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HIGH INTENSITY DISCHARGE LAMPS



High Intensity Discharge (HID) lighting offers versatility, outstanding performance and reliability, from energy and cost effective lamps. Comprising four major groups – metal halide, high pressure sodium, mercury and low pressure sodium – HID lamps meet a variety of lighting needs for indoor and outdoor applications.

Metal Halide lamps combine excellent colour rendering with good efficacy. The low wattage range is available with conventional quartz technology as well as with ceramic arc tube technology enhancing colour uniformity and stability over lamp life. A complete medium wattage range for compatibility with mercury and high pressure sodium control gear is offered.

High Pressure Sodium lamps combine excellent efficacy with extreme long life. The environmental benefits are enhanced by the range of Mercury Free products. The SHP Twinarc lamp uses two arc tubes, to double lamp life and reduce early lamp failures.

H.I.D. LAMPS



High Pressure Mercury lamps combine white light and long life. The combination of reliability and ease of use together with the proven lamp technology provide the future potential for this product range.

Low Pressure Sodium lamps, although still used for many applications, are increasingly being replaced by High Pressure Sodium and Metal Halide Lamps. Colour appearance and rendering from these monochromatic lamps are poor, but the luminous efficacy is extremely high.

Sylvania's range of discharge lamps are characterised by quality materials, certified manufacturing techniques and stringent quality control procedures, to ensure the highest performance and reliability standards.



CMI-T / CMI-TC / CMI-TD

CMI lamps are a new family of compact metal halide lamps incorporating a ceramic discharge arc tube which ensures improved performance, colour uniformity and stable colour throughout lamp life.



FEATURES

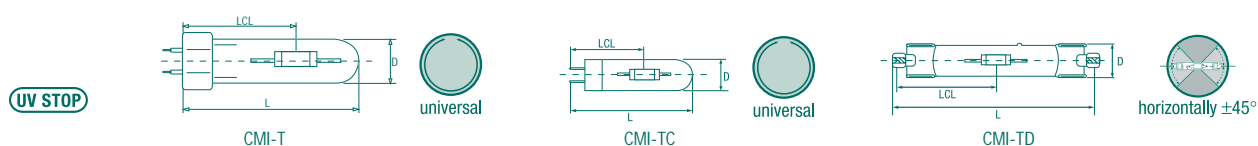
- Superior colour rendering
- Colour stability and uniformity
- High luminous efficacy
- UV stop
- Retrofit for quartz equivalent types

APPLICATIONS

- Indoor lighting: shop wall, floor and window displays, offices, hotel lobbies, etc.
- Outdoor lighting: decorative architectural and accent lighting

DIRECTIONS FOR USE

- External ignitor only
- Only use in luminaire fitted with a protective cover glass
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2



Item description	Watt	Volt	Current	Cap	Dimensions (mm)			Bulb	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D	LCL					
CMI-T												
CMI-T 35W/WDL UVS	39	95	0.53	G12	90	20	56	clear, tubular	3000	3400	10	0020300
CMI-T 70W/WDL UVS	72	95	0.98	G12	90	20	56	clear, tubular	3000	6200	10	0020301
CMI-T 70W/NDL UVS	72	95	0.98	G12	90	20	56	clear, tubular	4200	6000	10	0020305
CMI-T 150W/WDL UVS	146	95	1.82	G12	100	20	56	clear, tubular	3000	13500	10	0020302
CMI-T 150W/NDL UVS	146	95	1.82	G12	100	20	56	clear, tubular	4200	13000	10	0020306
CMI-TD												
CMI-TD 70W/WDL UVS	72	95	0.98	RX7s	117.6	22	57	clear	3000	6200	10	0020307
CMI-TD 70W/NDL UVS	72	95	0.98	RX7s	117.6	22	57	clear	4200	6200	10	0020308
CMI-TD 150W/WDL UVS	146	95	1.82	RX7s-24	135.4	25	66	clear	3000	13500	10	0020309
CMI-TD 150W/NDL UVS	146	95	1.82	RX7s-24	135.4	25	66	clear	4200	12500	10	0020310
CMI-TC												
CMI-TC 35W/WDL UVS	39	90	0.53	G8.5	85	17	52	clear, tubular	3000	3400	12	0020303
CMI-TC 70W/WDL UVS	72	90	0.98	G8.5	85	17	52	clear, tubular	3000	6200	12	0020304

HSI-MP METALARC

High output quartz metal halide lamps designed for use in open luminaires and characterized by their excellent colour maintenance throughout life. Available in 3 colour temperatures.



FEATURES

- Elliptical envelope shape
- Compact dimensions, single-ended (E27) design allows maximum freedom for luminaire designers
- Long life: up to 15000 hours

APPLICATIONS

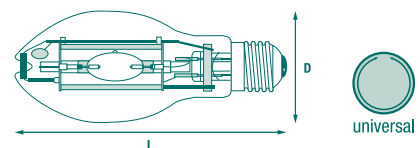
- Display lighting in retail stores
- Public areas, i.e. lobbies, banking halls and airport terminals
- Offices, especially in VDU areas using up-lighters
- Floodlighting

DIRECTIONS FOR USE

- Burning position: universal
- MP lamps can be used in open luminaires
- Continuous burning is inadvisable. Switch off at least once per week for 15 minutes
- In case of outer jacket breakage - switch off immediately
- 4.0 kV pulse E27 socket may be used
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2



UV STOP



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
HSI-MP 70W CL 3K E27	75	95	1.0	E27	138	54	clear	3000	5500	12	0020810
HSI-MP 70W CO 3K E27	75	95	1.0	E27	138	54	coated	2900	5200	12	0020811
HSI-MP 70W CL 4K E27	75	95	1.0	E27	138	54	clear	4000	5800	12	0020812
HSI-MP 70W CO 4K E27	75	95	1.0	E27	138	54	coated	3800	5500	12	0020813
HSI-MP 100W CL 3K E27	100	100	1.15	E27	138	54	clear	3000	8500	12	0020820
HSI-MP 100W CO 3K E27	100	100	1.15	E27	138	54	coated	2900	7900	12	0020821
HSI-MP 100W CL 4K E27	100	105	1.15	E27	138	54	clear	4000	8500	12	0020822
HSI-MP 100W CO 4K E27	100	105	1.15	E27	138	54	coated	3800	8100	12	0020823
HSI-MP 150W CL 3K E27	150	95	1.8	E27	138	54	clear	3000	13000	12	0020830
HSI-MP 150W CO 3K E27	150	95	1.8	E27	138	54	coated	2900	12500	12	0020831
HSI-MP 150W CL 4K E27	150	95	1.8	E27	138	54	clear	4000	13000	12	0020832
HSI-MP 150W CO 4K E27	150	95	1.8	E27	138	54	coated	3800	12500	12	0020833

HSI-TD METALARC

Double ended quartz metal halide lamps with a clear tubular outer envelope and small, compact dimensions.



FEATURES

- Compact dimensions
- Available in three colour temperatures 3000 K, 4000 K and 5000 K
- High efficiency and long service life
- UV stop glass absorbs nearly all harmful UVB and UVC radiation. Lamps can therefore be used without the need for expensive UV-filters

APPLICATIONS

- Interior lighting: exhibitions, showrooms, shop windows, commercial and reception areas

DIRECTIONS FOR USE

- Burning position: horizontal $\pm 45^\circ$
- External ignitor only
- Only use in luminaires fitted with a 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 the lamp
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
HSI-TD 70W/WDL 3K UVS	75	95	0.98	Rx7s	117.6	22	Clear UVS	3000	5500	10	0021030
HSI-TD 70W/NDL 4K UVS	75	90	0.98	Rx7s	117.6	22	Clear UVS	4200	5800	10	0021031
HSI-TD 70W/D 5K UVS	75	108	0.98	Rx7s	117.6	22	Clear UVS	5600	5400	10	0021045
HSI-TD 150W/WDL 3K UVS	150	95	1.80	Rx7s	135.4	25	Clear UVS	3000	13000	10	0021033
HSI-TD 150W/NDL 4K UVS	150	95	1.80	Rx7s	135.4	25	Clear UVS	4200	13000	10	0021034
HSI-TD 150W/D 5K UVS	150	102	1.80	Rx7s	135.4	25	Clear UVS	5200	11000	10	0021046
HSI-TD 250W/WDL 3K UVS	250	100	3.00	Fc2	161.6	27.5	Clear UVS	3200	20000	10	0021036
HSI-TD 250W/NDL 4K UVS	250	100	3.00	Fc2	161.6	27.5	Clear UVS	4200	20000	10	0021037
HSI-TD 250W/D 5K UVS	250	112	3.00	Fc2	161.6	27.5	Clear UVS	5200	18000	10	0021047

HSI-T METALARC

Single ended quartz metal halide lamps with a clear tubular envelope.



FEATURES

- Extremely compact metal halide lamps with a high light output
- Small point light source allows even more compact luminaire designs and efficient optics
- Good colour rendering properties - Class 1B
- Available in two colour temperatures 3000 K and 4000 K

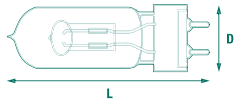
APPLICATIONS

- Ideal for spotlighting where high light intensities are required
- Indoor: accent lighting for shops, hotels, lobbies, museums, etc.
- Outdoor floodlighting: in monuments, parks, facades, etc.

DIRECTIONS FOR USE

- Burning position: universal
- Operates on external ignitor only
- Only use in luminaires fitted with a cover glass
- Ensure lamp jacket is cleaned of finger prints before use
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2

UV STOP



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
HSI-T 70W/WDL 3K UVS	75	95	0.95	G12	76	26	clear	3000	5200	12	0020335
HSI-T 70W/NDL 4K UVS	75	95	0.95	G12	76	26	clear	4200	5200	12	0020340
HSI-T 150W/WDL 3K UVS	146	95	1.82	G12	76	26	clear	3000	12000	12	0020336
HSI-T 150W/NDL 4K UVS	146	95	1.82	G12	76	26	clear	4200	12500	12	0020341

MEDIUM WATTAGE METAL HALIDE LAMPS

HSI-SX AND HSI-TSX BRITELUX

Highly efficient metal halide lamps, which can be used to upgrade from high pressure sodium lighting to a more pleasant and productive white light simply by changing the lamp.



FEATURES

- Compatible with high-pressure sodium control gear
- High lumen output
- Good colour rendering - Class 2B
- Different envelope shapes: elliptical or tubular
- Average rated life: up to 15000 hours
- 'P' protected versions available - no safety front glass required

APPLICATIONS

- Industrial halls
- Shopping areas
- Warehouses

DIRECTIONS FOR USE

- Burning position: universal
- Starting pulse: 2.8 kV maximum
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2/5



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
Elliptical											
Britelux HSI-SX 250W/CL	265	100	2.9	E40	227	90	Clear	4100	23500	12	0020772
Britelux HSI-SX 250W/CL/P	265	100	2.9	E40	227	90	Clear	4500	21000	12	0020776
Britelux HSI-SX 250W/CO	265	100	2.9	E40	227	90	Coated	3800	22300	12	0020771
Britelux HSI-SX 250W/CO/P	265	100	2.9	E40	227	90	Coated	4200	20000	12	0020775
Britelux HSI-SX 400W/CL/P	425	120	4.4	E40	290	120	Clear	4300	42000	6	0020774
Britelux HSI-SX 400W/CO/P	425	120	4.4	E40	290	120	Coated	4200	40000	6	0020773
Tubular Clear											
Britelux HSI-TSX 250W	265	100	2.9	E40	260	48	Clear	4200	21000	12	0024407
Britelux HSI-TSX 400W	425	105	4.4	E40	270	63	Clear	4200	40000	12	0024409

HSI-HX AND HSI-THX

High brightness metal halide lamps delivering energy efficient high quality white light compatible with mercury control gear.



FEATURES

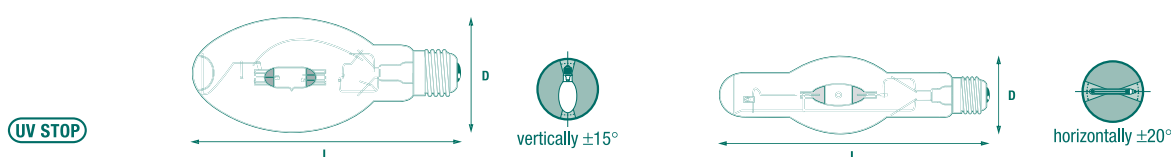
- High efficiency and very good colour rendering
- Very high light output
- E40 cap
- Envelope finish: clear tubular/coated elliptical
- Can be operated on mercury lamp control gear with a suitable ignitor
- Average rated life: up to 15000 hours

APPLICATIONS

- Sports arenas and stadiums
- Car Parks
- Rail and dock yards
- Petrol stations

DIRECTIONS FOR USE

- Burning position:
Tubular lamps: horizontal $\pm 20^\circ$
Elliptical lamps: vertical $\pm 15^\circ$
- External soft ignitor except for HSI-HX 250/400W CO/I
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 3 or N° 1 for /I versions



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
Elliptical											
HSI-HX 250W CL	245	130	2.1	E40	227	90	clear	4500	23000	12	0020357
HSI-HX 250W CO	245	130	2.1	E40	227	90	coated	3800	21000	12	0020355
HSI-HX 250W CO/I	245	130	2.1	E40	227	90	coated	3800	21000	12	0020356
HSI-HX 400W CL	400	130	3.4	E40	290	120	clear	4500	37000	12	0020353
HSI-HX 400W CO	400	130	3.4	E40	290	120	coated	3800	35200	12	0020350
HSI-HX 400W CO/I	400	130	3.4	E40	290	120	coated	3800	35200	12	0020351
Tubular Clear											
HSI-THX 250W	245	130	2.1	E40	257	48	clear	4500	20000	12	0020394
HSI-THX 400W	400	130	3.4	E40	270	63	clear	4200	36000	12	0020546

HIGH WATTAGE METAL HALIDE LAMPS

HSI-T

High output metal halide lamps with a clear tubular outer envelope compatible with mercury control gear.



FEATURES

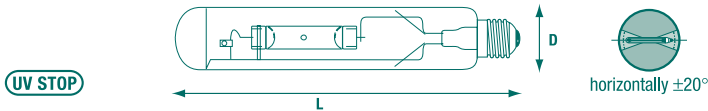
- High light output and good colour characteristics
- E40 cap
- Envelope finish: clear
- Average rated life: up to 7000 hours

APPLICATIONS

- Sports arenas and stadiums
- Car Parks
- Rail and dock yards
- Petrol stations

DIRECTIONS FOR USE

- Burning position: horizontal $\pm 20^\circ$
- External ignitor except for HSI-T 2000W-S4k 380V/I
- Technical data: p.158
- Circuit diagrams: p. 165 N° 3 or N° 1 for /I version



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
HSI-T 1000W/4K	965	130	8.25	E40	382	47	Clear	4000	81000	4	0020597
HSI-T 2000W-S4K 380V	2000	235	9.00	E40	430	102	Clear	4000	200000	4	0020533
HSI-T 2000W-4K 380V	2000	245	9.00	E40	430	102	Clear	4000	190000	4	0020532
HSI-T 2000W-S4K 380V/I	2000	235	9.00	E40	430	102	Clear	4000	200000	4	0020540

HSI-TD

High output double ended metal halide lamp with cable connectors.



FEATURES

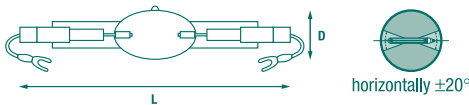
- High efficiency and very good colour rendering
- Very high light output
- Envelope finish: clear
- Average rated life: up to 3000 hrs

APPLICATIONS

- Sports arenas and stadiums
- Car Parks
- Rail and dock yards

DIRECTIONS FOR USE

- Burning position: horizontal $\pm 20^\circ$
- External electronic ignitor
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Bulb finish	Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D					
HSI-TD 2000W/D	1950	205	11.30	Cable	187	36	Clear	5600	200000	10	0020339

SHP-S AND SHP-TS SUPER

A range of tubular and elliptical high-pressure sodium lamps offering the unique combination of good colour appearance and very high efficacy, higher luminous flux and considerably longer life compared to standard types.



FEATURES

- A pleasant, warm, golden colour light
- High efficacy: up to 150 lm/W
- Colour temperature: 2050 K
- Envelope shape/finish: tubular clear/elliptical coated
- Gro-Lux version available with a special spectrum to aid plant growth
- Average rated life: up to 30000 hours

APPLICATIONS

- Residential street lighting
- Hi-mast multi-level junction lighting
- Safety/security/amenity floodlighting
- Motorway and major road lighting
- Hi-bay industrial lighting
- Plant growing - Gro-Lux 4000 and 600W

DIRECTIONS FOR USE

- Burning position: universal
- Can be operated on ignitors in accordance with IEC 60927
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2/5 (except for 600W only N° 2)



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
Elliptical coated										
SHP-S 35W/CO-E	35	90	0.49	E27	165	72	2050	1800	40	0020448
SHP-S 50W/CO-E	50	85	0.76	E27	165	72	2050	3600	40	0020688
SHP-S 70W/CO-E	70	90	0.98	E27	165	72	2050	6000	40	0020690
SHP-S 100W	100	100	1.20	E40	186	78	2050	9500	40	0020692
SHP-S 150W	150	100	1.80	E40	227	91	2050	15500	12	0020693
SHP-S 250W	255	100	2.95	E40	227	91	2050	30000	12	0020715
SHP-S 400W	410	105	4.40	E40	292	122	2050	52500	12	0020716
Tubular clear										
SHP-TS 50W/CL-E	50	85	0.76	E27	156	39	2050	4200	40	0020687
SHP-TS 70W/CL-E	70	90	0.98	E27	156	39	2050	6800	40	0020678
SHP-TS 100W	100	100	1.20	E40	211	48	2050	10000	12	0020686
SHP-TS 150W	150	100	1.80	E40	211	48	2050	17000	12	0020685
SHP-TS 250W	255	100	2.95	E40	260	48	2050	32000	12	0020713
SHP-TS 400W	400	100	4.50	E40	292	48	2050	55000	12	0020714
SHP-TS 600W	600	110	5.90	E40	292	48	2050	90000	12	0020805
SHP-TS 400W GroLux	425	120	4.0	E40	292	48	2050	58000	12	0020807
SHP-TS 600W GroLux	615	125	5.5	E40	292	48	2050	90000	12	0020808

SHP-S AND SHP-TS MERCURY FREE

High-pressure sodium lamps, containing no mercury yet offering the same performance characteristics as other high-pressure sodium lamps.



FEATURES

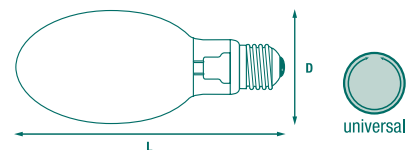
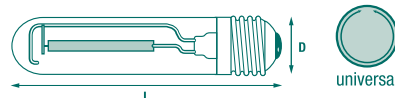
- Contains no mercury; a significant environmental benefit and allowing considerable savings on recycling costs
- High light output
- Faster run up time: 5 minutes
- Envelope shape/finish: tubular clear/elliptical coated
- Average rated life: up to 24000 hours

APPLICATIONS

- Where luminous efficacy is important for safety and security
- Street lighting, warehouse and workshop lighting, parks, tunnels, industry in general
- Applications with an increased environmental awareness

DIRECTIONS FOR USE

- Burning position: universal
- Can be operated on all ignitors in accordance with EN 60662
- Technical data: p.158
- Circuit diagrams: p.165 N° 2/5



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
Elliptical coated										
SHP-S 70W Mercury Free	70	90	0.98	E27	165	72	2200	5000	40	0020991
SHP-S 100W Mercury Free	100	100	1.20	E40	186	78	2200	8000	40	0020993
SHP-S 150W Mercury Free	153	100	1.80	E40	227	91	2200	15000	12	0020995
SHP-S 250W Mercury Free	258	100	2.90	E40	227	91	2200	27500	12	0020997
SHP-S 400W Mercury Free	408	100	4.50	E40	292	122	2200	50500	12	0020999
Tubular clear										
SHP-TS 70W Mercury Free	70	90	0.98	E27	156	39	2200	5300	40	0020990
SHP-TS 100W Mercury Free	100	100	1.20	E40	211	48	2200	9000	12	0020992
SHP-TS 150W Mercury Free	153	100	1.80	E40	211	48	2200	16000	12	0020994
SHP-TS 250W Mercury Free	258	100	2.90	E40	260	48	2200	29000	12	0020996
SHP-TS 400W Mercury Free	408	100	4.50	E40	292	48	2200	53000	12	0020998

SHP-S AND SHP-TS TWINARC

Super high pressure sodium lamps with a double arc tube, guaranteeing immediate re-strike after a power cut and doubling lamp life up to 55000 hours.



FEATURES

- Double arc tube lamp
- Standby arc tube restarts immediately after mains failure
- High lumen output with excellent and improved lumen maintenance throughout life
- Only 3% failures at 16000 hours - offering enormous savings in maintenance costs
- Average rated life: up to 55000 hours

APPLICATIONS

- Where access and maintenance is difficult or expensive
- Security floodlighting at airports, military installations, sports arenas, tunnels, harbours and industrial sites
- Street lighting

DIRECTIONS FOR USE

- Burning position: universal
- External ignitor
- Equipped with Super High Pressure Sodium arc tubes
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2/5



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
Elliptical coated										
SHP-S 50W Twinarc	50	85	0.76	E27	165	72	2050	3600	40	0020717
SHP-S 70W Twinarc	70	90	0.98	E27	165	72	2050	6000	40	0020719
SHP-S 100W Twinarc	100	100	1.20	E40	186	78	2050	9500	40	0020725
SHP-S 150W Twinarc	150	100	1.80	E40	227	91	2050	15500	12	0020740
SHP-S 250W Twinarc	255	100	2.90	E40	227	91	2050	30000	12	0020742
SHP-S 400W Twinarc	410	105	4.40	E40	292	122	2050	52500	12	0020744
Tubular clear										
SHP-TS 50W Twinarc	50	85	0.76	E27	156	39	2050	4000	40	0020712
SHP-TS 70W Twinarc	70	90	0.98	E27	156	39	2050	6500	40	0020718
SHP-TS 100W Twinarc	100	100	1.20	E40	211	48	2050	10000	12	0020724
SHP-TS 150W Twinarc	150	100	1.80	E40	211	48	2050	17000	12	0020739
SHP-TS 250W Twinarc	250	100	2.90	E40	260	48	2050	32000	12	0020741
SHP-TS 400W Twinarc	400	100	4.50	E40	292	48	2050	55000	12	0020743

SHP AND SHP-T STANDBY

Standard high-pressure sodium lamps with a double arc tube, guaranteeing immediate re-strike after a power cut and doubling lamp life.



FEATURES

- Double arc tube lamp
- Standby arc tube restarts immediately after mains failure
- Improved lumen maintenance throughout life
- Average rated life: up to 55000 hours

APPLICATIONS

- Where access and maintenance is difficult or expensive
- Security floodlighting at airports, military installations, sports arenas, tunnels, harbours and industrial sites
- Street lighting

DIRECTIONS FOR USE

- Burning position: universal
- Equipped with standard high pressure sodium arc tubes
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2/5



Item description	Watt	Volt	Lamp	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
Elliptical coated										
SHP 70W SBY	70	90	0.98	E27	165	72	2050	5800	40	0020700
SHP 150W SBY	150	100	1.8	E40	227	91	2050	14000	12	0020654
SHP 250W SBY	250	100	3.0	E40	227	91	2050	26000	12	0020653
SHP 400W SBY	400	105	4.45	E40	292	122	2050	47000	12	0020652
Tubular clear										
SHP-T 150W SBY	150	100	1.8	E40	211	48	2050	14500	12	0020670
SHP-T 250W SBY	250	100	3.0	E40	260	48	2050	28000	12	0020559
SHP-T 400W SBY	392	100	4.6	E40	292	48	2050	48000	12	0020596

SHP AND SHP-T STANDARD

Standard high pressure sodium lamps offering the unique combination of good colour appearance and high efficacy coupled with long lamp life.



FEATURES

- Pleasant, warm, golden-white light colour
- High efficacy, up to 130 lm/W
- Envelope shape/finish: tubular clear/elliptical coated

APPLICATIONS

- Residential street lighting
- Hi-mast multi-level junction lighting
- Safety/security/amenity floodlighting
- Motorway and major road lighting
- Hi-bay industrial lighting

DIRECTIONS FOR USE

- Burning position: universal
- Technical data: p. 158
- Circuit diagrams: p. 165 N° 2/5



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
Elliptical coated										
SHP 50W/CO-E	50	85	0.76	E27	165	72	2050	3300	40	0020554
SHP 70W/CO-E	70	90	0.98	E27	165	72	2050	5800	40	0020555
SHP 100W	100	100	1.20	E27	178	78	2050	8500	40	0020563
SHP 150W	150	100	1.80	E40	227	91	2050	14000	12	0020479
SHP 250W	250	100	3.00	E40	227	91	2050	26000	12	0020481
SHP 400W	400	105	4.45	E40	292	122	2050	47000	12	0020484
Tubular Clear										
SHP-T 50W/CL-E	50	85	0.76	E27	156	39	2050	3500	40	0020455
SHP-T 70W	70	90	0.98	E27	156	39	2050	6000	40	0020457
SHP-T 150W	150	100	1.80	E40	211	48	2050	14500	12	0020480
SHP-T 250W	250	100	3.00	E40	260	48	2050	28000	12	0020482
SHP-T 400W	392	100	4.60	E40	292	48	2050	48000	12	0020485
SHP-T 1000W	960	100	10.6	E40	400	68	2050	130000	4	0020504

SHP SELF-STARTING

Elliptical high-pressure sodium lamps, with internal ignitor and offering good efficacy and lumen maintenance plus long life.



FEATURES

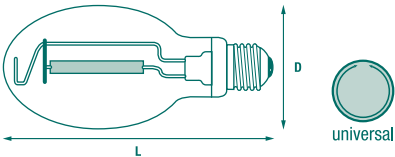
- Integral ignitor
- Offers cost-reduction opportunities: no ignitor or extra wiring needed
- Envelope shape: elliptical
- Envelope finish: clear or coated
- Average rated life: up to 12500 hours

APPLICATIONS

- Can be used in compact luminaires without ignitor
- Residential street lighting
- Old town centre and pedestrian zone lightings
- Parks, gardens, monuments
- Industrial workshops

DIRECTIONS FOR USE

- Burning position: universal
- Technical data: p. 158
- Circuit diagrams: p. 165 n° 1



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
Elliptical coated										
SHP 50W/CO-I	50	85	0.76	E27	165	72	2050	3300	40	0020550
SHP 70W/CO-I	70	90	0.98	E27	165	72	2050	5800	40	0020551
Elliptical clear										
SHP 70W/CL-I	70	90	0.98	E27	165	72	2050	6000	40	0020553

HIGH PRESSURE SODIUM LAMPS

SHX PLUG-IN

High-pressure sodium lamps with integral “probe” type starter and a mixture of Neon and Argon gases in the arc tube requiring a lower starting voltage.



FEATURES

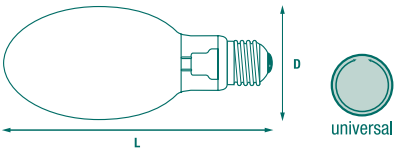
- Offers a warm golden-white light colour
- Direct replacement for mercury (HSL) lamps
- Envelope shape/finish: elliptical/coated
- Average rated life: up to 20000 hours

APPLICATIONS

- Road and industrial applications using mercury lamps

DIRECTIONS FOR USE

- Burning position: universal
- Not recommended for operation on leading power factor circuits
- Technical data: p. 158
- Circuit diagrams: p. 165 N°1



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
SHX 110W E27	110	115	1.22	E27	178	76	2000	8000	40	0020560
SHX 210W E40	210	117	2.25	E40	228	91	2000	18000	12	0020488
SHX 350W E40	350	177	3.60	E40	292	122	2000	34500	12	0020490

SPX ECO ARC

High-pressure sodium lamps with integral ignitor which can be used as a direct retrofit for mercury lamps, enabling up to 16% savings on the energy costs with up to 40% more light.



FEATURES

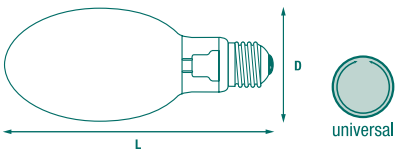
- Direct retrofit for mercury vapour lamps
- Instant energy saving in existing mercury installations:
 - SPX Eco Arc 69/108W replaces HSL-BW 80W or HSL-BW 125W
 - SPX Eco Arc 190W replaces HSL-BW 250W
 - SPX Eco Arc 295W replaces HSL-BW 400W
- Increased light output (up to 40% higher) compared to mercury lamps
- Maintained light output throughout the lamp's life
- Lamps do not cycle at the end of life
- Envelope shape/finish: elliptical/coated
- Average rated life: up to 24000 hours
- Self-starting

APPLICATIONS

- Road lighting/industrial applications using mercury lamps
- To upgrade existing mercury installations to higher lighting levels

DIRECTIONS FOR USE

- Burning position: universal
- Not recommended for operation on leading power factor circuits
- Technical data: p. 158
- Circuit diagrams: p. 165 n°1



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
SPX ECO ARC 69/108W E27	69	100	0.82	E27	176	76	1800	4300	40	0020800
	108	120	1.20	E27	176	76	1900	8800	40	0020800
SPX ECO ARC 190W E40	205	150	1.70	E40	228	91	1800	19000	12	0020801
SPX ECO ARC 295W E40	330	155	2.60	E40	292	122	1900	34000	12	0020802

MERCURY LAMPS

SUPER COMFORT MERCURY LAMPS

Universal use mercury vapour discharge lamps, combining excellent colour rendering with good efficacy and long life.



FEATURES

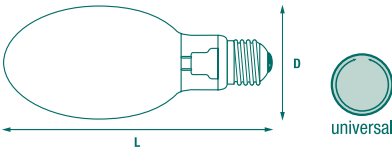
- High colour rendering (Ra 60), offering a warm white light colour (3400 K)
- Operates on standard mercury ballasts
- Excellent starting characteristics
- Efficacies: up to 60 lm/W
- Envelope shape/finish: elliptical/coated
- Average rated life: up to 29000 hours

APPLICATIONS

- Display and floodlighting
- Hotel and office lighting
- Building and monument lighting
- Supermarkets

DIRECTIONS FOR USE

- Burning position: universal
- Technical data: p. 159
- Circuit diagrams: p. 165 N°1



Item description	Watt	Volt	Lamp	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
HSL-SC 50W E27	50	95	0.61	E27	130	56	3400	2000	24	0020895
HSL-SC 80W E27	80	115	0.80	E27	166	71	3400	4000	40	0020890
HSL-SC 125W E27	125	125	1.15	E27	178	76	3400	6500	40	0020891
HSL-SC 250W E40	250	130	2.13	E40	228	91	3400	14000	12	0020892
HSL-SC 400W E40	400	135	3.25	E40	292	122	3400	24000	12	0020893

BRIGHT WHITE STANDARD MERCURY LAMPS

Universal use mercury vapour discharge lamps, combining good efficacy and long life.



FEATURES

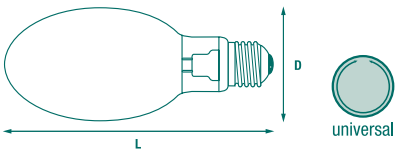
- Colour rendering (Ra 42)
- Operates on simple choke circuits
- Excellent starting characteristics
- Rugged construction to withstand shocks and vibration
- Efficacies: up to 60 lm/W
- Envelope shape/finish: elliptical/coated
- Average rated life: up to 29000 hours

APPLICATIONS

- Road lighting
- Dock, rail-yard and industrial lighting
- Park and garden lighting

DIRECTIONS FOR USE

- Burning position: universal
- Technical data: p. 159
- Circuit diagrams: p. 165 N° 1



Item description	Watt	Volt	Current	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
HSL-BW 50W E27	50	95	0.61	E27	130	56	4000	1800	24	0020405
HSL-BW 80W E27	80	115	0.80	E27	166	71	4000	3800	40	0020406
HSL-BW 80W B22-3 PIN	80	115	0.80	B22d-3	166	71	4000	3800	40	0020518
HSL-BW 125W E27	125	125	1.15	E27	178	76	4000	6300	40	0020407
HSL-BW 125W B22-3 PIN	125	125	1.15	B22d-3	178	76	4000	6300	40	0020447
HSL-BW 250W E40	250	130	2.13	E40	228	91	4000	13000	12	0020408
HSL-BW 400W E40	400	135	3.25	E40	292	122	3800	22000	12	0020409
HSL-BW 700W E40	700	140	5.40	E40	357	152	4000	40000	6	0020410
HSL-BW 1000W E40	1000	145	7.50	E40	411	167	4000	58000	6	0020411

BRIGHT WHITE BLENDED MERCURY LAMPS

Universal self-ballasted mercury vapour discharge lamps combining excellent colour rendering with long life.



FEATURES

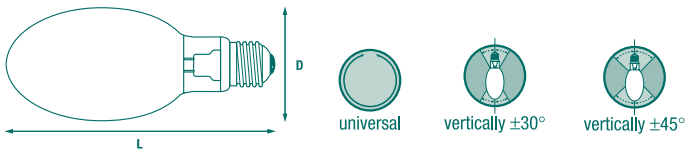
- Direct plug-in replacement for incandescent lamps, lasting sixteen times longer
- Low initial cost: no control gear needed
- Pleasant white light
- Reliable starting down to minus 18°C
- Envelope shape/finish: elliptical/coated
- Average rated life: up to 16000 hours

APPLICATIONS

- Simple energy saving replacement for incandescent lamps
- Old town centres and boulevards
- Pedestrian zones, parks and gardens
- Home lighting in cellars and garages

DIRECTIONS FOR USE

- Burning position: 160W: vertical $\pm 30^\circ$
250W: vertical $\pm 45^\circ$
500W: universal
- No control gear required
- Minimum supply voltage of 220V at +20°C
Increase by 10% for temperatures down to -18°C
- No ballast or ignitor required
- Technical data: p. 158
- Circuit diagram: p. 165 n°1



Item description	Watt	Volt	Lamp	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
HSB-BW 230V										
HSB-BW 160W 230V E27	160	230	0.80	E27	178	76	3500	3100	40	0020414
HSB-BW 250W 230V E40	250	230	1.20	E40	228	91	3500	5600	12	0020415
HSB-BW 250W 230V E27	250	230	1.20	E27	233	91	3500	5600	12	0020449
HSB-BW 500W 230V E40	500	230	2.40	E40	292	122	3500	14000	12	0020456
HSB-BW 240V										
HSB-BW 160W 240V E27	160	240	0.80	E27	178	76	3500	3100	40	0020475
HSB-BW 160W 240V B22	160	240	0.75	B22d	178	76	3500	3100	40	0020476
HSB-BW 250W 240V E40	250	240	1.20	E40	228	91	3500	5600	12	0020477
HSB-BW 500W 240V E40	500	240	2.20	E40	292	122	3500	14000	12	0020478

LOW PRESSURE SODIUM LAMPS

Monochromatic low pressure sodium discharge lamps with a very high luminous efficacy.



FEATURES

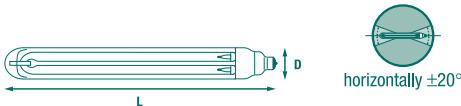
- Highest efficacy available: up to 183 lm/W
- Monochromatic warm yellow light
- Radiates light energy in the most effective part of the visible spectrum to reveal objects, vehicles and obstructions to full advantage
- Envelope shape/finish: tubular/clear

APPLICATIONS

- All road lighting needing maximum light on the road and minimal energy costs
- Safety and security lighting
- Pedestrian crossing lighting for contrast with mercury or fluorescent light sources

DIRECTIONS FOR USE

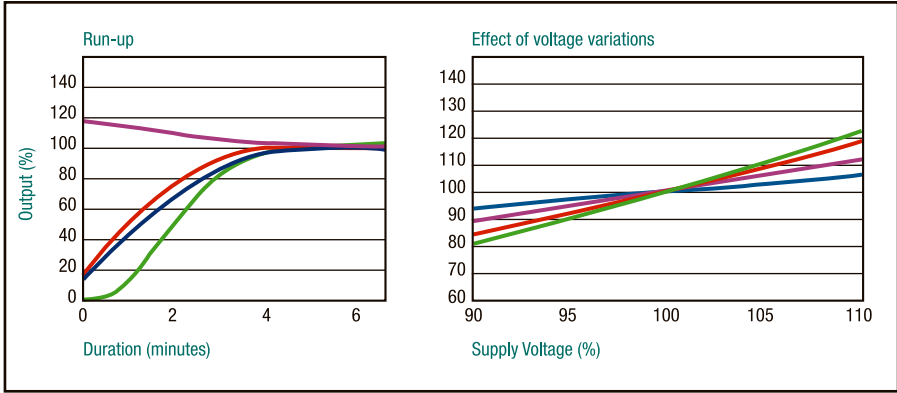
- Burning position: horizontal 20°
- Technical data: p. 159
- Circuit diagrams: p. 165 N° 4



Item description	Watt	Volt	Lamp	Cap	Dimensions (mm)		Colour temp. K	Light output lm	Packing quantity	Ordering code
					L	D				
SLP 18W	18	57	0.35	BY22d	216	54	1800	1800	20	0020528
SLP 35W	37	70	0.60	BY22d	311	54	1800	4500	12	0020495
SLP 55W	56	109	0.59	BY22d	425	54	1800	7400	9	0020496
SLP 90W	89	112	0.94	BY22d	528	68	1800	13000	9	0020497
SLP 135W	129	164	0.95	BY22d	775	68	1800	21500	9	0020498
SLP 180W	180	240	0.91	BY22d	1120	68	1800	33000	9	0020499

LAMP PERFORMANCE DURING RUN-UP & THE EFFECT OF MAINS VOLTAGE VARIATIONS

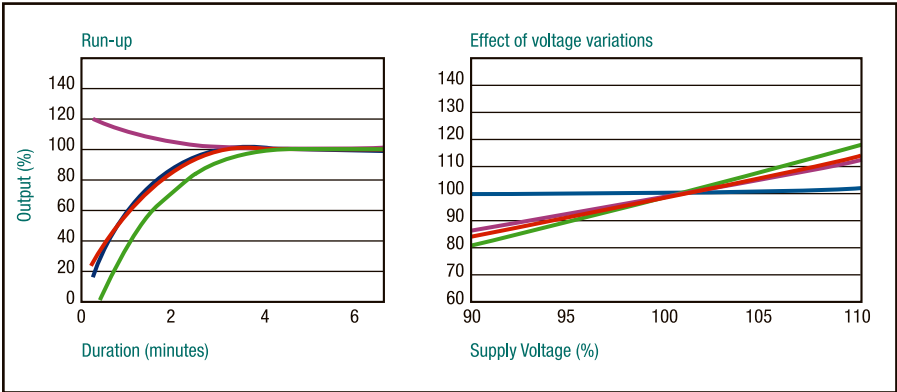
Ceramic Metal Halide



Re-start time when hot
TD versions: immediate with appropriate start up system
T, TC versions: up to 10 minutes

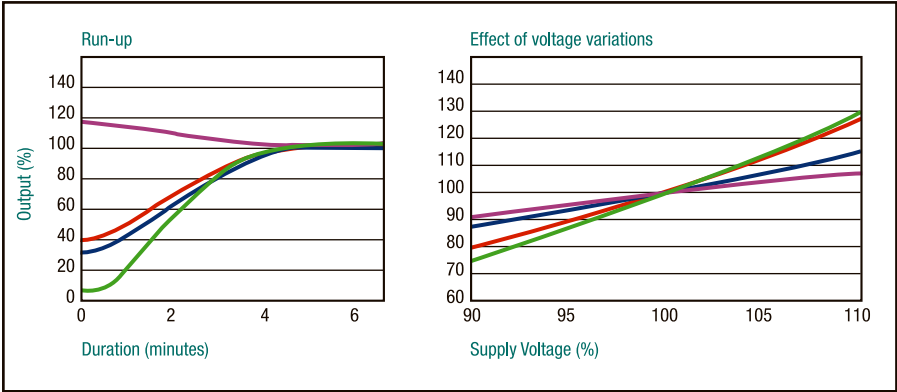
- Lamp Voltage
- Lamp Current
- Lamp Power
- Luminous Flux

Quartz Metal Halide



Re-start time when hot
TD versions: immediate with appropriate start up system
Other versions: up to 10 minutes

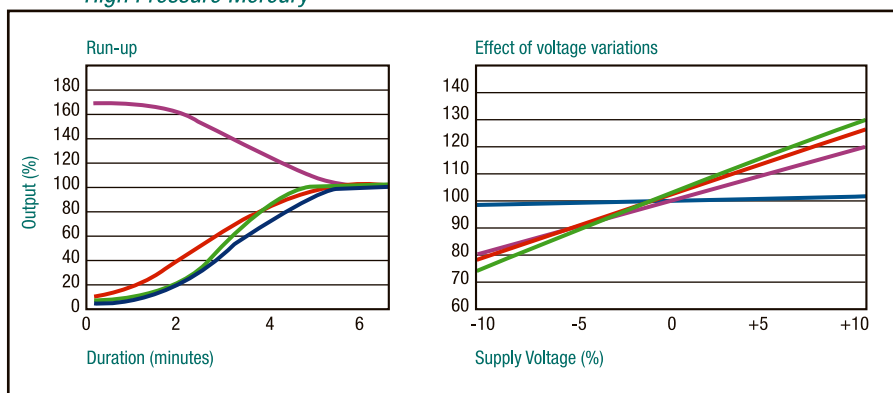
High Pressure Sodium



Re-start time when hot
Twinarc, SBY: immediate re-start
Standard, Super & MF: up to 1 minute

LAMP PERFORMANCE DURING RUN-UP & EFFECT OF MAINS VOLTAGE VARIATIONS

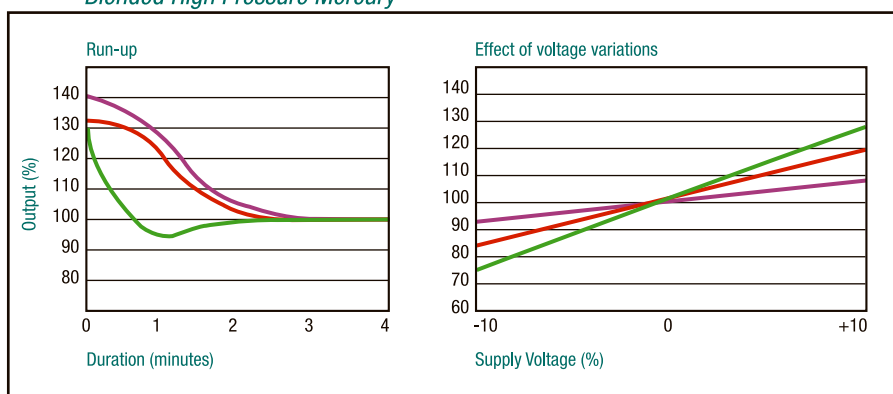
High Pressure Mercury



Re-start time when hot
5 to 10 minutes

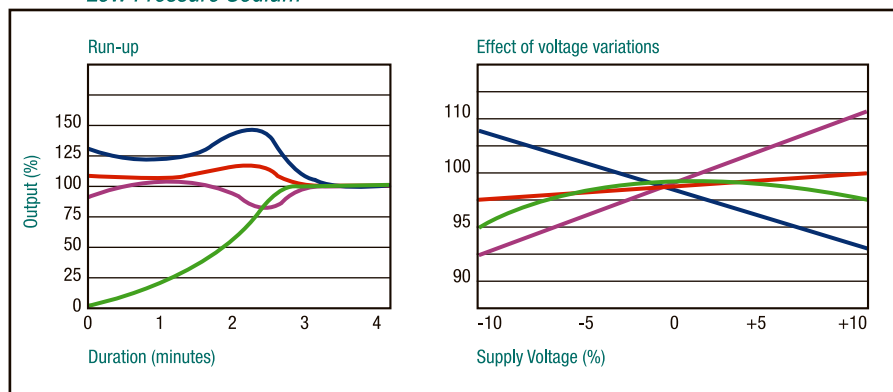
- Lamp Voltage
- Lamp Current
- Lamp Power
- Luminous Flux

Blended High Pressure Mercury



Re-start time when hot
5 to 10 minutes

Low Pressure Sodium



Re-start time when hot
up to 6 minutes depending on
interruption time.

Item description	Watt (W)	Current (A)	Power consumption including ballast (W)	Parallel capacitor for 220-240V at 50 Hz (μF)	Circuit No	Light output (lm)	Colour temperature (K)	CRI Class	Burning position
HSI-T 70W/WDL 3K UVS	75	0.95	90	12	2	5200	3000	1B	any
HSI-T 70W/WDL 4K UVS	75	0.95	90	12	2	5200	4200	1B	any
HSI-T 150W/WDL 3K UVS	146	1.82	167	20	2	12000	3000	1B	any
HSI-T 150W/WDL 4K UVS	146	1.82	167	20	2	12500	4200	1B	any
Britelux HSI-SX 250W/CL	265	2.9	290	40	2 / 5	23500	4100	2B	any
Britelux HSI-SX 250W/CL/P	265	2.9	290	40	2 / 5	21000	4500	2B	any
Britelux HSI-SX 250W/CO	265	2.9	290	40	2 / 5	22300	3800	2A	any
Britelux HSI-SX 250W/CO/P	265	2.9	290	40	2 / 5	20000	4200	2A	any
Britelux HSI-SX 400W/CL/P	425	4.4	465	45	2 / 5	42000	4300	2B	any
Britelux HSI-SX 400W/CO/P	425	4.4	465	45	2 / 5	40000	4200	2A	any
Britelux HSI-TSX 250W	265	2.9	290	40	2 / 5	21000	4200	2B	any
Britelux HSI-TSX 400W	425	4.4	465	45	2 / 5	40000	4200	2B	any
HSI-HX 250W CL	245	2.1	265	18	3	23000	4500	2B	vert ± 15°
HSI-HX 250W CO	245	2.1	265	18	3	21000	3800	2A	vert ± 15°
HSI-HX 250W CO/I	245	2.1	265	18	1	21000	3800	2A	vert ± 15°
HSI-HX 400W CL	400	3.4	420	28	3	37000	4500	2B	vert ± 15°
HSI-HX 400W CO	400	3.4	420	28	3	35200	3800	2A	vert ± 15°
HSI-HX 400W CO/I	400	3.4	420	28	1	35200	3800	2A	vert ± 15°
HSI-THX 250W	245	2.1	265	18	3	20000	4500	2B	hor ± 20°
HSI-THX 400W	400	3.4	420	28	3	36000	4200	2B	hor ± 20°
HSI-T 1000W/4K	965	8.25	985	65	3	81000	4000	2B	hor ± 20°
HSI-T 2000W-S4K 380V	2000	9.0	2022	35	3	200000	4000	2B	hor ± 20°
HSI-T 2000W-4K 380V	2000	9.0	2022	35	3	190000	4000	2B	hor ± 20°
HSI-T 2000W-S4K 380V/I	2000	9.0	2022	35	1	200000	4000	2B	hor ± 20°
HSI-TD 2000W/D	1950	11.3	2030	60	2	200000	5600	1A	hor ± 20°
SHP-S 35W CO/E	35	0.49	42	6	2 / 5	1800	2050	4	any
SHP-S 50W CO/E	50	0.76	60	8	2 / 5	3600	2050	4	any
SHP-S 70W CO/E	70	0.98	82	10	2 / 5	6000	2050	4	any
SHP-S 100W E40	100	1.20	115	12	2 / 5	9500	2050	4	any
SHP-S 150W E40	150	1.80	170	20	2 / 5	15500	2050	4	any
SHP-S 250W E40	255	2.90	285	40	2 / 5	31500	2050	4	any
SHP-S 400W E40	410	4.40	450	45	2 / 5	52500	2050	4	any
SHP-TS 50W CL/E	50	0.76	60	8	2 / 5	4200	2050	4	any
SHP-TS 70W CL/E	70	0.98	82	10	2 / 5	6800	2050	4	any
SHP-TS 100W E40	100	1.20	115	12	2 / 5	10000	2050	4	any
SHP-TS 150W E40	150	1.80	170	20	2 / 5	17000	2050	4	any
SHP-TS 250W E40	255	2.90	285	40	2 / 5	32000	2050	4	any
SHP-TS 400W E40	400	4.50	440	45	2 / 5	55000	2050	4	any
SHP-TS 600W E40	600	6.00	645	60	2	90000	2050	4	any
SHP-TS 400W Grolux	425	4.00	467	45	2	58000	2050	4	any
SHP-TS 600W Grolux	615	5.50	661	60	2	90000	2050	4	any

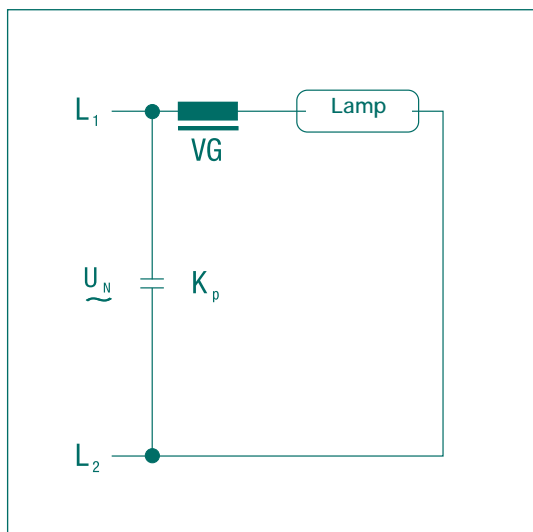
Item description	Watt (W)	Current (A)	Power consumption including ballast (W)	Parallel capacitor for 220-240V at 50 Hz (µF)	Circuit No	Light output (lm)	Colour temperature (K)	CRI Class	Burning position
SHP-S 70W Mercury Free	70	0.98	82	10	2 / 5	5000	2200	4	any
SHP-S 100W Mercury Free	100	1.20	115	12	2 / 5	8000	2200	4	any
SHP-S 150W Mercury Free	153	1.80	173	20	2 / 5	15000	2200	4	any
SHP-S 250W Mercury Free	258	2.90	288	40	2 / 5	27500	2200	4	any
SHP-S 400W Mercury Free	408	4.50	448	45	2 / 5	50500	2200	4	any
SHP-TS 70W Mercury Free	70	0.98	82	10	2 / 5	5300	2200	4	any
SHP-TS 100W Mercury Free	100	1.20	115	12	2 / 5	9000	2200	4	any
SHP-TS 150W Mercury Free	153	1.80	173	20	2 / 5	16000	2200	4	any
SHP-TS 250W Mercury Free	258	2.90	288	40	2 / 5	29000	2200	4	any
SHP-TS 400W Mercury Free	408	4.50	448	45	2 / 5	53000	2200	4	any
SHP-S 50W Twinarc	50	0.76	60	8	2 / 5	3600	2050	4	any
SHP-S 70W Twinarc	70	0.98	82	10	2 / 5	6000	2050	4	any
SHP-S 100W Twinarc	100	1.20	115	12	2 / 5	9500	2050	4	any
SHP-S 150W Twinarc	150	1.80	170	20	2 / 5	15500	2050	4	any
SHP-S 250W Twinarc	255	2.90	285	40	2 / 5	31500	2050	4	any
SHP-S 400W Twinarc	410	4.40	450	45	2 / 5	52500	2050	4	any
SHP-TS 50W Twinarc	50	0.76	60	8	2 / 5	4000	2050	4	any
SHP-TS 70W Twinarc	70	0.98	82	10	2 / 5	6500	2050	4	any
SHP-TS 100W Twinarc	100	1.20	115	12	2 / 5	10000	2050	4	any
SHP-TS 150W Twinarc	150	1.80	170	20	2 / 5	17000	2050	4	any
SHP-TS 250W Twinarc	255	2.90	285	40	2 / 5	32000	2050	4	any
SHP-TS 400W Twinarc	400	4.50	440	45	2 / 5	55000	2050	4	any
SHP 70W SBY	70	0.98	82	10	2 / 5	5800	2050	4	any
SHP 150W SBY	150	1.80	170	20	2 / 5	14000	2050	4	any
SHP 250W SBY	250	3.0	280	40	2 / 5	26000	2050	4	any
SHP 400W SBY	400	4.45	440	45	2 / 5	47000	2050	4	any
SHP-T 100W SBY	100	1.20	115	12	2 / 5	9000	2050	4	any
SHP-T 150W SBY	150	1.80	170	20	2 / 5	14500	2050	4	any
SHP-T 250W SBY	250	3.0	280	40	2 / 5	28000	2050	4	any
SHP-T 400W SBY	392	4.6	432	45	2 / 5	48000	2050	4	any

Item description	Watt (W)	Current (A)	Power consumption including ballast (W)	Parallel capacitor for 220-240V at 50 Hz (µF)	Circuit No	Light output (lm)	Colour temperature (K)	CRI Class	Burning position
SHP 50W/CO-E	50	0.76	60	8	2 / 5	3300	2050	4	any
SHP 70W/CO-E	70	0.98	82	10	2 / 5	5800	2050	4	any
SHP 100W	100	1.20	115	12	2 / 5	8500	2050	4	any
SHP 150W	150	1.80	170	20	2 / 5	14000	2050	4	any
SHP 250W	250	3.00	280	40	2 / 5	26000	2050	4	any
SHP 400W	400	4.45	440	45	2 / 5	47000	2050	4	any
SHP-T 50W	50	0.76	60	8	2 / 5	3500	2050	4	any
SHP-T 70W	70	0.98	82	10	2 / 5	6000	2050	4	any
SHP-T 150W	150	1.80	170	20	2 / 5	14500	2050	4	any
SHP-T 250W	250	3.00	280	40	2 / 5	28000	2050	4	any
SHP-T 400W	392	4.60	432	45	2 / 5	48000	2050	4	any
SHP-T 1000W	960	10.6	1020	100	2 / 5	130000	2050	4	any
SHP 50W/CO//E27	50	0.76	60	8	1	3300	2050	4	any
SHP 70W/CO//E27	70	0.98	82	10	1	5800	2050	4	any
SHP 70W/CL//E27	70	0.98	82	10	1	6000	2050	4	any
SHX 110W E27	110	1.22	130	10	1	8000	2000	4	any
SHX 210W E40	210	2.25	243	18	1	18000	2000	4	any
SHX 350W E40	350	3.60	416	25	1	34500	2000	4	any
SPX ECO ARC 69/108W E27	69	0.82	82	8	1	4300	1800	4	any
SPX ECO ARC 69/108W E27	108	1.20	124	10	1	8800	1900	4	any
SPX ECO ARC 190W E27	205	1.70	226	18	1	19000	1800	4	any
SPX ECO ARC 295W E27	330	2.60	363	25	1	34000	1900	4	any
HSL-SC 50W E27	50	0.61	59	7	1	2000	3400	3	any
HSL-SC 80W E27	80	0.80	90	8	1	4000	3400	3	any
HSL-SC 125W E27	125	1.60	140	10	1	6500	3400	3	any
HSL-SC 250W E40	250	2.13	281	18	1	14000	3400	3	any
HSL-SC 400W E40	400	3.25	451	25	1	24000	3400	3	any

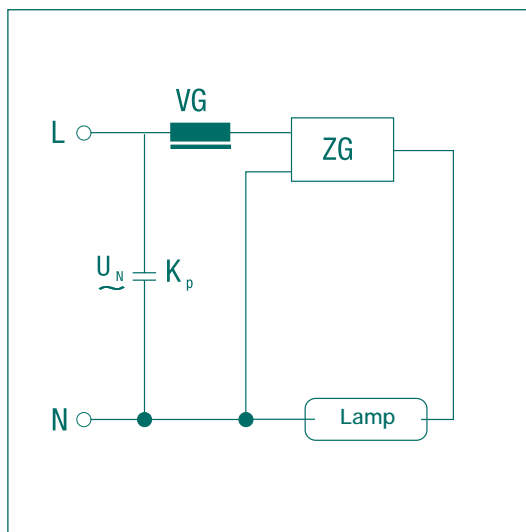
Item description	Watt (W)	Current (A)	Power consumption including ballast (W)	Parallel capacitor for 220-240V at 50 Hz (μF)	Circuit No	Light output (lm)	Colour temperature (K)	CRI Class	Burning position
HSL-BW 50W E27	50	0.61	59	7	1	1800	4000	3	any
HSL-BW 80W E27	80	0.80	90	8	1	3800	4000	3	any
HSL-BW 80W B22-3	80	0.80	90	8	1	3800	4000	3	any
HSL-BW 125W E27	125	1.15	140	10	1	6300	4000	3	any
HSL-BW 125W B22-3	125	1.15	140	10	1	6300	4000	3	any
HSL-BW 250W E40	250	2.13	281	18	1	13000	4000	3	any
HSL-BW 400W E40	400	3.25	451	25	1	22000	3800	3	any
HSL-BW 700W E40	700	5.40	735	40	1	40000	4000	3	any
HSL-BW 1000W E40	1000	7.50	1045	60	1	58000	4000	3	any
HSB-BW 160W 230V E27	160	0.80	160	-	-	3100	3500	2B	vert ± 30°
HSB-BW 250W 230V E40	250	1.20	250	-	-	5600	3500	2B	vert ± 45°
HSB-BW 250W 230V E27	250	1.20	250	-	-	5600	3500	2B	vert ± 45°
HSB-BW 500W 230V E40	500	2.40	500	-	-	14000	3500	2B	any
HSB-BW 160W 240V E27	160	0.80	160	-	-	3100	3500	2B	vert ± 30°
HSB-BW 160W 240V B22	160	0.75	160	-	-	3100	3500	2B	vert ± 30°
HSB-BW 250W 240V E40	250	1.20	250	-	-	5600	3500	2B	vert ± 45°
HSB-BW 500W 240V E40	500	2.20	500	-	-	14000	3500	2B	any
SLP 18W	18	0.35	25	5	4	1800	1800	-	bu ± 110°
SLP 35W	37	0.60	46	20	4	4500	1800	-	bu ± 110°
SLP 55W	56	0.59	77	20	4	7400	1800	-	bu ± 110°
SLP 90W	89	0.94	101	26	4	13000	1800	-	hor ± 20°
SLP 135W	129	0.95	155	45	4	21500	1800	-	hor ± 20°
SLP 180W	180	0.91	211	40	4	33000	1800	-	hor ± 20°

CIRCUIT DIAGRAMS

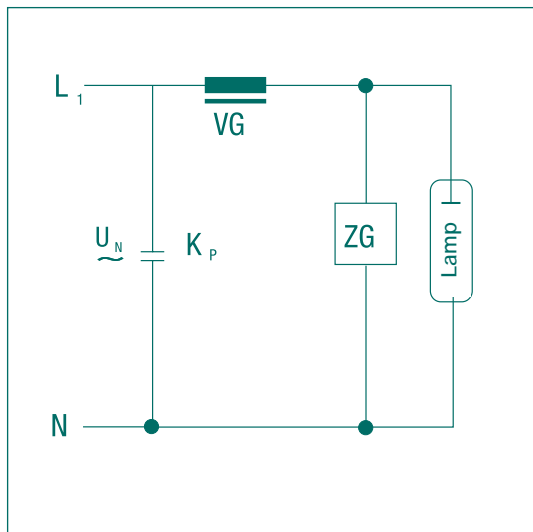
No 1 CROSS-PHASE OPERATION



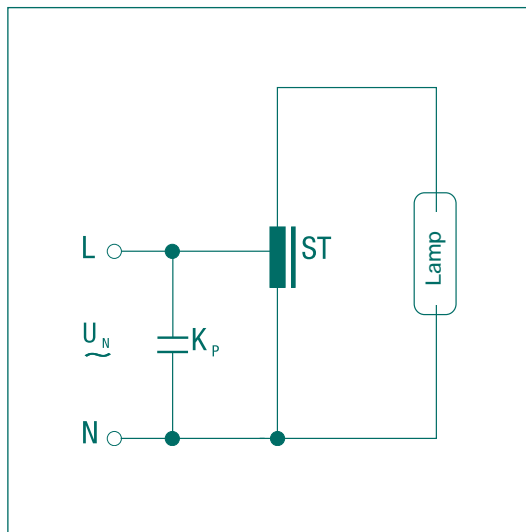
No 2 SINGLE PHASE



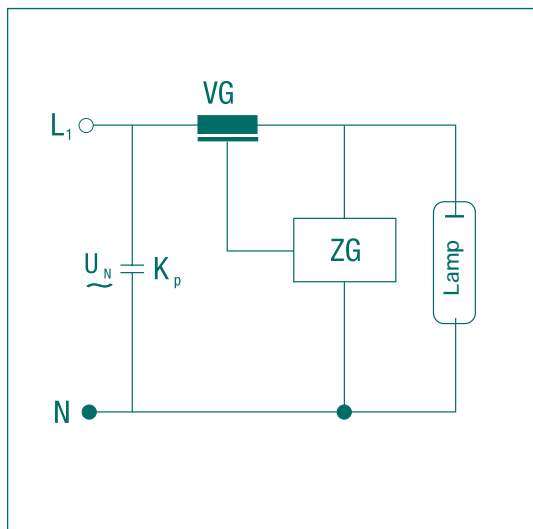
No 3 MONOPULSE IGNITOR STARTING



No 4 SLP CIRCUIT

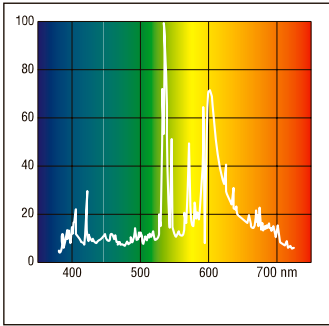


No 5 SLP IGNITOR STARTING

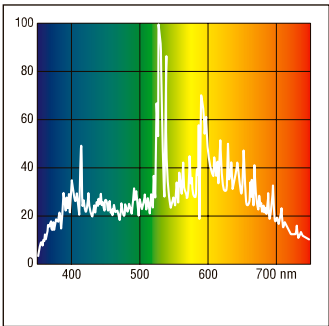


- L Live conductor L₁, L₂, L₃
- N Neutral conductor
- U_N power supply voltage 230V ~ (400V ~ for HSI-T 2000V)
- VG ballast
- K_p lead capacitor
- ZG start-up system
- K_z start-up capacitor
- ST stray field transformer
- CWA constant wattage autotransformer

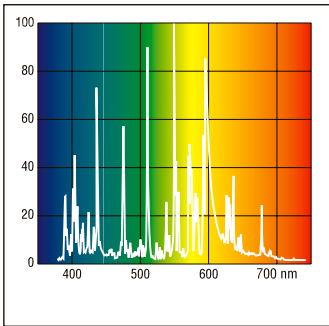
SPECTRAL DISTRIBUTION CURVES



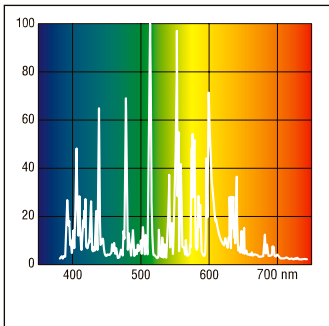
Ceramic Metal Halide: WDL



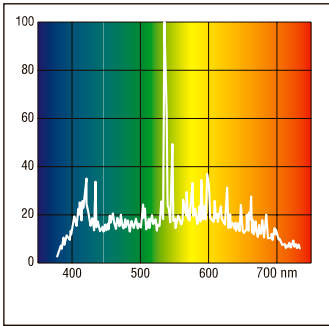
Ceramic Metal Halide: NDL



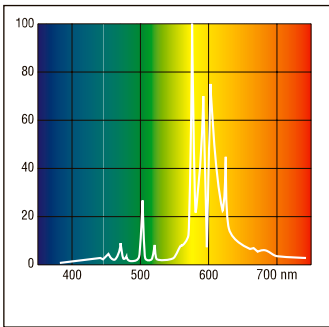
Quartz Metal Halide: WDL



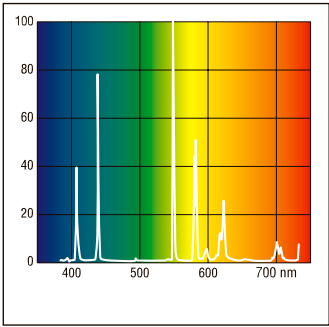
Quartz Metal Halide: NDL



Quartz Metal Halide: Daylight



High Pressure Sodium



High Pressure Mercury

HID LAMPS COMPARISON TABLE

Low wattage Metal Halide

Sylvania	Philips	Osram	GE
CDM – TD	CDM – TD	HCI – TS	CMH – TD
CDM – T	CDM – T	HCI – T	CMH – T
CDM – TC	CDM – TC	HCI – TC	CMH – TC
HSI – MP	-	HQI – E	-
HSI – TD	MHN – TD	HQI – TS	ARC / TD
HSI – T	-	HQI – T	ARC / T

Medium wattage Metal Halide

Sylvania	Philips	Osram	GE
HSI – TSX	-	HQI – T/N	ARC / T / H
HSI – SX	HPI Plus	HQI – E/N	ARC / D / H
HSI – THX	HPI – T	HQI – T/N/SI	-
HSI – HX	HPI Plus	HQI – E/N/SI	-
HSI – HX/I	HPI Plus BUS (-P)	-	-
HSI – T (6 K)	-	HQI – T/D	KRC/T/960

High wattage Metal Halide

Sylvania	Philips	Osram	GE
HSI – T	HPI – T	HQI – T / N / SN	-
HSI – T / I	-	HQI – T / N	-
HSI – TD / D	-	HQI – TS / D / S	-

High Pressure Sodium

Sylvania	Philips	Osram	GE
SHP Standard	SON	NAV Standard	Lucalox
SHP Super	SON PLUS	NAV Super	Lucalox HO
SHP Mercury Free	SON Hg FREE	-	-
SHP Twinarc	-	-	-
SHP Standby	-	-	Lucalox Superlife
SHX	SON - H	NAV Plug-In	Lucalox E-Z Lux
SPX Eco Arc	-	-	-

High Pressure Mercury

Sylvania	Philips	Osram	GE
HSL – BW	HPL – N	HQL	MBF
HSB – BW	ML	HWL	MBTF
HSL – SC	HPL – Comfort	HQL De Luxe	MBF Deluxe

Low Pressure Sodium

Sylvania	Philips	Osram	GE
SLP	SOX	SOX	SOX

TROUBLESHOOTING

General: When investigating an apparent fault it is imperative for safety reasons that the operating circuit is switched off. Always check the fuse or circuit breaker in the external circuit first. If tripped, reset or replace the fuse cartridge but if the fuse trips out again then it is most likely the fault is in the luminaire (device) or lamp. Check to ensure that the correct lamp has been inserted into the luminaire socket. The ballast maker's label should give the correct information.

Please use the following checklist in order to determine how to rectify the fault:

A. The lamp will not light or is out

- A1. Check that the supply is switched on and that the external fuse has not tripped. If the fuse trips again then:
- A2. Check that the power factor capacitor has not developed a short circuit condition. You may remove it temporarily to check.
- A3. Check that all wiring insulation is in good condition. An electric strength test with a PAT (portable appliance tester) should be made. Replace any defective wiring. If the lamp still does not start then switch off and verify that all internal wiring connections in the luminaire are properly connected and go to a 2.
- A4. Make sure that there is good 'Earth' continuity between the terminal block and the luminaire frame. Repeat the PAT test and go to 3.
- A5. If no attempt to start the lamp is observed, switch off again and withdraw the device's local fuse, if serviceable. Check or replace the fuse.
- A6. If the lamp still does not start and the operating circuit contains a starter, replace it.
- A7. Isolate the ballast and for choke inductors only perform a continuity check using a multi-meter equipped with a low voltage DC battery. Never 'Megger' test any ballast for any reason. If an open circuit or zero impedance is found then replace the ballast.
- A8. If the lamp still does not start consult the manufacturer.

B. Lamp does not appear to give its full output

- B1. Ensure the correct lamp is fitted.
- B2. Check the electrical supply voltage and match this to the ballast maker's label information. If ballast taps have been provided make sure the most suitable one has been connected.
- B3. Check that the luminaire is venting properly to avoid heat building up. Many instances of overheating are related to poor design or over-running a luminaire with a lamp and/or ballast combination for which it was never designed. Sometimes restricted ventilation or improper burning position may be the cause. Use all common sense methods to allow the luminaire to thermally stabilise properly. Consult the luminaire manufacturer.

C. The lamp is not burning in the optimum position in the luminaire/installation

- C1. Consult the manufacturer's data sheets.

D. Lamp flashes and does not ignite again

- D1. No ballast present - rectify the fault
- D2. Ballast short-circuited - replace the choke
- D3. Check the connections with the manufacturer's label
- D4. Capacitor in parallel with lamp - replace and connect properly.

E. Lamp does not ignite, but remains in the glow stage

- E1. Lamp damaged after overloading
- E2. Ignitor defective - replace
- E3. Choke open circuit voltage is low - check for correct choke type.

F. Lamp cycles (ignites but then extinguishes quickly) or shows signs of arc tube blackening

- F1. Lamp is at the end of life - replace as soon as possible
- F2. Luminaire is too hot - go to 3 above
- F3. Line voltage variation is too great - check and consult the electricity supplier.

G. Lamp develops bulges or crevices in the outer jacket

- G1. Overloaded, check ballast type and all connections. Replace lamp.

H. Lamps operate with abnormal colour

- H1. Check after 100 hours operation. Then check burning position is within limits prescribed on the data sheets. For HSI-TD lamps check that the arc tube tip-off is not pointing down. If so, then reposition lamps in the lampholder at once before switching on again.

I. Continuous operation

- I1. It is advisable that for continuous operation, lamps are switched off and on at least once a week.