5



CORALSTAR T8

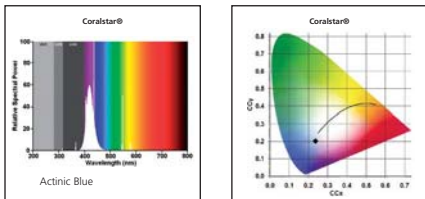
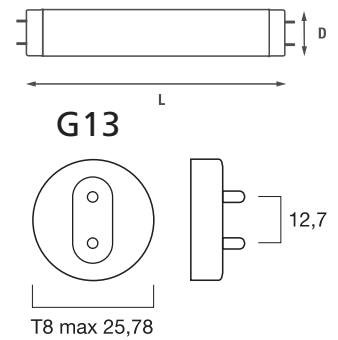


Features

- Reproduces light conditions found at coral reefs through actinic blue light
- Promotes the growth of coral and invertebrates by supporting the growth of zooxanthellae

Applications

- Lighting to promote growth of coral and invertebrates in marine water aquariums



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Dimensions (mm)		Diameter	Watt	Colour	Cap
			L	D				
-	0000719	F18W/Coralstar	590	26	T8	18	Actinic	G13
-	0000725	F30W/Coralstar	895	26	T8	30	Actinic	G13
-	0000726	F36W/Coralstar	1200	26	T8	36	Actinic	G13

Packaging Note: The sleeve pictured is for retail sales.



MARINESTAR T5 15000K

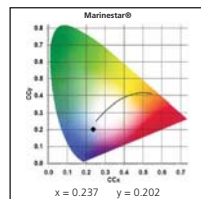
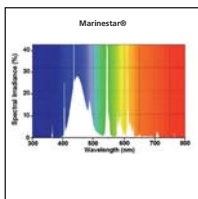
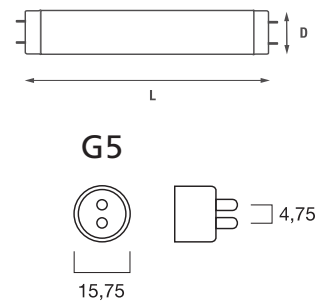


features

- Ideal lamp for marine lighting.
- High colour rendering of the marine aquatic environment
- High colour temperature: 15000K
- Reproduces light conditions found at coral reefs through radiation in the 420-510 nm wavelength.
- Promotes the growth of coral and invertebrates by supporting the growth of zooxanthellae.

Applications

- Lighting of marine water aquaria



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Dimensions (mm)		Diameter	Watt	Colour	Cap
			L	D				
0002720	0002725	FHO24W/Marinestar	549	16	T5	24	15000K	G5
0002721	0002726	FHO39W/Marinestar	849	16	T5	39	15000K	G5
0002722	0002727	FHO54W/Marinestar	1149	16	T5	54	15000K	G5
0002723	0002728	FHO80W/Marinestar	1449	16	T5	80	15000K	G5



AQUACLASSIC

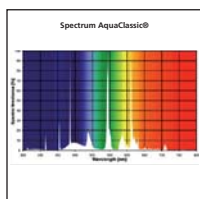
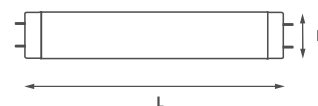


Features

- Ideal lamp for aquatic starters
- Proven Sylvania tri-phosphor technology
- Light colour: 5000 Kelvin
- Excellent light output
- Available in the most common T5 and T8 wattages
- Operates on standard ballasts

Applications

- Recommended as an entry level lamp for fresh water aquaria



Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Dimensions (mm)		Diameter	Watt	Colour Temp	Light Output Nominal @25°C lm	Light Output Maximum @ 34-38 °C lm	Cap
			L	D						
AQUACLASSIC T5										
0002306	0002309	FHO24W T5 AquaClassic	549	16	T5	24	5000	1570	1850	G5
0002307	0002310	FHO39W T5 AquaClassic	849	16	T5	39	5000	2990	3250	G5
0002308	0002311	FHO54W T5 AquaClassic	1149	16	T5	54	5000	4050	4550	G5

Industrial Pack Quantity per 25	Retail Pack Quantity per 10	Item description	Dimensions (mm)		Diameter	Watt	Colour Temp	Light Output lm	Cap
			L	D					
AQUACLASSIC T8									
0002300	0002312	F14 T8 AquaClassic	361	26	T8	14	5000	850	G13
0002301	0002313	F15 T8 AquaClassic	438	26	T8	15	5000	900	G13
0002302	0002314	F18 T8 AquaClassic	590	26	T8	18	5000	1300	G13
0002304	000 2316	F30 T8 AquaClassic	895	26	T8	30	5000	2300	G13





Features

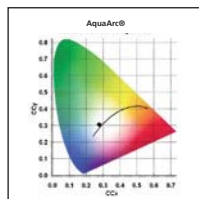
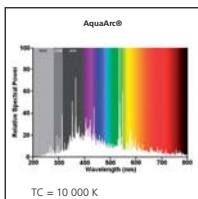
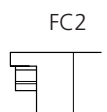
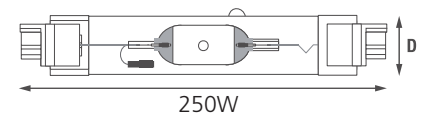
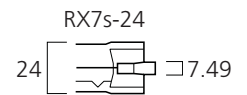
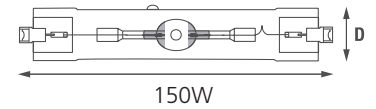
- High light output and good efficiency
- High colour rendering
- Very high colour stability over the whole lamp life
- High colour temperature (10000 K)
- Point-source of light creates attractive shadow effect of water ripples on the aquarium bed

Applications

- For use in fresh and sea water aquaria
- Strong directional light which penetrates deep into large tanks
- Lifelike appearance of fish, corals and plants

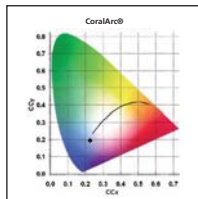
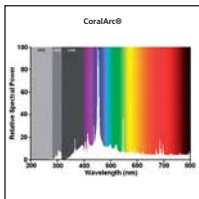
DIRECTIONS FOR USE

- Burning position: horizontal $\pm 45^\circ$
- External ignitor only
- Only use in luminaires fitted with protective cover glass
- Ensure the lamp envelope is cleaned of finger prints before use
- Lamps should be operated with the arc tube tip-off up - see instructions supplied with lamp
- This lamp emits UV-radiation. Avoid exposure to skin and eyes
- Not suitable for household room illumination



Code	Item description	Dimensions mm		Watt	Volt	Current	Cap	Bulb finish	Colour temp. K	Chromaticity Coordinate		Light output lm	Packing Quantity
		L	D							x	y		
0021049	HSI-TD 150W AquaArc	135,4	25	150	100	1.80	RX7s	clear	10000	0.277	0.311	9000	10
0021050	HSI-TD 250W AquaArc	161,6	27,5	250	100	3.00	Fc2	clear	10000	0.275	0.323	14000	10





Features

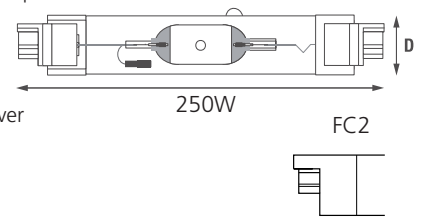
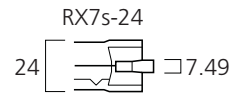
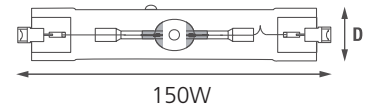
- Very high colour temperature 20000K (bluish light)
- Very high colour stability over the entire lamp life
- Enhanced colour rendition
- Point-source of light creates attractive shadow effect of water ripples on the aquarium bed

Applications

- For use in sea water aquaria
- Provides the specific spectrum (400-480 nm) necessary to achieve the blue chlorophyll absorption for zooxanthellae symbioses to develop

DIRECTIONS FOR USE

- Burning position: horizontal $\pm 45^\circ$
- External ignitor only
- Only use in luminaires fitted with protective cover glass
- Ensure the lamp envelope is cleaned of finger prints before use
- Lamps should be operated with the arc tube tip-off up - see instructions supplied with lamp
- This lamp emits UV-radiation. Avoid direct exposure to skin and eyes
- Not suitable for household room illumination



Code	Item description	Dimensions mm		Watt	Volt	Current	Cap	Bulb finish	Colour temp. K	Chromaticity Coordinate		Light output lm	Packing Quantity
		L	D							x	y		
0021028	HSI-TD 150W CoralArc	135,4	25	150	100	1.80	RX7s	clear	blue	0.261	0.257	5400	10
0021029	HSI-TD 250W CoralArc	161,6	27,5	250	100	3.00	Fc2	clear	blue	0.257	0.243	8000	10



REPTISTAR T8



Features

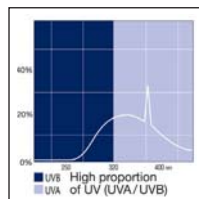
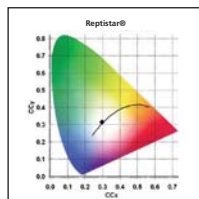
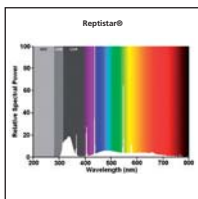
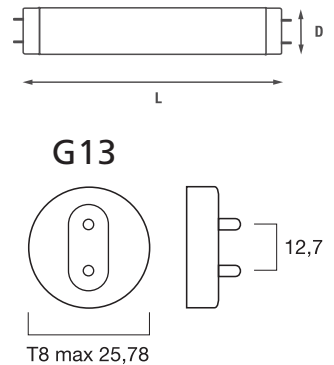
- Promotes vitamin D3 production which aids good health, growth and the general well-being of reptiles in terrariums through a high content of UVB (5% and 10%) and UVA (up to 30%)
- This full spectrum (6500 K) lamp improves the natural appearance of reptiles
- Shows reptiles in their true colours

Applications

- For the artificial lighting of reptiles in terrariums

DIRECTIONS FOR USE

- This lamp emits UV-radiation. Avoid exposure to skin and eyes



Code	Item description	Dimensions mm		Diameter A	Watt W	Colour	Cap	Light output lm	Packing Quantity
		L	D						
0000731	F15W/Reptistar UV-B 5%	438	26	T8	15	UV-B 5%	G13	300	10
0000732	F18W/Reptistar UV-B 5%	590	26	T8	18	UV-B 5%	G13	450	10
0000733	F30W/Reptistar UV-B 5%	895	26	T8	30	UV-B 5%	G13	700	10
0000734	F36W/Reptistar UV-B 5%	1200	26	T8	36	UV-B 5%	G13	1000	10
0000741	F15W/Reptistar UV-B 10%	438	26	T8	15	UV-B 10%	G13	300	10
0000742	F18W/Reptistar UV-B 10%	590	26	T8	18	UV-B 10%	G13	450	10
0000743	F30W/Reptistar UV-B 10%	895	26	T8	30	UV-B 10%	G13	700	10
0000744	F36W/Reptistar UV-B 10%	1200	26	T8	36	UV-B 10%	G13	1000	10

Packaging Note: The sleeve pictured is for retail sales.



REPTISTAR MINILYNX



Features

- High UV-B radiation. UV-B peak intensity@ 100mm: 160 $\mu\text{W}/\text{cm}^2$ for 6% version and 200 $\mu\text{W}/\text{cm}^2$ for the 8% version
- Works on the mains (220-240V) without any special supplementary ballast
- Easy handling: E27 cap
- Effective lamp life: 4000 hrs*

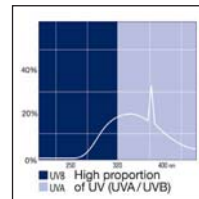
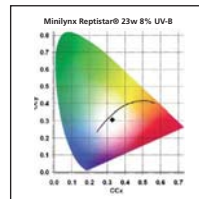
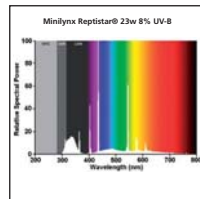
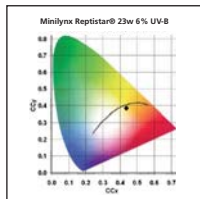
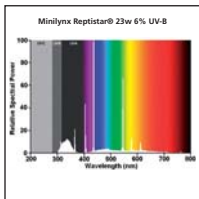
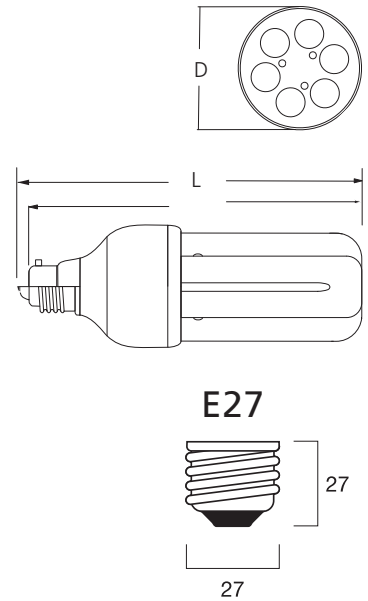
Applications

- Provides the necessary UV-B radiation for reptiles in a terrarium in order to keep them healthy
- Two versions (6% and 8%) in order to adapt to the type of reptile
- Could also be used in certain industrial applications

Directions for use

- This lamp emits UV-radiation. Avoid exposure to skin and eyes
- Not suitable for household room illumination
- Burning position: unrestricted
- Lamps comply with EN 60968 (Safety Requirement) and EN 60969 (Performance Requirements) and CE regulations

* Effective life: time to 50% of 100 hours UVB output



Code	Item description	Watt	Mains Voltage	Current	Dimensions		Cap	Colour Temp. K	Luminous Flux lm	CRI Class	Spectral Power UV-A	Spectral Power UV-B	Packing Quantity
		W	V	A	L mm	D mm					At 100mm in $\mu\text{W}/\text{cm}^2$	At 100mm in $\mu\text{W}/\text{cm}^2$	
0027276	MiniLynx 23W Reptistar 8%UV-B	23	220-240	190	166	57	E27	6500	540	1b	750	200	10



REPTISTAR - INFRARED REFLECTOR



Features

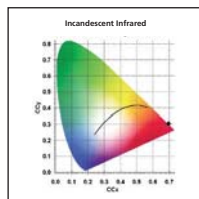
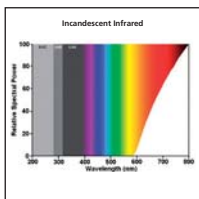
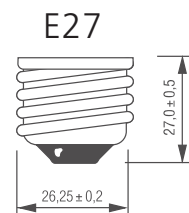
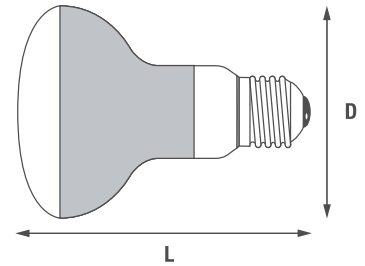
- Converts electric current into infrared radiation

Applications

- Provides the necessary infrared radiation for reptiles in terrariums and for other pets like hamsters, mice etc.

DIRECTIONS FOR USE

- Not suitable for household room illumination



Code	Item description		Dimensions (mm)		Watt W	Volt V	Cap	Packing Quantity
			L	D				
0033005	IR R63 50W Reptistar	Infra Red	103	63	50	230	E27	10
0033006	IR R63 75W Reptistar	Infra Red	103	63	75	230	E27	10
0033007	IR R80 100W Reptistar	Infra Red	110	80	100	230	E27	10
0033004	IR R95 100W Reptistar	Infra Red	130	95	100	230	E27	12



REPTISTAR - INFRA RED HALOGEN

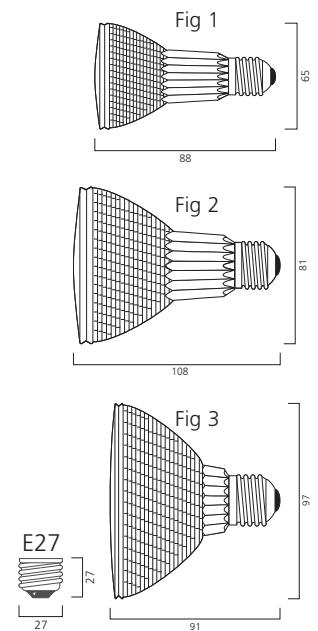


Features

- Special aluminized reflector for optimal light and infra red distribution
- The higher light level intensity allows for a larger distance from the reptile than with normal incandescent basking spotlights
- Up to triple the life of standard infra red incandescent lamps. (> 2500hrs)
- Can be dimmed
- **Night version available:** the lens blocks the visible light but transmits the infra red and a very small amount of blue light for moonlight effect. Allows reptiles to enjoy warmth during the night too.

Applications

- These halogen lamps create warm, sunny areas in the terrarium



Code	Description	L (mm)	D (mm)	Watt (W)	Volt (V)	Beam angle	Cap	Fig	Packing Quantity
0033050	IR Hi-Spot 63 50W Reptistar	88	65	50	230	25	E27	1	15
0033051	IR Hi-Spot 80 75W Reptistar	108	81	75	230	25	E27	2	15
0033052	IR Hi-Spot 95 100W Reptistar	91	97	100	230	30	E27	3	15
0033053	IR - Night Hi-Spot 95 100W Reptistar	91	97	100	230	30	E27	3	15



ACTIVA T5 & T8

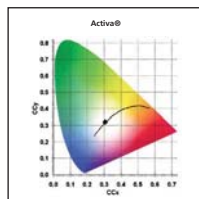
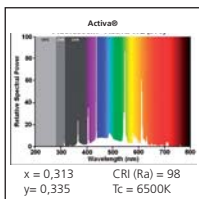
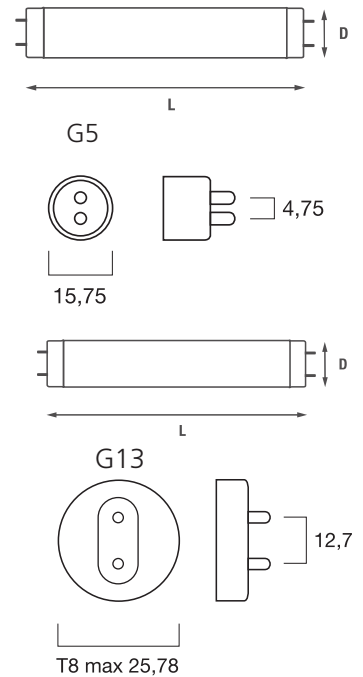


Features

- Full spectrum lamp including UVA
- Radiation reproduces sunlight most closely
- Excellent colour rendering (Ra98/ Class 1A)
- Colour temperature: 6500K

Applications

- Well-being of animals in captivity is improved
- The spectrum contains non-visible radiation (UVA) which is a source of vitality for the animals
- The exceptional high colour rendering (Ra 98) will make animals look bright and attractive



Code	Item description	Watt W	Voltage (V)	Current	CRI	Cap	Dimensions (mm)		Color Temp. K	Light output lm	Packing Quantity
							L	D			
T5											
0002240	FHE 14W / T5 / Activa	14W	86V	165mA	1A	G5	549	16	6500K	1090 lm	25
0002241	FHE 28W / T5 / Activa	28W	166V	170mA	1A	G5	1149	16	6500K	2400 lm	25
0002242	FHE 35W / T5 / Activa	35W	205V	175mA	1A	G5	1449	16	6500K	3000 lm	25
0002243	FHO 54W / T5 / Activa	54W	120V	455mA	1A	G5	1149	16	6500K	4300 lm	25
T8											
0002218	F18W / T8 / ACTIVA	18W	57V	370mA	1A	G13	590	28	6500K	1000 lm	25
0002219	F36W / T8 / ACTIVA	36W	103V	430mA	1A	G13	1200	28	6500K	2300 lm	25
0002220	F58W / T8 / ACTIVA	58W	110V	670mA	1A	G13	1500	28	6500K	3700 lm	25
0002188	F70W / T8 / ACTIVA	70W	128V	700mA	1A	G13	1764	28	6500K	4600 lm	25



BRITEGRO 2084



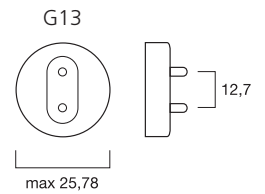
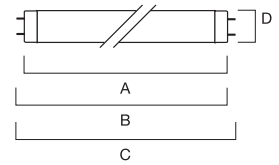
Features

- Fluorescent lamp with a high photosynthetic efficiency and a low part of far red
- The low far red part results in a compact growth, even with low light levels.
- Stimulates side shoot development

Applications

- Climate cells
- Phytotrons
- Rooms for cultivation of biological tissue
- Greenhouses
- Winter gardens
- Botanical gardens

	A max	B min	B max	C max	D nom
36W	1199.4	1204.1	1206.5	1213.6	26
58W	1500.0	1504.7	1507.1	1514.2	26

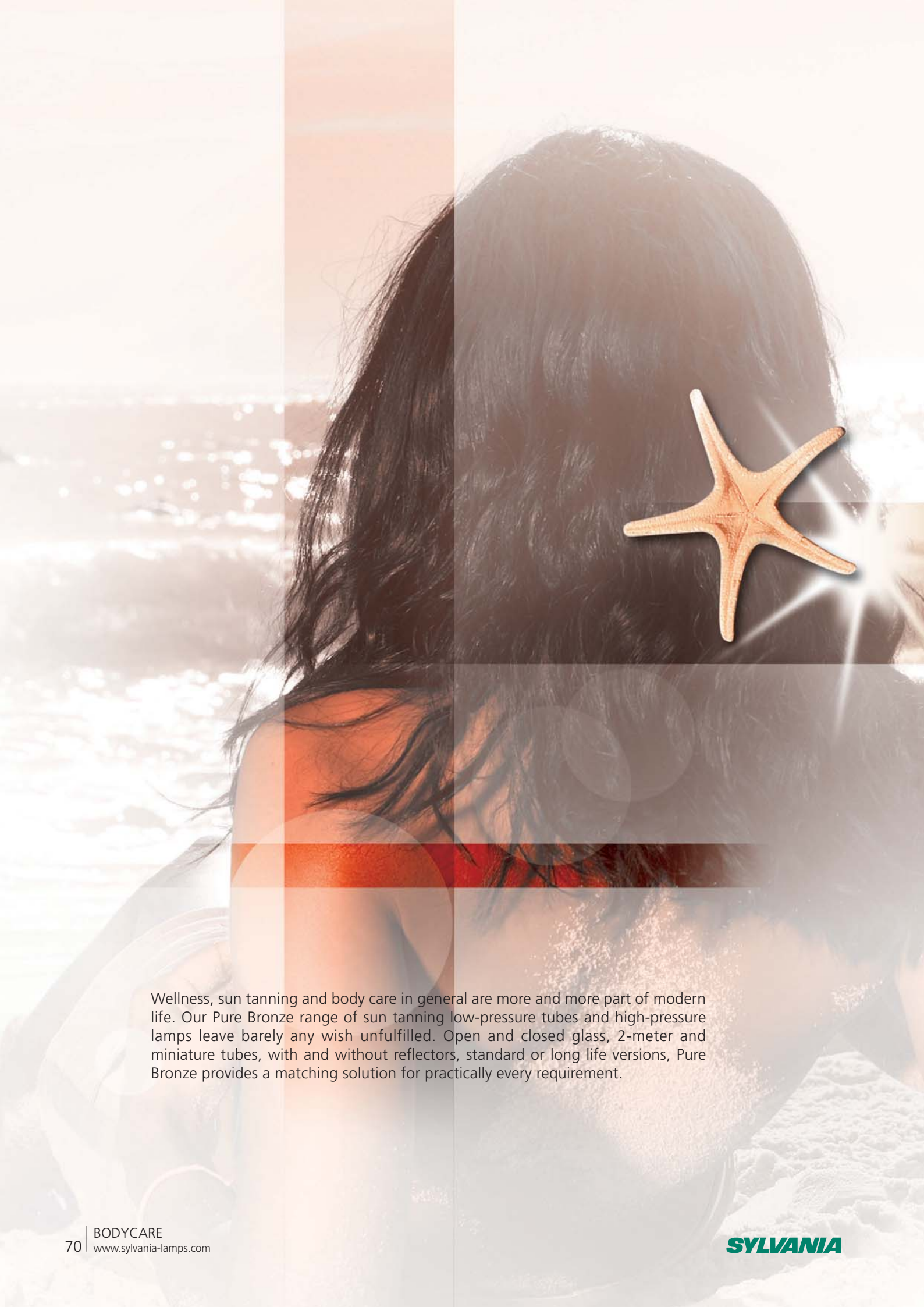


Code	Item description	Watt W	Volt V	Cap	Packing Quantity
0001663	F36W/ BriteGro 2084	36	103	G13	25



Courtesy Snijders Scientific B.V.





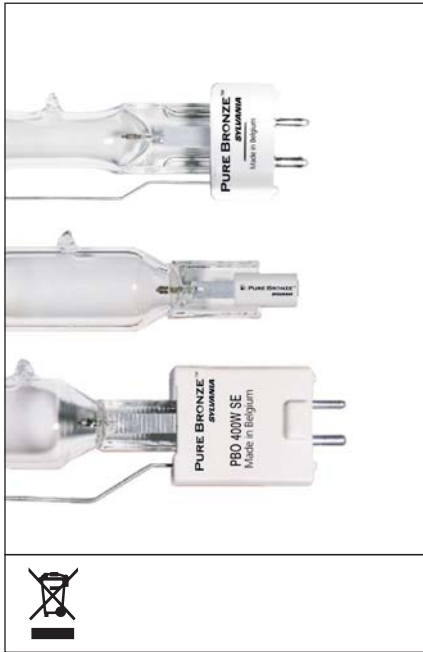
Wellness, sun tanning and body care in general are more and more part of modern life. Our Pure Bronze range of sun tanning low-pressure tubes and high-pressure lamps leave barely any wish unfulfilled. Open and closed glass, 2-meter and miniature tubes, with and without reflectors, standard or long life versions, Pure Bronze provides a matching solution for practically every requirement.

BODYCARE 71

PureBronze Suntanning – High Pressure HID	72
PureBronze Suntanning – Low Pressure 0.3 Range	74
PureBronze Suntanning – Low Pressure Class.4+ Range	76
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PUREBRONZE SUNTANNING – HIGH PRESSURE HID

High pressure tanning lamps deliver intense UV radiation from a very compact source. The lower wattage versions find their primary application in areas where increased output is required, particularly for facial and shoulder tanning. The higher wattage types are typically used to equip entire sun beds to achieve shorter tanning times in countries where people have naturally darker skin tones. The PBO range is optimized for maximum erythral efficiency, whereas PBF types employ a built-in filter for the shorter wavelengths to meet FDA requirements in the USA.



Features

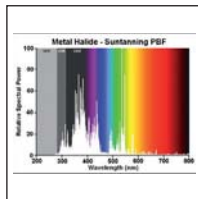
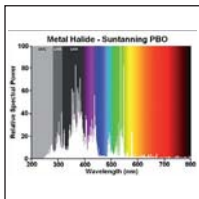
- Short irradiation and exposure times
- Ozone free construction
- Long-life types offer outstanding UV-A maintenance out to 1000 hours
- Built according to DIN-EN-ISO 9001
- Special versions available upon request
- Complete PBF range also available

Applications

- Domestic cosmetic facial tanning
- Professional facial, half body and full body units
- Short intense tanning sessions

DIRECTIONS FOR USE

- Only use in tanning devices equipped with appropriate filter and timer
- Burning position : horizontal $\pm 10^\circ$ for double ended types : universal for single ended types
- Do not touch the quartz envelope with bare fingers
- Pinch temperature : max 350°C
- Bulb temperature : min 750°C, max 950°C



	250	400	500	700	1000	2000
Single Ended						
MOL	71	103			129	
DIA	20	14			25	
C (Cable)						
BBL	116				139	174
DIA	14				25.5	27
S (R7s) Base						
BBL	106	118				
DIA	14	14				

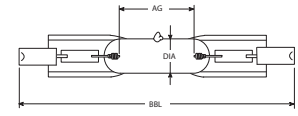


Fig. 1

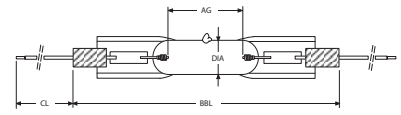


Fig. 2

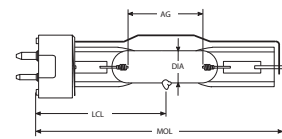


Fig. 3

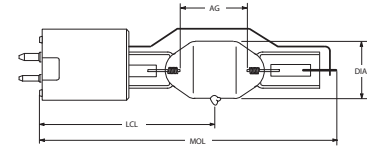
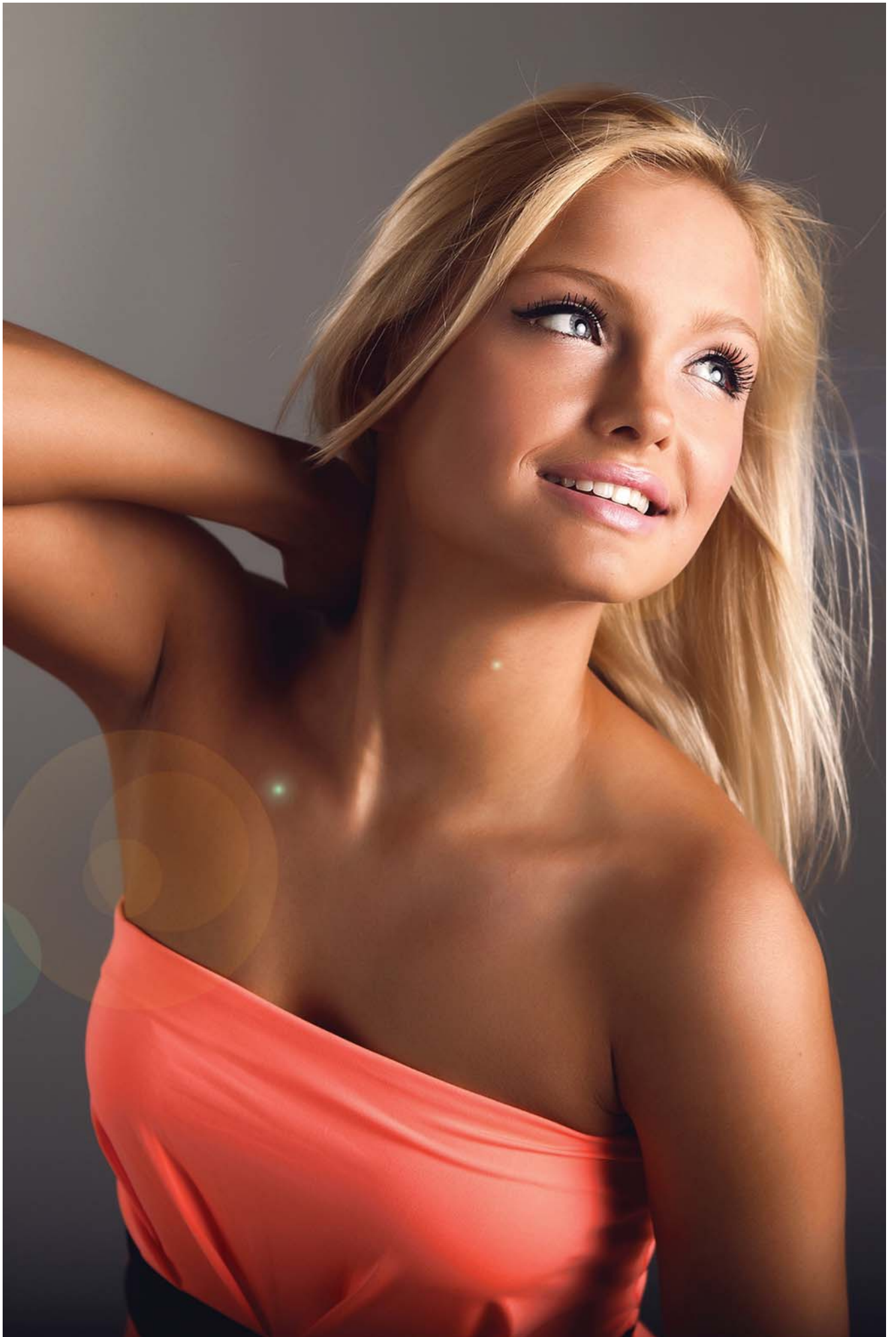


Fig. 4

Ordering Code	Description	Wattage W	Base/Cap	Life time* (hrs.)	Maximum diameter D (mm)	Maximum length L (mm)	Fig.
Performance							
0024200	PureBronze PBO 400W S	250-500	R7s	600	14,0	106,0	1
0024201	PureBronze PBO 400W SL	250-500	R7s long	600	14,0	117,9	1
0024202	PureBronze PBO 400W C	250-500	Cable	600	14,0	116,0	2
0024203	PureBronze PBO 400W SE	250-500	GY 9,5	600	14,0	103,0	3
0024210	PureBronze PBO 500W S	300-600	R7s	600	17,0	106,0	1
0024263	PureBronze PBO 500W SL	300-600	R7s long	600	17,0	117,9	1
0024211	PureBronze PBO 500W C	300-600	Cable	600	17,0	114,0	2
0024212	PureBronze PBO 500W SE	300-600	GY 9,5	600	17,0	107,0	3
0024265	PureBronze PBO 800W S	500-800	R7s	600	18,5	115,0	1
0024264	PureBronze PBO 800W C	500-800	Cable	600	18,5	115,0	2
0024260	PureBronze PBO 800W SE	500-800	GY 9,5	600	18,5	108,5	3

Legend for table of high-pressure lamps:

- PB = PureBronze S = R7s base SE = Single Ended
 O = Ozone Free Quartz C = Cable LL = LongLife



PUREBRONZE SUNTANNING – LOW PRESSURE 0.3 RANGE

Responding to the recent European Directive which calls for a maximum irradiance of 0.3 W/m² in the sunbed, Sylvania has developed a comprehensive range of retrofit tubes which allow you to bring equipment in line with the new regulations. By optimal balance of the UV-A and UV-B ratios, tanning times are maintained as short as possible. From the three product ranges TopLine, PerformanceLine and ClassicLine, Sylvania can offer a tube to meet the performance and budgetary requirements of the entire spectrum from professional salon to domestic user.



CLASSICLINE : for the beginner

- Comprehensive product range from 15W to 180W
- Closed glass tube limits the deeper UV wavelengths
- Available with and without internal reflector
- The starter series for both home use and smaller salons
- Lower cost tube suitable for the beginner
- Guaranteed UV output for 600 hours life

PERFORMANCELINE : for immediate tanning

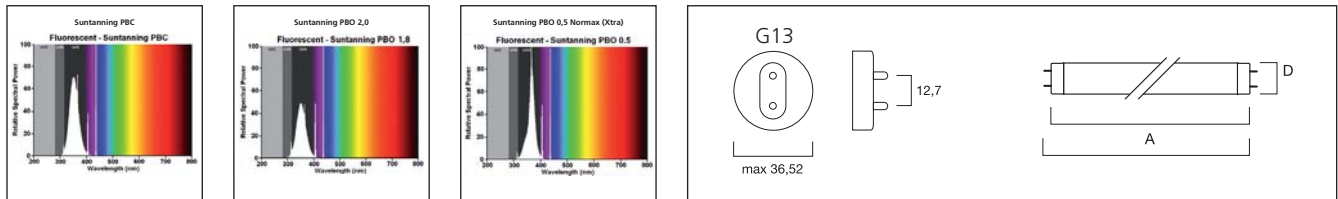
- Increased power tubes from 20W to 200W
- Professional quality open glass tube lets out the important UV wavelengths
- Ideal choice for professional solaria
- High levels of direct pigmentation are achieved thanks to the open glass
- Guaranteed UV output for 600 hours life

TOPLINE : for the professional

- Ultimate output of 80W to 250W for reduced tanning times
- Professional quality open glass tube lets out the important UV wavelengths
- Top performance choice for professional solaria
- DirectTan technology for instant visual results
- PurePower models deliver up to 30% more direct pigmentation
- Guaranteed UV output for industry-leading 1000 hours life
- Sylvania LongLife technology delivers low cost of ownership for professional salons

DIRECTIONS FOR USE

- Always consider the type of equipment and your skin type when using Sylvania tanning tubes



Ordering Code	Description	Wattage (W)	Life time* (h)	Length (cm)	Typical radiation strength (mW/cm2)	UVB (%)	UVA (W)	Sun/erythema factor fse	Sunning time HT 3 (min)	UV Code
Classic 15-100W										
0003012	PBC 15W 1,0	15	600	28,8	16	1,0	2,8	0,04	21	15-O-7/3.0
0003009	PBC 25W 1,0 NEW	25	600	52	16	1,0	5	0,05	21	25-O-7/3.0
0001161	PBC 80W 1,3	80	600	150	17	1,2	21	0,07	20	80-O-17/3.9
0001180	PBC 100W 0,7	100	600	176	17	0,8	27	0,05	24	100-O-14/2.5
0001181	PBC 100W 1,3	100	600	176	17	1,3	27	0,07	20	100-O-17/3.9
0001182	PBC 100W 2.0	100	600	176	17	2,0	27	0,11	12	100-O-34/7.0
Classic 80-100W										
0001169	PBC 100W 0,7 R	100	600	176	18	0,7	26	0,07	24	100-R-23/2.4
0001170	PBC 100W 1,0 R	100	600	176	18	1,0	26	0,08	21	100-R-26/2.9
0001301	PBC 100W 1,3 R NEW	100	600	176	18	1,3	26	0,1	18	100-R-32/4.2
Classic 140-160W										
0001313	PBC 140W 1,3 R NEW	140	600	150	21	1,3	33	0,12	15	140-R-45/4.0
0001217	PBC 160W 0,7 R	160	600	176	21	0,7	33	0,08	22	160-R-31/2.1
0001214	PBC 160W 1,0 R	160	600	176	21	1,0	33	0,1	18	160-R-38/2.9
Extra-long tubes										
0001299	PBC 180W 0.7 R 2m NEW	180-200	600	200	23	0,7	41	0,08	22	180-R-31/2.0
0001298	PBC 120W 0.7 R 2m NEW	100-120	600	200	18	0,7	30	0,08	22	120-R-23/2,3
0001297	PBC 120W 0.7 R 1.9m NEW	100-120	600	190	19	0,7	30	0,08	22	120-R-25/2,4
Performance 80-100W										
0001166	PBO 80W 1,0 R	80	600	150	19	1,0	23	0,11	18	80-R-33/4.0
0001201	PBO 100W 1,0 R	100	600	176	20	1,0	30	0,1	19	100-R-34/3.9
0001202	PBO 100W 1,3 R	100	600	176	20	1,3	30	0,13	15	100-R-45/4,7
Performance 160W										
0001267	PBO 160W 0,5 R	160	600	176	23	0,5	36	0,06	23	160-R-25/2.2
0001249	PBO 160W 0,7 R	160	600	176	23	0,7	36	0,08	18	160-R-34/2.9
0001218	PBO 160W 1,0 R	160	600	176	23	1,0	36	0,12	15	160-R-43/3.7
TopLine 100W										
0001246	PBO 100W R NormMax Xtra LL	100	1 000	176	21	0,5	32	0,06	26	100-R-20/2.5
0001279	PBO 100W R NormMax LL	100	1 000	176	21	0,7	32	0,08	23	100-R-26/3.0
0001280	PBO 100W R NormMax+ LL	100	1 000	176	21	1,0	32	0,11	18	100-R-35/4.1
0001263	PBO 100W R A-Max LL	100	1 000	176	21	0,97	33	0,15	12	100-R-45/6.5
TopLine 140-160W										
0001286	PBO 160W R NormMax Ultra LL NEW	160	1 000	176	25	0,3	38	0,05	30	160-R-20/1.9
0001320	PBO 160W R NormMax Xtra LL	160	1 000	176	25	0,6	38	0,07	22	160-R-26/2.3
0001281	PBO 160W R NormMax LL	160	1 000	176	25	0,8	38	0,09	17	160-R-33/3.1
0001234	PBO 160W R NormMax+ LL	160	1 000	176	25	0,95	38	0,13	14	160-R-45/3.8
0001264	PBO 160W R Amax LL	160	1 200	176	27	1,05	40	0,15	11	160-R-56/5.8
0001275	PPB 160W R NormMax + LL	160	1 000	176	28	0,7	46	0,11	17	160-R-35/3.0
Extra-long tubes										
0001274	PPB 180/250W R NormMax LL 2m	180 - 250	1 000	200	28	0,35	51	0,08	23	180-R-27/2.1

PUREBRONZE SUNTANNING – LOW PRESSURE CLASS.4+ RANGE

Not all sun beds need to be equipped with reduced power tubes in order to conform with the 0.3 W/m2 directive. For these applications Sylvania continues to offer a comprehensive selection of high output tubes delivering high erythral performance. The products are split into the same categories of ClassicLine, PerformanceLine and TopLine to suit the lifetime and performance requirements of different consumers.



CLASSICLINE : for the beginner

- Comprehensive product range from 15W to 180W
- Closed glass tube limits the deeper UV wavelengths
- Available with and without internal reflector
- The starter series for both home use and smaller salons
- Lower cost tube suitable for the beginner
- Guaranteed UV output for 600 hours life

PERFORMANCELINE : for immediate tanning

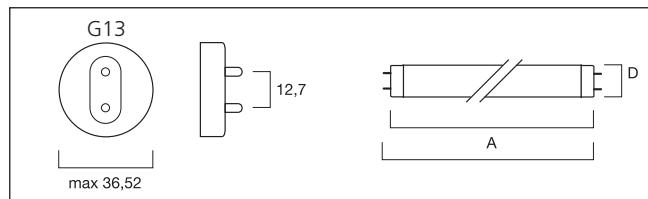
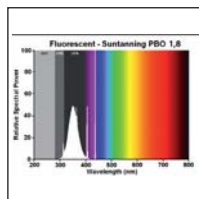
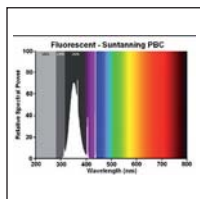
- Increased power tubes from 20W to 200W
- Professional quality open glass tube lets out the important UV wavelengths
- Ideal choice for professional solaria
- High levels of direct pigmentation are achieved thanks to the optimised UV-A spectrum
- Guaranteed UV output for 600 hours life

TOPLINE : for the professional

- Ultimate output of 80W to 250W for reduced tanning times
- Professional quality open glass tube lets out the important UV wavelengths
- Top performance choice for professional solaria
- DirectTan technology for instant visual results
- PurePower models deliver up to 30% more direct pigmentation
- Guaranteed UV output for industry-leading 1000 hours life
- Sylvania LongLife technology delivers low cost of ownership for professional salons

DIRECTIONS FOR USE

- Always consider the type of equipment and your skin type when using Sylvania tanning tubes



Ordering Code	Description	Wattage (W)	Life time* (h)	Length (cm)	Typical radiation strength (mW/cm2)	UVB (%)	UVA (W)	Sun/erythema factor fse	Sunning time HT 3 (min)	UV Code
Classic 25-36W										
0003013	PBO 25W 1,5	25	600	52	16	1,5	5,5	0,08	14	25-O-24/3.5
0003011	PBO 25W 2,5	25	600	52	16	1,5	5,5	0,11	12	25-O-31/8.3
Performance 80-100W										
0001168	PBO 80W 2,3 R	80	600	150	19	2,3	21	0,21	9	80-R-66/6.4
0001206	PBO 100W 2,6 R	100	600	176	19	2,6	30	0,23	8	100-R-75/9.0
Performance 140-160W										
0001213	PBO 140W 2,3 R	140	600	150	23	2,3	30	0,26	8	140-R-96/7.5
0001221	PBO 160W 2,0 R	160	600	176	23	2,0	38	0,25	9	160-R-85/6.5
0001223	PBO 160W 2,6 R	160	600	176	23	2,6	38	0,30	6	160-R-99/8.2
0001283	PBO 160W 3,3 R	160	600	176	23	3,3	38	0,32	4	160-R-120/10.4
0001284	PBO 160W 3,6 R LL	160	600	176	20	3,6	38	0,34	3	160-R-132/11.0
Extra-long tubes										
0001228	PBO 120W 2,0 R 2m	100-120	600	200	19	2,0	32	0,19	10	120-R-65/6.9
0001233	PBO 180W 2,0 R 1,9m	160-200	600	190	23	2,0	42	0,25	9	180-R-85/6.5
0001245	PBO 180W 3,3 R 1,9m	160-200	600	190	23	3,3	41	0,32	4	180-R-120/10.4
0001237	PBO 180W 2,6 R 2m	160-200	600	200	23	2,6	42	0,30	6	180-R-103/8.2
TopLine 100W										
0001309	PBO 100W 3,6 R LL	100	1000	176	19	3,6	30	0,31	6	100-R-95/11.5
TopLine 140-160W										
0001226	PBO 160W 2,3 R LL	160	1 000	176	23	2,3	38	0,27	8	160-R-93/7.5
0001312	PPB 160W 3,0 R LL	160	1 000	176	28	3,0	46	0,42	5	160-R-125/10.0
0001307	PPB 160W 3,6 R LL	160	1 000	176	28	3,6	46	0,50	3	160-R-148/11.3
Extra-long tubes										
0001239	PPO 180W 2,6 R LL 2m	160-200	1 000	200	23	2,6	42	0,27	7	180-R-103/8.2
0001285	PPO 180W 3,6 R LL 2m	160-200	1 000	200	23	3,6	41	0,34	3	180-R-132/11.0
0001258	PPB 180/250W 2,3 R LL 2M	180-250	1 000	200	28	2,3	50	0,37	5,5	180-R-105/7.5
0001318	PPB 180/250W 3,0 R LL 2M	180-250	1 000	200	32	2,6	53	0,46	4	180-R-125/10.0
0001319	PPB 180/250W 3,6 R LL 2M	180-250	1 000	200	32	3,3	53	0,52	3	180-R-148/11.3



PURE BRONZE SUNTANNING STARTERS



Features

- Will perfectly start the PureBronze fluorescent lamps
- The high performance types (PBS 160) work with a broad range of lamp wattages.
- Long Life (at least 20.000 starts)
- No delay or flickering. This avoids unnecessary blackening around the electrodes and lengthens the lamps economic life
- Resistant to ultra-violet light
- ENEC, VDE and VL approved

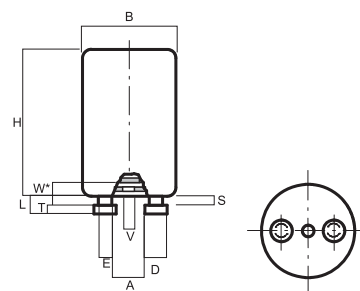
Applications

- Sunbeds

DIRECTIONS FOR USE

- Single electrical circuit
- Designed for use on 220-240V
- Minimum ambient temperature : 0°C min
- Maximum temperature in any part of the starter : 100 °C max
- Sylvania recommends to change the starters when changing lamps and not later than the second lamp change.

Dimension	Min.	Max.
A	12,5	12,9
B	-	21,5
D	4,7	5,0
E	2,8	3,2
H	33,0	36,0
L	-	4,3
S	1,7	-
T	1,9	2,2
V	2,7	-
W*	4,2	-



Ordering code	Starter Type	Wattage	Voltage	No. of starts	Electrical Circuit	Packaging unit
		(W)	(V)			
0024479	PBS 120-180	100-180	220-240	20	Single	25



COLLAGEN TURN BACK TIME WITH LIGHT THERAPY

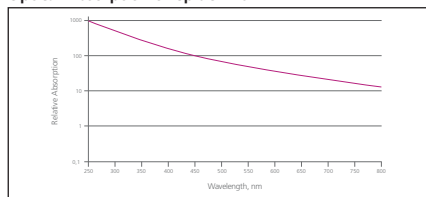
Collagen is a biological, autologous building block and important part of human skin which provides elasticity and strength to the skin. Fibroblasts (Collagen producing cells) continuously produce new collagen fibres. By the increased generation of Collagen little wrinkles are reduced, the skin is visibly tightened and the visual appearance of the skin is improved.



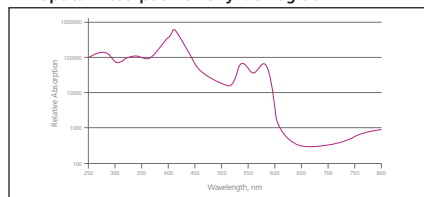
Pure Collagen - Anti-aging

- Collagen fibres are present in the dermis and to reach this depth the light must travel through many barriers. First it must penetrate the epidermis in which the shorter blue and green wavelengths are filtered out by melanin cells – Figure 1 showing a typical epidermal transmission curve. This sets a fundamental requirement that a collagen lamp should be rich in red-yellow wavelengths. The light must then go deep into the dermis where the collagen building reactions take place, a layer which is perfused with blood and hence rich in oxyhaemoglobin.
- Its red colour is a result of characteristic sharp absorption peaks again in the blue and green wavelengths, as illustrated in Figure 2

Optical Absorption of epidermis

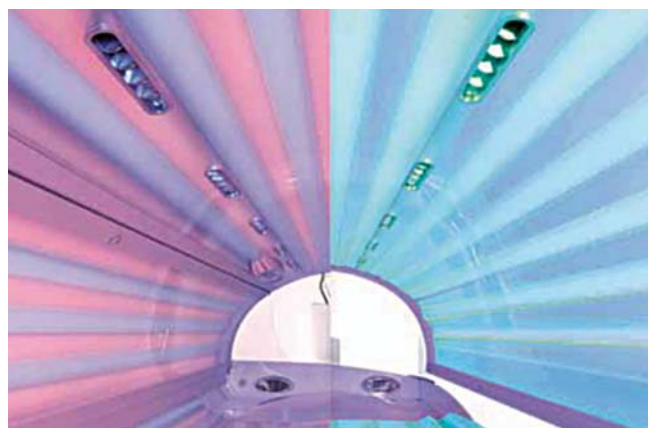


Optical Absorption of Oxyhaemoglobin



Tubes	Order Number	Wattage (W)	Lifetime (h)	Length (cm)
PC Active500 15W	0003001	15	600	29
PC Active500 25W	0003002	25	600	52
PC Active500 100W R	0001315	100	600	180
PC Active500 160W R	0001316	160	600	180
PC Active500 120W R 2m	0001324	120	600	200
PCC Active500 180/250W R 2m	0001317	180-250	600	200

Tubes	Order Number	Wattage (W)	Base/Cap	Lifetime (h)	Max. Length (mm)
PC HighActive 400W Se (Single ended)	0024280	400	GY 9,5	600	103,0
PC HighActive 400W De (Double ended)	0024281	400	R7s	600	106,0



ACTIVA-SEASONAL AFFECTIVE DISORDER (SAD)



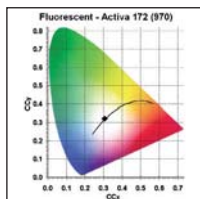
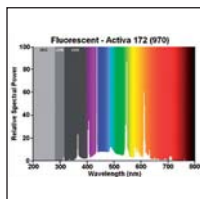
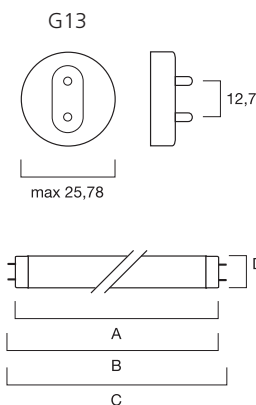
Features

- Full-spectrum high colour rendering T8 fluorescent lamp
- Colour rendering: Ra98/Class 1A
- Colour temperature of 6500K (daylight characteristic)

Applications

- For all applications where natural colour rendering is required
- Supports the treatment of Seasonal Affective Disorder (Winter Depression) SAD

	A max	B min	B max	C max	D nom
15W	437.4	442.1	444.5	451.6	26
18W	589.8	594.5	596.9	604.0	26
36W	1199.4	1204.1	1206.5	1213.6	26
58W	1500.0	1504.7	1507.1	1514.2	26
70W	1763.8	1768.5	1770.9	1778.0	26



Code	Description	Nominal Lamp			Lamp Colour	CRI Group	Cap	Colour Temp	Luminous Flux	Packing Qty
		Watt	Volt	Current						
0002218	F18W/172 Activa	18W	57V	0.370A	Activa	1A	G13	6500K	1000 lm	25
0002219	F36W/172 Activa	36W	103V	0.430A	Activa	1A	G13	6500K	2300 lm	25
0002220	F58W/172 Activa	58W	110V	0.670A	Activa	1A	G13	6500K	3700 lm	25
0002188	F70W/172 Activa	70W	128V	0.700A	Activa	1A	G13	6500K	4600 lm	25



MEDICAL HALOGEN

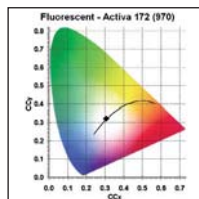
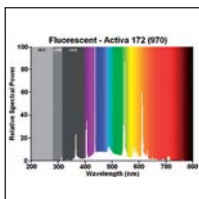
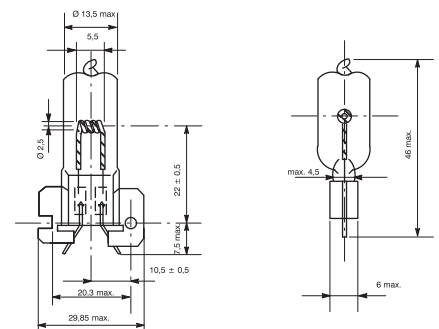


Features

- High light efficacy
- Stable colour temperature and light output
- Voltage 24V
- Unique lamp cap

Applications

- Operation theatres



Code	Item Description	ANSI	Base	Voltage	Watt	Filament Type		
0021921	24V 120W - L2329	-	A26/14	24	120W	CC6		
Code	Item Description	Approx. Lumens lm	Colour Temp. K	Rated Av. life h	Burning Position	Max. pinch Temp	Max. bulb Temp	Packing Packing Qty
0021921	24V 120W - L2329	3000	3200	200	BD+/-90	400	900	50





Airborne insects such as the common house fly, wasps, midges, etc. can each carry up to 4 million bacteria. The potential for contamination occurs wherever they land, and their presence is absolutely unacceptable in areas of hygiene. Sylvania manufactures a powerful arsenal of UV-A lamps to attract these insects so that they can either be destroyed, or decontaminated in a humane fashion. The product range includes numerous shapes, sizes and different spectra to suit every application.

UV-A lamps enjoy numerous spin-off applications in other industries as well. One of the most important is to be found in the cosmetics business, where UV-A tubes are employed in the gel method of professional finger nail curing.



INSECT TRAPPING & DISINFECTION

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INSECT TRAPPING: HOW DOES IT WORK?

All insect traps rely on the fundamental phenomenon that flying insects are attracted to long wave UV-A radiation. However in order to maximise the efficiency of traps, we need a deeper understanding of when and why insects are attracted.

To take the example of mosquitoes, the process starts with the preparation for birth of the baby insects. The mother mosquito lays her eggs in a dark and damp place, where the babies will be able to shelter and mature. The choice of location is very important, because the newly born insects are especially prone to dehydration. Indeed after hatching, they can only venture out in the absence of solar rays, which would cause dehydration and death.

Since they can emerge only in the dark, their eyes have evolved to be especially sensitive to the low level UV-A night time radiation. Natural instinct drives them towards better lit areas where they can see more easily, and these can be produced artificially with the aid of UV-A lamps.

As the young insect matures, its resistance to the perils of dehydration begins to strengthen. Eventually it is capable of flying in the early evening under greater levels of sunlight, and its eyes begin to lose their UV sensitivity. Clearly then, the efficiency of UV traps works best with younger insects.

By the time the young females are ready to lay their own eggs, their sensitivity to UV is completely gone. In its place, a ravishing thirst for blood draws them to the scent and heat of human and animal bodies. However the female remains eager to find a safe place to lay her eggs, and natural instinct will draw her towards the same kind of dark and humid locations that she originally hatched in.

We can learn much from this life story of the mosquito in order to mount an effective campaign of disinfection. The optimum time for the use of traps is at the beginning of spring – to capture the UV-sensitive creatures as soon as they hatch. Lamps should be energised at dusk and switched off at dawn, destroying the young population to prevent further breeding. When summer then draws, the numbers of adults will have been dramatically reduced. However the traps must be left operational to attract long-range insects flying in from other areas which have not been disinfected.

THE HARMFUL EFFECTS OF INSECTS

Flying insects have an appetite for our leftovers – satisfying their hunger on rotting organic matter. It goes without saying that our decomposing waste is literally teeming with pathogenic substances. During feeding the insects pick these up, and will subsequently spread them everywhere they land. Many of these pathogens are particularly harmful to humans:

- Streptococci cause infections of the digestive system and skin.
- Campylobacter leads to dangerous intestinal infections.
- Chlamydia parasite nests inside us causing serious ill health.
- Klebsiella causes painful infection of the urinary tracts, and respiratory system.

However it's not only flying creatures which have to be targeted. Just as harmful are the flour beetle, the bread weevil, the Trogoderma (warehouse beetle) and the Tigola. Constant protection of the critical areas is of great importance. In order to minimize these harmful effects, certain guidelines and regulations have been established in many countries. The best example is the HACCP-system. See following page.

WHAT IS HACCP?

HACCP (Hazard Analysis Critical Control Points) is a hygienic means of controlling and monitoring aimed at safeguarding the health of the consumer.

BUSINESS CATEGORIES COVERED BY THE STANDARD

It is a legal obligation to provide adequate protection in all businesses which manufacture, prepare, process, package, store, transport, handle, sell or supply foodstuffs to the consumer. For example:

- restaurants
- bars, confectioners
- food, fruit and vegetable resellers
- grocers, delicatessens
- butchers, fishmongers
- bakers
- chemists

WHERE DOES THE STANDARD APPLY?

Analysis of the relevant business operation will reveal a number of critical areas, where laws demand that specified controls must be implemented. The HACCP approach is a scientific method to prevent and discover the causes of any particular problem, for instance:

- It identifies and minimises the risks of food contamination
- It facilitates the execution of formal inspections
- It promotes a system of open and transparent competition with consumer protection as the objective. It applies not only to finished goods but the whole production cycle.



BLACKLIGHT BL368 - LINEAR & CIRCLINE

Recent improvements in Phosphor technology have led to a new generation of UV-A lamp with much improved insect attraction efficiency. This range, called BL368, is a premium high performance range.



Two major improvements:

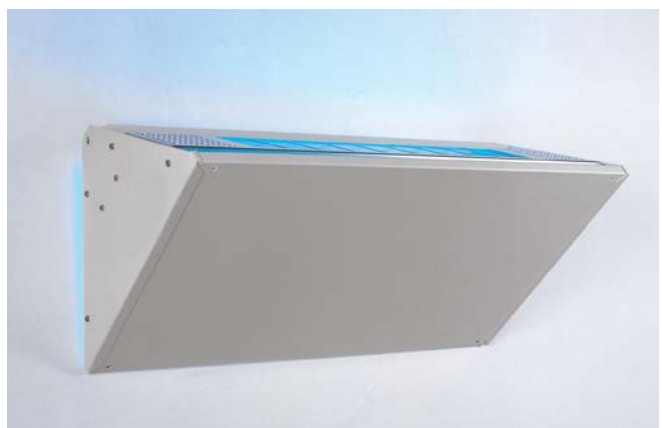
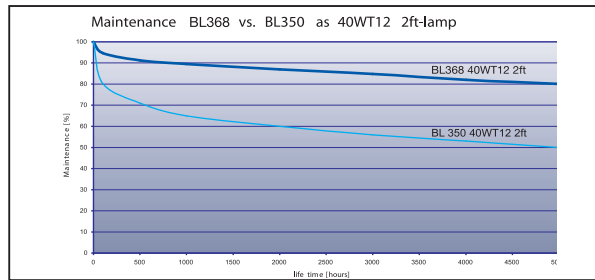
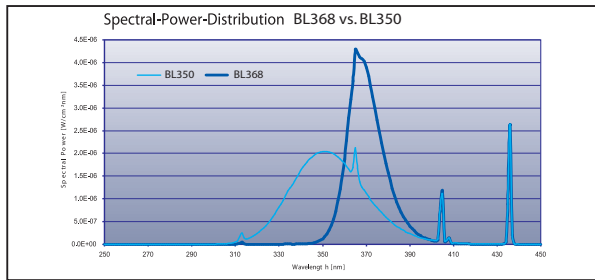
- The energy distribution of the BL368 lamp is a much narrower band concentrated around the spectral peak at 368nm. This is widely accepted as the most important frequency for the attraction of flying insects. The radiation at 368nm is twice as powerful as from BL350 tubes, and because of this the lamp attracts many more insects.
- Furthermore, the depreciation of UV-A output over time is significantly reduced. After 5000 hours of operation, the lamp maintains 80% of its original 100% output. The result is that it performs longer and better throughout the season.

The lamps exist in linear, circline and compact versions. They are electrically and dimensionally equivalent to other fluorescent lamps of similar ratings. Besides insect trapping they also enjoy widespread applications in diazo printing machines, chemical processing, photo polymerisation and mineral detection.

A new application, mostly for compact lamps, is nail curing devices. Sylvania's compact BL-lamps guarantee that the drying process does not last longer than 2 minutes. The result is naturally shining and strong nails.

DIRECTIONS FOR USE

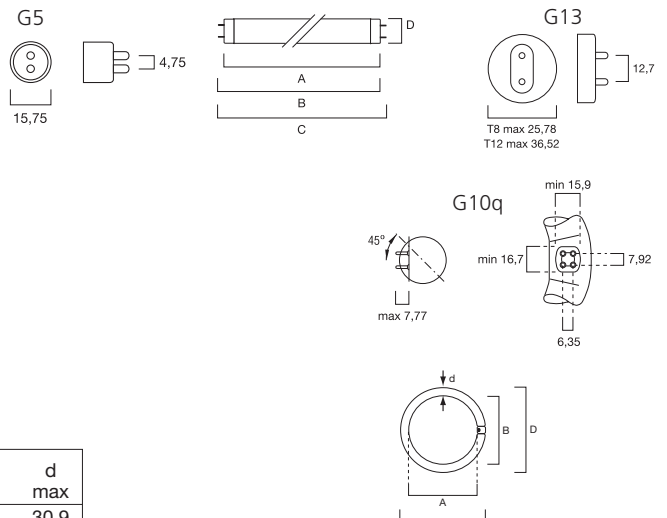
- Maximum exposure limits are set by EN60335-2-59:1997 at an effective 1,0 milliWatt per metre squared (1,0 mW/m²) measured at a distance of 1 metre – originally based on the recommendations of the National Radiological Protection Board in the UK. The irradiance value for a single BL368-lamp measured without reflector and/or fixture, in free air at 25 celsius, is varying between 0,2 and 0,4 mW/m² depending on the wattage.



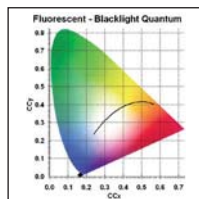
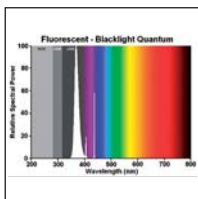
BLACKLIGHT BL368 - LINEAR & CIRCLINE

	A max	B min	B max	C max	D nom
4W	135.9	140.6	143.0	150.1	16
6W	212.1	216.8	219.2	226.3	16
8W	288.3	293.0	295.4	302.5	16
11W	212.1	216.8	219.2	226.3	16
15WT5	288.3	293.0	295.4	302.5	16
15WT8	437.4	442.1	444.5	451.6	26
18WT8	589.8	594.5	596.9	604.0	26
25WT8 18"	437.4	442.1	444.5	451.6	26
30WT8	894.6	899.3	901.7	908.8	26
36WT8	589.8	594.5	596.9	604.0	26
20WT12 24"	589.8	594.5	596.9	604.0	38
40WT12 24"	589.8	594.5	596.9	604.0	38
40WT12 48"	1199.4	1204.1	1206.5	1213.6	38

	A min	A max	B min	B max	D min	D max	d min	d max
22W	149.1	155.6	147.6	157.2	203.2	215.9	26.2	30.9
32W	149.1	155.6	147.6	157.2	203.2	215.9	26.2	30.9



All lamps are RoHS-compliant



Ordering Code	Item description	Watt W	Volt V	Current A	Light Colour	Cap	Packing Quantity
0000085	F4W T5 BL368	4	29	0.170	BL368	G5	50
0000088	F6W T5 BL368	6	42	0.160	BL368	G5	25
0000089	F8W T5 BL368	8	56	0.145	BL368	G5	25
0000097	F11W T5 BL368	11	34	0.350	BL368	G5	25
0000090	F15W T5 BL368	15	44	0.310	BL368	G5	25
0000082	F15 T8 BL368	15	55	0.310	BL368	G13	25
0000091	F18W T8 BL368 24" NEW	18	59	0.360	BL368	G13	25
0002166	F25 T8 BL368 18"	25	38	0.600	BL368	G13	25
0000098	F30 T8 BL368	30	96	0.365	BL368	G13	25
0000092	F36W T8 BL368 24" NEW	36	50	0.850	BL368	G13	25
0000361	F20 T12 BL368 24"	20	57	0.370	BL368	G13	25
0001638	F40 T12 BL368 24"	40	47	0.880	BL368	G13	25
0000099	F40 T12 BL368 48"	40	103	0.430	BL368	G13	25
0000456	FC22 T9 BL 368 8"	22	62	0.400	BL368	G10q	12
0000100	FC32 T9 BL 368 8"	32	57	0.480	BL368	G10q	12

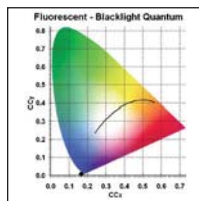
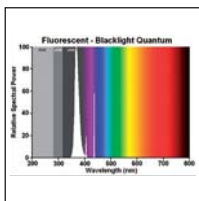
UV-A= 315-400nm UV-B=280-315nm



BLACKLIGHT BL355 & BL368 - COMPACT

Type	Power (W)	Length (L)	Diameter (D)
E27	20W	165	52
G23	9W, 11W	165, 233	28
G24d	26W	147	35
G24q	13W	115	35
2G11	18W, 36W	225, 415	38

All lamps are RoHS-compliant



Ordering Code	Item description	Watt W	Volt V	Current A	Light Colour	Cap	Packing Quantity
BLACKLIGHT BL355 - COMPACT							
0025275	Lynx-S 9W BL355	9	60	0.170	BL355	G23	50
BLACKLIGHT BL368 - COMPACT							
0025706	MiniLynx 20W BL368	20	230	0.160	BL368	E27	20
0025411	Lynx-S 9W BL368	9	60	0.170	BL368	G23	50
0025412	Lynx-S 11W BL 368	11	91	0.155	BL368	G23	50
0025708	Lynx-DE 13W BL368	13	91	0.175	BL368	G24q-1	50
0025709	Lynx-D 26W BL368	26	105	0.325	BL368	G24d-3	50
0025268	Lynx-L 18W BL368	18	58	0.375	BL368	2G11	10
0025710	Lynx-L 36W BL368	36	106	0.435	BL368	2G11	10

UV-A= 315-400nm UV-B=280-315nm

BLACKLIGHT TOUGHCOAT™

What are Toughcoat™ lamps?

Toughcoat™ lamps are shatter resistant blacklight lamps ensuring excellent fragment retention in the event of breakage. The tubes are coated with Teflon FEP (fluorinated ethylene propylene). This coating differs from conventional PET (PolyEthylene Terphthalate) polymers in that it transmits 97% of the UV-radiation so as to maintain maximum insect attraction. FEP is also a much tougher material which will not become brittle as it ages.

Why use Toughcoat™ lamps?

For many companies, especially those operating in the food area (also restaurants), the risk of glass and mercury contamination is real. Toughcoat lamps pay dividends in avoiding injury, contamination and loss of production time in case a lamp should be broken. Within the EU, Health and Safety regulations carry heavy penalties for avoidable injury of employees, making these lamps an especially sound investment, to meet the HACCP guidelines. depending on the wattage or about one-fifth of the limit.

High quality features

- Excellent fragment retention in the event of breakage
- The protective FEP coating meets the IEC60068-2-75 Pendulum Hammer test (5 Joule) and the 4m drop test, demonstrating excellent glass retention in the event of accidental lamp breakage.
- The 97% UV-A transmission of FEP maintains maximum insect attraction.
- No discolouration or yellowing of shatter resistant coating during the entire lamp life (> 10,000 hrs).
- The FEP material does not degrade during life. Versions employing PET coatings become brittle, and may not contain fragments. PET is also less transparent for UV-radiation..
- The coating withstands up to 200°C in both open and enclosed IP65 fittings. The melting temperature is 260°C.
- Meets all necessary regulations for resistance to heat and fire, and does not support combustion when exposed to naked flame or excessive heat. It passes the 850°C Glow Wire Test
- Satisfies the requirements of the International Food Standard (IFS 2004)
- FDA approved, in compliance with 21CFR177.1550 Regulatory Compliance Status.
- Satisfies the requirements of the BRC (British Retail Consortium) leading supermarkets global standard. In paragraph 3.2.2.6.2 it states "All bulbs and strip lights, including those on electric fly killer units, where they constitute a risk to products, shall be protected by shatterproof plastic diffusers, sleeve covers or with a shatterproof protective coating".

DIRECTIONS FOR USE

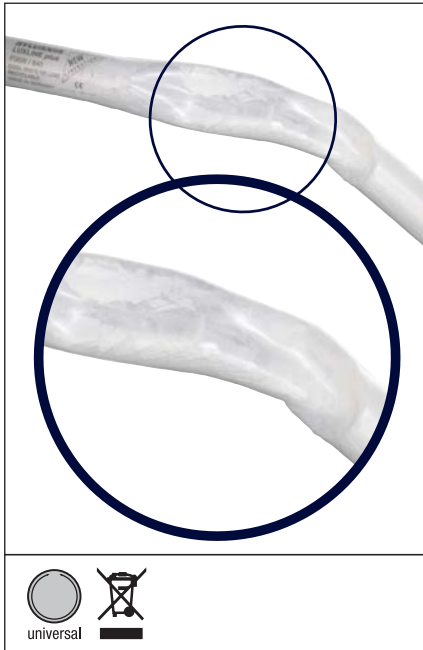
- Maximum exposure limits are set by EN60335-2-59:1997 at an effective 1,0 milliWatt per metre squared (1,0 mW/m²) measured at a distance of 1 metre – originally based on the recommendations of the National Radiological Protection Board in the UK. The irradiance value for a single BL or BL368-lamp measured without reflector and/or fixture, in free air at 25 celsius, is varying between 0,2 and 0,4 mW/m²



Courtesy PestWest

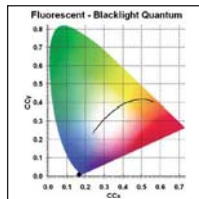
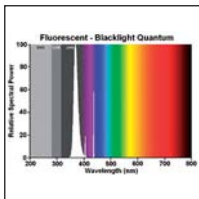
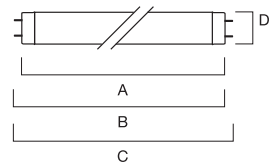


BLACKLIGHT TOUGHCOAT™



	A max	B min	B max	C max	D nom
8WT5	288.3	293.0	295.4	302.5	16
11WT5	212.1	216.8	219.2	216.3	16
15WT5	288.3	293.0	295.4	302.5	16
15WT8	437.4	442.1	444.5	451.6	26
20W/2ft-24"	589.8	594.5	596.9	604.0	26
25WT8 18"	437.4	442.1	444.5	451.6	26
30WT8	894.6	899.3	901.7	908.8	26
40W/2ft-24"	589.8	594.5	596.9	604.0	26
40W/4ft-48"	1199.4	1204.1	1206.5	1213.6	26

All lamps are RoHS-compliant




Ordering Code	Item description	Watt W	Volt V	Current A	Light Colour	Cap	Packing Quantity
0001648	F8W T5 BL368 Toughcoat™ NEW	8	56	0.145	BL368	G5	25
0001649	F11W T5 BL368 Toughcoat™ NEW	11	34	0.35	BL368	G5	25
0001650	F15W T5 BL368 Toughcoat™ NEW	15	44	0.31	BL368	G5	25
0000124	F15W T8 BL 368 Toughcoat™	15	55	0.31	BL368	G13	25
0001651	F25W T8 BL 368 Toughcoat™ 18"	25	38	0.6	BL368	G13	25
0001652	F30W T8 BL 368 Toughcoat™ 24"	30	96	0.365	BL368	G13	25
0000125	F20W T12 BL 368 Toughcoat™ 24"	20	57	0.37	BL368	G13	25
0000126	F40W T12 BL 368 Toughcoat™ 24"	40	47	0.88	BL368	G13	25
0001630	F40W T12 BL 368 48" Toughcoat™ 48"	40	103	0.43	BL368	G13	25

UV-A= 315-400nm UV-B=280-315nm



Courtesy



Sylvania covers the full spectrum of Germicidal UV-C lamps, from the smallest compacts to the longest T5 and the most powerful high pressure types. Their primary application is the disinfection and sterilisation of water, air and surfaces. Germicidal lamps remain unparalleled in their efficiency for the destruction of bacteria, viruses, mould spores and other micro-organisms

GERMICIDAL 93

The Germicidal Action of UV-C Radiation	94
GERMICIDAL LINEAR	96
GERMICIDAL COMPACT	97
GERMICIDAL LINEAR T5 LONG	98
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THE GERMICIDAL ACTION OF UV-C RADIATION

AIR PURIFICATION

The Germicidal Action Spectrum diagram reveals that the optimal wavelength for the destruction of DNA is 265nm. An electrical discharge through mercury vapour produces intense radiation very near to this peak, at 253.7nm, where the Germicidal efficiency is about 85% of the theoretical maximum. UV-C mercury lamps are thus extremely effective in killing micro-organisms.

Low Pressure lamps are the most efficient and are manufactured in the form of linear or compact fluorescent lamps, but without any fluorescent coating and a special UV-C transmitting glass tube. Peak performance is attained when the bulb temperature is around 40°C, which corresponds to an ambient temperature of 25°C. Lower or higher temperatures will both result in falling UV-C levels. In case the lamp is exposed to an air flow which may have a cooling effect, it is desirable to use HO (High Output) types which are loaded at higher wattage than normal, to maintain optimal bulb temperatures even in colder environments.

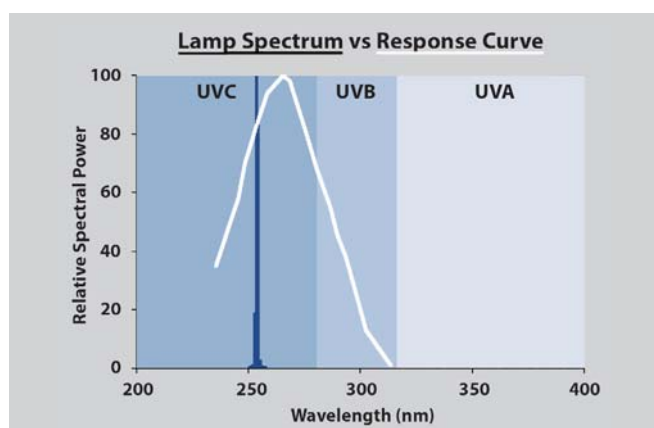
High Pressure lamps are slightly less efficient but have the advantage of producing extremely intense radiation over a small area. For instance, typical high pressure lamps are loaded above 100 Watts per centimetre of discharge length whereas low pressure versions achieve less than 1 W/cm.

The total UV-C output of a lamp is specified in Watts (W) and the irradiation density is expressed in $\mu\text{W}/\text{cm}^2$. A certain dose level is needed to kill each kind of micro-organism, this dose being a function of time (seconds) and power (Watts). For instance, a low UV power over a long period of time can have the same effect as a higher power for a shorter duration. The unit of energy is the Joule (J), which is equivalent to Watts per Second. 100J could be delivered by 1W for 100 seconds, or 100W for 1 second, or even 20W for 5 seconds, etc.

Dose levels needed to kill a particular micro-organism are expressed in Joules per square metre (J/m^2). Some are tougher than others and require more UV-C to kill them. The table on Page 6-7 indicates the dose level needed to destroy 90% of the population.

AIR PURIFICATION

Air is easy to purify because it is quite transparent to UV-C, allowing it to penetrate and kill floating bacteria which are responsible for many airborne infections. Direct irradiation methods can be based on ceiling mounted lamps which are energised whilst the room is unoccupied, upward radiation mounted safely above eye height, or concealed downward radiation to sterilise floors. Alternatively, Germicidal lamps may be mounted within air ducts of the ventilation system which has an advantage that high UV doses can be given, because the lamps are out of view. Portable stand-alone units which draw in air, purify it and then expel back into the room are becoming increasingly popular.



WATER/LIQUID PURIFICATION

Liquids are more challenging to purify because they tend to absorb some of the UV-C themselves. To design suitable equipment the absorption coefficient needs to be known, as well as the flow rate and dose. Some examples of absorption coefficient for various liquids are given in the table.

Examples of absorption coefficients	
Drinking Water	0,02-0,1
Distilled Water	0,007-0,01
Clear Sirup	2-5
Beer	10-20
White wine	10
Red wine	30
Milk	300

Drinking Water: Germicidal sterilisation is increasingly being used in municipal water installations to circumvent the ecological impact of chlorine, and because filters cannot catch all micro-organisms. It is also employed in smaller scale residential installations, and in many water cooler-dispensers.

Swimming Pools: The use of a UV-C purification unit can realise significant cost savings, by reducing the use of chlorine by up to 50%.

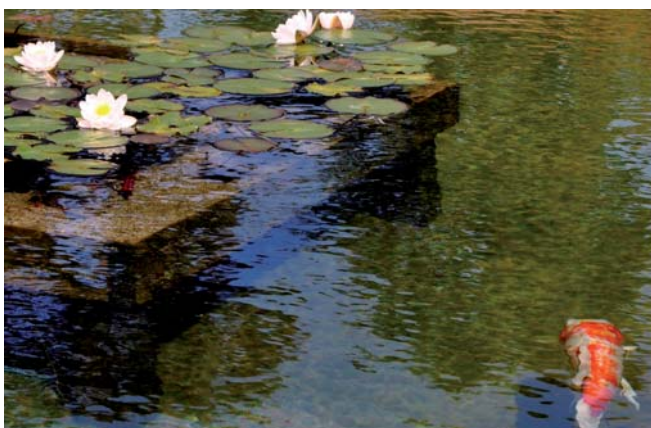
Ponds & Aquaria: A closed-loop system which circulates the water over a germicidal lamp a few times per day not only reduces parasites, but substantially reduces the build-up of algae.

SURFACE PURIFICATION

Requires high intensities, so lamps should be mounted as close as possible to the surface for disinfection. A high uniformity of irradiance is essential, ensured by a professional optical system for distribution of the radiation, so that no areas are left untreated.

GERMICIDAL LAMPS APPLICATION TABLE

	T5 Short	T8 linear	T5 Long	Lynx-S	Lynx-L
Air					
Upper air		•	•	•	•
Airconditioning		•	•	•	•
Cooling coils		•	•		•
Dish dryer		•			
Water					
Municipal drinking water			•	•	
Municipal waste water			•		
Residential drinking water	•				•
Ultra pure water			•		
Process water			•		
Swimming pools & Spas			•		
Agricultural recycling			•		•
Ponds	•	•		•	•
Aquaria	•			•	
Surfaces					
Food processing			•		
Packaging			•		



GERMICIDAL LINEAR



Features

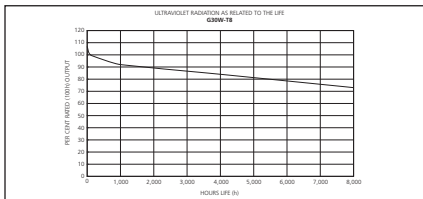
- These lamps consist of a tubular glass envelope and emit more than 85% of their energy in the UV-C ultraviolet radiation with a peak at 253.7nm for germicidal action
- Shape, electrical characteristics and lighting circuits are similar to general fluorescent lamps
- The majority of germicidal lamps operate most efficiently in still air at an ambient temperature of 25°
- All lamps are Ozone free
- A protective coating on the inside of the lamp limits the depreciation of the UV-C output

Applications

- Residential drinking water units
- Stand alone air purifiers
- Wall mounted air purification units
- Ponds & Aquaria

Directions for use

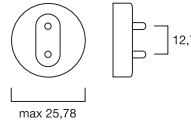
- The radiation from these lamps is very harmful to eyes and skin. Always protect your eyes and skin against radiation.
- Germicidal lamps must only be used in appropriate equipment and applications.
- When using UV-C emitting lamps, the official reference guides and the current industrial safety guideline must be followed.
- Maximum Permissible Exposure Time (MPET) can be established for a given range of wavelengths.
- For example: 1 minute/day at a distance of 30cm.
- Germicidal lamps emit UV-C radiation and must not be used for general lighting purposes.



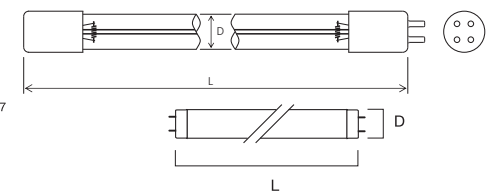
G5 (FIG. N° 1)



G13 (FIG. N° 2)



FOUR PIN (FIG. N° 3)



Ordering Code	Item Description	Watt W	Voltage V	Current A	UV-C output (W) at 25°C	UV $\mu\text{W}/\text{cm}^2$ at 1m	Cap	Cap Figure Nr	L mm	D mm	Life hrs	Packing Quantity
0002328	G4W T5	4	30	0,162	0,8	8,3	G5	1	136	16	6000	50
0002216	G6W T5	6	44	0,147	1,7	17,7	G5	1	212	16	6000	50
0000501	G8W T5	8	56	0,170	2,5	26	G5	1	288	16	6000	24
0000507	G11W T5 HO	11	37	0,330	2,2	23	G5	1	212	16	8000	50
0000508	G16W T5 HO	16	50	0,350	3,2	33	G5	1	288	16	8000	50
0025016	G11W T5 HO 4-pin	11	37	0,330	2,2	23	Four Pin3		227,5	16	8000	45
0025017	G16W T5 HO 4-pin	16	50	0,400	3,9	33	Four Pin3		319,5	16	8000	45
9002482	G10W T8	10	46	0,230	2,7	28,1	G13	2	330	26	6000	20
0000502	G15W T8	15	55	0,300	4,9	50,5	G13	2	437	26	8000	24
9000526	G25W T8	25	46	0,600	6,9	71,8	G13	2	437	26	8000	24
0000503	G30W T8	30	99	0,365	13,4	135	G13	2	894	26	8000	24
0000504	G36W T8	36	103	0,430	15,5	156	G13	2	1199	26	8000	12
0002208	G55W T8	55	83	0,770	18	194	G13	2	894	26	8000	24
0002217	G58W T8	58	100	0,670	20	202	G13	2	1500	26	5000	12

GERMICIDAL COMPACT



Features

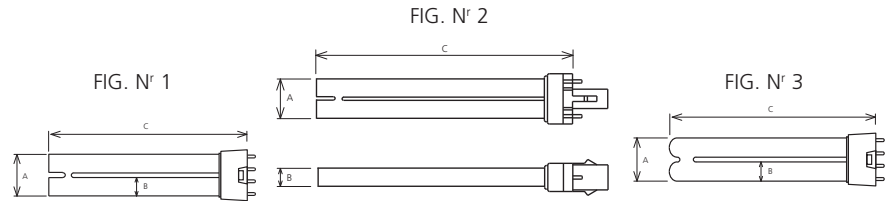
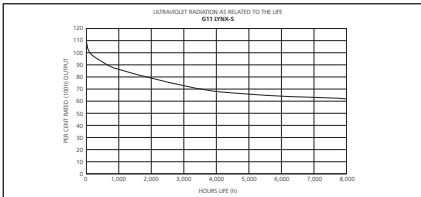
- These lamps have all the benefits of linear germicidal lamps, but have also a very compact design. This allows for compact fixture design. As they are single ended, replacement is very easy
- The HO (High Output) lamps are most efficient in air purification installations, as they are wind chill corrected
- Shape, electrical characteristics and lighting circuits are similar to general lighting compact fluorescent lamps
- The majority of germicidal lamps operate most efficiently in still air at an ambient temperature of 25°
- All lamps are Ozone free
- A protective coating on the inside of the lamp limits the depreciation of the UV-C output

Applications

- Residential drinking water
- Pond water
- Induct air treatment units
- Stand alone air purifiers

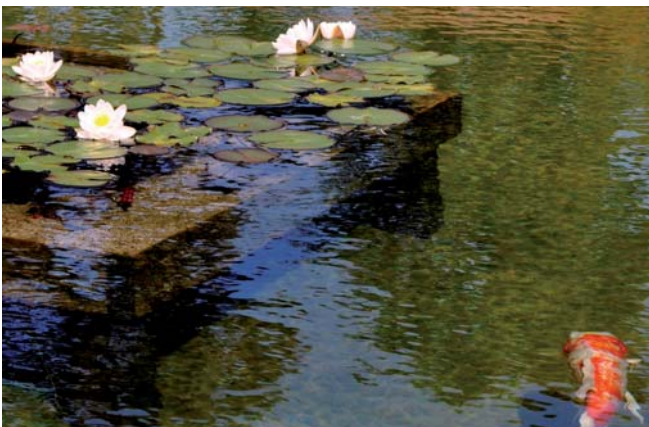
Directions for use

- The radiation from these lamps is very harmful to eyes and skin. Always protect your eyes and skin against radiation.
- Germicidal lamps must only be used in appropriate equipment and applications.
- When using UV-C emitting lamps, the official reference guides and the current industrial safety guideline must be followed.
- Maximum Permissible Exposure Time (MPET) can be established for a given range of wavelengths.
- For example: 1 minute/day at a distance of 30cm.
- Germicidal lamps emit UV-C radiation and must not be used for general lighting purposes.



Ordering Code	Item Description	Watt W	Voltage V	Current A	UV-C output (W) at 25°C	UV $\mu\text{W}/\text{cm}^2$ at 1m	Cap	Cap Figure Nr	L mm	D mm	Life hrs	Packing Quantity
0025046	G5W Lynx-S	5	35	0,180	1,5	16,4	G23	2	85	28	8000	50
0025050	G9W Lynx-S	9	59	0,170	2,4	32,9	G23	2	145	28	8000	50
0025012	G9W Lynx-SE 4-pin	9	59	0,170	2,4	32,9	2G7	3	145	28	8000	50
0025051	G11W Lynx-S	11	89	0,160	3,0	41,1	G23	2	215	28	8000	50
0025047	G13W Lynx-S	13	59	0,285	3,6	49,3	GX23	2	170	28	8000	50
0025049	G18W Lynx-L	18	58	0.375	5.5	75,0	2G11	1	225	40	8000	25
0025048	G36W Lynx-L	36	106	0.435	12	164,5	2G11	1	415	40	8000	25
0025045	G55W Lynx-L	55	103	0.54	17	233,0	2G11	1	533	40	8000	25
0025013	G35W Lynx-L HO*	35	55	0,850	11,0	105,0	2G11	1	225	40	9000	25
0025014	G65W Lynx-L HO*	65	82	0,800	19,0	166,0	2G11	1	415	40	9000	25
0025015	G90W Lynx-L HO*	90	115	0,800	27,0	250,0	2G11	1	533	40	9000	25

* When used with electronic ballast 25KHz HF



GERMICIDAL LINEAR T5 LONG



Features

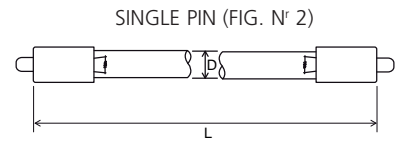
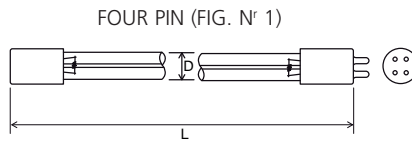
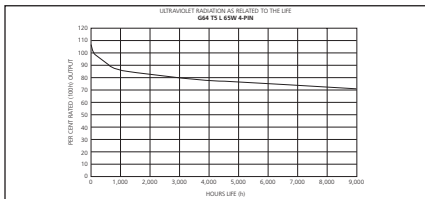
- These lamps have a smaller diameter than the conventional, linear T8 lamps
- Lamps consist of a tubular glass envelope and emit more than 85% of their energy in the UV-C ultraviolet radiation with a peak at 253.7nm for germicidal action
- They exist in single pin or with four pins at one end for easy handling
- The majority of germicidal lamps operate most efficiently in still air at an ambient temperature of 25°
- In air purification installations the HO (High Output) versions are most efficient , as they are wind chill corrected
- All lamps are Ozone free
- A protective coating on the inside of the lamp limits the depreciation of the UV-C output

Applications

- Municipal water treatment systems
- Swimming pool applications
- Residential drinking water systems
- Air treatment units

Directions for use

- The radiation from these lamps is very harmful to eyes and skin. Always protect your eyes and skin against radiation.
- Germicidal lamps must only be used in appropriate equipment and applications.
- When using UV-C emitting lamps, the official reference guides and the current industrial safety guideline must be followed.
- Maximum Permissible Exposure Time (MPET) can be established for a given range of wavelengths.
- For example: 1 minute/day at a distance of 30cm.
- Germicidal lamps emit UV-C radiation and must not be used for general lighting purposes.



Ordering Code	Item Description	Watt W	Voltage V	Current A	UV-C output (W) at 25°C	UV $\mu\text{W}/\text{cm}^2$ at 1m	Cap	Figure Nr	L mm	D mm	Life hrs	Packing Quantity
0025005	G36 T5 L 40W 4-Pin *	39	115	0,425	12	125	Four pin	1	845	16	9000	10
0025006	G64 T5 L 65W 4-Pin *	65	250	0,425	25	260	Four pin	1	1556	16	9000	24
0025009	G36 T5 L 40W Single Pin *	39	115	0,425	12	125	Single Pin	2	845	16	9000	10
0025010	G64 T5 L 65W Single Pin*	65	250	0,425	25	260	Single Pin	2	1556	16	9000	24

* When used with conventional magnetic ballast 50 Hz



GERMICIDAL HIGH PRESSURE VHO



Features

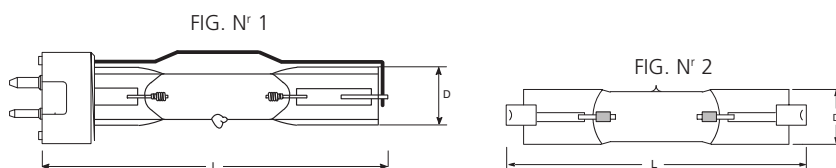
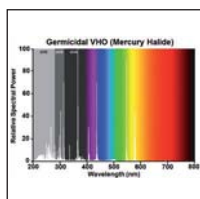
- Germicidal VHO – lamps consist of a double ended quartz discharge tube filled with mercury.
- Power concentration is 120 Watts per cm of arc length (low pressure tubes are < 1W per cm).
- Extremely high UV-C concentration levels are possible.
- Lamps have a self cleaning halogen feature which results in improved UV-C maintenance.
- Forced air ventilation is required to remove the ozone produced with VHO lamps

Applications

- Used in a wide range of photochemical processes
- Label printing
- Disinfection of municipal waste water
- Curing of lacquers, paints and inks
- In combination with black glass filters for fluorescence excitation
- Artificial material aging
- Exposure of diazo film material and print masters

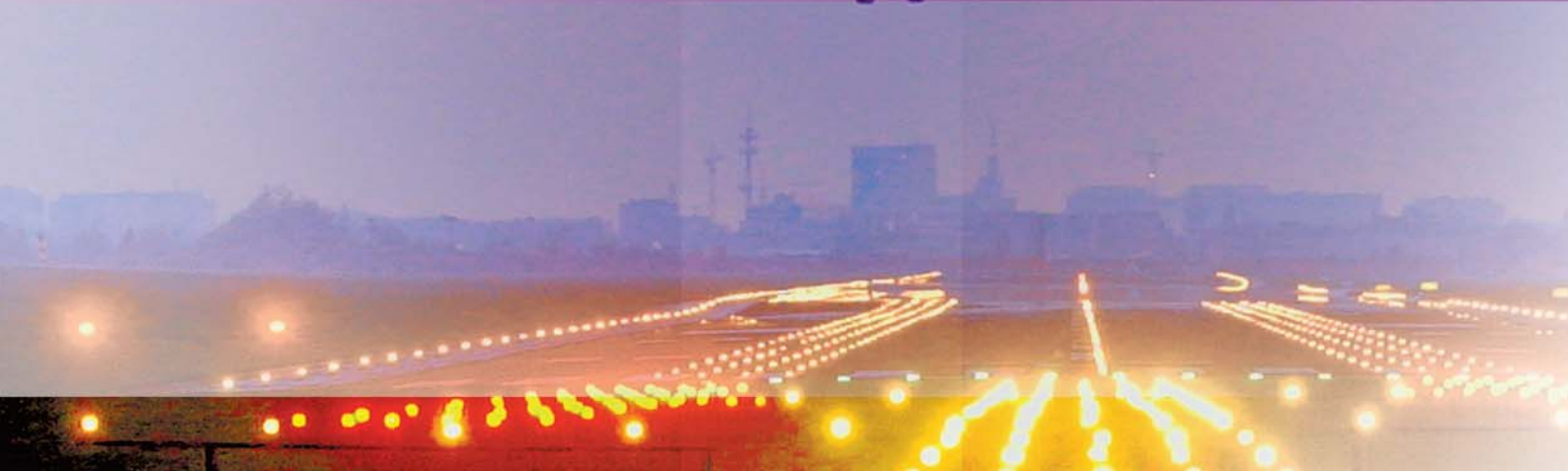
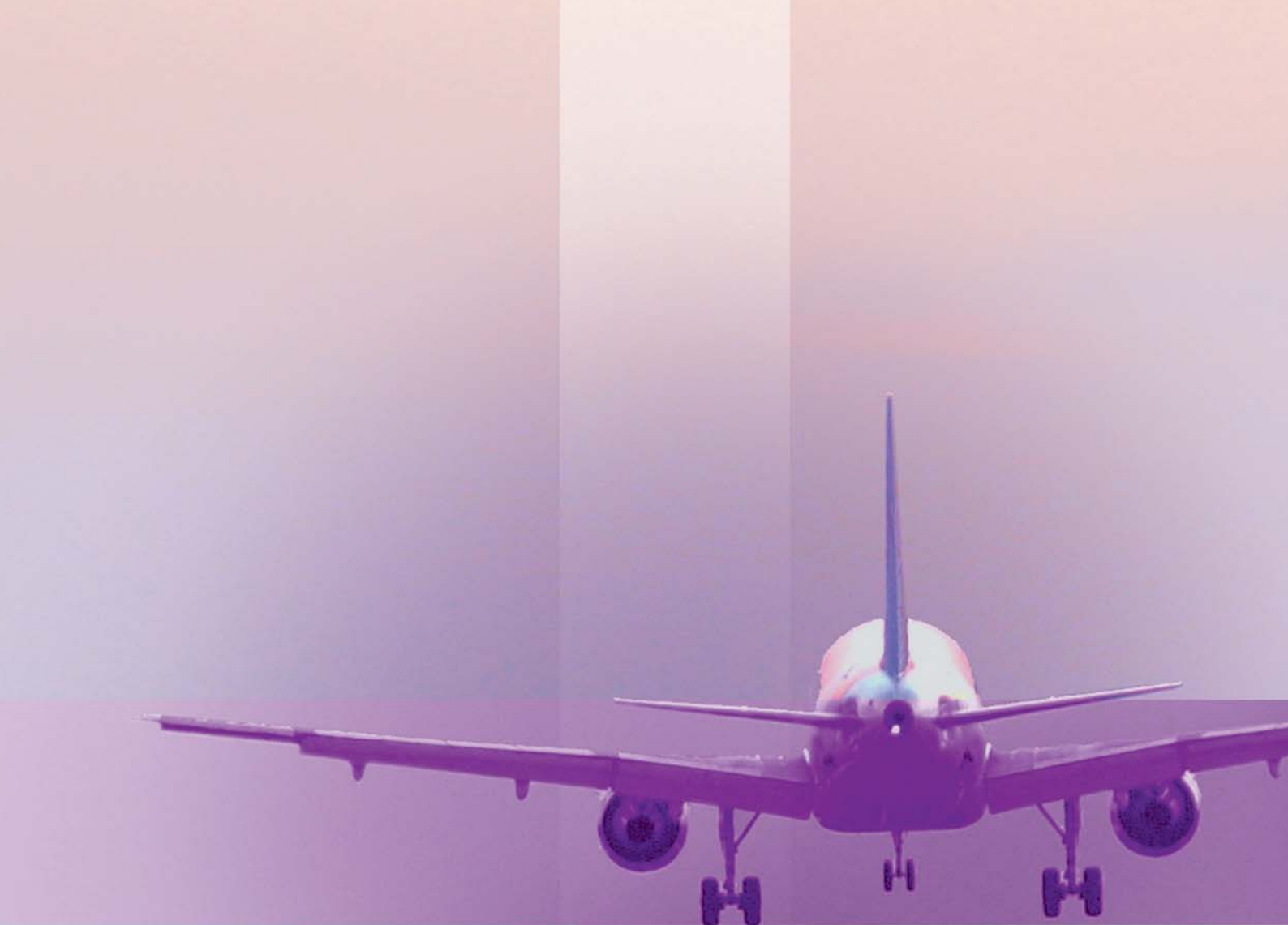
Directions for use

- The radiation from these lamps is very harmful to eyes and skin. Always protect your eyes and skin against radiation
- The lamps may only be operated in enclosed systems.
- Cannot be used for general lighting purposes
- Max. permissible bulb temperature is 950°C
- Max. permissible pinch temperature is 350°C
- Can be used with a standard mercury ballast and ignitor



Ordering Code	Item Description	Watt W	Voltage V	Current A	UV-A $\mu\text{W}/\text{cm}^2$ at 1m	UV-B $\mu\text{W}/\text{cm}^2$ at 1m	UV-C $\mu\text{W}/\text{cm}^2$ at 1m	Cap	Figure Nr	L mm	D mm	Life at > 50% UV-output (hrs)	Packing Quantity
0024206	G4/120 SE VHO	400	125	3,5	300	250	400	GY9.5	1	103	14	2000	10
0024207	G4/120 DE VHO	400	125	3,5	300	250	400	R7s	2	104	14	2000	10





Airfields require lighting to provide aircraft with accurate information on positioning and direction. Sylvania offers a range of halogen capsule and reflector lamps for runways and taxiways. In such a critical 24/7 environment, all Airfield lighting must be of the highest quality.

Sylvania lamps are also used internally in aircraft cabins throughout the world.

Special incandescent lamps are supplied to local authority, government and maintenance companies for use in traffic lights. With an exceptional average life of 8000hrs, these lamps have a reinforced filament in order to absorb shocks.

TRAFFIC 101

Airfield Capsules PK30D base	102
Airfield Capsule Lamps	103
Airfield Reflector Lamps MR16	104
Airfield Lynx-L	105
Traffic Signal Incandescent Ball	106
Traffic Signal Incandescent Mushroom	107

AIRFIELD CAPSULE PK30D BASE



Features

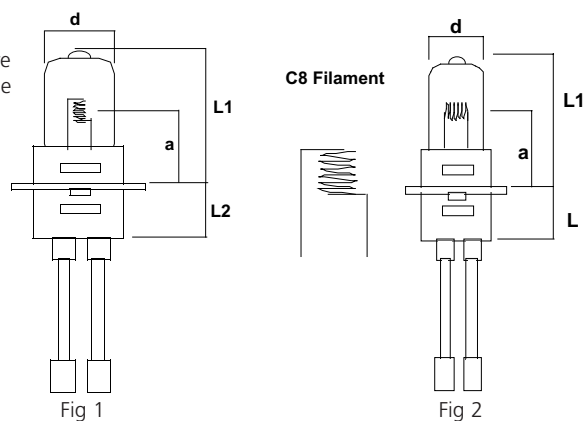
- The pre-focus base allows for optimal alignment of the filament
- Very easy replacement, no adjustment necessary
- Cable connections reduce the risk of pinch seal overheating and molybdenum foil oxidation
- Current controlled (6,6A)
- Constant colour temperature
- Dimmable operation possible

Applications

- Taxiway lights
- Approach lights
- Runway edge lights
- Precision Approach Path Indicator (PAPI)

DIRECTIONS FOR USE

- Bulb should never be touched with bare fingers



Ordering Code	Description	L-nr	LIF-code	Watt. W	Current A	Dia d mm	L1 max mm	L2 max mm	Luminous flux Lm	Average Life h	LCL a mm	Filament Type	Connector Type	Fig. Nr	Packing Quantity
0021570	45W 6.6A Pk30d Ma	L2600 M	J1/76	45	6,6	13,5	37	21	800	1000	16	C8	male	1	50
0021571	45W 6.6A Pk30d Fem	L2601 F	J1/77	45	6,6	13,5	28	27	800	1000	16	C8	female	1	50
0021572	45W 6.6A Pk30d Ma	L2601 M	J1/77	45	6,6	13,5	28	27	800	1000	16	C8	male	1	50
0021573	45W 6.6A Pk30d Fem	L2602 F		45	6,6	13,5	32	23	800	1000	20	C8	female	1	50
0021574	45W 6.6A Pk30d Ma	L2602 M		45	6,6	13,5	32	23	800	1000	20	C8	male	1	50
0021575	65W 6.6A Pk30d Fem	L2603 F		65	6,6	13,5	32	21	1450	1000	20	CBAR-6	female	2	50
0021576	65W 6.6A Pk30d Ma	L2603 M		65	6,6	13,5	32	21	1450	1000	20	CBAR-6	male	2	50
0021577	100W 6.6A Pk30d Fem	L2604 F	J1/79	100	6,6	13,5	32	23	2700	1000	20	CBAR-6	female	2	50
0021578	100W 6.6A Pk30d Ma	L2604 M	J1/79	100	6,6	13,5	32	23	2700	1000	20	CBAR-6	male	2	50
0021579	100W 6.6A Pk30d Fem	L2605 F	J1/80	100	6,6	13,5	41	17	2700	1000	20	CBAR-6	female	2	50
0021580	100W 6.6A Pk30d Ma	L2605 M	J1/80	100	6,6	13,5	41	17	2700	1000	20	CBAR-6	male	2	50
0021581	150W 6.6A Pk30d Fem	L2606 F	J1/83	150	6,6	13,5	35	23	3600	1000	20	CBAR-6	female	2	50
0021582	150W 6.6A Pk30d Ma	L2606 M	J1/83	150	6,6	13,5	35	23	3600	1000	20	CBAR-6	male	2	50
0021583	200W 6.6A Pk30d Fem	L2607 F	J1/84	200	6,6	13,5	43	21	4800	1000	20	CC6	female	2	50
0021584	200W 6.6A Pk30d Ma	L2607 M	J1/84	200	6,6	13,5	43	21	4800	1000	20	CC6	male	2	50

AIRFIELD CAPSULE LAMPS



FEATURES

- Current controlled (6.0, 6.6A & 8.33A) lamps
- Long reliable through life performance
- Complete interchangeability for existing capsule types
- Constant colour temperature
- Dimming possible
- Infra red radiation output allowing operation in toughest winter conditions

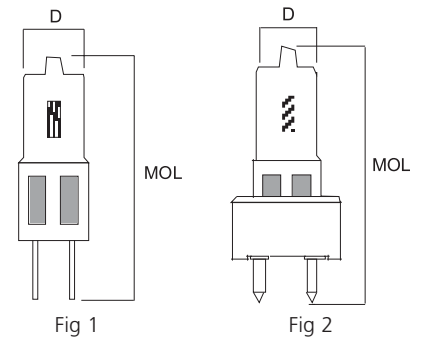
Applications

- Approach lights
- Runway edge lights
- Threshold lights
- Runway lights
- Taxiway lights
- Visual approach slope indicator systems

DIRECTIONS FOR USE

- Bulb should never be touched with bare fingers

Code	M.O.L.	LCL	D
0021479	45.0	33	11.0
0022213	45.0	33	11.0
0021480	45.0	33	11.0
0022214	45.0	33	11.0
0022215	45.0	33	11.0
0022212	47.0	33	13.5
0021491	47.0	33	13.5
0022211	47.0	33	13.5
0021492	47.0	33	13.5
0021757	44.0	25,4	11.4
0021686	44.0	25,4	11.4
0024529	57.0	39,1	13.5
0021683	57.0	39,1	13.5
0021696	57.0	39,1	13.5
0024531	57.0	39,1	13.5
0024530	57.0	39,1	13.5



Code	Item description	Watt W	Current A	Cap	Light Output lm	Filament type	Rated Average life h	Burning position	Fig. #	Packing quantity
0022213	L2510 36W 6.0A J1/59	36	6	G6.35	610	C-8	1200	BD+/-90°	1	50
0021480	L2517 36W 6.6A J1/75	36	6.6	G6.35	610	C-8	1500	BD+/-90°	1	50
0022214	L2511 45W 6.6A J1/57	45	6.6	G6.35	960	C-8	1200	BD+/-90°	1	50
0022212	L2513 100W 6.6A J1/58	100	6.6	G6.35	2300	FC-6	1200	BD+/-90°	1	50
0021491	L2518 100W 8.33A J1/66	100	8.33	G6.35	2300	C-6	1200	BD+/-90°	1	50
0022211	L2514 200W 6.6A J1/39	200	6.6	G6.35	4700	FC-6	1200	BD+/-90°	1	50
0021757	L2500 30W 6.6A EXL	30	6.6	GZ9.5	400	C-8	1000	BD+/-90°	2	50
0021686	L2501 45W 6.6A EXM	45	6.6	GZ9.5	960	C-8	1000	BD+/-90°	2	50
0024529	L2502 150W 6.6A EWR/1	150	6.6	GZ9.5	3600	FC-6	1000	BD+/-90°	2	50
0021683	L2503 175W 6.6A	175	6.6	GZ9.5	4700	C-8	1000	BD+/-90°	2	50

AIRFIELD REFLECTOR LAMPS MR16



Features

- Current controlled (6.0, 6.6A) lamps
- Temperature resistant hard coated reflector
- Optimum alignment in the reflector
- High luminaire efficiency
- Constant colour temperature (3000K) over life
- Long life (1500hrs)
- Infra red radiation output allowing operation in toughest winter conditions
- Cable connections reduce the risk of pinch seal overheating and molybdenum foil oxidation

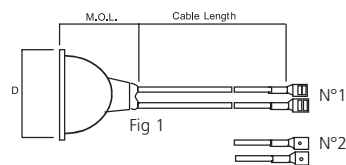
Applications

- Runway lights & Taxiway lights
- Approach lights & Threshold lights
- Runway edge lights
- Visual approach slope indicator systems
- Taxiway guidance signs

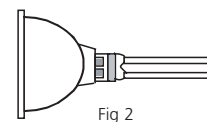
DIRECTIONS FOR USE

- Bulb should never be touched with bare fingers

Code	Cable Length	M.O.L.	D
0021484	100	45.6	50.6
0021483	100	45.6	50.6
0021494	110	45.6	50.6
7221518	135	45.6	50.6
0021496	110	45.6	50.6
0021497	100	45.6	50.6
0021489	100	45.6	50.6
0021487	110	45.6	50.6
0021488	100	45.6	50.6
0021498	110	50.0	50.6
0021499	100	50.0	50.6



N°1 = Female
N°2 = Male

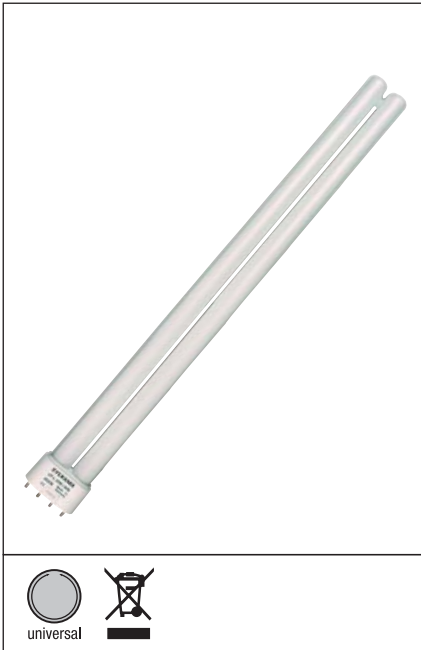


Courtesy ADB

Code	Item description	Watt	Current	Connector	Connector type	Average Life h	Peak intensity (cd)	Beam Angle 50% (°)	Fig. #	Packing quantity
		W	A							
0021484	L2372 36W 6A MR16	36	6	2	Male	1500	24000	5	1	10
0021496	L2358 48W 6.6A MR16	48	6.6	1	Female	1500	22000	7	1	10
0021489	L2371 48W 6.6A MR16	48	6,6	1	Female	1500	11000	13	1	10
0021488	L2375 60W 6.6A MR16	60	6.6	1	Female	1500	11000	15	1	10
0021498	L2368 105W 6.6A MR16	105	6.6	1	Female	1000	33000	10	2	10



AIRFIELD LYNX-L



Features

- Lamps with very specific colour point (CCx: 0,319, CCy: 0,369 after 100 h) and colour temperature: 6000K
- Colour point responds to the International Airfield Standard
- Very long reliable through life performance
- High colour rendering: Ra 85

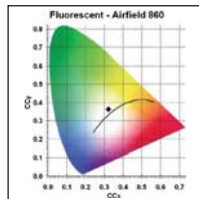
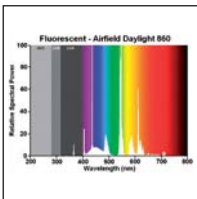
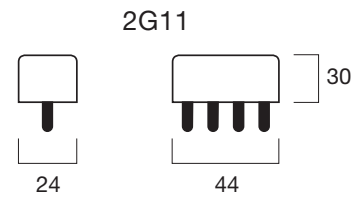
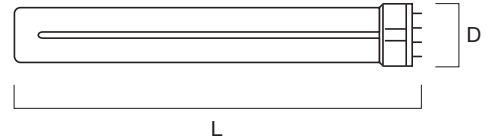
Applications

- Used in guidance signs to mark direction, destination and boundary

DIRECTIONS FOR USE

- Lamp ambient temperature should not be lower than -30°C
- Burning position: any

2G11	24W
L	320
D	38



Code	Item description	Watt	Current	Operating Voltage	M.O.L.	D	Cap	Colour Temp.	CCx	CCy	Luminous Flux	Average Life	Packing quantity
		W	A	Voltage	mm	mm		K			lm	h	
0025682	Lynx-L 24W 860 Airfield	24	345	50	320	40	2G11	6000	0,319	0,369	1700	15000	10



TRAFFIC SIGNAL INCANDESCENT BALL



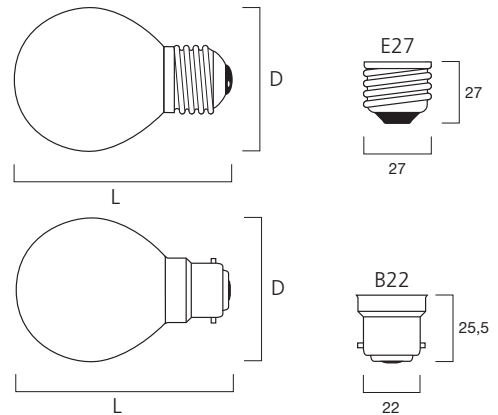
Features

- Round (45mm) envelope
- Robust construction: the filament is held by extra supports to resist vibration
- Average rated life: 8000 hours
- Available in E27 and B22 base

Applications

- Traffic lights and signs
- Private parkings
- Tramway traffic lights
- Industrial sites

Code	L	D	LCL
0009873	71	45	53
0009869	70	45	52
0009893	71	45	53
0009891	71	45	53
0009894	70	45	52
0009895	71	45	53



Ordering Code	Item description	Finish	Watt W	Voltage V	Cap	Shape	Avg. Life (h)	Rated Lumens	Packing Quantity
0009873	25W 230V E27	Clear	25	230	E27	Ball	8000	150	100
0009869	25W 230V B22	Clear	25	230	B22	Ball	8000	150	100
0009893	40W 230V E27	Clear	40	230	E27	Ball	8000	320	100
0009891	40W 130V E27	Clear	40	130	E27	Ball	8000	390	100
0009894	40W 230V B22	Clear	40	230	B22	Ball	8000	320	100
0009895	40W 260V E27	Clear	40	260	E27	Ball	8000	260	100



TRAFFIC SIGNAL INCANDESCENT MUSHROOM



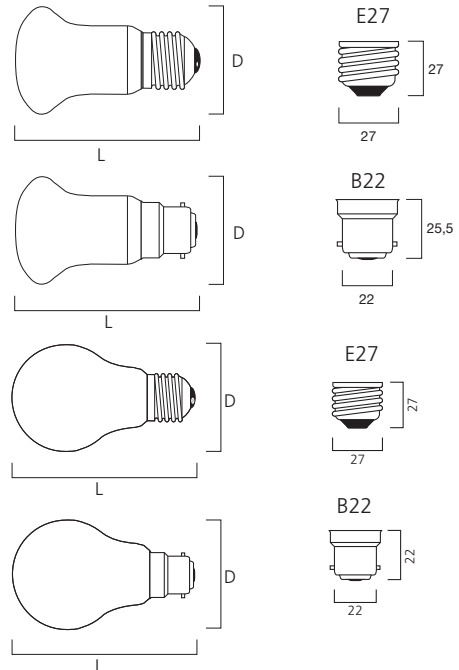
Features

- Mushroom shaped (50mm and 60mm) envelope
- Robust construction: the filament is held by extra supports to resist vibration
- Average rated life: 8000 hours
- Available in E27 and B22 base

Applications


- Traffic lights and signs
- Private parkings
- Tramway traffic lights
- Industrial sites

Code	L	D
0009718	86	50
0009716	86	50
0009719	86	50
0009720	86	50
0009753	86	50
0009752	86	50
0009749	86	50
0009754	95	60
0009760	95	60



Ordering Code	Item description	Finish	Watt W	Voltage V	Cap	Shape	Avg. Life (h)	Rated Lumens	Packing Quantity
0009718	55W 230V E27	Clear	55	230	E27	Mushroom	8000	465	100
0009716	55W 130V E27	Clear	55	130	E27	Mushroom	8000	545	100
0009719	55W 230V B22	Clear	55	230	B22	Mushroom	8000	465	100
0009720	60W 230V B22	Clear	60	230	B22	Mushroom	8000	510	100
0009753	70W 230V E27	Clear	70	230	E27	Mushroom	8000	645	100
0009752	70W 130V E27	Clear	70	130	E27	Mushroom	8000	755	100
0009749	70W 230V B22	Clear	70	230	B22	Mushroom	8000	645	100
0009754	100W 230V E27	Clear	100	230	E27	GLS	8000	1030	100
0009760	100W 230V B22	Clear	100	230	B22	GLS	8000	1030	20





Heat can be transferred by three different mechanisms: conduction, convection and radiation. Infra red halogen lamps are using direct radiation for heating. This radiant energy has several advantages over other methods of generating heat, which transmit their energy by convection and conduction:

- Instant heat in milliseconds
- Dimmable: output can be adapted
- Heat can be focused and directed where it is needed
- Clean technology, no pollutions or emissions
- Compact, compared to sources from combustion
- On/off switching does not affect lamp life, so that presence detection can be used

Sylvania offers a very wide range of infra red lamps for the most diverse applications: zone heating, industrial applications (example: PET bottle blowing), infra red cabins, agricultural uses etc.



INFRA RED 109

Infra Red Ruby Halogen lamps	110
Infra Red Clear Quartz Halogen lamps	111
Infra Red Cabin Halogen lamps	112
Infra Red Gold Filter Halogen lamps	113
Infra Red Reflector Incandescent lamps	114

INFRA RED RUBY HALOGEN LAMPS



Features

- Tubular envelope made from ruby red quartz (Ruby Slim)
- Secondary outer envelope made from red quartz (Ruby Jacket)
- Transmits virtually all infrared while blocking most visible light
- Instant on-off capability

Applications

- Space heating of large rooms
- Outdoor heating of communal areas
- Energy efficient alternative to patio heaters

Fig. 1

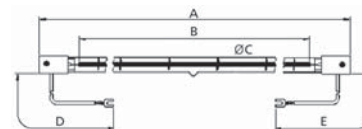


Fig. 2

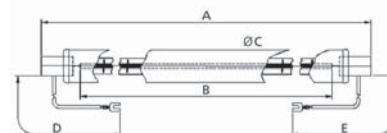
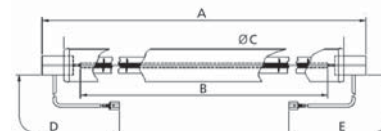


Fig. 3

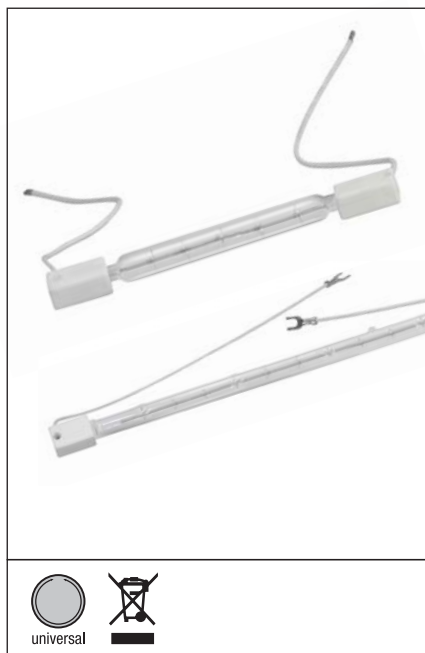


Ordering Code	Item description	W	V	Cap	Total Lamp Length A (mm)	Heating Length B (mm)	Diameter C (mm)	Finish
0033016	IR 1000W Ruby SK15 235V	1000	235	Sk15	353	280	10,5	Ruby Slim
0033017	IR 1200W Ruby SK15 235V	1200	235	Sk15	353	280	10,5	Ruby Slim
0033018	IR 1500W Ruby SK15 235V	1500	235	Sk15	346	270	20	Ruby Jacketed
0033019	IR 2000W Ruby SK15 235V	2000	235	Sk15	346	270	20	Ruby Jacketed

Ordering Code	Item description	Burning position	Average Lamp Life in h	Colour Temp. (K)	Cable X1 D (mm)	Cable X2 E (mm)	Cable Connection	Fig. Nr	Packing Quantity
0033016	IR 1000W Ruby SK15 235V	Universal	5000	2450	230	230	Fork	1	10
0033017	IR 1200W Ruby SK15 235V	Universal	5000	2450	230	230	Fork	1	10
0033018	IR 1500W Ruby SK15 235V	Horizontal	5000	2350	230	230	Fork	2	10
0033019	IR 2000W Ruby SK15 235V	Horizontal	5000	2350	340	340	Tab	3	10



INFRA RED CLEAR QUARTZ HALOGEN LAMPS

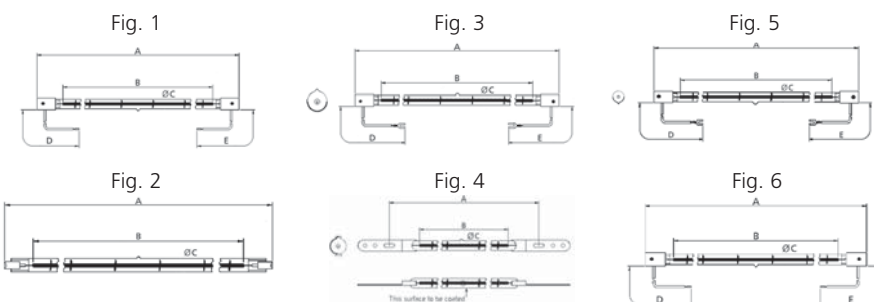


Features

- Tubular envelope made from transparent clear quartz
- Transmits the full spectrum of visible and infrared radiation
- Clear lamps are the most efficient for transmitting infrared energy
- Instant on-off capability

Applications

- The glare from the visible light component restricts these to industrial applications, eg
- Drying of paints in tunnels and automotive body shops
- Heating of plastics for PET bottle blowing
- High speed drying in paper production mills
- Drying of lacquers and printing inks
- Baking and curing of powder coatings
- Thermal sterilisation



Ordering Code	Item description	W	V	Cap	Total Lamp Length A (mm)	Heating Length B (mm)	Diameter C (mm)	Finish
0033020	IR 300W CL SK15 230V	300	230	SK15	120	60	10,5	Clear
0033021	IR 300W CL R7s 230V	300	230	R7s	117,6	60	10,5	Clear
0033022	IR 500W CL R SK15 240V	500	240	SK15	216	176	10,5	Reflector
0033023	IR 1000W CL R X 240V	1000	240	Metal strap X	370	270	10,5	Reflector
0033024	IR 1000W CL SK15 235V	1000	235	SK15	353	280	10,5	Clear
0033025	IR 1000W CL R SK15 235V	1000	235	SK15	353	280	10,5	Reflector
0033026	IR 1200W CL R SK15 235V	1200	235	SK15	222	157	10,5	Reflector
0033027	IR 2000W CL R SK15 235V	2000	235	SK15	353	270	10,5	Reflector

Ordering Code	Item description	Burning position	Average Lamp Life in h	Colour Temp. (K)	Cable X1 D (mm)	Cable X2 E (mm)	Cable Connection	Fig. Nr	Packing Quantity
0033020	IR 300W CL SK15 230V	Horizontal	2000	2550	140	140	Splice	6	50
0033021	IR 300W CL R7s 230V	Horizontal	5000	2550	NA	NA	NA	2	100
0033022	IR 500W CL R SK15 240V	Horizontal	5000	2450	230	230	Fork	3	10
0033023	IR 1000W CL R X 240V	Universal	5000	2450	NA	NA	NA	4	10
0033024	IR 1000W CL SK15 235V	Universal	5000	2400	230	230	Fork	1	10
0033025	IR 1000W CL R SK15 235V	Universal	5000	2400	230	230	Fork	3	10
0033026	IR 1200W CL R SK15 235V	Universal	5000	2600	140	140	Fork	5	10
0033027	IR 2000W CL R SK15 235V	Horizontal	5000	2700	230	230	Fork	3	10

INFRA RED CABIN HALOGEN LAMPS

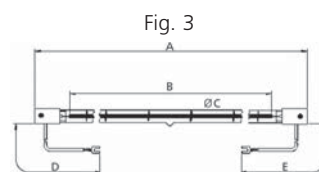
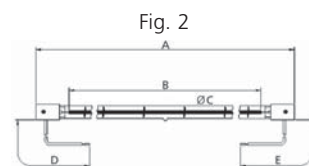
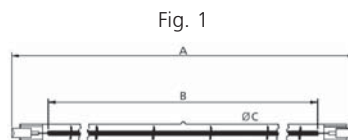


Features

- Tubular envelope made from translucent (satin) or clear quartz
- Emits both visible light and infra red radiation
- Rapid on-off capability
- No pre heating of the cabin needed

Applications

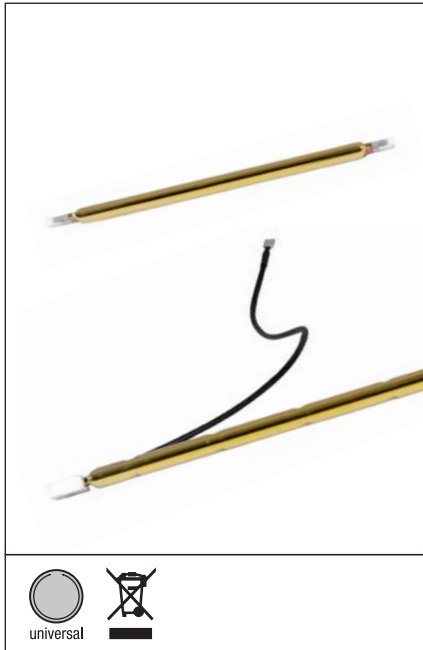
- Personal care in infra-red cabins
- Optimised spectrum to penetrate deeper into the skin for more efficient heat dissipation
- Creates a softer and more pleasant heating sensation than regular lamps



Ordering Code	Item description	W	V	Cap	Total Lamp Length A (mm)	Heating Length B (mm)	Diameter C (mm)	Finish
0033028	IR 350W CL R7s 235V	350	235	R7s	185,7	115	10	Clear
0033040	IR 350W TL SK15 235V 550mm	350	235	SK15	628.5	550	11	Translucent
0033029	IR 500W TL SK15 235V 700mm	500	235	SK15	787,5	700	11	Translucent
0033030	IR 500W TL SK15 235V 550mm	500	235	SK15	628,5	550	11	Translucent
0033031	IR 750W CL SK15 235V	750	235	SK15	787,5	700	11	Clear
0033032	IR 750W TL SK15 235V	750	235	SK15	787,5	700	11	Translucent
0033033	IR 750W CL SK15 235V	750	235	SK15	787,5	700	11	Clear
0033034	IR 1300W CL SK15 235V	1300	235	SK15	787,5	700	11	Clear

Ordering Code	Item description	Burning position	Average Lamp Life in h	Colour Temp. (K)	Cable X1 D (mm)	Cable X2 E (mm)	Cable Connection	Fig. Nr	Packing Quantity
0033028	IR 350W CL R7s 235V	Universal	5000	1750	NA	NA	NA	1	80
0033040	IR 350W TL SK15 235V 550mm	Universal	5000	1750	1200	230	Splice	2	20
0033029	IR 500W TL SK15 235V 700mm	Universal	5000	1750	1200	230	Splice	2	20
0033030	IR 500W TL SK15 235V 550mm	Universal	5000	1750	1200	230	Splice	2	20
0033031	IR 750W CL SK15 235V	Universal	5000	2000	1200	230	Splice	2	20
0033032	IR 750W TL SK15 235V	Universal	5000	1750	1200	230	Splice	2	20
0033033	IR 750W CL SK15 235V	Universal	5000	1750	1200	230	Splice	2	20
0033034	IR 1300W CL SK15 235V	Universal	5000	2000	230	230	Fork	3	20

INFRA RED GOLD FILTER HALOGEN LAMPS

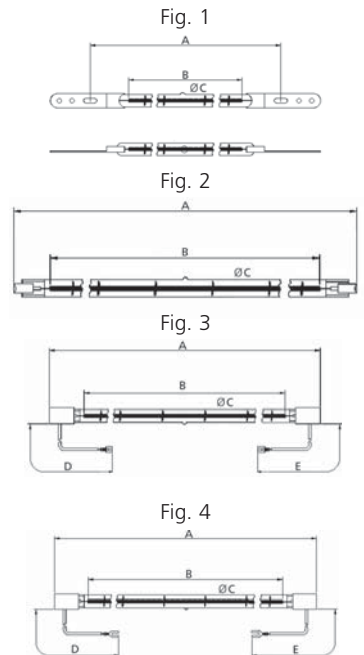


Features

- Tubular quartz envelope with gold dichroic coating
- Blocks more light than Ruby quartz types, for lower glare
- Advanced vacuum-sputtered coating won't crack or peel
- Coating extends right over the tip-off area – no light leaks

Applications

- Gradually replacing ruby quartz types where reduced glare is desirable
- Creates comfort zones in the outdoor cold, ideal for patios, restaurants and cafés
- Efficient spaceheating in large buildings e.g. churches, halls, warehouses, garages, stadiums, exhibition halls etc
- Glare free de-icing of pedestrian walkways



Ordering Code	Item description	W	V	Cap	Total Lamp Length A (mm)	Heating Length B (mm)	Diameter C (mm)	Finish
0033035	IR 1000W Gold X 240V	1000	240	Metal strap X	370	280	12,5	Gold plated
0033036	IR 1300W Gold R7S 240V	1300	240	R7s	254	180	12,5	Gold plated
0033037	IR 1500W Gold SK15 240V	1500	240	SK15	353	280	12	Gold plated
0033038	IR 1500W Gold SK15 120V	1500	120	SK15	353	280	12	Gold plated
0033039	IR 2000W Gold SK15 240V	2000	240	SK15	353	280	12	Gold plated

Ordering Code	Item description	Burning position	Average Lamp Life in h	Colour Temp. (K)	Cable X1 D (mm)	Cable X2 E (mm)	Cable Connection	Fig. Nr	Packing Quantity
0033035	IR 1000W Gold X 240V	Universal	5000	na	na	na	na	1	10
0033036	IR 1300W Gold R7S 240V	Universal	1000	na	na	na	na	2	100
0033037	IR 1500W Gold SK15 240V	Horizontal	5000	na	440	440	Tab	3	10
0033038	IR 1500W Gold SK15 120V	Horizontal	5000	na	300	300	Fork	4	10
0033039	IR 2000W Gold SK15 240V	Horizontal	5000	na	440	440	Tab	3	10



INFRA RED REFLECTOR INCANDESCENT LAMPS

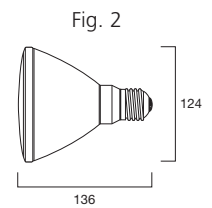
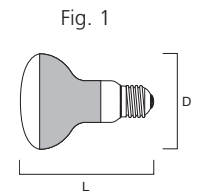


Features

- Integral reflector facilitates simple and economical installations
- Pre-focussed optics deliver intensely controlled radiation
- PAR38 lamps have a pressed hard glass bulb with precision-optical lens
- R125 and R95 lamps have a blown hard glass bulb for low cost applications
- E27 cap allows use in almost any suitable lampholder
- Instant heat after switch-on
- All R125-lamps have a mechanically fitted base in order to avoid lose base problems

Applications

- Animal husbandry and other agricultural uses
- Food heating in the catering trade
- Wellness and medical applications for muscle relaxation
- Creates a pleasant warmth in bathroom drying areas
- Various industrial uses for drying, heating, vulcanizing, distilling, softening, melting, pasteurizing, polymerizing, evaporating, gelatinizing etc

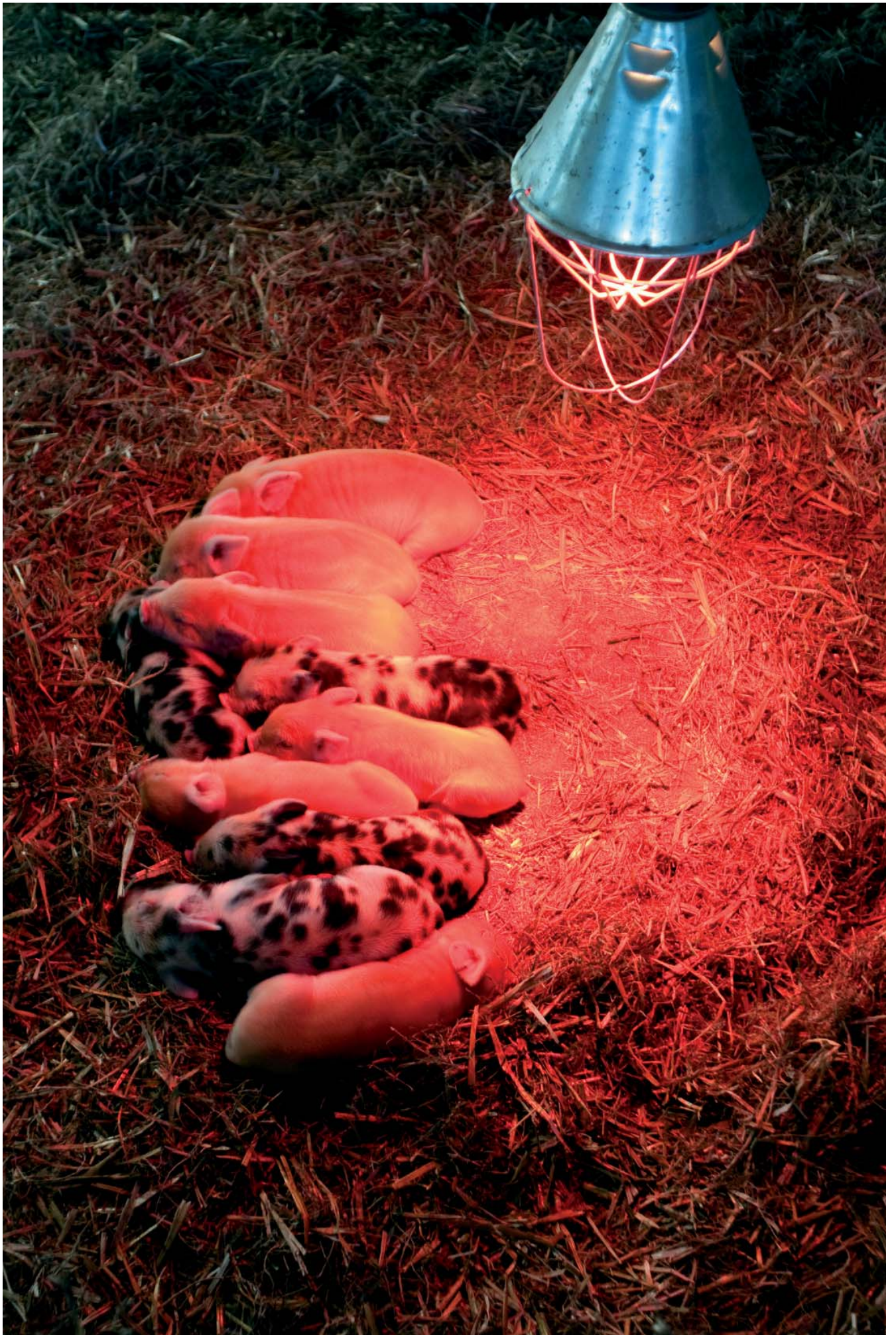


E27



Ordering Code	Item description	W	V	Cap	Total Lamp Length A (mm)	Diameter (mm)	Finish	Average Lamp Life in h
0033004	IR R95 100W	100	230	E27	130	95	Ruby	5000
0033002	IR R125 150W	150	240	E27	185	126	Ruby	5000
0033010	IR R125 175W	175	240	E27	185	126	Ruby	5000
0033011	IR R125 250W	250	240	E27	185	126	Ruby	5000
0033012	IR R125 300W	300	240	E27	185	126	Ruby	5000
0033013	IR R125 375W	375	240	E27	185	126	Ruby	5000
0033014	IR PAR38 150W	150	240	E27	135	122	Ruby	5000
0033015	IR PAR38 175W	175	240	E27	135	122	Ruby	5000

Ordering Code	Item description	Burning position	Average Lamp Life in h	Colour Temp. (K)	Fig. Nr	Packing Quantity
0033004	IR R95 100W	Universal	5000	na	1	20
0033002	IR R125 150W	Universal	5000	na	1	12
0033010	IR R125 175W	Universal	5000	na	1	12
0033011	IR R125 250W	Universal	5000	na	1	12
0033012	IR R125 300W	Universal	5000	na	1	12
0033013	IR R125 375W	Universal	5000	na	1	12
0033014	IR PAR38 150W	Universal	5000	na	2	12
0033015	IR PAR38 175W	Universal	5000	na	2	12





With a specially modified spectrum, food display lamps are the perfect lighting for butchers, bakeries and supermarkets. In particular, meat products can be displayed very attractively using this form of specialist lamp. Food display lamps have an excellent colour rendering and are direct retrofit for conventional linear fluorescent lamps.

All types are also available in Toughcoat version. Toughcoat lamps are shatter resistant lamps ensuring excellent fragment retention in the event of breakage.

For spot lighting, a range of PAR30 LED lamps (RefLED) is available for the three applications: meat, bread and fresh. The RefLED- lamps are fully retrofit for standard halogen lamps.



FOOD DISPLAY 117

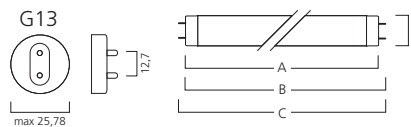
Food Star Meat - Fluorescent	118
Food Star Meat - RefLED	119
Food Star Bread - Fluorescent	120
Food Star Bread - RefLED	121
Food Star Fresh - Fluorescent	122
Food Star Fresh - RefLED	123

foodstar MEAT - FLUORESCENT

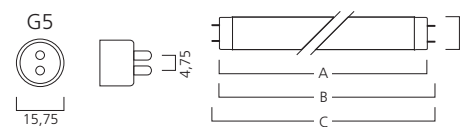


Features

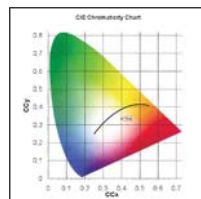
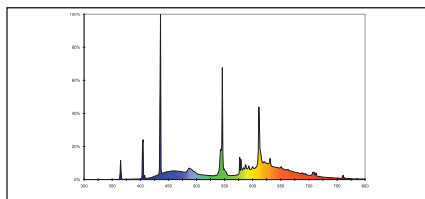
- Features a specially tailored spectrum that complements the natural colours of meats.
- Illuminates meat and charcuterie in their optimum colours for an irresistible presentation.
- The truthful colour rendering does not disturb the natural colours of the products
- Manufactured in compliance with the DIN 10504 standard
- Available in Toughcoat-version (shatter proof). The protective FEP coating meets the IEC600682-75 pendulum hammer test (5 Joule) and 4m drop test demonstrating excellent glass retention in the event of accidental lamp breakage.



T8	A	B	B	C	D
	max	min	max	max	nom
18W	589.8	594.5	596.9	604.0	26
30W	894.6	899.3	901.7	908.8	26
36W	1199.4	1204.1	1206.5	1213.6	26
36W 1M	970.0	974.1	977.1	984.2	26
58W	1500.0	1504.7	1507.1	1514.2	26
70W	1763.8	1768.5	1770.9	1778.0	26



T5	A	B	B	C	D
	max	min	max	max	nom
14W	549	553.7	556.1	563.2	16
21W	849	853.7	856.1	863.2	16
28W	1149	1153.7	1156.1	1163.2	16
35W	1449	1453.7	1456.1	1463.2	16

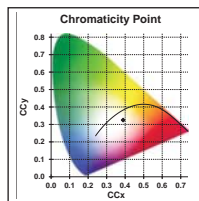
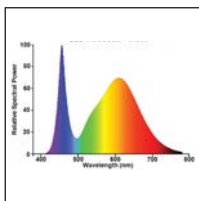
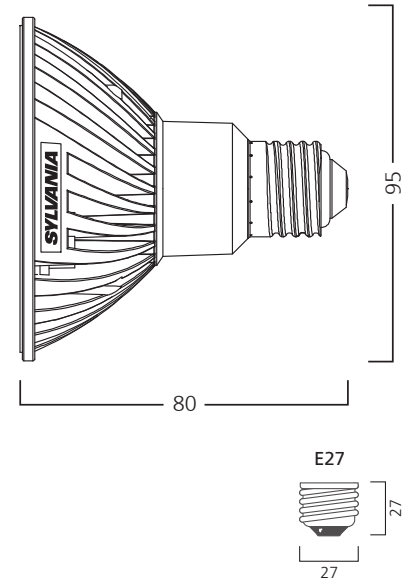


Code	Description	Watt W	Volt Volt	Current A	Length mm	CRI	Cap	Colour Temp K	Luminous Flux lm	Packing Qty.
foodstar Meat - Fluorescent										
0001854	FHE 14W T5 176 FoodStar Meat	14	86	0.165	549	2A	G5	3000	650	25
0001819	FHE 21W T5 176 FoodStar Meat	21	126	0.165	849	2A	G5	3000	1050	25
0001820	FHE 28W T5 176 FoodStar Meat	28	166	0.17	1149	2A	G5	3000	1500	25
0001821	FHE 35W T5 176 FoodStar Meat	35	205	0.175	1449	2A	G5	3000	1850	25
0001855	F18W T8 176 FoodStar Meat	18	57	0.37	590	2A	G13	3000	700	25
0001856	F30W T8 176 FoodStar Meat	30	96	0.365	895	2A	G13	3000	1250	25
0001816	F36W T8 176 FoodStar Meat	36	103	0.43	1200	2A	G13	3000	1800	25
0001817	F36W T8 1M 176 FoodStar Meat	36	80	0.56	970	2A	G13	3000	1600	25
0001818	F58W T8 176 FoodStar Meat	58	110	0.67	1500	2A	G13	3000	2850	25
0001857	F70W T8 176 FoodStar Meat	70	128	0.7	1764	2A	G13	3000	3250	25
foodstar Meat - Fluorescent Toughcoat™										
0001787	FHE 14W T5 176 FoodStar Meat TC	14	86	0.165	549	2A	G5	3000	650	25
0001788	FHE 21W T5 176 FoodStar Meat TC	21	126	0.165	849	2A	G5	3000	1050	25
0001789	FHE 28W T5 176 FoodStar Meat TC	28	166	0.170	1149	2A	G5	3000	1500	25
0001790	FHE 35W T5 176 FoodStar Meat TC	35	205	0.175	1449	2A	G5	3000	1850	25
0001791	F18W T8 176 FoodStar Meat TC	18	57	0.370	590	2A	G13	3000	700	25
0001792	F30W T8 176 FoodStar Meat TC	30	96	0.365	895	2A	G13	3000	1250	25
0001793	F36W T8 176 FoodStar Meat TC	36	103	0.430	1200	2A	G13	3000	1800	25
0001794	F36W T8 1M 176 FoodStar Meat TC	36	80	0.560	970	2A	G13	3000	1600	25
0001795	F58W T8 176 FoodStar Meat TC	58	110	0.670	1500	2A	G13	3000	2850	25
0001796	F70W T8 176 FoodStar Meat TC	70	128	0.700	1764	2A	G13	3000	3250	25



Features

- Full retrofit LED for standard halogen lamps
- High energy saving: Compared to special colour halogen lamps
- Very long life: 25000hrs with more than 100000 switches.
- Features a specially tailored spectrum that complements the natural colours of meats
- Illuminates meat and charcuterie in their optimum colours for irresistible presentation
- The truthful colour rendering does not disturb the natural colours of the products
- Integrated electrical isolating transformer for highest safety, even in humid conditions



Code	Description	Watt W	Volt V	Beam Angle	Cap	CRI	Colour Temp K	Luminous Flux lm	Average Rated Life	Packing Qty.
foodstar Meat - RefLED										
0001774	Hi-Spot 95 RefLED 10W 25° Foodstar Meat	10	220-240	25°	E27	85	3500	350	25000	10

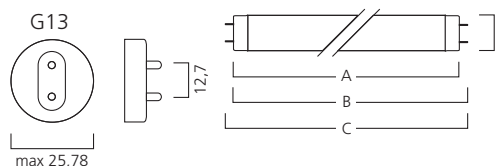


foodstar BREAD - FLUORESCENT

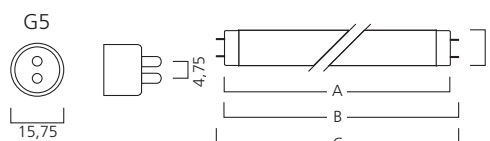


Features

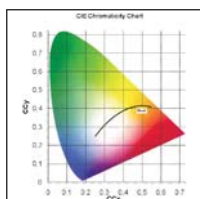
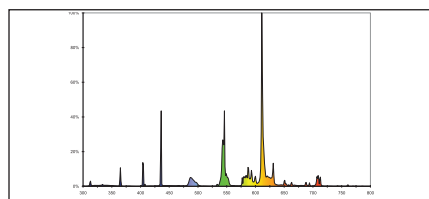
- FoodStar bread lamps have a radiation concentrated in the yellowish part of the spectrum
- Truthful colour rendering does not disturb the natural colours of the products
- Reduced warm up of the goods illuminated
- Available in Toughcoat-version (shatter proof). The protective FEP coating meets the IEC600682-75 pendulum hammer test (5 Joule) and 4m drop test demonstrating excellent glass retention in the event of accidental lamp breakage.



	A	B	B	C	D
T8	max	min	max	max	nom
18W	589.8	594.5	596.9	604.0	26
30W	894.6	899.3	901.7	908.8	26
36W	1199.4	1204.1	1206.5	1213.6	26
58W	1500.0	1504.7	1507.1	1514.2	26



	A	B	B	C	D
T5	max	min	max	max	nom
21W	849	853.7	856.1	863.2	16
28W	1149	1153.7	1156.1	1163.2	16
35W	1449	1453.7	1456.1	1463.2	16

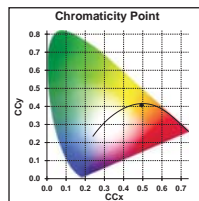
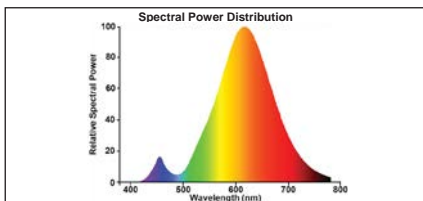
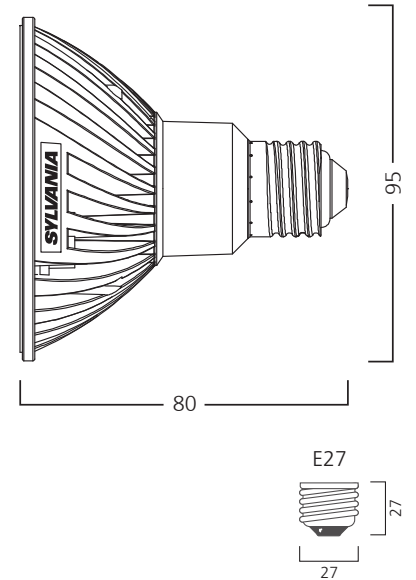


Code	Description	Watt W	Volt Volt	Current A	Length mm	CRI	Cap	Colour Temp K	Luminous Flux lm	Packing Qty.
foodstar Bread - Fluorescent										
0001858	FHE 21W T5 FoodStar Bread	21	126	0.165	849	2A	G5	2300	1650	25
0001859	FHE 28W T5 FoodStar Bread	28	166	0.170	1149	2A	G5	2300	2250	25
0001860	FHE 35W T5 FoodStar Bread	35	205	0.175	1449	2A	G5	2300	2850	25
0001861	F18W T8 FoodStar Bread	18	57	0.370	590	2A	G13	2300	1100	25
0001862	F30W T8 FoodStar Bread	30	96	0.365	895	2A	G13	2300	2100	25
0001863	F36W T8 FoodStar Bread	36	103	0.430	1200	2A	G13	2300	3000	25
0001864	F58W T8 FoodStar Bread	58	110	0.670	1500	2A	G13	2300	4500	25
foodstar Bread - Fluorescent Toughcoat™										
0001797	FHE 21W T5 FoodStar Bread TC	21	126	0.165	849	2A	G5	2300	1650	25
0001798	FHE 28W T5 FoodStar Bread TC	28	166	0.170	1149	2A	G5	2300	2250	25
0001799	FHE 35W T5 FoodStar Bread TC	35	205	0.175	1449	2A	G5	2300	2850	25
0001800	F18W T8 FoodStar Bread TC	18	57	0.370	590	2A	G13	2300	1100	25
0001801	F30W T8 FoodStar Bread TC	30	96	0.365	895	2A	G13	2300	2100	25
0001802	F36W T8 FoodStar Bread TC	36	103	0.430	1200	2A	G13	2300	3000	25
0001803	F58W T8 FoodStar Bread TC	58	110	0.670	1500	2A	G13	2300	4500	25



Features

- Full retrofit LED for standard halogen lamps
- High energy saving: Compared to white sodium and filtered metal halide lamps
- Very long life: 25000hrs with more than 100000 switches.
- Features a specially tailored spectrum that complements the natural colours of bread and patisserie. Illuminates them in their optimum colours for irresistible presentation
- The truthful colour rendering does not disturb the natural colours of the products
- Integrated electrical isolating transformer for highest safety, even in humid conditions



Code	Description	Watt W	Volt V	Beam Angle	Cap	CRI	Colour Temp K	Luminous Flux lm	Average Rated Life	Packing Qty.
foodstar Meat - RefLED										
0001777	Hi-Spot 95 RefLED 10W 25° Foodstar Bread	10	220-240	25°	E27	75	2300	390	25000	10

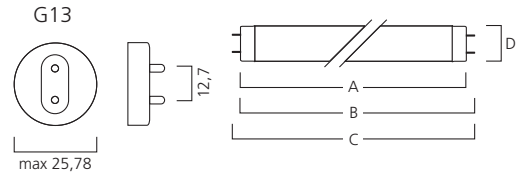


foodstar FRESH - FLUORESCENT

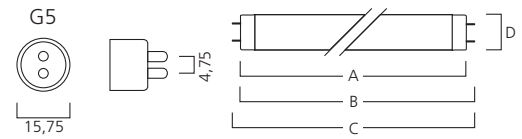


Features

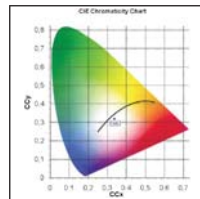
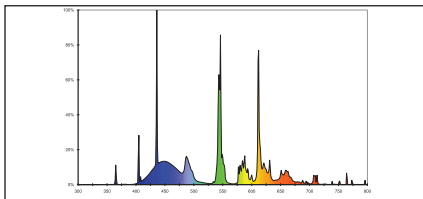
- Fruit and vegetables should reflect freshness. They need a higher colour temperature and cooler light and the display of fish needs it even more.
- Truthful colour rendering does not disturb the natural colours of the products
- Reduced warm up of the goods illuminated
- Available in Toughcoat-version (shatter proof). The protective FEP coating meets the IEC600682-75 pendulum hammer test (5 Joule) and 4m drop test demonstrating excellent glass retention in the event of accidental lamp breakage.



	A	B	B	C	D
T8	max	min	max	max	nom
36W	1199.4	1204.1	1206.5	1213.6	26
58W	1500.0	1504.7	1507.1	1514.2	26



	A	B	B	C	D
T5	max	min	max	max	nom
21W	849	853.7	856.1	863.2	16
28W	1149	1153.7	1156.1	1163.2	16
35W	1449	1453.7	1456.1	1463.2	16



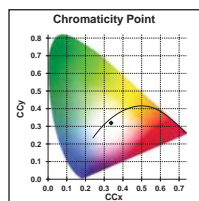
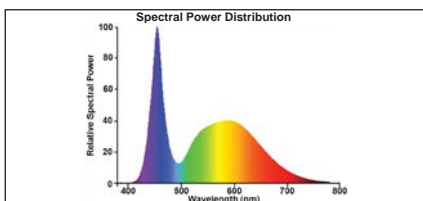
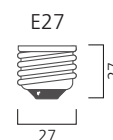
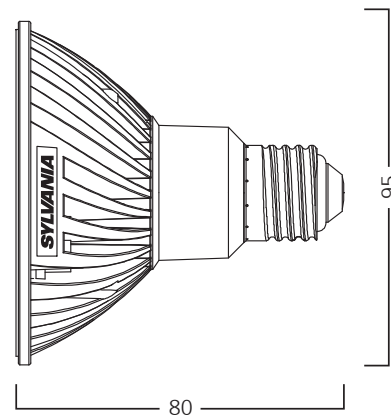
Code	Description	Watt W	Volt Volt	Current A	Length mm	CRI	Cap	Colour Temp K	Luminous Flux lm	Packing Qty.
foodstar Fresh - Fluorescent										
0001865	FHE 21W T5 FoodStar Fresh	21	126	0.165	849	2A	G5	6400	1250	25
0001866	FHE 28W T5 FoodStar Fresh	28	166	0.170	1149	2A	G5	6400	1700	25
0001867	FHE 35W T5 FoodStar Fresh	35	205	0.175	1449	2A	G5	6400	2150	25
0001868	F36W T8 FoodStar Fresh	36	103	0.430	1200	2A	G13	6400	2350	25
0001869	F58W T8 FoodStar Fresh	58	110	0.670	1500	2A	G13	6400	3500	25
foodstar Fresh - Fluorescent Toughcoat™										
0001804	FHE 21W T5 FoodStar Fresh TC	21	126	0.165	849	2A	G5	6400	1250	25
0001805	FHE 28W T5 FoodStar Fresh TC	28	166	0.170	1149	2A	G5	6400	1700	25
0001806	FHE 35W T5 FoodStar Fresh TC	35	205	0.175	1449	2A	G5	6400	2150	25
0001807	F36W T8 FoodStar Fresh TC	36	103	0.430	1200	2A	G13	6400	2350	25
0001808	F58W T8 FoodStar Fresh TC	58	110	0.670	1500	2A	G13	6400	3500	25





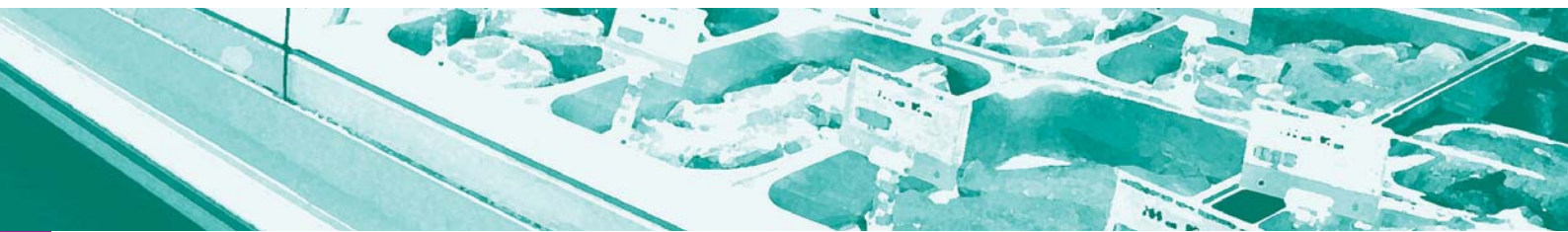
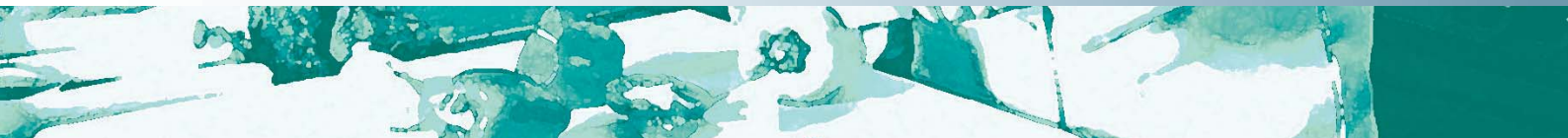
Features

- Full retrofit LED for standard halogen lamps
- High energy saving
- Very long life: 25000hrs with more than 100000 switches.
- Features a specially tailored spectrum that complements the natural colours of fruit, vegetables and fish. Illuminates them in their optimum colours for irresistible presentation
- The truthful colour rendering does not disturb the natural colours of the products
- Integrated electrical isolating transformer for highest safety, even in humid conditions



Code	Description	Watt W	Volt V	Beam Angle	Cap	CRI	Colour Temp K	Luminous Flux lm	Average Rated Life	Packing Qty.
foodstar Fresh - RefLED										
0001780	Hi-Spot 95 RefLED 10W 25° Foodstar Fresh	10	220-240	25°	E27	85	5400	525	25000	10





APPENDIX 125

Incandescent & Halogen Cross Reference: ANSI-Sylvania	126
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Incandescent & Halogen Cross Reference: Japanese Code-Sylvania	127
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INCANDESCENT & HALOGEN CROSS REFERENCE: ANSI-SYLVANIA

ANSI Code	SYLVANIA Code	Page
BRL	0061300	23
BRN	9060572	25
DDL	9060984	19
DDM	9060954	19
DED	9060967	19
DJE	0061473	30
DNF	9060743	21
DXX	0061321	26
DYR	9060716	25
DYS/DYV	9060779	25
EFM	0061341	17
EFN	0061342	17
EFP	0061344	17
EFR	0061350	17
EHJ	0061367	23
EJA	9060921	19
EJM	9061181	19
EKE	9060943	19
ELC	0061740	19
ELC/10H	0061743	19
ELC/5H	0061741	19
ELD	9060957	19
ELH	9060813	20
EME	9060822	26
EMM/EKS	9060918	21
ENH	9060940	20
ENL	0061738	19
ENX	9060846	20
EPS	9060927	25
EPV	9061016	19
EPX	9060953	19
ERV	9060812	19
ESD	9061358	20
EVB/BRJ	0061303	23
EVD	9060826	23
EVW	9000017	20
(FKJ)	9061116	27

ANSI Code	SYLVANIA Code	Page
(FKP/FKK)	9061118	27
(FTL)	9061119	27
(FVB)	9061121	27
EWf	9060890	19
EWX	0061494	23
EWZ	0061735	30
EXC	9061109	39
EXD	9061127	39
EXE	9061128	39
EXG	9061129	39
EXR	9061039	19
EYB	0061495	23
EYM	0061520	30
EYN	0061523	30
FAD	0061371	26
FCR	0061373	23
FCS	0061374	23
FDG	0061379	26
FDS/FDT	9060924	23
FEP	9061385	27
FEX	0060884	26
FGX	0061465	23
FHB	0061391	30
FHG	0061395	30
FHS	9060850	19
FLW	9061142	23
FNT	9061150	23
FRJ	9061124	27
FRM	9061126	27
FSK	9061122	27
FWR	9061548	28
FWT	9061551	28
FXL	9061768	20
GcJ (GcW)	9061542	28
GcK (GcT)	0061736	28
GcL (GcS)	9061545	28
GKV	0061734	25

ANSI=American National Standards Institute

INCANDESCENT & HALOGEN CROSS REFERENCE: LIF-SYLVANIA

LIF Code	SYLVANIA Code	Page	LIF Code	SYLVANIA Code	Page
A1/215	0061373	23	CP82	9061124	27
A1/216	0061374	23	CP86	9061146	39
A1/220	0061300	23	CP87	9061147	39
A1/223	0061367	23	CP88	9061148	39
A1/229	0061341	17	CP89	9061126	27
A1/230	0061342	17	CP95	9061129	39
A1/231	0061344	17	F/109	9060967	19
A1/232	0061350	17	F/110	9060953	19
A1/233	9060716	25	F/111	9061016	19
A1/234	0061303	23	F/112	9060957	19
A1/239	9060826	23	F/114	9060984	19
A1/244	9061731 / 9061168	25	M/109	0061738	19
A1/258	9060918	21	M/40	0061733	28
A1/259	0061740	19	M33	0061465	23
A1/262	9060924	23	P1/12	0061379	26
A1/264	9060779	25	P1/15	0061391 / 0061520	30
A1/266	9060743	21	P1/19	0061395	30
A1/268	9060927	25	P2/11	9060822	26
CP/70 (CP/24)	9061121	27	P2/13	0061321	26
CP/71(CP/40)	9061116	27	P2/17	0061473 / 0061523	30
CP/72 (CP/43)	9061119	27	P2/26	0061510	30
CP/73 (CP/41)	9061118	27	P2/27	0060884	26
CP60	9061109	39	P2/6	0061371	26
CP61	9061127	39	T/19 (T/11)	9061548	28
CP62	9061128	39	T/25 (T18)	9061542	28
CP77	9061385	27	T/27 (T/26)	9061545	28
			T/29	9061551	28

LIF=Lighting Industry Federation (UK)

INCANDESCENT & HALOGEN CROSS REFERENCE: JAPANESE CODE-SYLVANIA

Japanese Code	SYLVANIA Code	Page	Japanese Code	SYLVANIA Code	Page
JCR 100V 300W	9061063	20	JCD 100V 650W	9061060	25
JC 24V 300W	9061010	23	JCP 100V 650W	9061018	25

INCANDESCENT & HALOGEN CROSS REFERENCE: PHILIPS-SYLVANIA

PHILIPS	SYLVANIA	ANSI	Page
5995	9061181	EJM	19
6423	0061350	EFR	17
6550	0061303	EVB/BRJ	23
6834	0061344	EFP	17
6847	0061341	EFM	17
6853	0061342	EFN	17
6958	0061465	FGX	23
7023	0061373	FCR	23
7027	0061300	BRL	23
13095	9060940	ENH	20
13096	9060813	ELH	20
13098	9060812	ERV	19
13158	9060957	ELD	19
13163	0061740	ELC	19
13186	9061016	EPV	19
13186	9060953	EPX	19
13194	9060967	DED	19
13629	9060943	EKE	19
13630	9060890	EWf	19
13634	9060850	FHS	19
13700	9061150	FNT	23
13824	9060846	ENX	20
13830	9000017	EVW	20
14501	9060984	DDL	19
14502	9061039	EXR	19
14526	9061768	FXL	20
14527	9060921	EJA	19
14529	9060743	DNF	21
14530	9061142	FLW	23
14531	0061495	EYB	23
13162R	0061321	DXX	26
13477R	9060822	EME	26
5974/5973	9060924	FDS/FDT	23
6365R	0061371	FAD	26
6638P	9061126	FRM	27
6820P	9061542	GCJ (GCW)	28
6823P	9061545	GCL (GCS)	28
6823P	0061736	GCK (GCT)	28
6872P	9061122	FSK	27
6873P	9061124	FRJ	27
6897P	9061551	FWT	28
6983P	9061385	FEP	27
6986P	0061734	GKV	25
6994Z	9061118	(FKP/FKK)	27
6995Z	9061116	(FKJ)	27
6996P	9061548	FWR	28
6996P	0061737	FWP	28
7158 XHP	0061374	FCS	23
7748S	0061367	EHJ	23
7787 XHP	9060826	EVD	23
JCR 24-250 H5	0061741	ELC/5H	19
PF801R	0061379	FDG	26

INCANDESCENT & HALOGEN CROSS REFERENCE: OSRAM-SYLVANIA

OSRAM	SYLVANIA	ANSI	Page
64571	0061321	DXX	26
64579	0061379	FDG	26
64607	0061341	EFM	17
64618	9060967	DED	19
64619	9060953	EPX	19
64643	9060924	FDS/FDT	23
64686	9060716	DYR	25
64716	0061734	GKV	25
64718	0061736	GCK (GCT)	28
64744	0061737	FWP	28
64789	9061118	(FKP/FKK)	27
93505	9000017	EVW	20
93506	9060940	ENH	20
93515	9061039	EXR	19
93518	9060813	ELH	20
93520	9060850	FHS	19
93525	9060846	ENX	20
93609	0061738	ENL	19
93631	9060743	DNF	21
93637	9060833	EJV	19
93638	9060943	EKE	19
93734	9061385	FEP	27
64610HLX	0061300	BRL	23
64615HLX	0061342	EFN	17
64625HLX	0061373	FCR	23
64627HLX	0061344	FFP	17
64633HLX	0061303	EVB/BRJ	23
64634HLX	0061350	EFR	17
64640HLX	0061374	FCS	23
64653HLX	0061740	ELC	19
64655HLX	0061367	EHJ	23
64656HLX	9061150	FNT	23
64663HLX	9060826	EVD	23
64737/3	9061109	EXC	39
64738/3	9061127	EXD	39
64739/3	9061128	EXE	39

BRITEARC CROSS REFERENCE

BriteArc Ordering Code	Cross reference Sylvania	Philips	Osram	GE Lighting
SINGLE ENDED NON HOT RESTRIKE				
0023987	BA 150 SE NHR	-	-	-
0023958	BA 400 SE NHR	MSR 400	HSR 400/60	-
0023960	BA 575 SE NHR	-	HSR 575/60	-
0023961	BA 700 SE NHR	MSR 700	HSR 700/60	-
0023935	BA 1200 SE NHR	MSR 1200	HSR 1200/60	-
SINGLE ENDED NON HOT RESTRIKE - LONG LIFE				
0023982	BA 70 SE T 6000K	CDM-T 70 4000K	HSD 70	CMH 70
0023978	BA 150 SE T 6000K	CDM-SA/T 150 4200K	HSD 150	CMH 150
7220168	BA 200 SE D	MSD 200	HSD 200/60	-
7220169	BA 250 SE D	MSD 250	HSD 250/60	-
0023981	BA 575 SE D	MSD 575	HSD 575/72	-
SINGLE ENDED NON HOT RESTRIKE - HIGH COLOUR TEMPERATURE				
0023998	BA 250/2 SE D 8500K	MSD 250/2	HSD 250/80	CSD 250/2/SE
0024002	BA 575/2 SE D 7.2	MSR 575/2	HSR 575/72	CSR 575/2/SE
0024000	BA 575/2 SE D 8.5	-	-	-
SINGLE ENDED HOT RESTRIKE				
0023944	BA 200 SE HR LCL 5600K	-	-	-
0023940	BA 200 SE HR LCL 3200K	-	-	-
0023941	BA 200 SE HR UV STOP	MSR 200 HR	HMI 200W/SE	CSR 200/SE/HR
0023803	BA 200 SE HR FULL FROST UV STOP	-	-	-
0023883	BA 400 SE HR UV STOP	MSR 400 HR	HMI 400W/SE	CSR 400/SE/HR
0023990	BA 400 SE HR FULL FROST UV STOP	-	-	-
0023932	BA 575 SE HR	MSR 575 HR	HMI 575W/SE	CSR 575/SE/HR
0023892	BA 400/575 SE HR DIM 3200K	-	-	-
0023992	BA 800 SE HR UV STOP	-	-	CSR 800/SE/HR
0023933	BA 1200 SE HR UV STOP	MSR 1200 HR	HMI 1200W/SE	CSR 1200/SE/HR
0023893	BA 1600 SE HR UV STOP	-	-	-
0023810	BA 1800 SE HR UV STOP	-	-	-
0023934	BA 2500 SE HR	MSR 2500 HR	HMI 2500W/SE	CSR 2500/SE/HR
0023937	BA 4000 SE HR	MSR 4000 HR	HMI 4000W/SE	CSR 4000/SE/HR
DOUBLE ENDED				
0023921	BA 575 DE 5600K	MSI 575W	HMI 575W/GS	CSR 575/DE
0023917	BA 575/2 DE 8000K	MSI 575/2 DE	HTI 575/DE	CSR 575/2/DE
0023994	BA 700/2 DE S 7500K	MSR Gold 700SA/2 DE	HTI 700W/D4/75	-
0023993	BA 700/3 DE S 3200K	-	-	-
0023922	BA 1200 DE	MSI 1200W	HMI 1200W GS	CSR 1200/DE
0023995	BA 1200 DE S 6000K	MSR Gold1200SA/DE	HTI 1200W/D7/60	CSR 1200/S/DE
0023996	BA 1200 DE S 7200K GOLD	MSR Gold1200SA/2 DE	HTI 1200W/D7/75	-
0023811	BA 1800 DE	-	-	-
0023923	BA 2500 DE	MSI 2500W	HMI 2500W GS	CSR 2500/DE
0023918	BA 2500 DE S	-	HMI 2500W/S	-
0023911	BA 2500 DE A	MSA 2500 DE	HMI 2500W SFa21	-
0023924	BA 4000 DE	MSI 4000W	HMI 4000W	CSR 4000/DE
0023925	BA 6000 DE	MSI 6000W	HMI 6000W	CSR 6000/DE
0023927	BA 12000 DE	MSI 12000W	HMI 12000W/GS	CSR 12000/DE
SINGLE ENDED BRITFIT				
0023805	BA 300/2 mini BriteFit - NEW	MSR 300/2 MiniFastFit	-	CSR300/2/TAL
0023809	BA 300/2 LL mini BriteFit - NEW	MSD 300/2 MiniFastFit	HSD 300 W/80/P28 Lok-it	CSD300/2/TAL
0023812	BA 575/2 mini BriteFit - NEW	MSR 575/2 MiniFastFit	-	-
0023800	BA 700/2 mini BriteFit - NEW	MSR 700/2 MiniFastFit	HTI 700W/75/P28 Lok-it	CSR700/TAL -28
0023806	BA 700/2 BriteFit - NEW	MSR 700/2 FastFit	HTi 700W/75/P50 Lok-it	CSR700/TAL - 50
0023807	BA 700/3 mini BriteFit - NEW	-	-	-
0023808	BA 700/3 BriteFit - NEW	-	-	-
0023801	BA 1500 BriteFit - NEW	MSR 1500 FastFit	HTI 1500 W/60/P50 Lok-it	CSR1500/TAL - 50

*** /3 = 3200K (close to the halogen colour)



RADIATION DOSES FOR INACTIVATING VARIOUS MICROORGANISMS

The following values relate to an inactivation of 90% at a wavelength of 254 nm, where UV radiation is particularly effective against bacteria. The radiation dose H is defined as UV power x time/irradiated area (Ws/m²). Values in bold are mean values for the respective families of microbes. Values in brackets show the range of values found in the literature. Additionally, individual examples of the microbe families are listed.

Bacteria	
Bacillus (vegetative)	32 (13-58)
Bac. anthracis	45
Bac. Megatherium	13
Bac. paratyphosus	32
Bac. subtilis	58
Bacillus (spore)	118 (11-365)
Bac. Megatherium	27
Bac. subtilis	120
Bac. anthracis	45
Bac. Subtilis (ATCC6633)	365
Bacillus subtilis	11
Bac. subt. spore ATCC6633	152
Campylobacter jejuni	29
Clostridium tetani	130
Coryneb. diphtheria	34
Citrob. freundii (ATCC8090)	42
Enterob. cloaca (ATCC13047)	64
Escherichia coli:	45 (7-58)
Escherichia coli	30
Escherichia coli (in air)	7
Escherichia coli (in water)	54
Escherichia coli ATCC 11229	25
Escherichia coli ATCC 25922	30
Escherichia coli K 12 AB 1157	58
Escherichia coli B/ r ATCC12407	53
Klebsi. Pneumon. ATCC4352	42
Legionella	15 (4-26)
Legionella dumoffi	24
Legionella gormanii	26
Legionella micdadei	15
Legionella longbeachae 1	12
Legionella longbeachae 2	10
Legionella oakridgensis	22
Legionella micdadei	18
Legionella jordanis	11
Legionella wadsworthii	4
Legionella pneumophila	25
Legionella bozemanii	20
Leptospira	20 (8-28)
Leptospira biflexa	23
Leptospira illini	8
Leptospira interrogans	28

Bacteria	
Micrococcus	80 (61-100)
Micrococcus candidus	61
Microc. sphaeroides	100
Neisseria catarrhalis	44
Pseudomonas aerug.	35 (15-55)
Pseudomonas aeruginosa	55
Salmonella	43(21-80)
Salm. Typhimurium	80
Salm. Enteritidis	40
Salmonella typhi	21
Serratia marcescens	32 (7-85)
Shigella paradysenteriae	17
Staph	44 (18-110)
Staph. albus	18
Staph. aureus	26
Staph. epidermis	110
Strep.	36 (18-65)
Strep. haemolyticus	22
Strep. lactis	62
Strep. viridans	20
Strep. faecalis (ATCC29212)	65
Strep. faecalis	55
Strep. pyogenes	22
Strep. salivarius	20
Strep. albus	18
Vibrio	24 (8-39)
Yersinia enterocolitica	15
DNA-Viruses	
Parvovirus	35 (30-40)
Bov. parvovirus	40
Kilham rat virus	30
HCC (Dog hepat. Adenov)	265
Herpes virus	57 (15-165)
Pseudorabies virus	70
Herpes simplex MP str.	67
Herpes simplex MP str.	15
Herpes simplex , type 1	165
Vaccinia	18

RNA-Viruses	
Picornavirus	72 (36-186)
Poliovirus	110
Poliov type 1 Mahoney	67
Poliov	133
Poliov type 1	36
Poliov Mahoney	45
ECBO	80
Coxsackiev	186
Reovirus	102 (48-163)
Reovirus type 1	48
Reov type 1 (Lang str)	163
Rotav	159
Rotav SA11	65
Paramyxovirus	35 (15-55)
Sindbis virus	55
Newcastle Disease	15
Orthomyxovirus	35
Influenza	35
HIV (Lentiv)	1438 (600-2400)
HIV (HTLVIII)	600
HIV (Sup T1)	1450
HIV (H9)	2400
HIV (PHA-stim.PBL)	1300
Phages	
Bacteriophage	152 (65-310)
Bac. subt. phage SP02C12	150
Bac. subt. phage SPP1	195
Bac. subt. phage diam. 29	70
Bacteriophage F specific	292
Coliphage f2	310
Staph. phage A994	65

RNA-Viruses	
Oospora lactis	50
Saccharomyces cerevisiae (baking yeast, brewing yeast)	33-100
Saccharomyces ellipsoideus	60
Saccharomyces sp.	80
Torula sphaerica (in milk and cream)	23
Fungi	713 (130-3000)
Aspergillus glaucus	440
Aspergillus flavus	600
Aspergillus niger	1320
Aspergillus niger (pasta)	1500
Aspergillus amstelodami (meat)	700
Candida paraposilosis	220
Cladospor. herbarum (cold stores)	500
Mucor racemosus	170
Mucor mucedo (meat, bread, fat)	600
Oospora lactis	50
Penicillium chrysogenum (fruit)	500
Penicillium roquefortii	130
Penicillium expansum	130
Penicillium digitatum	440
Rhizopus nigricans	1100
Rhizopus nigricans (cheese)	1100
Scopulariopsis brevicaulis (cheese)	800
Protozoa	600-1000
Algae	3000-6000
Green algae, blue algae, diatoms	

BASE TYPES INCANDESCENT & HALOGEN

BA15s



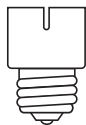
E26
Medium Skirted



E27



E29
AdMedium Skirted



GZ4



GX5.3



GY5.3



G6.35 ⁻¹³₋₁₅⁻²⁰



GY6.35 ⁻¹³₋₁₅



GX6.35



GZ6.35



GX7.9



G9.5



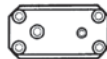
GY5.3



GX9.5



GY16



GX16d



G17t-7



G17q-7



GX17q-7



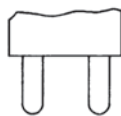
GY17q-7



G22



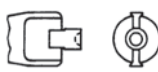
G38



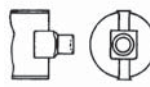
P30s-10.3



R7s



RX7s



2 screw
Terminals



BASE TYPES BRITEARC

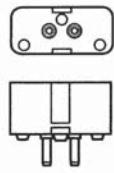
FaX1.5-3x1



GZY9.5(GZZ9.5)



GX9.5



GY9.5



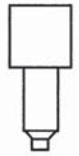
G22



G38



SFa21-12



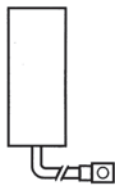
SFc10-4



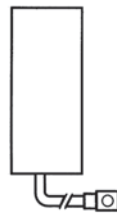
SFc-15.5-6



S25.5 x60

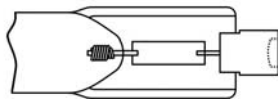


S30 x70

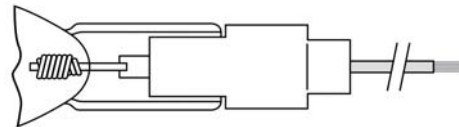


BASE TYPES TUBULAR METAL HALIDE

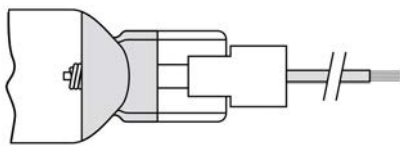
R7s



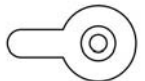
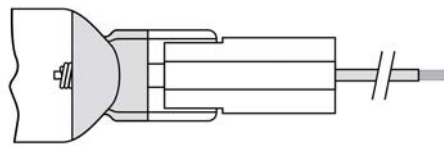
Q17-13.5



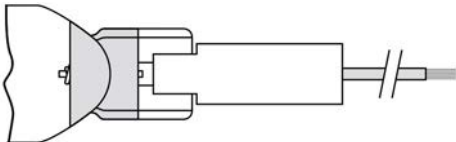
Q10S



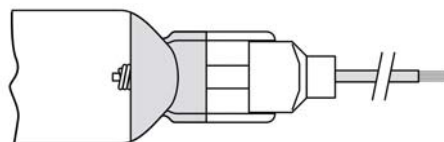
QF



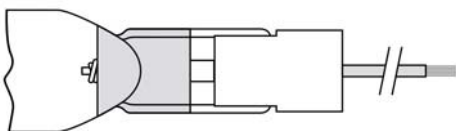
Q10L



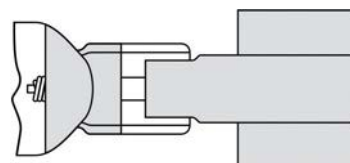
R



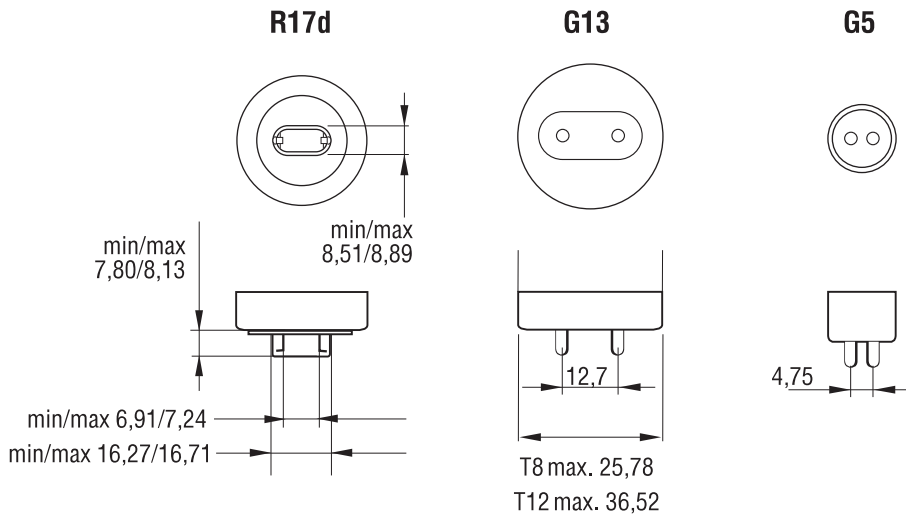
Q16



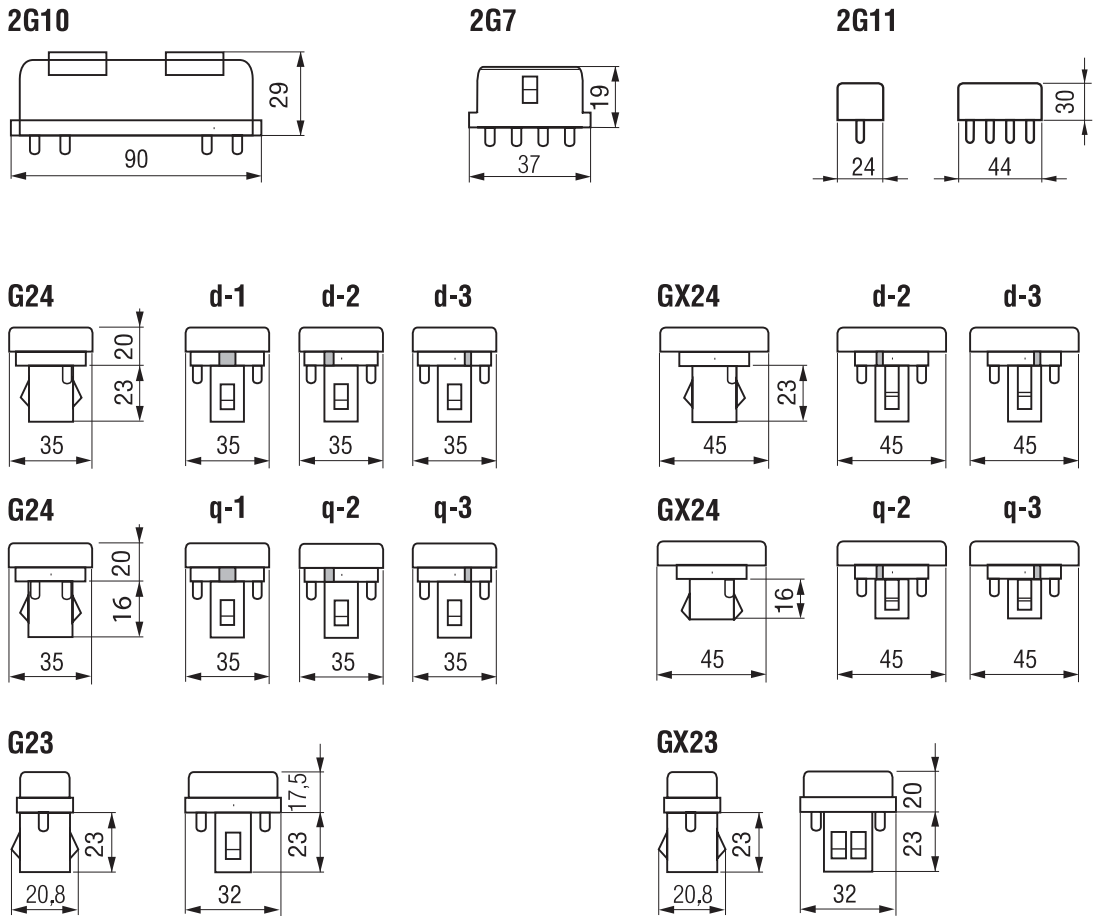
JF



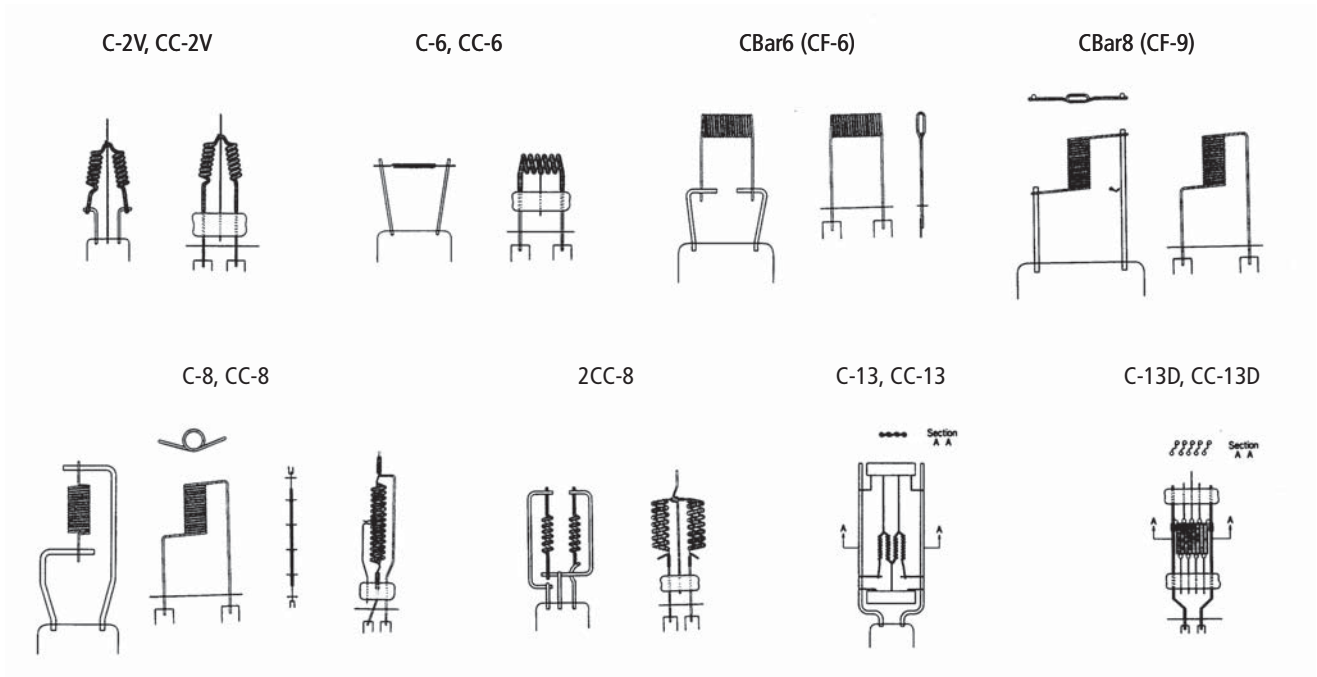
BASE TYPES FLUORESCENT



BASE TYPES COMPACT FLUORESCENT



FILAMENT TYPES



C: single Coil
 CC: Double Coil (Coiled Coil)
 C BAR: Flat Coil

BURNING POSITIONS

Symbols	S = BASE DOWN	H = BASE UP (hanging)	SE = BASE DOWN and one direction of rotation	P = HORIZONTAL	ANY
Example					

Different symbols used for Projection, Photo, Studio, Theatre, TV and Disco lamps

S 15	H 15	SE 90	P - 90 + 45
S 30	H 30	SE 30	P 4
S 45	H 45		P 20
S 90	H 120		
S 105	H 135		
S 120			
S 135			

	Allowed
	Not allowed

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0000008	F4 T5 BLB	Photo optic fluorescent lamps	48
0000018	F6 T5 BLB	Photo optic fluorescent lamps	48
0000024	F8 T5 BLB	Photo optic fluorescent lamps	48
0000026	F8W/GRO (25 Pcs.)	Aquarium & Terrarium	52
0000043	F14W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0000069	F15W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0000077	F15 T8 BLB	Photo optic fluorescent lamps	48
0000082	F15 T8 BL368	Insect trapping & DISINFECTION	87
0000085	F4W T5 BL368	Insect trapping & DISINFECTION	87
0000088	F6W T5 BL368	Insect trapping & DISINFECTION	87
0000089	F8W T5 BL368	Insect trapping & DISINFECTION	87
0000090	F15W T5 BL368	Insect trapping & DISINFECTION	87
0000091	F18W T8 BL368 24" NEW	Insect trapping & DISINFECTION	87
0000092	F36W T8 BL368 24" NEW	Insect trapping & DISINFECTION	87
0000097	F11W T5 BL368	Insect trapping & DISINFECTION	87
0000098	F30 T8 BL368	Insect trapping & DISINFECTION	87
0000099	F40 T12 BL368 48"	Insect trapping & DISINFECTION	87
0000100	FC32 T9 BL 368 8"	Insect trapping & DISINFECTION	87
0000124	F15W T8 BL 368 Toughcoat™	Insect trapping & DISINFECTION	91
0000125	F20W T12 BL 368 Toughcoat™ 24"	Insect trapping & DISINFECTION	91
0000126	F40W T12 BL 368 Toughcoat™ 24"	Insect trapping & DISINFECTION	91
0000150	F30W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0000158	F30 T8 BLB	Photo optic fluorescent lamps	48
0000361	F20 T12 BL368 24"	Insect trapping & DISINFECTION	87
0000456	FC22 T9 BL 368 8"	Insect trapping & DISINFECTION	87
0000501	G8W T5	GERMICIDAL	96
0000502	G15W T8	GERMICIDAL	96
0000503	G30W T8	GERMICIDAL	96
0000504	G36W T8	GERMICIDAL	96
0000507	G11W T5 HO	GERMICIDAL	96
0000508	G16W T5 HO	GERMICIDAL	96
0000643	F15W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000644	F18W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000645	F25W/30"/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000646	F30W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000647	F36W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000648	F38W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000649	F58W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000698	F18 T8 BLB	Photo optic fluorescent lamps	48
0000699	F36 T8 BLB	Photo optic fluorescent lamps	48
0000707	F14W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000708	F15W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000709	F18W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000710	F25W/30"/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000711	F30W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000712	F36W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000713	F38W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000714	F58W/GRO (10 Pcs.)	Aquarium & Terrarium	53
0000715	F15W/Daylightstar (10 Pcs.)	Aquarium & Terrarium	56
0000716	F18W/Daylightstar (10 Pcs.)	Aquarium & Terrarium	56
0000717	F30W/Daylightstar (10 Pcs.)	Aquarium & Terrarium	56
0000718	F36W/Daylightstar (10 Pcs.)	Aquarium & Terrarium	56
0000719	F18W/Coralstar (10 Pcs.)	Aquarium & Terrarium	58
0000725	F30W/Coralstar (10 Pcs.)	Aquarium & Terrarium	58
0000726	F36W/Coralstar (10 Pcs.)	Aquarium & Terrarium	58
0000727	F14W/Aquastar (10 Pcs.)	Aquarium & Terrarium	55
0000728	FHO24W/GRO (10 Pcs.)	Aquarium & Terrarium	52
0000729	FHO39W/GRO (10 Pcs.)	Aquarium & Terrarium	52
0000730	FHO54W/GRO (10 Pcs.)	Aquarium & Terrarium	52
0000731	F15W/Reptistar UV-B 5%	Aquarium & Terrarium	63
0000732	F18W/Reptistar UV-B 5%	Aquarium & Terrarium	63
0000733	F30W/Reptistar UV-B 5%	Aquarium & Terrarium	63
0000734	F36W/Reptistar UV-B 5%	Aquarium & Terrarium	63

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0000735	FHO24W/Coralstar (10 Pcs.)	Aquarium & Terrarium	57
0000741	F15W/Reptistar UV-B 10%	Aquarium & Terrarium	63
0000742	F18W/Reptistar UV-B 10%	Aquarium & Terrarium	63
0000743	F30W/Reptistar UV-B 10%	Aquarium & Terrarium	63
0000744	F36W/Reptistar UV-B 10%	Aquarium & Terrarium	63
0001161	PBC 80W 1,3	Bodycare	75
0001166	PBO 80W 1,0 R	Bodycare	75
0001168	PBO 80W 2,3 R	Bodycare	77
0001169	PBC 100W 0,7 R	Bodycare	75
0001170	PBC 100W 1,0 R	Bodycare	75
0001180	PBC 100W 0,7	Bodycare	75
0001181	PBC 100W 1,3	Bodycare	75
0001182	PBC 100W 2.0	Bodycare	75
0001201	PBO 100W 1,0 R	Bodycare	75
0001202	PBO 100W 1,3 R	Bodycare	75
0001206	PBO 100W 2,6 R	Bodycare	77
0001213	PBO 140W 2,3 R	Bodycare	77
0001214	PBC 160W 1,0 R	Bodycare	75
0001217	PBC 160W 0,7 R	Bodycare	75
0001218	PBO 160W 1,0 R	Bodycare	75
0001221	PBO 160W 2,0 R	Bodycare	77
0001223	PBO 160W 2,6 R	Bodycare	77
0001226	PBO 160W 2,3 R LL	Bodycare	77
0001228	PBO 120W 2,0 R 2m	Bodycare	77
0001233	PBO 180W 2,0 R 1,9m	Bodycare	77
0001234	PBO 160W R NormMax+ LL	Bodycare	75
0001237	PBO 180W 2,6 R 2m	Bodycare	77
0001239	PPO 180W 2,6 R LL 2m	Bodycare	77
0001245	PBO 180W 3,3 R 1,9m	Bodycare	77
0001246	PBO 100W R NormMax Xtra LL	Bodycare	75
0001249	PBO 160W 0,7 R	Bodycare	75
0001258	PPB 180/250W 2,3 R LL 2M	Bodycare	77
0001263	PBO 100W R A-Max LL	Bodycare	75
0001264	PBO 160W R Amax LL	Bodycare	75
0001267	PBO 160W 0,5 R	Bodycare	75
0001274	PPB 180/250W R NormMax LL 2m	Bodycare	75
0001275	PPB 160W R NormMax + LL	Bodycare	75
0001279	PBO 100W R NormMax LL	Bodycare	75
0001280	PBO 100W R NormMax+ LL	Bodycare	75
0001281	PBO 160W R NormMax LL	Bodycare	75
0001283	PBO 160W 3,3 R	Bodycare	77
0001284	PBO 160W 3,6 R LL	Bodycare	77
0001285	PPO 180W 3,6 R LL 2m	Bodycare	77
0001286	PBO 160W R NormMax Ultra LL NEW	Bodycare	75
0001297	PBC 120W 0.7 R 1.9m NEW	Bodycare	75
0001298	PBC 120W 0.7 R 2m NEW	Bodycare	75
0001299	PBC 180W 0.7 R 2m NEW	Bodycare	75
0001301	PBC 100W 1,3 R NEW	Bodycare	75
0001307	PPB 160W 3,6 R LL	Bodycare	77
0001309	PBO 100W 3,6 R LL	Bodycare	77
0001312	PPB 160W 3,0 R LL	Bodycare	77
0001313	PBC 140W 1,3 R NEW	Bodycare	75
0001315	PC Active500 100W R	Bodycare	79
0001316	PC Active500 160W R	Bodycare	79
0001317	PCC Active500 180/250W R 2m	Bodycare	79
0001318	PPB 180/250W 3,0 R LL 2M	Bodycare	77
0001319	PPB 180/250W 3,6 R LL 2M	Bodycare	77
0001320	PBO 160W R NormMax Xtra LL	Bodycare	75
0001324	PC Active500 120W R 2m	Bodycare	79
0001523	F18W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0001524	F36W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0001525	F58W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0001630	F40W T12 BL 368 48" Toughcoat™ 48"	Insect trapping & DISINFECTION	91

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0001638	F40 T12 BL368 24"	Insect trapping & DISINFECTION	87
0001648	F8W T5 BL368 Toughcoat™ NEW	Insect trapping & DISINFECTION	91
0001649	F11W T5 BL368 Toughcoat™ NEW	Insect trapping & DISINFECTION	91
0001650	F15W T5 BL368 Toughcoat™ NEW	Insect trapping & DISINFECTION	91
0001651	F25W T8 BL 368 Toughcoat™ 18"	Insect trapping & DISINFECTION	91
0001652	F30W T8 BL 368 Toughcoat™ 24"	Insect trapping & DISINFECTION	91
0001663	F36W/ BriteGro 2084	Aquarium & Terrarium	68
0001679	F25W/30"/GRO (25 Pcs.)	Aquarium & Terrarium	53
0001774	Hi-Spot 95 RefLED 10W 25° Foodstar Meat	FOOD display	119
0001777	Hi-Spot 95 RefLED 10W 25° Foodstar Bread	FOOD display	121
0001780	Hi-Spot 95 RefLED 10W 25° Foodstar Fresh	FOOD display	123
0001787	FHE 14W T5 176 FoodStar Meat TC	FOOD display	118
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0001789	FHE 28W T5 176 FoodStar Meat TC	FOOD display	118
0001790	FHE 35W T5 176 FoodStar Meat TC	FOOD display	118
0001791	F18W T8 176 FoodStar Meat TC	FOOD display	118
0001792	F30W T8 176 FoodStar Meat TC	FOOD display	118
0001793	F36W T8 176 FoodStar Meat TC	FOOD display	118
0001794	F36W T8 1M 176 FoodStar Meat TC	FOOD display	118
0001795	F58W T8 176 FoodStar Meat TC	FOOD display	118
0001796	F70W T8 176 FoodStar Meat TC	FOOD display	118
0001797	FHE 21W T5 FoodStar Bread TC	FOOD display	120
0001798	FHE 28W T5 FoodStar Bread TC	FOOD display	120
0001799	FHE 35W T5 FoodStar Bread TC	FOOD display	120
0001800	F18W T8 FoodStar Bread TC	FOOD display	120
0001801	F30W T8 FoodStar Bread TC	FOOD display	120
0001802	F36W T8 FoodStar Bread TC	FOOD display	120
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0001808	F58W T8 FoodStar Fresh TC	FOOD display	122
0001816	F36W T8 176 FoodStar Meat	FOOD display	118
0001817	F36W T8 1M 176 FoodStar Meat	FOOD display	118
0001818	F58W T8 176 FoodStar Meat	FOOD display	118
0001819	FHE 21W T5 176 FoodStar Meat	FOOD display	118
0001820	FHE 28W T5 176 FoodStar Meat	FOOD display	118
0001821	FHE 35W T5 176 FoodStar Meat	FOOD display	118
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0001855	F18W T8 176 FoodStar Meat	FOOD display	118
0001856	F30W T8 176 FoodStar Meat	FOOD display	118
0001857	F70W T8 176 FoodStar Meat	FOOD display	118
0001858	FHE 21W T5 FoodStar Bread	FOOD display	120
0001859	FHE 28W T5 FoodStar Bread	FOOD display	120
0001860	FHE 35W T5 FoodStar Bread	FOOD display	120
0001861	F18W T8 FoodStar Bread	FOOD display	120
0001862	F30W T8 FoodStar Bread	FOOD display	120
0001863	F36W T8 FoodStar Bread	FOOD display	120
0001864	F58W T8 FoodStar Bread	FOOD display	120
0001865	FHE 21W T5 FoodStar Fresh	FOOD display	122
0001866	FHE 28W T5 FoodStar Fresh	FOOD display	122
0001867	FHE 35W T5 FoodStar Fresh	FOOD display	122
0001868	F36W T8 FoodStar Fresh	FOOD display	122
0001869	F58W T8 FoodStar Fresh	FOOD display	122
0002166	F25 T8 BL368 18"	Insect trapping & DISINFECTION	87
0002185	F38W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002188	F70W / T8 / ACTIVA	Aquarium & Terrarium	67
0002188	F70W/172 Activa	Bodycare	80
0002208	G55W T8	GERMICIDAL	96
0002212	F14W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002213	F38W/GRO (25 Pcs.)	Aquarium & Terrarium	53
0002216	G6W T5	GERMICIDAL	96

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0002218	F18W / T8 / ACTIVA	Aquarium & Terrarium	67
0002218	F18W/172 Activa	Bodycare	80
0002219	F36W / T8 / ACTIVA	Aquarium & Terrarium	67
0002219	F36W/172 Activa	Bodycare	80
0002220	F58W / T8 / ACTIVA	Aquarium & Terrarium	67
0002220	F58W/172 Activa	Bodycare	80
0002221	F18W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002222	F36W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002223	F58W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002224	F15W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002225	F30W/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002226	F25W/30"/Aquastar (25 Pcs.)	Aquarium & Terrarium	55
0002240	FHE 14W / T5 / Activa	Aquarium & Terrarium	67
0002241	FHE 28W / T5 / Activa	Aquarium & Terrarium	67
0002242	FHE 35W / T5 / Activa	Aquarium & Terrarium	67
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0002300	F14 T8 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002301	F15 T8 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002302	F18 T8 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002304	F30 T8 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002306	FHO24W T5 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002307	FHO39W T5 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002308	FHO54W T5 AquaClassic (25 Pcs.)	Aquarium & Terrarium	60
0002309	FHO24W T5 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60
0002310	FHO39W T5 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60
0002311	FHO54W T5 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60
0002312	F14 T8 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60
0002313	F15 T8 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60
0002314	F18 T8 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60
0002328	G4W T5	GERMICIDAL	96
0002560	F18W/T8/P	Photo optic fluorescent lamps	49
0002561	F18W/T8/Y	Photo optic fluorescent lamps	49
0002562	F18W/T8/G	Photo optic fluorescent lamps	49
0002563	F18W/T8/B	Photo optic fluorescent lamps	49
0002564	F36W/T8/P	Photo optic fluorescent lamps	49
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0002567	F36W/T8/B	Photo optic fluorescent lamps	49
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0002569	F58W/T8/Y	Photo optic fluorescent lamps	49
0002570	F58W/T8/G	Photo optic fluorescent lamps	49
0002571	F58W/T8/B	Photo optic fluorescent lamps	49
0002572	F18W/T8/R	Photo optic fluorescent lamps	49
0002573	F36W/T8/R	Photo optic fluorescent lamps	49
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0002720	FHO24W/Marinestar (25 Pcs.)	Aquarium & Terrarium	59
0002721	FHO39W/Marinestar (25 Pcs.)	Aquarium & Terrarium	59
0002722	FHO54W/Marinestar (25 Pcs.)	Aquarium & Terrarium	59
0002723	FHO80W/Marinestar (25 Pcs.)	Aquarium & Terrarium	59
0002725	FHO24W/Marinestar (10 Pcs.)	Aquarium & Terrarium	59
0002726	FHO39W/Marinestar (10 Pcs.)	Aquarium & Terrarium	59
0002727	FHO54W/Marinestar (10 Pcs.)	Aquarium & Terrarium	59
0002728	FHO80W/Marinestar (10 Pcs.)	Aquarium & Terrarium	59
0002740	FHO24W/GRO (25 Pcs.)	Aquarium & Terrarium	52
0002741	FHO24W/Aquastar (25 Pcs.)	Aquarium & Terrarium	54
0002742	FHO24W/Coralstar (25 Pcs.)	Aquarium & Terrarium	57
0002743	FHO39W/GRO (25 Pcs.)	Aquarium & Terrarium	52
0002744	FHO39W/Aquastar (25 Pcs.)	Aquarium & Terrarium	54
0002745	FHO39W/Coralstar (25 Pcs.)	Aquarium & Terrarium	57
0002746	FHO54W/GRO (25 Pcs.)	Aquarium & Terrarium	52
0002747	FHO54W/Aquastar (25 Pcs.)	Aquarium & Terrarium	54
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9061126	CP/89 FRM 240V 650W	Photo optic HALOGEN lamps	27
9061127	PAR 64 CP61 240V 1000W SP	Photo optic incandescent & par lamps	39
9061128	PAR 64 CP62 240V 1000W MFL	Photo optic incandescent & par lamps	39
9061129	PAR 64 CP95 240V 1000W	Photo optic incandescent & par lamps	39
9061142	FLW 24V 300W	Photo optic HALOGEN lamps	23
9061146	PAR 64 CP86 240V 500W VNSP	Photo optic incandescent & par lamps	39
9061147	PAR 64 CP87 240V 500W NSP	Photo optic incandescent & par lamps	39
9061148	PAR 64 CP88 240V 500W MFL	Photo optic incandescent & par lamps	39
9061150	FNT 24V 275W	Photo optic HALOGEN lamps	23
9061168	A1/244 240V 500W	Photo optic HALOGEN lamps	25
9061181	EJM 21V 150W	Photo optic HALOGEN lamps	19
9061358	ESD 120V 150W	Photo optic HALOGEN lamps	20
9061385	CP/77 FEP 240V 1000W	Photo optic HALOGEN lamps	27
9061532	PAR 56 12V 300W Swimming Pool	Photo optic incandescent & par lamps	40
9061542	T/25 GCL 240V 500W	Photo optic HALOGEN lamps	28
9061545	T/27 GCL 240V 650W	Photo optic HALOGEN lamps	28
9061548	T/19 FWR 240V 1000W	Photo optic HALOGEN lamps	28
9061551	T/29 FWT 240V 1200W	Photo optic HALOGEN lamps	28
9061768	FXL 82V 410W	Photo optic HALOGEN lamps	20
000 2316	F30 T8 AquaClassic (10 Pcs.)	Aquarium & Terrarium	60

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