



Specialty Lighting Display/Optic Program 2015/2016

Light is **OSRAM**



Dear customer,

Thank you for your interest in OSRAM products. We are excited to bring you more groundbreaking lighting solutions and lamps and are looking forward to seeing you at meetings, trade shows and other events in the future! In the meantime, here are some resources you can use to learn more about OSRAM:

Product information

You can get in-depth information about all of our products at www.osram.com. Save the website in your bookmarks to ensure that you have product and contact details as well as useful tools and services at hand when you need them.

Customer service

Visit our contact page to get in touch with OSRAM's customer service department.

English:

www.osram.com/osram_com/_metapages/contact/index.jsp

German:

www.osram.de/osram_de/_metapages/kontakt/index.jsp

Distributors

Locate a specialty lamps dealer in your area.

www.osram.com/distributorsearch-do

Tools

KREIOS® calculation tool

Do not miss to test our KREIOS® calculation tool and save costs with OSRAM KREIOS® LED luminaires.

English:

www.osram.com/appsint/kreios_calculator_tool/calculate?locale=en_US

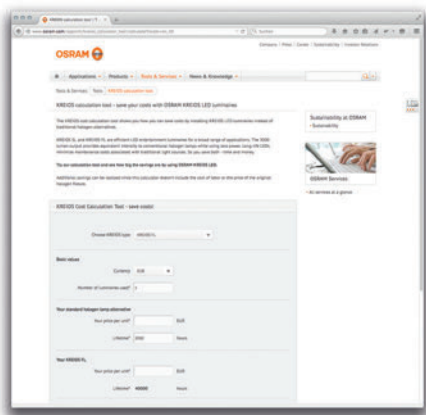
German:

www.osram.com/appsint/kreios_calculator_tool

HMI® light data tool

Make use of our new HMI® light data tool – it presents you the specifications of the lamps you have purchased. Simply type in the burner code of each HMI® lamp and find out about its specific light data. The code can be found on each burner inside the lamp bulb.

www.osram.com/hmilightdata



Videos/tutorials

OSRAM XBO® lamps

Our installation videos provide step-by-step demonstrations of how to replace OSRAM XBO® lamps on different cinema projectors. An overview of all available OSRAM XBO® installation tutorials can be found on our cinema application webpage:

English: www.osram.com/xbo

German: www.osram.de/xbo

How to replace OSRAM XBO® lamps on Barco digital cinema projectors:

youtu.be/3YM94ZtOwVg

How to replace OSRAM XBO® lamps on NEC digital cinema projectors:

www.youtube.com/watch?v=W1NB8glBRZI

How to replace OSRAM XBO® lamps on Christie digital cinema projectors:

www.youtube.com/watch?v=Qr7As6gaQJ8

OSRAM KREIOS® G1 LED image projector

www.youtube.com/watch?v=wd8OM6wPS6s

OSRAM KREIOS® LED luminaires

Learn more about all our LED luminaires: KREIOS® PAR, KREIOS® SL, KREIOS® FL and KREIOS® G1.

English: www.osram.com/kreios

German: www.osram.de/kreios

Connect with us

Join our online community to talk to OSRAM employees and other lighting professionals from all around the world. You can find us on:



/osram



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Specialty Lighting Program 2015/2016

Newsletter

Do you want to be regularly informed about the latest in lighting technology? Please register with our newsletter portal and subscribe to exciting information from OSRAM, Siteco and Traxon Technologies. After entering your e-mail address, you can register and let us know what exactly you are interested in. Do you already have an account? Then you can update your personal data here as well.

English: www.osram.com/newsletter

German: www.osram.de/newsletter

**Best regards from Munich and Berlin,
Your OSRAM Specialty Lighting team**



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Applications

Effect lighting	6
Universal halogen applications	22
Studio, stage and TV lighting	32
Cinema projection	54
LED luminaires for entertainment applications	66
UV applications	74
IR applications	86
Airfield lighting	94
Microlithography	104
Lamps and LED modules for scientific applications	116
Further information	128
Index	138



Lights on! Let the show begin!

Effect lighting



Concert lighting

Create fascinating light effects on the stage and replace lamps in no time at all



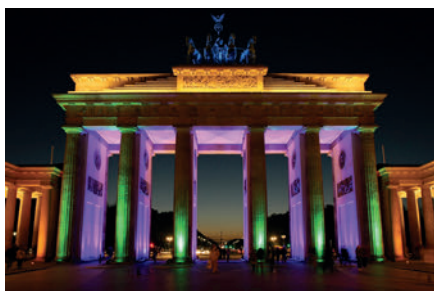
Event lighting/car shows

Present cars, trucks, motorcycles, boats and other products in spectacular, true-to-life colors



Club and DJ lighting

Use powerful light with intensive colors to turn club evenings and live performances into memorable events

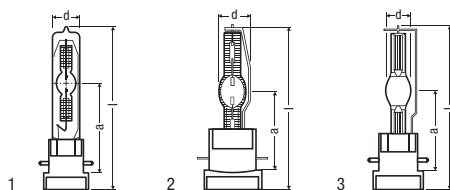


Architainment lighting

Highlight the special features of large buildings and monuments – with a high light output and extreme color stability

Lok-it!® HTI®

Metal halide lamps



Product name	Product number	W	V	A	t _h	lm	K
Lok-it!® HTI®							
Lok-it! HSD 300 W/80/P28	4008321644831	300	95	3.2	2000	27000	8000
Lok-it! HTI 400 W/60/P28	4008321605481	400	67	6	750	30000	6000
Lok-it! HTI 700 W/60/P28	4052899179790	700	60	11.6	750	50000	6000
Lok-it! HTI 700 W/75/P50	4008321485205	700	100	10	750	50000	7500
Lok-it! HTI 700 W/75/P28	4008321510549	700	100	11	750	50000	7500
Lok-it! HTI 1500 W/60/P50	4008321553416	1500	100 ¹⁾	15	750	135000	6000
Lok-it! HTI 1500 W/60/P50 M3W	4008321818997	1500	100	15	750	130000	6000

Lok-it!® HTI® Power Series

Lok-it! HTI 1000/PS	4008321788368	1000	85	12	750	85000	6000
Lok-it! HTI 1000-2/PS	4008321893406	1000	71	14	750	70000	7500
Lok-it! HTI 1400/PS	4052899135079	1400	77	18	750	120000	6000
Lok-it! HTI 1700/PS	4052899152700	1700	85	20	750	140000	6000

Product name	R _a	d [mm]	l [mm]	LCL a [mm]				No.
Lok-it!® HTI®								
Lok-it! HSD 300 W/80/P28	> 85	23	121	67	5	PGJX28	1	1
Lok-it! HTI 400 W/60/P28	> 85	17	103	56	3.4	PGJX50	1	3
Lok-it! HTI 700 W/60/P28	> 85	18	112	56	4.1	PGJX28	1	3
Lok-it! HTI 700 W/75/P50	85	18	128	65	4	PGJX28	1	2
Lok-it! HTI 700 W/75/P28	> 85	20	125	65	4	PGJX50	1	3
Lok-it! HTI 1500 W/60/P50	> 85	26	128	65	5.8	PGJX50	1	2
Lok-it! HTI 1500 W/60/P50 M3W	> 85	26	128	65	5.8	PGJX28	1	2

Lok-it!® HTI® Power Series

Lok-it! HTI 1000/PS	> 85	21	112	56	5.5	PGJX36	1	3
Lok-it! HTI 1000-2/PS	> 85	21	112.5	56	5.5	PGJX28	1	3
Lok-it! HTI 1400/PS	> 85	22	122	60	4.5	PGJX28	1	3
Lok-it! HTI 1700/PS	90	22	125	60	5.5	PGJX28	1	3

1) ±10 V

Product features

- eXtreme Seal technology for discharge lamps

Product benefits

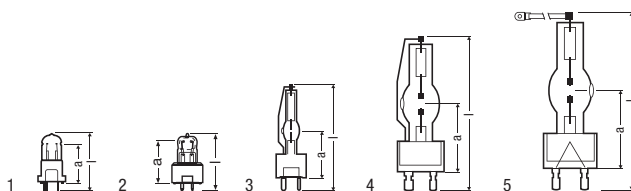
- Lamp and holder from a single source
- Rapid relamping with bayonet lock

See safety advice no. 1 on pages 128/129



Looking for a solution for smaller moving heads?

See SIRIUS HRI® on page 18

HTI®**Metal halide lamps, single-ended**

Product name	Product number	W	V	A	t [h]	lm	cd/cm ²
HTI 150 W ¹⁾	4050300301402	150	100	1.6	750	10000	5000
HTI 152 W	4050300461519	152	95	1.7	2000	10000	4200
HTI 705 W/SE XS ²⁾	4050300618074	700	70	10	500	59000	30000
HTI 1200 W/SE XS ²⁾	4050300371153	1200	100	12.7	750	105000	26000
HTI 2500 W/SE XS ³⁾	4050300371146	2500	115	23.8	600	240000	30000

Product name	K	I [mm]	LCL a [mm]				No.
HTI 150 W ¹⁾	6900	46	30	Any	GY9.5	12	1
HTI 152 W	5000	48	30	Any	GY9.5	12	2
HTI 705 W/SE XS ²⁾	5500	85	39	p45 ⁴⁾	GY9.5	1	3
HTI 1200 W/SE XS ²⁾	5400	135	59	s135 ⁴⁾	GY22 ⁵⁾	1	4
HTI 2500 W/SE XS ³⁾	6000	180	85	s135	G22 ⁵⁾	1	5

1) Horizontal arc

2) SE = single-ended / XS = eXtreme Seal (maximum permissible foil temperature 450 °C)

3) Special GY22 base: the ignition voltage may be applied only to the thin pin / XS = eXtreme Seal (maximum permissible foil temperature 450 °C) / Important: The contact pins of the base are short-circuited; the electrode farthest from the base is connected via cable

4) Current strap underneath

5) Special GY22 base; the ignition voltage may be applied only to the thin pin

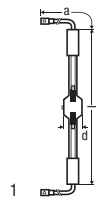
6) Important: The contact pins of the base are short-circuited; the electrode farthest from the base is connected via cable

Product benefits

- High luminance
- High luminous efficacy and efficiency

See safety advice no. 1 on pages 128/129

HTI®
Metal halide lamps, double-ended



Product name	Product number	W	V	A	t [h]	Im	K
HTI 4000 W/DE	4050300519845	4000	115	40	500	360000	6300

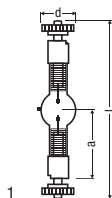
Product name							
HTI 4000 W/DE	40	270	140	p30	S25.5	1	1

- Product benefits**
- High luminance
 - High luminous efficacy and efficiency

See safety advice no. 1 on pages 128/129

Baby SharXS® HTI®

Metal halide lamps, double-ended



1



Product name	Product number	W	V	kV START	A	t[h]	lm	K
Baby SharXS HTI 250 W/D5/80	4008321129161	250	95	2.0/20 ²⁾	3.1	3000	19000	8000
Baby SharXS HTI 300 W/D5/57	4008321129185	300	80	4.5/20	4.3	3000	20000	5700
Baby SharXS HTI 300 W/D5/65	4008321129208	300	100	4.5/20	4.3	750	22000	6500
Baby SharXS HTI 575 W/D5/56	4008321129345	575	95	4.5/20	7.0	500	43000	5600

Product name	R _a	Ø d [mm]	l [mm]	LCL a [mm]				No.
Baby SharXS HTI 250 W/D5/80	> 85	16	93	35	Any	SFc10-4	1	1
Baby SharXS HTI 300 W/D5/57	80	16	93	35	Any	SFc10-4	1	1
Baby SharXS HTI 300 W/D5/65	85	16	93	35	Any	SFc10-4	1	1
Baby SharXS HTI 575 W/D5/56	85	16	93	35	Any	SFc11-4	1	1

1) XS = eXtreme Seal (maximum permissible foil temperature 450 °C)

2) Cold/hot

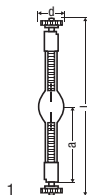
Product features

- Color temperature: approx. 6,000 K (daylight)
- Hot restart capability
- AC current
- Average life: 500...3,000 h (depending on type)
- Good color rendering index: R_a > 80 to > 85

See safety advice no. 1 on pages 128/129

Product benefits

- High average luminance (30...50 kcd/cm²)

SharXS® HTI®**Metal halide lamps, double-ended**

Product name	Product number	W	V	kV START	A	t _h	lm	cd/ cm ²
SharXS HTI 400 W/D3/75 ¹⁾	4008321285157	400	50	3.0/25 ⁵⁾	8	750	26000	55000
SharXS HTI 700 W/D4/60 ²⁾	4008321285218	700	70	3.0/25 ⁵⁾	10	750	59000	60000
SharXS HTI 700 W/D4/75 ¹⁾	4008321285232	700	70	3.0/25 ⁵⁾	10	750	59000	60000
SharXS HTI 1200 W/D7/60 ³⁾	4050300854595	1200	95	5.0/35	12.7	750	110000	41000
SharXS HTI 1200 W/D7/75 ²⁾	4008321285270	1200	95	5.0/35	12.7	750	110000	41000
SharXS HTI 1500 W/D7/60 ⁴⁾	4008321349569	1500	110	5.0/35	14	750	145000	42000
SharXS HTI 1500 W/D7/75	4008321570871	1500	110	5.0/35	14	750	145000	42000

Product name	K	R _a	d [mm]	l [mm]	LCL a [mm]				
SharXS HTI 400 W/D3/75 ¹⁾	7500	80	18	135	57.5	Any	SFc10-4	1	1
SharXS HTI 700 W/D4/60 ²⁾	6000	> 80	18	135	57.5	Any	SFc10-4	1	1
SharXS HTI 700 W/D4/75 ¹⁾	7500	> 80	21	135	57.5	Any	SFc10-4	1	1
SharXS HTI 1200 W/D7/60 ³⁾	6000	90	21	136	57.5	Any	SFc10-4	10	1
SharXS HTI 1200 W/D7/75 ²⁾	7500	80	21	135	57.5	Any	SFc10-4	1	1
SharXS HTI 1500 W/D7/60 ⁴⁾	6000	90	25	135	57.5	Any	SFc10-4	30	1
SharXS HTI 1500 W/D7/75	7500	90	25	136	57.5	Any	SFc10-4	1	1

1) Also available as an OEM package with 30 units without knurled nuts

2) XS = eXtreme Seal (maximum permissible foil temperature 450 °C)

3) Also available as an OEM package with 30 units without knurled nuts / XS = eXtreme Seal (maximum permissible foil temperature 450 °C)

4) May be operated from 1,200...1,500 W

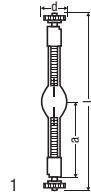
5) Cold/hot

Product features




- Less sensitive to heat
- Always ready for a hot restart
- Allows for a more compact luminaire design
- Pre-focus base for accurate lamp installation
- Double-ended lamp allows for key-lock socket feature

See safety advice no. 1 on pages 128/129

Maxi SharXS® HTI®
Metal halide lamps, double-ended



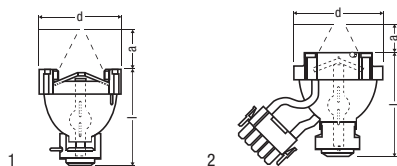
Product name	Product number	W	V	A	t [h]	lm	K
Maxi SharXS HTI 2000 W/D10/60	4008321334947	2000	105	0	750	200000	6000

Product name	R _a	d [mm]	l [mm]	LCL α [mm]				No.
Maxi SharXS HTI 2000 W/D10/60	> 90	28	220	90	Any	SFC15.5	1	1

Product features

- Short 10 mm arc for greater efficiency
- eXtreme Seal (XS) technology for improved thermal loading
- Modular design with overall length of 220 mm

See safety advice no. 1 on pages 128/129

HTI®**Metal halide lamps with reflector**

Product name	Product number	W	V	A	t [h]	K
HTI 250 W/32 C ¹⁾	4050300021805	250	45	6	250	5600
HTI 250 W/32 ²⁾	4050300226576	250	45	6	250	5600
HTI 400 W/24	4050300228327	400	55	7.3	250	5600

Product name						
HTI 250 W/32 C ¹⁾	67	73	32	p15/s15	2	1
HTI 250 W/32 ²⁾	67	73	32	p15/s15	2	1
HTI 400 W/24	67	73	24	p15/s15	2	2

1) With connecting cable and plug contact

2) Also available with connecting cable and plug contact: HTI 250 W/32 C or HTI 250 W/22 C

Product features

- Short-arc lamps with dichroic focusing reflector

Product benefits

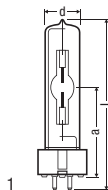
- Highly efficient lighting systems for injecting light into a light guide

Areas of application

- Medical endoscopy
- Industrial boroscopy
- Light guide systems in the entertainment sector

See safety advice no. 1 on pages 128/129

HSR® Metal halide lamps



Product name	Product number	W	V	A	t [h]	lm	cd/cm ²
HSR 400 W/60	4050300315942	400	67	6.9	1000	33000	20000
HSR 575 W/60	4050300941776	575	95	6.1	1000	49000	10000
HSR 575 W/72	4050300651187	575	95	6.1	1000	49000	10000

Product name	K	d [mm]	l [mm]	LCL a [mm]	Beam angle	Base	Box	No.
HSR 400 W/60	6000	23	110	62	hs30	GX9.5	10	1
HSR 575 W/60	6000	30	125	65	hs30	GX9.5	10	1
HSR 575 W/72	7200	30	125	65	hs30	GX9.5	10	1

Product features

- Single-ended lamps similar to HTI® lamps

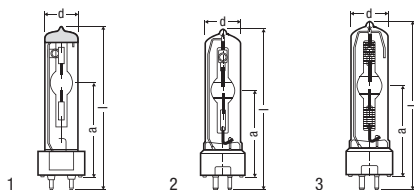
Product benefits

- Outer bulb for ease of handling

Areas of application

- Entertainment
- Architainment

See safety advices no. 1 and 2 on pages 128/129

4ArXS HSD®**Long-life short-arc metal halide lamps**

Product name	Product number	W	V	A	t[h]	lm	K
4ArXS HSD 150 W/70 ¹⁾	4008321202147	150	97	1.8	3000 ²⁾	12000	7000
4ArXS HSD 200 W/60	4050300424682	200	70	3.3	2000	13000	6000
4ArXS HSD 250 W/60	4050300501925	250	90	3.3	2000	17000	6000
4ArXS HSD 250 W/80	4008321625786	250	95	3.2	3000	17000	8000
4ArXS HSD 575 W/72	4050300593937	575	88	7.4	3000	45000	7200

Product name	Ø [mm]	l [mm]	LCL a [mm]	Beam angle	Base	Mounting	No.
4ArXS HSD 150 W/70 ¹⁾	20	105	56	hs30	G12	10	1
4ArXS HSD 200 W/60	23	108	55	hs30	GY9.5	10	2
4ArXS HSD 250 W/60	23	108	55	hs30	GY9.5	10	2
4ArXS HSD 250 W/80	23	108	55	hs30	GY9.5	10	2
4ArXS HSD 575 W/72	30	135	65	hs30	GX9.5	10	3

¹⁾ Outer bulb with UV filter

²⁾ Failure rate 2% the first 3,000h; this statement must be restricted only to attributable lamp faults

Product benefits

- Especially long lifespan

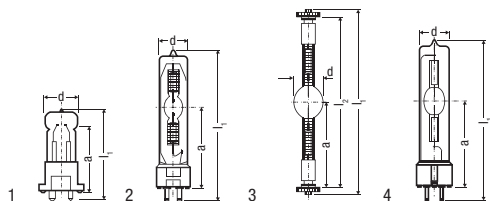
See safety advice no. 1 on pages 128/129

Areas of application

- Entertainment
- Architainment

EMH® (Classic Line)

Economical short-arc metal halide lamps



Product name	Product number	W	V	A	t[h]	K	R _a	φ [mm]
EMH 150 W/SE/70	4008321345004	150	90	1.8	500	7000	> 70	13
EMH 250 W/SE/80	4008321412294	250	94	3.3	2000	8000	> 60	23
EMH 575 W/DE/60	4008321412317	575	95	7	750	6000	> 75	24
EMH 575 W/DE/75	4008321345066	575	95	7	750	7500	> 60	24
EMH 575 W/SE/75	4008321345080	575	95	7	750	7500	> 70	28
EMH 1200 W/DE/60	4008321412379	1200	100	13.8	750	6000	> 70	27

Product name	LCL a [mm]	li [mm]	lz [mm]			Lamp Reference		No.
EMH 150 W/SE/70	30	46	-	Any ¹⁾	GY9.5	HTI 150	10	1
EMH 250 W/SE/80	55	108	-	Any	GY9.5	HSD 250 W/80	30	2
EMH 575 W/DE/60	57.5	135	115	Any	SFc10-4	HMI 575 W/DXS	30	3
EMH 575 W/DE/75	57.5	135	115	Any	SFc10-4		10	3
EMH 575 W/SE/75	65	125	-	Any	GX9.5	HSR 575 W/72	10	4
EMH 1200 W/DE/60	90	220	180	Any	SFc15.5	HMI 1200 W/DXS	30	3

1) Luminous arc horizontal

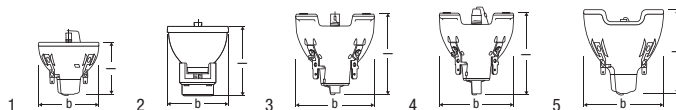
Product benefits

- Effective high-quality light at an attractive price
- Economical versions of the most popular metal halide lamps
- Excellent price/performance ratio
- Available in different wattages and color temperatures
- Available as single-ended and double-ended versions

Areas of application

- Clubs
- Shops
- Small stages

See safety advice no. 1 on pages 128/129

SIRIUS HRI®
Metal halide lamps


Product name	Product number	W	A	t [h]	lm	K
SIRIUS HRI 132W	4052899028708	132	1.9	6000	5150	9200
SIRIUS HRI 140W RO	4052899258969	140	1.9	6000	5400	9200
SIRIUS HRI 190W+	4008321866592	190	2.7	3000	8100	8200
SIRIUS HRI 230W	4008321810311	230	3.3	2500	9500	8000
SIRIUS HRI 280W	4008321810342	280	4	2000	11500	7800
SIRIUS HRI 280W RO	4052899110397	280	4	2000	11500	7800
SIRIUS HRI 330W	4008321810373	330	5	1500	15000	7400
SIRIUS HRI 330W XL	4052899195431	330	5	1500	12000	7250
SIRIUS HRI 330W X8	4052899140295	330	5	1500	12800	8000

Product name	R _a	b [mm]	l [mm]				No.
SIRIUS HRI 132W	60	46	44	Any	1	2	1
SIRIUS HRI 140W RO	60	46	44	Any	1	2	1
SIRIUS HRI 190W+	73	51	54.5	Any	0.8	2	2
SIRIUS HRI 230W	75	51	54.5	Any	1	2	2
SIRIUS HRI 280W	78	51	54.5	Any	0.9	2	2
SIRIUS HRI 280W RO	78	51	54.5	Any	0.9	2	2
SIRIUS HRI 330W	86	56	63	Any	1	2	3
SIRIUS HRI 330W XL	71	56	63	Any	1.3	2	4
SIRIUS HRI 330W X8	85	58	66	Any	1.2	2	5

Product features

- High luminance through very short arc and high pressure
- Bright light for brilliant light effects
- Long lifetime

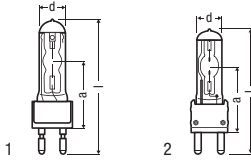
See safety advice no. 1 on pages 128/129

Product benefits

- Lightweight and compact reflector lamps with ECG
- Perfectly suited for small and lightweight moving heads
- Optimized burner design allows any burning position
- Easy lamp replacement
- Stable light output over the entire lifetime

HMI®

Metal halide lamps, single-ended



Product name	Product number	W	V	A	t [h]	lm
HMI 575W EVENT	4052899152658	575	95	7	1000	49000
HMI 1200W EVENT	4052899152673	1200	100	13.8	1000	110000

Product name							
HMI 575W EVENT	30	145	145	Any	G22	1	1
HMI 1200W EVENT	42	200	200	Any	G38	1	2

Product features

- Optimized filling
- Optimized photometric properties

Product benefits

- Extremely uniform light — reduced color or brightness shifts
- Consistent daylight color temperature over the lifetime of the lamp
- High light output
- Excellent color rendering index of $R_a > 90$, stable over the lifetime of the lamp
- Minimal light scattering

Areas of application

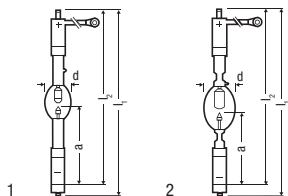
- Trade shows or exhibitions of autos, boats, industrial equipment and motorcycles

See safety advice no. 4 on pages 128/129



Looking for a solution for moving heads?

See Lok-it!® HTI® on page 8

Xstage®**Xenon short-arc lamps for entertainment**

Product name	Product number	W	V	A	$\frac{I}{A}$	t [h]	lm
Xstage 2000 W OFR	4008321288820	2000	23	90	70...100	1000	80000
Xstage 3000 W OFR	4008321288837	3000	30	100	70...110	1000	140000
Xstage 4000 W OFR	4008321288844	4000	30	130	80...135	1000	150000
Xstage 7000 W OFR	4008321288851	7000	40	160	110...165	1000	330000

Product name	ϕ [mm]	l1 [mm]	l2 [mm]	LCL a [mm]				No.
Xstage 2000 W OFR	47	300	262	120	SFaX27-9.5	SFc28-27	1	1
Xstage 3000 W OFR	55	300	262	120	SFaX27-9.5	SFc28-27	1	1
Xstage 4000 W OFR	60	315	277	120	SFaX27-9.5	SFc28-27	1	2
Xstage 7000 W OFR	70	400	362	162.5	SFaX27-9.5	SFc28-27	1	2

Product features

- Color temperature: approx. 6,000 K (daylight)
- Dimmable
- Hot restart capability

Product benefits

- Higher luminance thanks to the shorter arc
- Optimized base for better stability
- Optimized compact design

Areas of application

- Xenon short-arc lamps for event and architecture lighting

See safety advice no. 3 on pages 128/129

All-rounders for brilliant performances

Universal halogen applications

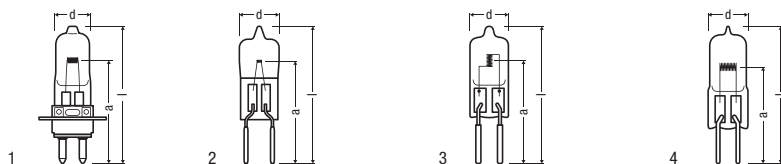




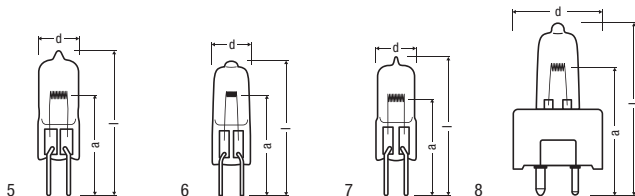
Halogen lamps for industrial and effect lighting and scientific applications

Halogen lamps cover a wide variety of different applications. In the medical field, they are used for analysis, diagnostics, microscopy, surgical lighting etc. In club and DJ lighting, they are favored because they are dimmable, easy to operate and robust. Moreover, they are also applied in numerous industrial sectors due to their infrared radiation, e.g. for curing or hardening of different composites. Halogen lamps with reflector are used for light guide applications (e.g. endoscopy) and effect lighting (e.g. small scanners).

Low-voltage halogen lamps without reflector



Product name	Product number	ANSI	LIF	W	V	t [h]	Im	d [mm]
6 V								
64222	4050300327273			10	6	300	150	9
64223	4008321107039		M/43	10	6	300	150	9
64223	4050300772110		M/43	10	6	300	150	9
64225	4050300006758	ESA/FHS	M/29	10	6	100	200	9.5
64250 HLX	4050300012407	ESB	M/30	20	6	100	460	9
64251 HLX	4050300338316			20	6	100	500	9
64265 HLX	4008321107053			30	6	100	765	9
64275	4050300258690		M/137	35	6	50	760	9
12 V								
64258	4050300285153			20	12	2000	350	9.5
64259	4008321352569			20	12	1500	400	9.5
64260	4050300099798		M/185	30	12	50	800	9
64261 HLX	4050300220529		M/130	30	12	50	750	11.5
64602	4008321107077		M/134	50	12	1100	1000	11.5
64610 HLX	4050300006697	BRL	A1/220	50	12	50	1600	11.5
64611 HLX	4008321107091			50	12	100	1350	11.5
62138 HLX	4050300242958			100	12	50	2800	11.5
64621 HLX	4050300535531			100	12	2000	2750	11.5
64623 HLX	4050300012018	EVA	M/28	100	12	2000	2800	11.5
64625 HLX	4050300006703	FCR	A1/215	100	12	50	3600	11.5
64628	4008321099549	FDT	A1/261	100	12	50	3000	13
64626 HLX ¹⁾	4050300006765	EHE	A1/45	100	12	50	3600	11.5
12.8 V								
62139 HLX	4008321746276			150	12.8	300	4500	13
15 V								
64633 HLX	4050300006710	BRJ	A1/234	150	15	50	5600	11.5



Product name



6V

64222	44	14	1.3*0.8	Any	PG22	B	30	1
64223	38	24	1.5*0.7	Any	G4	B	40	2
64223	38	24	1.5*0.7	Any	G4	B	100	2
64225	31	19.5	1.7*0.65	s90	G4	B	40	2
64250 HLX	31	19.5	2.3*0.8	Any	G4	B	40	2
64251 HLX	40	14	2.3*0.8	Any	PG22	B	30	1
64265 HLX	31	19.5	1.6*1.6	Any	G4	B	40	2
64275	40	26	1.3*1.6	Any	G4	C	40	3

12V

64258	30	19.5	3.5*0.8 ²⁾	s90	G4	C	40	2
64259	30	19.5	1.9*2.0	s90	G4	B	40	4
64260	40	14	2.6*1.3	Any	PG22	B	30	1
64261 HLX	44	30	2.6*1.3	Any	G6.35	B	40	6
64602	44	30	3.0*3.0	s90	G6.35	C	40	4
64610 HLX	44	30	3.3*1.6	s90	G6.35	B	40	6
64611 HLX	44	30	3.3*1.6	s90	G6.35	B	40	6
62138 HLX	37	27	2.4*1.8	p90/p15	G6.35	B	40	3
64621 HLX	48	18	4.7*2.7	s90	PG22	B	30	1
64623 HLX	44	30	4.7*2.7	s90	GY6.35	B	40	7
64625 HLX	44	30	4.2*2.3	s90	GY6.35	B	40	7
64628	57	27	4.2*2.3	s90	GY9.5	B	12	8
64626 HLX ¹⁾	48	18	4.2*2.3	s90	PG22	B	30	1

12.8V

62139 HLX	50	32	6.0*3.2	h90	G6.35	B	40	5
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15V

64633 HLX	44	30	3.0*4.8	s90	G6.35	B	40	7
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1) Available on request

2) Restricted tolerances 3.5±0.25*0.8±0.10

Product features

- Xenon instead of krypton as the filler gas (XENOPHOT® HLX® versions)
- Luminous flux up to 10 % higher with same power consumption (XENOPHOT® HLX® versions)
- HLX® tungsten halogen low-voltage lamp with or without reflector
- Dimmable
- XIR® tungsten halogen capsule with xenon gas filling

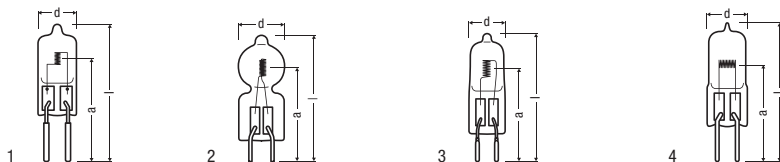
Product benefits

- Up to 10 % higher luminous efficacy compared to standard lamps (HLX®)
- Instant light (HLX®)
- Increased energy efficiency due to additional infrared coating on glass bulb (XIR®)
- Up to 30 % higher luminous efficacy compared to standard lamps (XIR®)

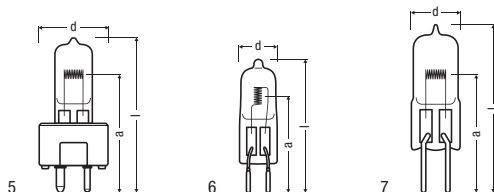
Areas of application

- Lamps for special luminaires
- Medical fiber optics (HLX®)

Low-voltage halogen lamps without reflector



Product name	Product number	ANSI	LIF	W	V	t [h]	Im	φ d [mm]
22.8 V								
64291 XIR	4008321330550			40	22.8	800	1200	12
64650	4008321107138			50	22.8	1200	1150	13
64668 XIR	4008321331182			80	22.8	400	3050	14
64292 XIR	4008321330598			150	22.8	600	6000	14
24 V								
64638 HLX	4050300283050			100	24	300	2900	13
64647	4008321107114			120	24	700	3600	13
64640 HLX	4050300006727	FCS	A1/216	150	24	50	6000	11.5
64641 HLX	4050300048260			150	24	2000	2700	11.5
64642 HLX	4050300012025	FDV	M/184	150	24	300	5000	11.5
64643	4008321099648	FDS	A1/262	150	24	100	5000	15
64652 HLX	4052899100916			250	24	50	8500	11.5
64655 HLX	4050300006734	EHJ	A1/223	250	24	50	10000	12.5
64657 HLX	4050300012001	EVC	M/33	250	24	300	9000	13.5
64654 HLX ¹⁾	4008321241399			250	24	300	9000	13.5
64656 HLX	4050300023120	FNT		275	24	75	10000	13.5
36 V								
64663 HLX	4050300006741	EVD	A1/239	400	36	50	16000	15
64664 HLX	4008321241474		A1/270	400	36	150	14500	18
64665 HLX	4008321833815		A1/166	400	36	300	12200	18



Product name								
22.8 V								
64291 XIR	44	30	3.9*1.4	h90	G6.35	B	40	2
64650	44	30	2.0*5.0	Any	G6.35	C	40	3
64668 XIR	44	30	2.2*5.5	h90	G6.35	B	40	2
64292 XIR	44	30	2.8*6.7	s90	G6.35	B	40	2
24 V								
64638 HLX	50	30	5.3*2.6	Any	G6.35	B	40	4
64647	44	30	2.3*6.4	Any	G6.35	B	40	1
64640 HLX	50	32	5.8*2.9	s90	G6.35	B	40	4
64641 HLX	50	32	3.0*6.0	s135	G6.35	D	40	4
64642 HLX	50	32	6.0*3.2	s90	G6.35	B	40	4
64643	57	33.5	6.0*3.0	s90	G9.5	B	12	5
64652 HLX	46	31.8	2.7*5.0	p90/p15	GX5.3	B	40	6
64655 HLX	55	33	7.0*3.5	s90	G6.35	B	40	7
64657 HLX	55	33	8.0*4.0	s90	G6.35	B	40	7
64654 HLX ¹⁾	68	35	8.0*4.0	s90	G9.5	B	12	5
64656 HLX	55	33	7.0*3.5	s90	G6.35	B	40	7
36 V								
64663 HLX	60	36	9.3*4.9	s90	G6.35	B	40	7
64664 HLX	57	36	10.0*5.0 ²⁾	s105	G6.35	B	40	7
64665 HLX	60	36	10.5*5.3	s90	G6.35	B	40	7

1) Available on request

2) Round-core double coil

Product features

- Xenon instead of krypton as the filler gas (XENOPHOT® HLX® versions)
- Luminous flux up to 10 % higher with same power consumption (XENOPHOT® HLX® versions)
- HLX® tungsten halogen low-voltage lamp with or without reflector
- Dimmable
- XIR® tungsten halogen capsule with xenon gas filling

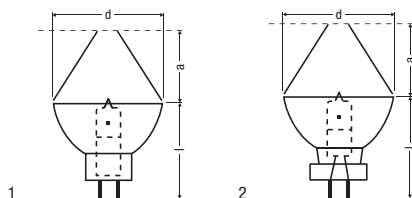
Product benefits

- Up to 10% higher luminous efficacy compared to standard lamps (HLX®)
- Instant light (HLX®)
- Increased energy efficiency due to additional infrared coating on glass bulb (XIR®)
- Up to 30% higher luminous efficacy compared to standard lamps (XIR®)

Areas of application

- Lamps for special luminaires
- Medical fiber optics (HLX®)

Halogen lamps with reflector MR11



Product name	Product number	LIF	W	V	t [h]	d [mm]	l [mm]
64255	4050300006833		20	8	50	35	32
64613 ¹⁾	4050300241012		75	12	25	35	35.5
64617	4050300231211	M/117	75	12	25	35	35.5
64617 S ²⁾	4050300461106		75	12	25	35	35.5
64624	4050300013916		100	12	25	35	35.5
Product name							
64255	26	p90/p15	Dichroic	GZx 4	B	20	1
64613 ¹⁾	26	p90/p15	Blue	G5.3	B	20	2
64617	26	p90/p15	Dichroic	G5.3	B	20	2
64617 S ²⁾	26	p90/p15	Dichroic	G5.3	B	20	2
64624	26	p90/p15	Dichroic	G5.3	B	20	2

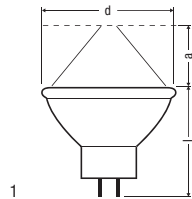
¹⁾ If used in dentistry, there may be third-party rights that need to be observed in certain countries / Available on request






²⁾ Spot adjustment








Product features

- Xenon instead of krypton as the filler gas (XENOPHOT® HLX® versions)
- Luminous flux up to 10 % higher with same power consumption (XENOPHOT® HLX® versions)

Halogen lamps with reflector MR13

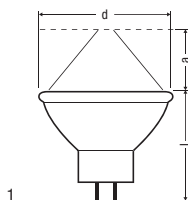


Product name	Product number					
93520 ¹⁾	4050300350196	FHS	300	82	70	42

Product name							
93520 ¹⁾	45	152.5	s90	GX5.3	E	24	1

1) Available on request

Halogen lamps with reflector MR16



Product name	Product number	ANSI	UF	W	V	t[h]	φ [mm]
64607	4050300006789	EFM	A1/229	50	8	50	51
64615 HLX	4050300006796	EFN	A1/230	75	12	50	51
64627 HLX	4050300006802	EFP	A1/231	100	12	50	51
64629	40503000943169	EFP-6		100	12	600	51
64637	4008321352071	EBV	A1/271	100	12	1500	51
64619	4050300017273	EXP		90	14.5	500	51
64620	4050300797397	EFR-5		150	15	500	50
64634 HLX	4050300006819	EFR	A1/232	150	15	50	51
64635 HLX ¹⁾	4050300238807			150	15	50	51
93637	4050300350097	EJV		150	21	100	51
93638	4050300456843	EKE		150	21	200	51
64653 HLX	4050300006826	ELC	A1/259	250	24	50	51
93653	4050300636450	ELC-3		250	24	300	51
64659	4008321197795	ELC-10		250	24	1000	51
93506	4050300349930	ENH		250	120	175	51
93518	4050300350059	ELH		300	120	35	51

Product name	l [mm]	a [mm]	Beam angle	Reflector	Base	Socket	RoHS
64607	42	32	p90/p15	Aluminum	GZ6.35	B	20
64615 HLX	42	32	p90/p15	Dichroic	GZ6.35	B	20
64627 HLX	42	32	p90/p15	Dichroic	GZ6.35	B	20
64629	42	32	p90/p15	Dichroic	GZ6.35	B	20
64637	42	32	s120	Dichroic	GZ6.35	B	20
64619	45	32	p90	Dichroic	GX5.3	B	20
64620	42	32	p90/p15	Dichroic	GZ6.35	B	20
64634 HLX	42	32	p90/p15	Dichroic	GZ6.35	B	20
64635 HLX ¹⁾	45	19	Any	Gold	GZ6.35		20
93637	44.5	44.5	s90	Dichroic	GX5.3	E	24
93638	44.5	44.5	s90	Dichroic	GX5.3	E	24
64653 HLX	44.5	35	Any	Dichroic	GX5.3	B	20
93653	44.5	35	Any	Dichroic	GX5.3	E	24
64659	44.5	35	Any	Dichroic	GX5.3	B	20
93506	44.5	152.5	s90	Dichroic	GY5.3	E	24
93518	45	152.5	s90	Dichroic	GY5.3	E	24

1) Infrared lamp; temperature at the focal point approximately 1,300 °C

Product features

- Xenon instead of krypton as the filler gas (XENOPHOT® HLX® versions)
- Luminous flux up to 10 % higher with same power consumption (XENOPHOT® HLX® versions)



And ... action! It's time for
great entertainment
Studio, stage and TV lighting



Studio lighting

Present TV shows with first-class color rendering, stable color temperatures and maximum color fidelity



Stage lighting

Show stars in their best light with stable color temperatures, high luminance and outstanding luminous efficacies



Film and TV productions

Create unforgettable scenes with robust, versatile lamps, designed to match the special requirements of professional film and TV work



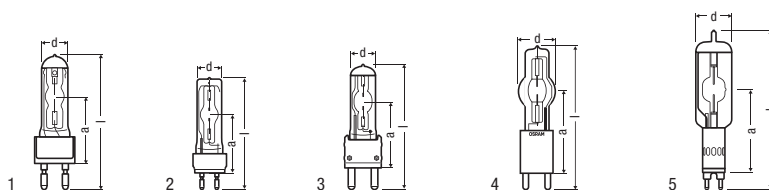
Theater lighting

Find the essential requisite for the perfect stage play – extremely powerful light for impressive effects in different colors

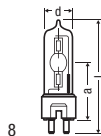
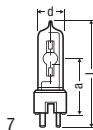
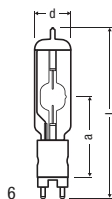









Video applications and professional photography

Choose reliable and durable solutions for long, hassle-free photo sessions – with high light output and optimum quality

HMI®**Metal halide lamps, single-ended**

Product name	Product number	W	V	A	t _[h]	lm
HMI 200 W/SE	4052899152618	200	70	3	200	16000
HMI 400 W/SE UVS	4052899152632	400	70	6.9	650	33000
HMI 575 W/SEL UVS	4052899152656	575	95	76.9	1000	49000
HMI 800 W/SE UVS	4052899087125	800	95	8.4	1000	65000
HMI 1200 W/SEL UVS	4052899152670	1200	100	13.8	1000	110000
HMI 1600 W/SE UVS	4052899152687	1600	140	10.7	750	150000
HMI 1800 W/SE UVS	4052899152694	1800	140	13	750	165000
HMI 2500 W/SE XS	4050300284293	2500	115	25.6	500	240000
HMI 4000 W/SE XS	4008321244314	4000	200	24	500	380000
HMI 6000 W/SE XS	4050300564067	6000	123	55	500	600000
HMI 9000 W/SE	4008321762573	9000	160	56	400	875000
HMI 12000 W/SE XS	4050300650418	12000	160	75	500	1150000
HMI 18000 W/SE XS	4008321098955	18000	225	88	350	1600000



Product name	 d [mm]	 a [mm]	 LCL a [mm]				 No.
HMI 200 W/SE	20	80	39	Any	GZY9.5	10	7
HMI 400 W/SE UVS	23	110	60	Any	GZZ9.5	10	8
HMI 575 W/SEL UVS	30	145	70	Any	G22	10	1
HMI 800 W/SE UVS	30	145	70	Any	G22	10	1
HMI 1200 W/SEL UVS	40	200	107	Any	G38	1	3
HMI 1600 W/SE UVS	38	175	85	Any	G22	1	2
HMI 1800 W/SE UVS	42	200	107	Any	G38	1	3
HMI 2500 W/SE XS	60	225	127	Any	G38	1	4
HMI 4000 W/SE XS	75	250	142	Any	GX38	1	4
HMI 6000 W/SE XS	75	360	210	s135	GX38	1	5
HMI 9000 W/SE	80	380	210	s135	GX38	1	5
HMI 12000 W/SE XS	100	455	255	s135	GX38	1	5
HMI 18000 W/SE XS	100	495	260	s135	GX51	1	6

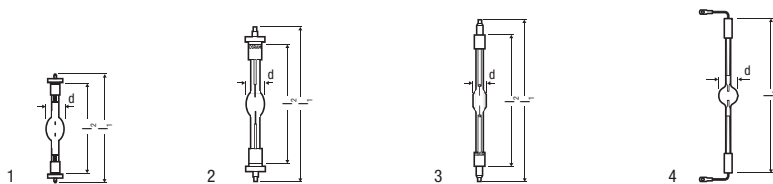
Product features

- Color temperature: approx. 6,000 K (daylight)
- Dimmable
- Hot restart capability
- High color rendering index: $R_a > 90$
- Very high luminous efficacy of up to 100lm/W

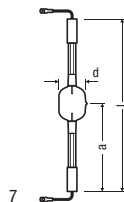
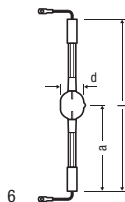
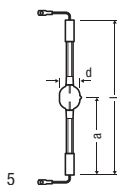
See safety advice no. 4 on pages 128/129








Areas of application

- Film and television recording in daylight conditions, in the studio or outdoors
- Film and TV production (high-wattage lamps)
- Stage (lighting for dramatic effect)
- Entertainment

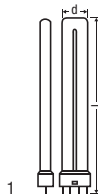
HMI®**Metal halide lamps, double-ended**

Product name	Product number	W	V	A	t _[h]	lm
HMI 575 W/DXS	4008321285102	575	95	7	1000	49000
HMI 1200 W/DXS	4008321931153	1200	100	13.8	1000	110000
HMI 2500 W/S XS	4050300025780	2500	115	25.6	500	240000
HMI 2500 W/DXS	4008321182197	2500	115	25.6	500	240000
HMI 4000 W/DXS	4008321210203	4000	200	24	500	380000
HMI 4000 W/DXS SOLAR	4052899152601	4000	200	24	500	380000
HMI 6000 W/DXS	4008321210210	6000	123	55	500	570000
HMI 12000 W/DXS	4008321210227	12000	160	84	500	1150000
HMI 18000 W/DXS	4008321370280	18000	225	86	500	1700000
HMI 24000 W/DXS	4008321355805	24000	280	88	500	2300000



Product name	 d [mm]	 l1 max. [mm]	 l2 max. [mm]				 No.
HMI 575 W/DXS	21	135	115	Any	SFc10-4	1	1
HMI 1200 W/DXS	27	220	180	Any	SFc15.5	1	2
HMI 2500 W/S XS	31.5	210	150	p30	SFa21-12	1	3
HMI 2500 W/DXS	31.5	355	290	p30	SFa21	1	3
HMI 4000 W/DXS	36	405	340	p15	SFa21	1	3
HMI 4000 W/DXS SOLAR	36	405	340	p15	SFa21-12	1	3
HMI 6000 W/DXS	54	450		p15	S25.5	1	4
HMI 12000 W/DXS	64	470		p15	S30	1	5
HMI 18000 W/DXS	70	500		p15	S30	1	6
HMI 24000 W/DXS	83	500		p15	S30	1	7

See safety advice no. 4 on pages 128/129

STUDIOLINE®**Compact fluorescent lamps for SSTV**

Product name	Product number	W	d [mm]	l [mm]	t [h]	lm	K			No.
STUDIOLINE 55 W/3200 K	4050300575292	55	535	18	8000 ¹⁾	3800	3200	2G11	10	1
STUDIOLINE 55 W/5600 K	4050300575278	55	535	18	8000 ¹⁾	3800	5600	2G11	10	1

¹⁾ Failure rate 2 % the first 8,000 h; this statement must be restricted only to attributable lamp faults

Product features

- Special phosphor combination

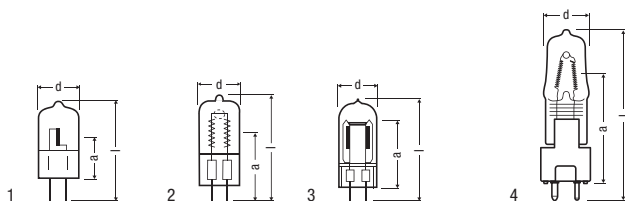
Product benefits

- Can be used with halogen or HMI® lamps without any problems

Areas of application

- Film shooting
- Matched to use with electronic cameras

Halogen lamps, medium/high voltage, single-ended



Product name	Product number	ANSI	LIF	W	V	t [h]	lm	K
64502	4052899080751			150	230	50	4000	3200
64502	4052899080775			150	240	50	4000	3200
64504	4052899101654	A1/249		150	230	25	5150	3200
64504	4052899101678	A1/249		150	240	25	4000	3200
64505 ¹⁾	4008321746078			200	230	25	5100	3200
64505 ¹⁾	4008321746092			200	240	25	5150	3200
64512 ¹⁾	4008321746115			300	120	15	9300	3350
64514 ¹⁾	4008321746139	CP/96		300	120	75	8100	3200
64515 ¹⁾	4008321746153			300	230	15	9600	3300
64515 ¹⁾	4008321746177			300	240	15	8900	3350
64516 ¹⁾	4008321746191	CP/97		300	230	75	7400	3150
64516 ¹⁾	4008321746214	CP/97		300	240	75	7300	3150
64662	4052899015449			300	230	2000	5000	2900
64662	4052899144248	M/38		300	240	2000	5000	2900

Product name	d [mm]	LCL a [mm]	l [mm]	H=H ₁					No.
64502	18	28	55	13.0*1.9	Any	GX6.35	B	20	1
64502	18	28	55	13.0*1.9	Any	GX6.35	B	20	1
64504	18	40	62	9.6*12.5	s90	G6.35	B	20	3
64504	18	40	62	9.6*12.5	s90	G6.35	B	20	3
64505 ¹⁾	18.5	27	53	9.6*12.5	s90	GX6.35	B	20	2
64505 ¹⁾	18.5	27	53	9.5*12.5	s90	GX6.35	B	20	2
64512 ¹⁾	18.5	27	53	10.0*12.5	s90	GX6.35	B	20	2
64514 ¹⁾	18.5	27	53	10.0*12.5	p90	GX6.35	B	20	2
64515 ¹⁾	18.5	27	53	9.8*12.5	s90	GX6.35	B	20	2
64515 ¹⁾	18.5	27	53	10.0*12.5	s90	GX6.35	B	20	2
64516 ¹⁾	18.5	27	53	9.8*12.5	s90	GX6.35	B	20	2
64516 ¹⁾	18.5	27	53	9.7*12.5	s90	GX6.35	B	20	2
64662	15	46.5	80	9.0*11	Any	GY9.5	D	12	4
64662	17.5	46.5	80	9.0*11	Any	GY9.5	D	12	4

1) With quartz pinch technology

Product features

- Operation at mains voltage: 120V, 230V, 240V
- Color temperature: 2,900K, 3,000K (with longer lifespan)
- Color temperature: 3,200K (for professional film and TV work)
- Color temperature: 3,400K (for maximum luminous efficacy)

Areas of application

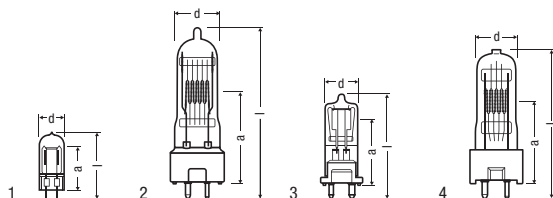
- Professional film and TV work



Looking for an LED solution with a longer lifetime?

See KREIOS® SL on page 70

Halogen lamps, medium/high voltage, single-ended



Product name	Product number	ANSI	LIF	W	V	t [h]	lm	K
93591 ¹⁾	4050300481555	FSY		400	240	75	8000 ³⁾	3200
93592 ¹⁾	4050300481531	FSX		400	230	75	8000 ³⁾	3200
64672	4008321098559			500	230	2000	8500	2900
64672	4008321098535			500	240	2000	8500	2900
64540	4052899158221	BVM		650	230	15	20000	3400
64540	4052899158245	BVM		650	240	15	20000	3400
64686	4052899158269	DYR		650	230	50	16500	3200
64686	4052899158283	DYR		650	240	50	16500	3200
64575	4008321098856	EGY		1000	230	15	33000	3400
64575	4008321098450	EGY		1000	240	15	33000	3400
64576	4008321099860			1000	230	75	28000	3200

Product name	d [mm]	LCL d [mm]	L [mm]	Beam angle	Beam diameter	Beam shape	Beam spread	Beam diameter	No.
93591 ¹⁾	20	36.5	77	10.7°12.2°	s90	GY9.5	C	24	4
93592 ¹⁾	20	36.5	77	10.7°12.2°	s90	GY9.5	C	24	4
64672	22	46.5	85	12.0°11°	Any	GY9.5	D	12	2
64672	22	46.5	85	12.0°11°	Any	GY9.5	D	12	2
64540	24	28	57.5	14.0°15°	Any	GX6.35	B	20	1
64540	24	28	57.5	14.0°15°	Any	GX6.35	B	20	1
64686	21	36.5	64	10.0°10° ²⁾	Any	GY9.5	B	12	3
64686	21	36.5	64	10.0°10° ²⁾	Any	GY9.5	B	12	3
64575	24	38	67.5	14.0°14°	Any	GX6.35	B	12	1
64575	24	38	67.5	14.0°14°	Any	GX6.35	B	12	1
64576	24	45	67.5	14.0°14°	Any	GX6.35	B	12	1

1) Available on request

2) With monoplane filament

3) With internal reflector

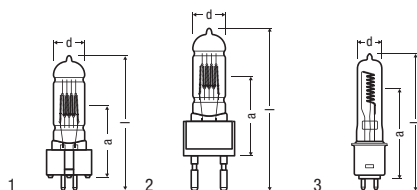
Product features

- Operation at mains voltage: 120V, 230V, 240V
- Color temperature: 2,900K, 3,000K (with longer lifespan)
- Color temperature: 3,200K (for professional film and TV work)
- Color temperature: 3,400K (for maximum luminous efficacy)

Areas of application

- Professional film and TV work

Halogen studio lamps, single-ended



Product name	Product number	ANSI	LIF	W	V	t _h	Im	K
64743	4008321225702	FEL		1000	120	300	27500	3200
64744	4008321554833	FWP	T/19	1000	230	750	20500	3000
64744	4008321554857	FWP	T/19	1000	240	750	20500	3000
64745	4008321468611	FVA	CP/70	1000	230	200	26000	3200
64745	4008321468659	FVA	CP/70	1000	240	200	26000	3200
64747	4008321468635	FKJ	CP/71	1000	230	200	26000	3200
64747	4008321468741	FKJ	CP/71	1000	240	200	26000	3200
93734	4050300350073	FEP	CP/77	1000	240	300	23000	3200

Product name	d [mm]	l [mm]	LCL a [mm]	h-h ₁ h [mm]	Beam angle	Base	Socket	No.
64743	20	101	60.3	11.4*24.4	Any	G9.5	12	3
64744	26	110	55	13.0*15.0	s90	GX9.5	20	1
64744	26	110	55	13.0*15.0	s90	GX9.5	20	1
64745	26	110	55	13.0*15.0	s90	GX9.5	20	1
64745	26	110	55	13.0*15.0	s90	GX9.5	20	1
64747	26	140	63.5	13.0*15.0	s90	G22	20	2
64747	26	140	63.5	13.0*15.0	s90	G22	20	2
93734	20	102	60.3	5.7*27.0	Any	2 pins	12	3

Product features

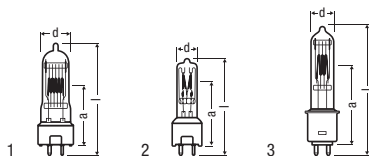
- Operation at mains voltage: 120V, 230V, 240V
- Color temperature: 3,000 K (with longer lifespan)
- Color temperature: 3,200 K (for professional film and TV work)

See safety advice no. 5 on pages 128/129

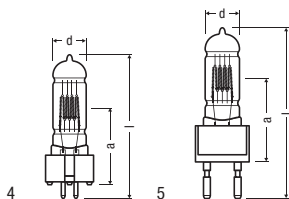
Areas of application

- Professional film and TV work
- Theater and concert stages
- Entertainment

Halogen studio lamps, single-ended



Product name	Product number	ANSI	U/F	W	V	t _h	lm	K
64673	4052899015463	FSL	CP/81	300	230	200	7500	3100
64673	4052899015487	FSK	CP/81	300	240	200	7500	3100
64670	4008321624017	GCV	T/25	500	230	300	11000	3000
64670	4008321624031	GCV	T/25	500	240	300	11000	3000
64674	4052899015500	FRH	CP/82	500	230	200	13500	3200
64674	4052899015524	FRJ	CP/82	500	240	200	13500	3200
64680	4008321098573		A1/244	500	230	50	14500	3200
64680	4008321098597		A1/244	500	240	50	14500	3200
64716	4008321623973	GKV		600	230	250	14000	3050
64716	4008321623997	GKV		600	240	250	14000	3050
64717	4008321624215	FRL	CP/89	650	230	150	16250	3200
64717	4008321624239	FRM	CP/89	650	240	150	16250	3200
64718	4008321624253	GCT	T/27	650	230	400	14500	3000
64718	4008321624277	GCT	T/27	650	240	400	14500	3000
64719	4008321638076		T/12	650	230	750	12000	3000
64720	4008321638090		CP/23	650	230	100	16800	3200
64721	4008321638113	FKH	CP/39	650	230	100	16800	3200
64678	4008321624055			800	230	250	20000	3200



Product name	d [mm]	h [mm]	LCL a [mm]					
64673	18	80	46.5	6.5*13	Any	GY9.5	12	2
64673	18	80	46.5	6.5*13	Any	GY9.5	12	2
64670	23	90	46.5	11.0*11.0	s90	GY9.5	12	1
64670	23	90	46.5	11.0*11.0	s90	GY9.5	12	1
64674	18	80	46.5	8.0*18	Any	GY9.5	12	2
64674	18	80	46.5	8.0*18	Any	GY9.5	12	2
64680	22	75	36.5	10.0*10.0 ¹⁾	Any	GY9.5	12	1
64680	22	75	36.5	10.0*10.0 ¹⁾	Any	GY9.5	12	1
64716	19	101	60.5	9.0*13.0	s90	G9.5	12	3
64716	19	101	60.5	9.0*13.0	s90	G9.5	12	3
64717	23	90	46.5	26.0*33.0	s90	GY9.5	12	1
64717	23	90	46.5	26.0*33.0	s90	GY9.5	12	1
64718	23	90	46.5	10.0*10.0	s90	GY9.5	12	1
64718	23	90	46.5	10.0*10.0	s90	GY9.5	12	1
64719	26	110	55	13.0*11.0	s90	GX9.5	20	4
64720	26	110	55	13.0*17.0 ¹⁾	s90	GX9.5	20	4
64721	26	140	63.5	13.0*17.0 ¹⁾	s90	G22	20	5
64678	19	101	60.5	9.0*13.0	s90	G9.5	12	3

¹⁾ With monoplane filament

Product features

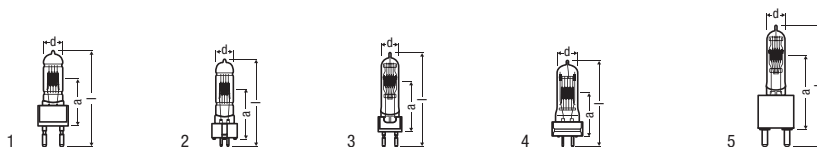
- Operation at mains voltage: 120V, 230V, 240V
- Color temperature: 3,000K (with longer lifespan)
- Color temperature: 3,200K (for professional film and TV work)

See safety advice no. 5 on pages 128/129

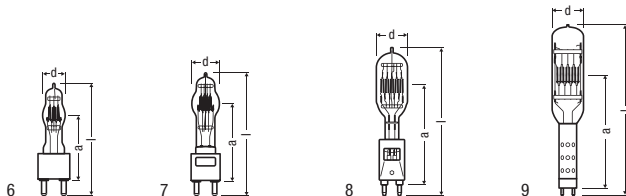
Areas of application









- Professional film and TV work
- Theater and concert stages
- Entertainment

Halogen studio lamps, single-ended



Product name	Product number	ANSI	LIF	W	V	t [h]	lm	K
64752	4008321624475	FWS	T/29	1200	230	400	28600	3000
64752	4008321624499	FWS	T/29	1200	240	400	28600	3000
64754	4008321624529		CP/90	1200	230	200	30000	3200
64756	4008321624550		CP/93	1200	230	200	30000	3200
93723	4008321370594		CP/110	1200	80	300	37500	3200
64777	4008321632197		CP/92	2000	230	400	52000	3200
64787	4008321653994		CP/75	2000	230	400	52000	3200
64788	4008321632173	FTM	CP/72	2000	230	400	52000	3200
64788	4008321632180	FTM	CP/72	2000	240	400	52000	3200
64789	4008321654021	FKK	CP/73	2000	230	400	52000	3200
64789	4008321654038	FKK	CP/73	2000	240	400	52000	3200
64796	4008321653987		CP/91	2500	230	400	65000	3200
64797	4052899129542			3000	230	400	82000	3200
64805	4052899129580		CP/85	5000	120	400	135000	3200
64805	4052899129566		CP/85	5000	230	400	135000	3200
64805	4052899129573		CP/85	5000	240	400	135000	3200
64815	4050300780696	ECR	CP/83	10000	230	350	285000	3200
64818	4008321792051	BCM	CP/99	20000	230	350	580000	3200



Product name	 d [mm]	 h [mm]	 LCL a [mm]					 No.
64752	27	125	67	13.0°15.0	s90	GX9.5	20	2
64752	27	125	67	13.0°15.0	s90	GX9.5	20	2
64754	27	125	67	13.0°15.0	s90	GX9.5	20	2
64756	26	140	63.5	13.0°15.0	s90	G22	20	1
93723	22	120.7	63.5	12.7°12.7	s135	2 pins	12	3
64777	35	175	90	20.0°19.0	s90	G22	12	3
64787	35	160	75	20.0°19.0	s90	G22	12	3
64788	35	145	70	20.0°19.0	s90	GY16	12	4
64788	35	145	70	20.0°19.0	s90	GY16	12	4
64789	35	210	127	20.0°19.0	s90	G38	6	5
64789	35	210	127	20.0°19.0	s90	G38	6	5
64796	35	175	90	20.0°19.0	s90	G22	12	3
64797	45	210	127	33.0°35.0	s90	G38	6	6
64805	60	279.4	165	26.0°33.0	s90	G38	6	7
64805	60	279	165	26.0°33.0	s90	G38	6	7
64805	61	279	165	26.0°33.0	s90	G38	6	7
64815	80	400	254	60.0°35.0	s45	G38	6	8
64818	100	550	354	67.0°50.0	s45	G38	4	9

Product features

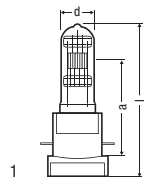
- Operation at mains voltage: 120V, 230V, 240 V
- Color temperature: 3,000 K (with longer lifespan)
- Color temperature: 3,200 K (for professional film and TV work)

See safety advice no. 5 on pages 128/129

Areas of application

- Professional film and TV work
- Theater and concert stages
- Entertainment

Lok-it!®
Halogen lamps



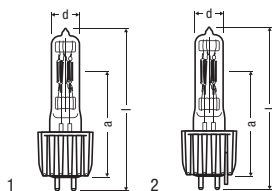
Product name	Product number	W	V	t [h]	lm	K	ø [mm]
Lok-it! 1200 W 80 V/32/P50	4008321382795	1200	80	250	37500	3200	25

Product name	$\frac{l}{[mm]}$	$\frac{LCL}{a [mm]}$					
Lok-it! 1200 W 80 V/32/P50	129.5	84	14.7*14.5	Any	PGJX 50	12	1



Looking for a solution for smaller moving heads?

See SIRIUS HRI® on page 18

HPL®**High-performance lamps**

Product name	Product number	W	V	t[h]	Im	K	Ø [mm]
HPL 575 W 230 V	4050300461816	575	230	400	14900	3200	19
HPL 575 W 240 V	4050300461830	575	240	400	14900	3200	19
HPL 575 W 230 V	4008321090102	575	230	1500	11780	3050	19
HPL 575 W 240 V	4008321174444	575	240	1500	11780	3050	19
HPL 750 W 230 V	4050300654201	750	230	300	19750	3200	19
HPL 750 W 240 V	4050300654225	750	240	300	19750	3200	19
HPL 750 W 230 V	4008321090324	750	230	1500	15600	3050	19
HPL 750 W 240 V	4008321174468	750	240	1500	15600	3050	19

Product name	l [mm]	LCL Ø [mm]	H ₁ -L ₁ h	Beam angle	Pin	Base	No.
HPL 575 W 230 V	104	60.3	9.5*11.5 ¹⁾	Any	2 pins	12	1
HPL 575 W 240 V	104	60.3	9.5*11.5 ¹⁾	Any	2 pins	12	1
HPL 575 W 230 V	104	60.3	14.5*11 ¹⁾	Any	2 pins	12	1
HPL 575 W 240 V	104	60.3	14.0*14 ¹⁾	Any	2 pins	12	1
HPL 750 W 230 V	101	60.3	7.5*11.5 ¹⁾	Any	2 pins	12	2
HPL 750 W 240 V	101	60.3	7.5*11.5 ¹⁾	Any	2 pins	12	2
HPL 750 W 230 V	104	60.3	15.5*11 ¹⁾	Any	2 pins	12	2
HPL 750 W 240 V	101	60.3	15.5*11 ¹⁾	Any	2 pins	12	2

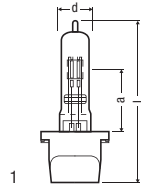
1) Type of filament 6-C8

Product benefits

— Optimum use of the generated light in the spotlight

See safety advice no. 5 on pages 128/129

QXL
High-performance lamps



1



Product name	Product number	W	t [h]	lm	K	d [mm]
QXL 750 W 77 V	4008321090218	750	1500	18000	3050	18.5

Product name	I [mm]	LCL a [mm]	Base	Beam angle	Socket	Qty
QXL 750 W 77 V	104	38	6.5*12	Any	G9.5 ¹⁾	12

1) Quick exchange base

Product features

- Equipped with XS technology
- Maximum permitted base temperature: 500 °C
- Special bayonet base

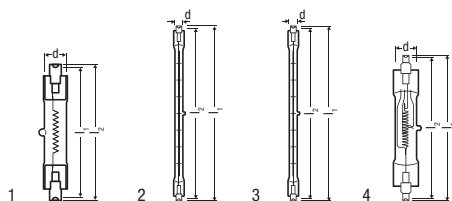
Areas of application

- Entertainment
- Architainment

Product benefits

- Tool-less lamp exchange without opening the spotlight
- Developed in cooperation with Electronic Theatre Controls (ETC)

Halogen studio lamps, double-ended



Product name	Product number	ANSI	LIF	W	V	t[h]	lm
64571	4050300014180	DXX	P2/13	800	230	75	21000
64571	4050300283388	DXX	P2/13	800	240...250	75	21000
64572	4008321325181		P2/35	1000	230	150	25000
64579	4050300014104	FDG		1000	115...120	15	33000
64580	4050300006888		P1/12	1000	230	15	35000
64580	4050300283173		P1/12	1000	240	15	35000
64583	4050300249094		P2/20	1000	230	300	27000
64583	4050300411477		P2/20	1000	240	300	27000
64741	4050300209333	EKM	P2/7	1000	230	200	25000
64741	4050300283197	EKM	P2/7	1000	240	200	25000
64751	4050300214641		P2/12	1250	230	200	33500
64751	4050300283357		P2/12	1250	240	200	33500
64781	4050300229997	FEX	P2/27	2000	230	300	50000
64781	4050300283500	FEX	P2/27	2000	240	300	50000

Product name	K	d [mm]	l1 [mm]	l2 [mm]	Diagram 1	Diagram 2	Diagram 3	No.
64571	3200	17	75	78	Horizontal ¹⁾	R7s	50	1
64571	3200	17	75	78	Horizontal ¹⁾	R7s	50	1
64572	3200	18	94	88	Any	R7s	50	1
64579	3200	12	122	122	p15 ¹⁾	R7s	12	2
64580	3400	12	127	122	p15	R7s	12	2
64580	3400	12	127	122	p15	R7s	12	2
64583	3200	10	114	114	Any	R7s	12	2
64583	3200	12	114	114	Any	R7s	12	2
64741	3200	12	186	186	s180	R7s	12	3
64741	3200	12	186	186	s180	R7s	12	3
64751	3200	12	186	186	p15	R7s	12	3
64751	3200	12	186	186	p15	R7s	12	3
64781	3200	30	138	139	p15	RX7s	12	4
64781	3200	30	138	139	p15	RX7s	12	4

¹⁾ Burning position preferably horizontal, vertical possible for a short time

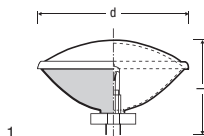
Product features

- Operation at mains voltage: 120V, 230V, 240V
- Color temperature: 3,200K (for professional film and TV work)
- Color temperature: 3,400K (for maximum luminous efficacy)

Areas of application

- Professional film and TV work
- Theater and concert stages
- Entertainment

See safety advice no. 5 on pages 128/129

aluPAR® 56**Halogen lamps with parabolic aluminum reflector PAR56, with pin base**

Product name	Product number	W	V	t[h]	cd	
aluPAR 56 NSP ¹⁾	4008321369550	300	120	2000	68000	8/9
aluPAR 56 MFL ²⁾	4008321369574	300	120	100	24000	15/17
aluPAR 56 WFL ³⁾	4008321369598	300	120	2000	11000	26/27
aluPAR 56 NSP ¹⁾	4008321209788	300	230	2000	70000	8/9
aluPAR 56 MFL ²⁾	4008321209863	300	230	2000	30000	15/17
aluPAR 56 WFL ³⁾	4008321209801	300	230	2000	10000	26/27
aluPAR 56 NSP ¹⁾	4008321107947	300	240	2000	70000	8/9
aluPAR 56 MFL ²⁾	4008321107985	300	240	2000	30000	15/17
aluPAR 56 WFL ³⁾	4008321209887	300	240	2000	10000	26/27

Product name						
aluPAR 56 NSP ¹⁾	177	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 MFL ²⁾	177	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 WFL ³⁾	177	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 NSP ¹⁾	176.2	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 MFL ²⁾	176.2	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 WFL ³⁾	176.2	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 NSP ¹⁾	177	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 MFL ²⁾	177	113	hs30 ⁴⁾	GX16d	6	1
aluPAR 56 WFL ³⁾	176.2	113	hs30 ⁴⁾	GX16d	6	1

1) Beam angle: NSP = narrow spot

2) Beam angle: MFL = medium flood

3) Beam angle: WFL = wide flood

4) Do not tilt perpendicular to the filament

Product features

- Modular lamp concept
- Light aluminum parabolic reflector and front plate are mechanically connected
- Available in various wattages for high flexibility

Product benefits

- Option of disassembly into single components leads to environmentally friendly disposal
- Easier handling and reduced transportation costs due to up to 50 % less weight
- Robust lamp design for long lifetime
- Full compatibility with ANSI and CE standards

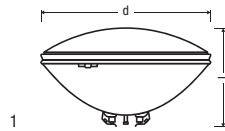
See safety advice no. 6 on pages 128/129

Looking for an LED solution with a high light output and a wide color spectrum?

See KREIOS® PAR on page 68

PAR56

Halogen lamps with parabolic reflector PAR56, with pin base



Product name	Product number	W	V	t [h]	cd	
PAR56 WFL	4008321362209	300	12	1200	12000	38/20
Product name	 d [mm]	 l [mm]				 No.
PAR56 WFL	178	127	hs30 ¹⁾	not relevant	6	1

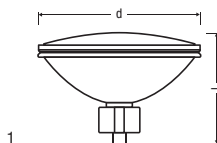
1) Do not tilt perpendicular to the filament

See safety advice no. 6 on pages 128/129



Looking for an LED solution with a high light output and a wide color spectrum?

See KREIOS® PAR on page 68

aluPAR® 64**Halogen lamps with parabolic aluminum reflector PAR64, with pin base**

Product name	Product number	ANSI	LIF	W	V	t[h]	cd
aluPAR 64 VNSP ¹⁾	4008321341259		CP/86	500	230	300	240000
aluPAR 64 NSP ²⁾	4008321341273		CP/87	500	230	300	140000
aluPAR 64 MFL ³⁾	4008321341327		CP/88	500	230	300	65000
aluPAR 64 VNSP ¹⁾	4008321341365		CP/86	500	240	300	240000
aluPAR 64 NSP ²⁾	4008321341389		CP/87	500	240	300	140000
aluPAR 64 MFL ³⁾	4008321341402		CP/88	500	240	300	65000
aluPAR 64 VNSP ¹⁾	4008321205773	EXC	CP/60	1000	230	300	352000
aluPAR 64 NSP ²⁾	4008321205797	EXD	CP/61	1000	230	300	297000
aluPAR 64 MFL ³⁾	4008321205858	EXE	CP/62	1000	230	300	138000
aluPAR 64 WFL ⁴⁾	4008321341921	EXG		1000	230	300	38000
aluPAR 64 VNSP ¹⁾	4008321205872	EXC	CP/60	1000	240	300	352000
aluPAR 64 NSP ²⁾	4008321205896	EXD	CP/61	1000	240	300	297000
aluPAR 64 MFL ³⁾	4008321205919	EXE	CP/62	1000	240	300	138000
aluPAR 64 WFL ⁴⁾	4008321341945	EXG		1000	240	300	38000

Product name							
aluPAR 64 VNSP ¹⁾	10/7 ⁵⁾	204	203.1	hs30 ⁶⁾	GX16d	6	1
aluPAR 64 NSP ²⁾	11/9 ⁵⁾	204	203.1	hs30 ⁶⁾	GX16d	6	1
aluPAR 64 MFL ³⁾	21/10 ⁵⁾	204	152.4	hs30 ⁶⁾	GX16d	6	1
aluPAR 64 VNSP ¹⁾	10/7 ⁵⁾	204	152.4	hs30 ⁶⁾	GX16d	6	1
aluPAR 64 NSP ²⁾	11/9 ⁵⁾	204	152.4	hs30 ⁶⁾	GX16d	6	1
aluPAR 64 MFL ³⁾	21/10 ⁵⁾	204	152.4	hs30 ⁶⁾	GX16d	6	1
aluPAR 64 VNSP ¹⁾	12/9 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 NSP ²⁾	14/10 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 MFL ³⁾	24/11 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 WFL ⁴⁾	57/21 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 VNSP ¹⁾	12/9 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 NSP ²⁾	14/10 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 MFL ³⁾	24/11 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1
aluPAR 64 WFL ⁴⁾	57/21 ⁵⁾	204	152.4	⁶⁾	GX16d	6	1

1) Beam angle: VNSP = very narrow spot

2) Beam angle: NSP = narrow spot

3) Beam angle: MFL = medium flood

4) Beam angle: WFL = wide flood

5) Half-value angle 50°

6) Do not tilt perpendicular to the filament

Product features

- Modular lamp concept
- Light aluminum parabolic reflector and front plate are mechanically connected
- Available in various wattages for high flexibility

Product benefits

- Option of disassembly into single components leads to environmentally friendly disposal
- Easier handling and reduced transportation costs due to up to 50 % less weight
- Robust lamp design for long lifetime
- Full compatibility with ANSI and CE standards

See safety advice no. 6 on pages 128/129



Looking for an LED solution with a high light output and a wide color spectrum?

See KREIOS® PAR on page 68

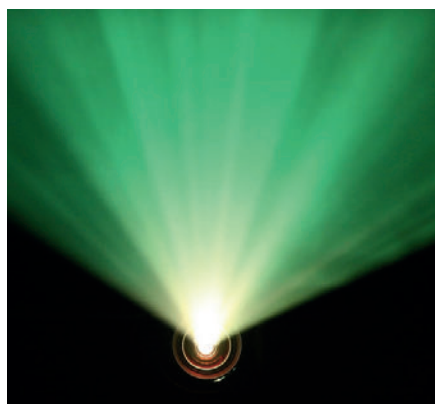


Unique emotions,
memorable moments
Cinema projection



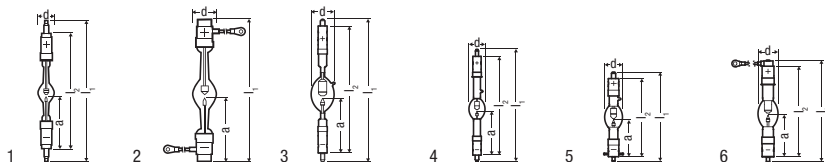
Cinema film projection

Help movie fans to enjoy the classic cinema experience with high-performance lamps for 35 mm film projectors

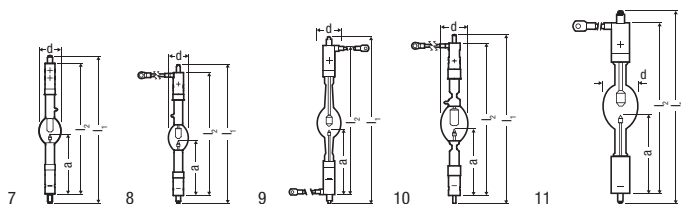


Digital cinema projection

Find the right light for a large number of different digital projectors and present images in razor-sharp detail

XBO®**Xenon short-arc lamps 450...10,000 W**

Product name	Product number	W	V	A	t [h]	T _a	φ [mm]	l _z max. [mm]
XBO 450 W ¹⁾	4008321082640	450	17	25	2000	230	29	260
XBO 450 W OFR	4008321082633	450	17	25	2000	230	29	260
XBO 450 W/1	4008321082510	450	17	25	800	230	29	202
XBO 450 W/2 OFR ²⁾	4008321082626	450	17	25	2000	230	29	177
XBO 450 W/4	4006584412990	450	17	25	2000	230	29	260
XBO 500 W/H OFR ³⁾	4008321082503	500	17	28	2000	230	35	190
XBO 1000 W/HS OFR ⁴⁾	4008321082114	1000	19	50	2000	230	40	235
XBO 1000 W/HSC OFR ⁵⁾	4008321082107	1000	19	20	2000	230	40	236
XBO 1000 W/HTP OFR ⁶⁾	4008321081353	1000	21	45	2400	230	46	330
XBO 2000 W/HS OFR ⁷⁾	4008321081360	2000	24	80	2400	230	60	342
XBO 2000 W/SHSC OFR ⁸⁾	4008321082077	2000	27	70	2000	230	46	236
XBO 2500 W OFR ²⁾	4008321064783	2500	29	85	2000	230	60	426
XBO 4000 W/HSA OFR	4008321337030	4000	29	135	1000	230	70	410
XBO 8000 W/HS OFR	4008321552310	8000	45	175	500	230	90	433
XBO 10000 W/HS OFR	4008321552327	10000	50	195	500	230	90	433



Product name	l ₁ max. [mm]	LCL a [mm]						
XBO 450 W ¹⁾	212	95.5 ⁹⁾	Forced	s30 ¹³⁾	SFa20-8	SFa20-10	1	1
XBO 450 W OFR	212	95.5 ⁹⁾	Forced	s30 ¹³⁾	SFa20-8	SFa20-10	1	2
XBO 450 W/1	202	95.5 ⁹⁾	Forced	s80p10 ¹³⁾	SFa20-8	SFa20-10	1	3
XBO 450 W/2 OFR ²⁾	177	79 ⁹⁾	Forced ¹⁰⁾	s30 ¹³⁾	SK19/36	SK19/36	1	1
XBO 450 W/4	212	95.5 ⁹⁾	Forced ¹¹⁾	s30 ¹³⁾	SFa20-8	SFa20-10	1	4
XBO 500 W/H OFR ³⁾	165	75 ⁹⁾	Forced ¹²⁾	s30/p30 ¹⁴⁾	SFa16-8	SFa15-10	1	4
XBO 1000 W/HS OFR ⁴⁾	205	95 ⁹⁾	Forced ¹²⁾	s20/p20 ¹⁴⁾	SFa27-11	SFcX27-8	1	5
XBO 1000 W/HSC OFR ⁵⁾	220	95 ⁹⁾	Forced	s20/p20 ¹⁴⁾	SK27/50	SFcX27-8	1	6
XBO 1000 W/HTP OFR ⁶⁾	277	123 ⁹⁾	Forced	s30/p30 ¹⁴⁾	SFa25-14	SFc25-14	1	7
XBO 2000 W/HS OFR ⁷⁾	302	145 ⁹⁾	Forced	s30/p30 ¹⁴⁾	SK27/50	SFcX27-8	1	8
XBO 2000 W/SHSC OFR ⁸⁾	220	95 ⁹⁾	Forced	s20/p20 ¹⁴⁾	SK27/50	SFcX27-8	1	6
XBO 2500 W OFR ²⁾	382	167.5 ⁹⁾	Forced	s30 ¹³⁾	SFaX27-13	SFaX27-14	1	9
XBO 4000 W/HS OFR	370	171 ⁹⁾	Forced ¹²⁾	s20/p20 ¹⁴⁾	SFaX30-9.5	SFa30-7.9	1	8
XBO 8000 W/HS OFR	393	170.5 ⁹⁾	Forced ¹²⁾	s15/p15 ¹⁴⁾	SFaX30-9.5	SFa30-7.9	1	10
XBO 10000 W/HS OFR	393	170.5 ⁹⁾	Forced ¹²⁾	s15/p15 ¹⁴⁾	SFaX30-9.5	SFa30-7.9	1	11

1) Also available as ozone-free version: XBO 450 W OFR / Also available as SUPRASIL quartz version: XBO 450 W/4

2) OFR = ozone-free version

3) OFR = ozone-free version / H = suitable for horizontal burning position

4) OFR = ozone-free version / H = suitable for horizontal burning position / S = short

5) OFR = ozone-free version / H = suitable for horizontal burning position / S = short / C = base with cable

6) OFR = ozone-free version / H = suitable for horizontal burning position / TP = cable with threaded pins

7) H = suitable for horizontal burning position / S = short

8) OFR = ozone-free version / SHSC = extra short version for horizontal burning position, anode connection via cable (super short) / Similar dimensions to XBO 1600 A/HSC OFR

9) Distance from end of base to tip of electrode (cold)

10) Vertical

11) Fan

12) Vertical and horizontal

13) Anode on top

14) For vertical burning position: anode (+) on top

Product features

- Color temperature: approx. 6,000 K (daylight)
- Wattage: 1,200...8,000 W
- Very good color rendering index: $R_a > 96$

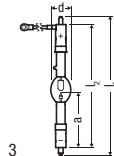
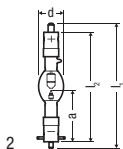
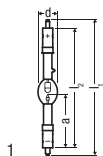
Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000 K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

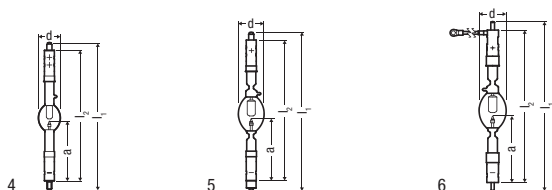
Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

XBO® Xtreme Life**Xenon short-arc lamps for cinema projection**

Product name	Product number	W	V	A	t [h]	T _a	φ [mm]	l ₂ [mm]
XBO 1600 W XL OFR	4008321299918	1600	24	65	3500	230	52	370
XBO 1600 W/HS XL OFR	4008321299925	1600	23	65	2500	230	46	235
XBO 1600 W/HSC XL OFR	4008321299932	1600	23	65	2500	230	46	236
XBO 2000 W/H XL OFR	4008321211781	2000	28	70	3500	230	52	370
XBO 2000 W/HTP XL OFR	4008321650429	2000	28	70	3500	230	52	375
XBO 2500 W/HS XL OFR	4008321299963	2500	28	90	2200	230	60	342
XBO 3000 W/H XL OFR	4008321226174	3000	29	100	2200	230	66	428
XBO 3000 W/HS XL OFR	4008321330031	3000	29	100	2200	230	60	342
XBO 3000 W/HTP XL OFR	4008321650436	3000	29	100	2200	230	60	405
XBO 4000 W/HS XL OFR	4008321412812	4000	28	135	1500	230	70	410
XBO 4000 W/HTP XL OFR	4008321412874	4000	30	130	1500	230	70	410
XBO 4500 W/HS XL OFR	4008321412881	4500	32	135	1400	230	70	410
XBO 5000 W/H XL OFR	4008321412829	5000	35	140	1200	230	70	433
XBO 6000 W/HS XL OFR	4008321412904	6000	37	160	750	230	78	433
XBO 7000 W/HS XL OFR	4008321412928	7000	42	160	650	230	78	433



Product name	H max. [mm]	LCL a [mm]			Cable length				No.
XBO 1600 W XL OFR	322	143 ¹⁾	Forced	s30 ³⁾	-	SFaX27-10	SFa27-12	1	1
XBO 1600 W/HS XL OFR	205	95 ¹⁾	Forced	s20/p20 ⁴⁾	-	SFa27-11	SFcX27-8	1	2
XBO 1600 W/HSC XL OFR	222	95 ¹⁾	Forced	s20/p20 ⁴⁾	265	SK27/50	SFcX27-8	1	1
XBO 2000 W/H XL OFR	322	142.5 ¹⁾	Forced	s30/p30 ⁴⁾	300	SFaX27-10	SFaX27-12	1	3
XBO 2000 W/HTP XL OFR	322	142.5 ¹⁾	Forced	s30/p30 ⁴⁾	-	SFa25-14	SFc25-14	1	4
XBO 2500 W/HS XL OFR	302	145 ¹⁾	Forced	s30/p30 ⁴⁾	300	SFaX27-9.5	SFa27-7.9	1	3
XBO 3000 W/H XL OFR	382	167.5 ¹⁾	Forced ²⁾	s30/p30 ⁴⁾	300	SFaX27-13	SFaX27-14	1	3
XBO 3000 W/HS XL OFR	302	145 ¹⁾	Forced ²⁾	s30/p30 ⁴⁾	300	SFaX27-9.5	SFa27-7.9	1	3
XBO 3000 W/HTP XL OFR	357	162.5 ¹⁾	Forced ²⁾	s30/p30 ⁴⁾	-	SFa27-14	SFc27-14	1	4
XBO 4000 W/HS XL OFR	370	171 ¹⁾	Forced ²⁾	s20/p20 ⁴⁾	400	SFaX30-9.5	SFa30-7.9	1	3
XBO 4000 W/HTP XL OFR	382	167.5 ¹⁾	Forced ²⁾	s20/p20 ⁴⁾	-	SFa27-14	SFc27-14	1	5
XBO 4500 W/HS XL OFR	370	171 ¹⁾	Forced ²⁾	p15/s15 ⁴⁾	400	SFaX30-9.5	SFa30-7.9	1	3
XBO 5000 W/H XL OFR	382	167.5 ¹⁾	Forced ²⁾	p15/s15 ⁴⁾	560	SFaX30-16	SFaX28-18	1	3
XBO 6000 W/HS XL OFR	393	170.5 ¹⁾	Forced ²⁾	s15/p15 ⁴⁾	400	SFaX30-9.5	SFa30-7.9	1	6
XBO 7000 W/HS XL OFR	393	170.5 ¹⁾	Forced ²⁾	p15/s15 ⁴⁾	400	SFaX30-9.5	SFa30-7.9	1	6

1) Distance from end of base to tip of electrode (cold)

2) Vertical and horizontal

3) Anode on top

4) For vertical burning position: anode (+) on top

Product features

- Wattage: 1,200...8,000 W

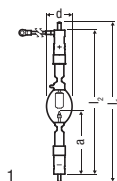
Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000 K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

XBO® DHP**Xenon short-arc lamps for digital cinema projection**

1



Product name	Product number	W	V	A	t [h]	T _a	φ [mm]	l ₂ [mm]
XBO 1200 W/DHP OFR	4008321396433	1200	20	57	3000	230	40	345
XBO 2000 W/DHP OFR	4052899013056	2000	23	87	2400	230	46	345
XBO 2200 W/DHP OFR	4008321865489	2200	24	90	1500	230	52	345
XBO 3000 W/DHP OFR	4008321330048	3000	29	105	1500	230	55	345
XBO 3000 W/DHP L OFR	4052899212886	3000	29	103	1700	230	60	345
XBO 4000 W/DHP OFR	4052899091825	4200	34	123	1100	230	60	345
XBO 4000 W/DHP L OFR	4052899212879	4200	33	128	1300	230	60	345
XBO 4500 W/DHP OFR	4008321633422	4500	30	150	1000	230	60	410
XBO 6000 W/DHP OFR	4052899144026	6000	35	170	650	230	78	433
XBO 6500 W/DHP OFR	4008321676078	6500	39	165	500	230	78	433

Product name	l ₁ max. [mm]	LCL [mm]	Forced	Forced	Cable length	+	-	+	No.
XBO 1200 W/DHP OFR	295	123 ¹⁾	Forced	p15/s15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 2000 W/DHP OFR	295	123 ¹⁾	Forced	s15/p15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 2200 W/DHP OFR	295	123 ¹⁾	Forced	s15/p15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 3000 W/DHP OFR	295	123 ¹⁾	Forced	s15/p15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 3000 W/DHP L OFR	295	123 ¹⁾	Forced	s15/p15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 4000 W/DHP OFR	295	123 ¹⁾	Forced	s15/p15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 4000 W/DHP L OFR	295	123 ¹⁾	Forced	s15/p15 ²⁾	130	SFaX27-14x80	SFc27-16/55	1	1
XBO 4500 W/DHP OFR	370	170.5 ¹⁾	Forced	s15/p15 ²⁾	155	SFaX30-9.5	SFa30-7.9	1	1
XBO 6000 W/DHP OFR	393	170.5 ¹⁾	Forced	p15/s15 ²⁾	155	SFaX30-9.5	SFa30-7.9	1	1
XBO 6500 W/DHP OFR	393	170.5 ¹⁾	Forced	s15/p15 ²⁾	155	SFaX30-9.5	SFa30-7.9	1	1

1) Distance from end of base to tip of electrode (cold)

2) For vertical burning position: anode (+) on top

Product features

- Wattage: 1,200...8,000 W

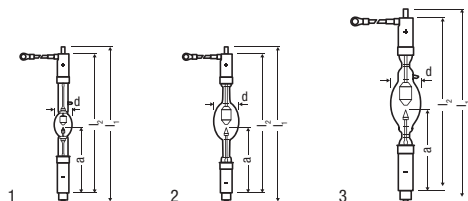
Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000 K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

XBO® HPN**Xenon short-arc lamps for digital cinema projection**

Product name	Product number	W	V	A	t [h]	T _a	φ d [mm]	l _z [mm]
XBO 1200 W/HPN OFR	4008321741547	1200	20	60	3000	230	40.5	345
XBO 2000 W/HPN OFR	4052899013070	2000	24	80	2400	230	46	345
XBO 2001 W/HPN OFR	4052899233973	2000	24	80	2400	230	55	345
XBO 3000 W/HPN OFR	4008321756589	3000	29	104	1500	230	55	345
XBO 4000 W/HPN OFR	4052899091931	4000	34	120	650	230	60	345
XBO 4000 W/HPN L OFR	4052899134829	4000	33	121	1100	230	60	345
XBO 4500 W/HPN OFR	4008321756657	4500	30	150	1000	230	60	428
XBO 6000 W/HPN OFR	4052899136373	6000	36	165	650	230	78	428

Product name	l _t max. [mm]	LCL a [mm]			Cable length				No.
XBO 1200 W/HPN OFR	308	144 ¹⁾	Forced	s15/p15 ²⁾	235	SFaX27-9.5	SFa27-20	1	1
XBO 2000 W/HPN OFR	308	144 ¹⁾	Forced	s15/p15 ²⁾	235	SFaX27-9.5	SFa27-20	1	2
XBO 2001 W/HPN OFR	308	144 ¹⁾	Forced	s15/p15	235	SFaX27-9.5	SFa27-20	1	2
XBO 3000 W/HPN OFR	308	144 ¹⁾	Forced	s15/p15 ²⁾	235	SFaX27-9.5	SFa27-20	1	3
XBO 4000 W/HPN OFR	308	144 ¹⁾	Forced	s15/p15 ²⁾	235	SFaX27-9.5	SFa27-20	1	3
XBO 4000 W/HPN L OFR	308	144 ¹⁾	Forced	s15/p15 ²⁾	235	SFaX27-9.5	SFa27-20	1	3
XBO 4500 W/HPN OFR	389	171.5 ¹⁾	Forced	s15/p15 ²⁾	235	SFc30-9.5	SFa30-20	1	3
XBO 6000 W/HPN OFR	389	171.5 ¹⁾	Forced	s15/p15 ²⁾	235	SFc30-9.5	SFa30-20	1	3

1) Distance from end of base to tip of electrode (cold)

2) For vertical burning position: anode (+) on top

Product features

- Wattage: 1,200...8,000W

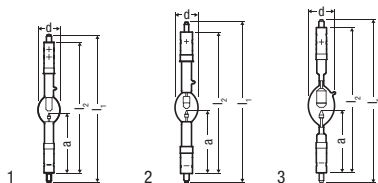
Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000 K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

XBO® DTP**Xenon short-arc lamps for digital cinema projection**

Product name	Product number	W	V	A	t [h]	T _a	d [mm]	l _z [mm]
XBO 2000 W/DTP OFR	4008321191533	2000	25	80	2400	230	52	403
XBO 3000 W/DTP OFR	4008321191540	3000	27	110	1500	230	60	403
XBO 3000 W/DTS OFR	4008321645050	3000	30	105	1000	230	55	335
XBO 4500 W/DTP OFR	4008321372734	4500	30	150	1000	230	60	433
XBO 6000 W/DTP OFR	4052899143975	6000	35	170	600	230	78	433

Product name	l _t max. [mm]	LCL a [mm]						
XBO 2000 W/DTP OFR	354	160 ¹⁾	Forced	s15/p15 ²⁾	SFa25-14	SFc25-14	1	1
XBO 3000 W/DTP OFR	352	160 ¹⁾	Forced	s15/p15 ²⁾	SFa27-14	SFc27-14	1	1
XBO 3000 W/DTS OFR	285	125 ¹⁾	Forced	s15/p15 ²⁾	SFa27-14	SFc27-14	1	2
XBO 4500 W/DTP OFR	383	165 ¹⁾	Forced	s15/p15 ²⁾	SFa27-14	SFcX27-14	1	3
XBO 6000 W/DTP OFR	383	165 ¹⁾	Forced	s15/p15 ²⁾	SFa27-14	SFc27-14	1	3

1) Distance from end of base to tip of electrode (cold)

2) For vertical burning position: anode (+) on top

Product features

- Wattage: 1,200...8,000 W
- Very good color rendering index: $R_a > 96$

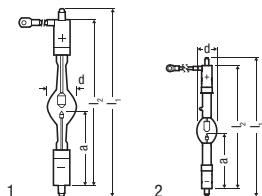
Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

XBO® HPS**Xenon short-arc lamps for digital cinema projection**

Product name	Product number	W	V	A	t [h]	φ d [mm]	l ₂ [mm]	h max. [mm]
XBO 2000 W/HPS OFR	4052899013063	2000	25	80	2400	46.5	334	334
XBO 3000 W/HPS OFR	4052899213630	3000	29	105	1000	55	334	334
XBO 4200 W/HPS OFR	4052899202092	4200	33	128	700	55	334	334
XBO 4200 W/HPS OFR	4052899202108	4200	33	128	1000	60	334	334

Product name	LCL a [mm]			Cable length				No.
XBO 2000 W/HPS OFR	128 ¹⁾	Forced	s15/p15 ²⁾	195	SFaX30-14/68	SFc30-20/50	1	1
XBO 3000 W/HPS OFR	128 ¹⁾	Forced	s15/p15 ²⁾	195	SFaX30-14/68	SFc30-20/50	1	1
XBO 4200 W/HPS OFR	128 ¹⁾	Forced	s15/p15 ²⁾	195	SFaX30-14/68	SFc30-20/50	1	2
XBO 4200 W/HPS OFR	128 ¹⁾	Forced	s15/p15 ²⁾	195	SFaX30-14/68	SFc30-20/50	1	2

1) Distance from end of base to tip of electrode (cold)

2) For vertical burning position: anode (+) on top

Product features

- Wattage: 1,200...8,000 W
- Very good color rendering index: $R_a > 96$

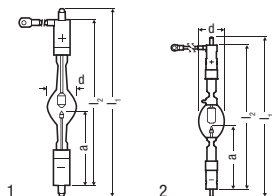
Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000 K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

XBO® HSLA**Xenon short-arc lamps for digital cinema projection**

Product name	Product number	W	V	A	t[h]	T _a	d [mm]	l ₂ [mm]
XBO 3000 W/HSLA OFR ¹⁾	4008321330079	3000	29	110	1500	230	54	342
XBO 4500 W/HSLA OFR ¹⁾	4008321372710	4500	30	150	1000	230	60	410
XBO 6000 W/HSLA OFR	4052899144057	6000	35	170	650	230	78	433
XBO 6500 W/HSLA OFR	4008321676085	6500	39	165	500	230	78	433
XBO 8000 W/HSLA OFR	4008321549747	8000	43	185	400	230	78	433

Product name	l ₁ max. [mm]	LCL a [mm]	Forced	Symbol	Cable length	Symbol	Symbol	Symbol	No.
XBO 3000 W/HSLA OFR ¹⁾	302	145 ²⁾	Forced	s15/p15 ³⁾	400	SFaX27-9.5	SFa27-7.9	1	1
XBO 4500 W/HSLA OFR ¹⁾	370	171 ²⁾	Forced	s15/p15 ³⁾	400	SFaX30-9.5	SFa30-7.9	1	1
XBO 6000 W/HSLA OFR	393	171 ²⁾	Forced	s15/p15 ³⁾	400	SFaX30-9.5	SFa30-7.9	1	1
XBO 6500 W/HSLA OFR	393	171 ²⁾	Forced	s15/p15 ³⁾	400	SFaX30-9.5	SFa30-7.9	1	2
XBO 8000 W/HSLA OFR	393	171 ²⁾	Forced	s15/p15 ³⁾	400	SFaX30-9.5	SFa30-7.9	1	1

1) H = suitable for horizontal burning position / S = short / LA = lumen advanced (high-efficiency lamp)

2) Distance from end of base to tip of electrode (cold)

3) For vertical burning position: anode (+) on top

Product features

- Wattage: 1,200...8,000 W
- Very good color rendering index: $R_a > 96$

Product benefits

- Short arc with very high luminance for brighter screen illumination
- Constant color temperature of 6,000K throughout the entire lamp lifetime
- High arc stability
- Instant light on screen thanks to hot restart function
- Wide dimming range

Areas of application

- Classic 35 mm film projection
- Digital film and video projection
- Architectural and effect light ("Light Finger")
- Sunlight simulation

See safety advice no. 12 on pages 128/129

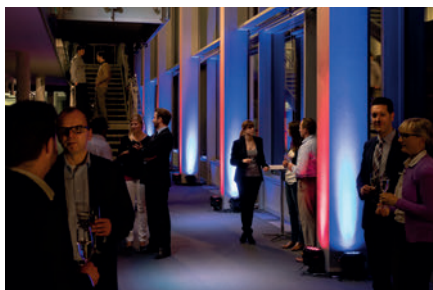
A photograph of a live music performance on stage. Two musicians are visible: one in the center playing a white electric guitar and singing into a microphone, and another on the right playing a red electric guitar. The stage is bathed in red and purple light. In the foreground, the backs of several audience members' heads are visible. A large, black, industrial-style LED luminaire hangs from the ceiling on the left side of the frame.

Highlights with high efficiency LED luminaires for entertainment applications



Image projection

Produce bright, uniformly illuminated and eye-catching images with crystal-clear LED light



Event lighting

Fascinate your visitors with compact, high-performance LED fixtures, e.g. for concert halls, clubs or bars



Architecture lighting

Attract attention to architectural details with robust, energy-efficient, high-output LED luminaires



Exhibition/trade fair lighting

Design lighting solutions that make visitors feel welcome and draw attention to select areas



Studio and TV lighting

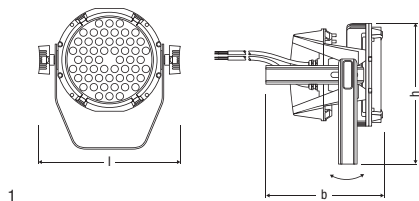
Make sure that the audience, as well as the cast and crew, can enjoy perfectly lit performances





Stage lighting

Optimize color and performance on small to medium-sized stages with customizable lights that have a low heat output

KREIOS® PAR



1

Product name	Product number	W	V	t [h]			IP
KREIOS PAR 108 W MFL	4052899205178	108	100...240	30000	Medium ¹⁾	Yes	IP20
KREIOS PAR 108 W NSP	4052899205147	108	100...240	30000	Narrow ¹⁾	Yes	IP20
KREIOS PAR 108 W VNSP	4052899205093	108	100...240	30000	Extremely narrow ¹⁾	Yes	IP20
KREIOS PAR 108 W WFL	4052899205185	108	100...240	30000	Wide ¹⁾	Yes	IP20
KREIOS PAR 144 W MFL	4052899205079	144	100...240	30000	Medium ¹⁾	Yes	IP20
KREIOS PAR 144 W NSP	4052899205062	144	100...240	30000	Narrow ¹⁾	Yes	IP20
KREIOS PAR 144 W VNSP	4052899205055	144	100...240	30000	Extremely narrow ¹⁾	Yes	IP20
KREIOS PAR 144 W WFL	4052899205086	144	100...240	30000	Wide ¹⁾	Yes	IP20
KREIOS PAR 162 W MFL	4052899204997	162	100...240	30000	Medium ¹⁾	Yes	IP20
KREIOS PAR 162 W NSP	4052899204966	162	100...240	30000	Narrow ¹⁾	Yes	IP20
KREIOS PAR 162 W VNSP	4052899204959	162	100...240	30000	Extremely narrow ¹⁾	Yes	IP20
KREIOS PAR 162 W WFL	4052899205024	162	100...240	30000	Wide ¹⁾	Yes	IP20
KREIOS PAR 144 W MFL IP	4052899204935	144	100...240	30000	Medium ¹⁾	Yes	IP65
KREIOS PAR 144 W NSP IP	4052899204904	144	100...240	30000	Narrow ¹⁾	Yes	IP65
KREIOS PAR 144 W VNSP IP	4052899204898	144	100...240	30000	Extremely narrow ¹⁾	Yes	IP65
KREIOS PAR 144 W WFL IP	4052899204942	144	100...240	30000	Wide ¹⁾	Yes	IP65
KREIOS PAR 162 W MFL IP	4052899204850	162	100...240	30000	Medium ¹⁾	Yes	IP65
KREIOS PAR 162 W NSP IP	4052899204829	162	100...240	30000	Narrow ¹⁾	Yes	IP65
KREIOS PAR 162 W VNSP IP	4052899204751	162	100...240	30000	Extremely narrow ¹⁾	Yes	IP65
KREIOS PAR 162 W WFL IP	4052899204867	162	100...240	30000	Wide ¹⁾	Yes	IP65



Product name	$\frac{l}{[mm]}$	$\frac{b}{[mm]}$	$\frac{h}{[mm]}$	COLOR		A		
KREIOS PAR 108 W MFL	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 108 W NSP	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 108 W VNSP	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 108 W WFL	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 144 W MFL	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 144 W NSP	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 144 W VNSP	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 144 W WFL	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 162 W MFL	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 162 W NSP	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 162 W VNSP	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 162 W WFL	315	251	319	Black	5700	0.7	1	1
KREIOS PAR 144 W MFL IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 144 W NSP IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 144 W VNSP IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 144 W WFL IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 162 W MFL IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 162 W NSP IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 162 W VNSP IP	341	280	330	Black	6900	0.7	1	1
KREIOS PAR 162 W WFL IP	341	280	330	Black	6900	0.7	1	1

1) Extremely narrow 15°
Narrow 30°
Medium 45°
Wide 60°

Product features

- Light output: up to 4,200 lm
- Up to 16.7 million colors
- Dimming range: 0...100 %
- Built-in control of statics, auto, sound
- DMX512 control
- Lifetime: up to 30,000 h
- Different versions available with beam angle: 15°, 30°, 45°, 60°
- Strobe effect
- Type of protection: IP20 or IP65 (depending on model)

Product benefits

- Portable and lightweight
- High-intensity light with low heat output
- Very robust
- No fan required thanks to passive cooling

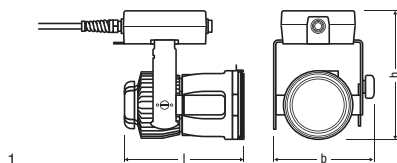
Areas of application

- Suitable for indoor and outdoor applications (IP65)
- Small to medium-sized stages
- Hospitality
- Clubs
- Trade shows

Equipment/accessories

- Various accessories available

KREIOS® SL



1



Product name	Product number	W	V	t[h]	lm	K	R _a	°
KREIOS SL 120 V	4052899000001	60	120	30000	3000	3200	95	24/40...120
KREIOS SL 230 V	4008321843951	60	230	30000	3000	3200	95	24/40...120
Product name	l [mm]	b [mm]	h [mm]	IP	COLOR	U	Icons	No.
KREIOS SL 120 V	178	154	202	IP20	Black	1900	3	1
KREIOS SL 230 V	178	154	202	IP20	Black	1900	3	1

Accessories

Product name	Product number	l [mm]	U	Icons
KREIOS SL CABLE	4052899070097	3000	690	25

Product features

- Variable beam angle
- Long lifetime of LED: up to 30,000 h
- CE-marked and UL-listed

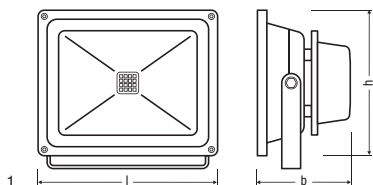
Product benefits

- Compact and lightweight
- High luminous efficacy
- High color rendering index: R_a = 95
- Almost silent air cooling system
- Easy to install
- Multiple mounting options
- Low energy consumption
- Separate mounting of power supply possible (cable)

Areas of application

- TV studios
- Small to medium-sized stages
- Exhibitions and events
- Photo studios

KREIOS FL/FLX



Product name	Product number	W	V	t [h]	Im	K	R _a	
KREIOS FL	4052899193178	60	100...277	30000	3000	3200	95	120
KREIOS FLX	4052899193130	90	100...277	30000	5000	3200	95	120

Product name				IP	COLOR			
KREIOS FL	285	160	235	IP65	Black	3950	2	1
KREIOS FLX	285	160	235	IP65	Black	4200	2	1

Accessories

Product name	Product number					
KREIOS FL/FLX GEL HOLDER	4052899201361	293	239	15	166	5

Product features

- Lifetime: up to 30,000 h
- Type of protection: IP65
- Very good color rendering index: R_a = 95
- Housing color: black
- Passive cooling

Product benefits

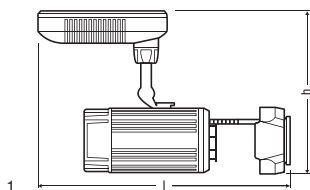
- Less energy consumption compared to a luminaire with halogen lamp
- Easy to install
- Compact and lightweight

Areas of application

- Theaters
- Suitable for outdoor use (IP65)
- Architecture lighting
- Theme parks

Equipment/accessories

- Frame holder available
- Gel frame holder

KREIOS® G1

Product name	Product number	W	V	Im	K	I [mm]
KREIOS G1 White	4008321676146	24	100...240	800	6000	200
KREIOS G1 Black	4008321676160	24	100...240	800	6000	200

Product name	h [mm]	IP	COLOR			
KREIOS G1 White	200	IP20	White	1500	5	1
KREIOS G1 Black	200	IP20	Black	1500	5	1

Accessories

Product name	Product number	
KREIOS G1 C-CLAMP BRACK	4052899173040	10
KREIOS G1 GEL HOLDER	4008321832894	10
KREIOS G1 24° LENS	4008321832870	10
KREIOS G1 SHUTTER	4008321832917	10
KREIOS G1 TRACK MOUNT	4008321832931	10
KREIOS G1 GOBO HOLDER	4008321843913	50
KREIOS G1 POWER CABLE 3m	4008321843890	10

Product features

- No UV/IR filters needed
- Manual pan (270°) and tilt (120°) adjustment
- CE-marked and UL-listed
- Long lifetime of LED: up to 30,000h

Product benefits

- Produces bright and uniformly illuminated images
- Compact and lightweight
- No active cooling required and therefore no noise
- Self-made gobo possible
- Magnetic gobo holder for easy access and replacement
- Easy to install
- Low energy consumption

Areas of application

- Suitable for indoor applications
- Museums and galleries
- Bars, restaurants and hotels
- Shops (e.g. opticians, pharmacies and hair salons)
- Shopping centers
- Airports
- Cinemas
- Gas stations

Equipment/accessories

- Cable included (without plug)
- Available accessories: shutter, gel holder, 24° lens, track mount

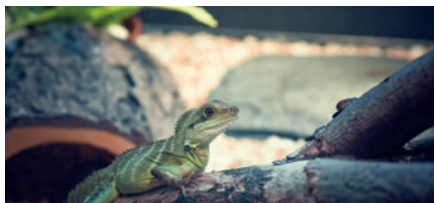
Light is ultra-versatile

UV applications



Water purification for aquariums, ponds and fish farms

Maintain an optimum water quality level to keep fish healthy



Terrariums and animal solariums

Provide species-appropriate conditions for a variety of different animals



Cosmetic nail curing

Dry gel quickly to achieve perfectly looking nails



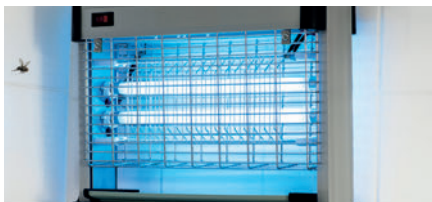
Air purification

Clean the air of biological pollutants in an economical and efficient way



Water purification

Make water safe to drink and use without any harmful chemicals



Insect traps

Protect food by keeping insects away – chemical-free, efficient pest control



Surface cleaning

Effectively remove organic residue from various surfaces without the use of solvents



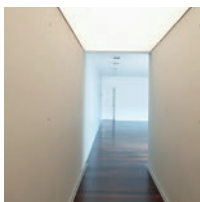
Surface activation

Make use of high-energy photons to activate inorganic or plastic surfaces



Ozone production

Avoid the production of nitrogen oxides during the production of ozone from air

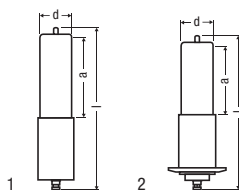


Paint matting

Get an extremely hard matt surface without the use of matting agents

Other application

Photopolymerization:
Achieve perfect results in various manufacturing processes with high radiated power and high luminance

XERADEX®**Excimer ultraviolet lamps, single-ended**

Product name	Product number	W	t [h]	E [mW/cm²]
XERADEX L40/120/SB-S46/85	4008321190994	20	2500	40
XERADEX L40/120/SB-SX48/KF50	4008321191014	20	2500	40
XERADEX L40/120/SB-SX48/KF50HV	4008321211255	20	2500	40
XERADEX L40/175/SB-S45/95	4008321191052	20	2500	35
XERADEX L40/175/SB-SX48/KF50HV	4008321243713	20	2500	35

Product name	d [mm]	l [mm]	a [mm]	No.	No.
XERADEX L40/120/SB-S46/85	40	247	120	1	1
XERADEX L40/120/SB-SX48/KF50	40	252	120	1	2
XERADEX L40/120/SB-SX48/KF50HV	40	252	120	1	2
XERADEX L40/175/SB-S45/95	40	312	175	1	1
XERADEX L40/175/SB-SX48/KF50HV	40	306	175	1	2

Product features

- Incoherent VUV radiation at 172 nm
- Operation with pulse-type DC current
- High efficiency: approx. 40 %
- Instant operation; no startup time
- Unlimited switching cycles
- Instant restart with no effect on lifespan

Product benefits

- No cooling required in normal operation
- Compact design
- Mercury-free, low energy consumption

Areas of application

- Removing organic residue
- Etching plastic surfaces
- Activating wafer surfaces
- Setting of wetting angle
- Removing photoresist
- Producing ozone
- Creating a matt surface on lacquer
- Photocatalytic cleaning of wafers

See safety advice no. 7 on pages 128/129

XERADEX®**Excimer ultraviolet lamps, double-ended**

1



Product name	Product number	W	t [h]	E [mW/cm²]
XERADEX L40/375/DB-AZ48/90	4008321939289	60	2500	40 ²⁾
XERADEX L40/620/DB-AZ48/90	4008321939296	100	2500	40 ²⁾
XERADEX L40/910/DB-AZ48/90	4008321939302	150	2500	40 ²⁾
XERADEX L40/910/DB-SH48/90 ¹⁾	4008321880178	150	2500	40 ²⁾
XERADEX L40/1800/DB-SH48/90 ¹⁾	4008321880185	300	2500	40 ²⁾

Product name	d [mm]	l [mm]	a [mm]	No.
XERADEX L40/375/DB-AZ48/90	40	537	375	1
XERADEX L40/620/DB-AZ48/90	40	782	620	1
XERADEX L40/910/DB-AZ48/90	40	1072	910	1
XERADEX L40/910/DB-SH48/90 ¹⁾	40	1027	910	1
XERADEX L40/1800/DB-SH48/90 ¹⁾	40	1971	1900	1

1) Special coated base for use in acid environmental conditions (XERADEX®, double-ended)

2) With active cooling: 80 mW/cm², reduced lamp lifetime

Product features

- Incoherent VUV radiation at 172 nm
- Operation with pulse-type DC current
- High efficiency: approx. 40 %
- Instant operation; no startup time
- Unlimited switching cycles
- Instant restart with no effect on lifespan

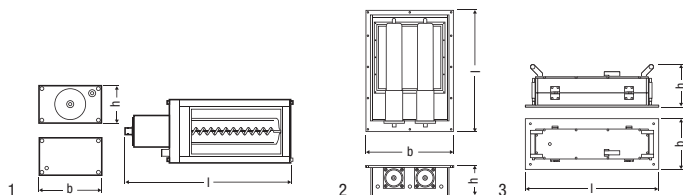
Product benefits

- No cooling required in normal operation
- Compact design
- Mercury-free, low energy consumption

Areas of application

- Removing organic residue
- Etching plastic surfaces
- Activating wafer surfaces
- Setting of wetting angle
- Removing photoresist
- Producing ozone
- Creating a matt surface on lacquer
- Photocatalytic cleaning of wafers

See safety advice no. 7 on pages 128/129

XERADEX® XIS**Excimer ultraviolet irradiation systems**

Product name	Product number	W	l [mm]	b [mm]
XTU 70 30 W 110...240 V	4008321216328	20	180	94
XIS 170 60 W 110...240 V	4008321158253	60	320	230
XIS 375 housing	4052899198524	175	756	290

Product name	h [mm]	g	Stacking icon	No.
XTU 70 30 W 110...240 V	56	1595	1	1
XIS 170 60 W 110...240 V	75	9200	1	2
XIS 375 housing		19000	1	3

Product features

- Aluminum housing with reflector (XTU 70)
- Stainless steel housing with reflectors (XIS 170)
- Housing made of aluminum and stainless steel with UV reflectors (XIS 375 housing)
- Window opening: 70 x 120 mm (XTU 70), 170 x 170 mm (XIS 170)
- Window opening: 96 x 375 mm (XIS 375 housing)
- Front panel
- Line cord

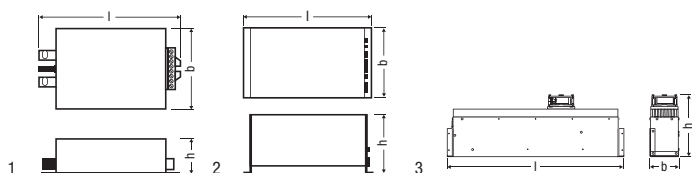
Areas of application

- Removing organic residue
- Etching (e.g. Teflon)
- Activating wafer surfaces
- Setting of wetting angle
- Removing photoresist
- Creating a matt surface on lacquer
- Photocatalytic cleaning of wafers
- Cleaning of photo masks

Equipment/accessories

- Equipped with excimer lamp XERADEX® L40/120/ SB-SX46/85 (XTU 70)
- Equipped with excimer lamp XERADEX® L40/375/ DB-AZ48/90 (XIS 375 housing)
- Equipped with electronic control gear DBD 20 (XTU 70), 2 x DBD 20 (XIS 170), DBD 300 (XIS 375 housing)

See safety advice no. 7 on pages 128/129

DBD**ECG for XERADEX® excimer ultraviolet lamps**

Product name	Product number	W	l [mm]	b [mm]
DBD 20/110...240	4050300939469	30	240	17
DBD 300/100...240 DIM	4052899096295	300	230	166
DBD 1000/220...240 DIM	4008321939333	1200	643	110

Product name	h [mm]	g	Icon	No.
DBD 20/110...240	95	200		1
DBD 300/100...240 DIM	125	3250		2
DBD 1000/220...240 DIM	228	13000		3

Product features

- Supply voltage: 110...240 V (DBD 300), 220...240 V (DBD 1000)
- Output: high voltage
- Line frequency: 50...60 Hz
- Ambient temperature: 0...40 °C (DBD 20, DBD 300), 10...40 °C (DBD 1000)
- PLC control output detects DBD status (DBD 20)
- External control of dimming and output via 11-pole Phoenix connector (DBD 300)
- Dimmable from 10...100 % (DBD 300), 20...100 % (DBD 1000)
- Length of connecting cable: 500 mm (DBD 20, DBD 1000), 600 mm (DBD 300)

Product benefits

- Computer-controllable power, temperature, operation time and dimming (DBD 1000)

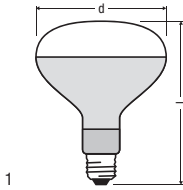
Equipment/accessories

- Suitable for all XERADEX® 20W radiators (DBD 20/110-240)
- Suitable for all XERADEX® lamps with a radiant length of 375...910 mm (DBD 300/110...240 DIM)







See safety advice no. 8 on pages 128/129

ULTRA-VITALUX®

Ultraviolet high-pressure lamps with E27 base



Product name	Product number	W	V	t [h]	UVA / W	UVB / W
ULTRA-VITALUX 300 W 230 V E27	4008321543929	300	230	1000	13.6	3

Product name	 d [mm]	 l [mm]				 No.
ULTRA-VITALUX 300 W 230 V E27	127	185	Any	E27	6	1

Product features

- UV lamp for technical applications
- Direct operation without control gear

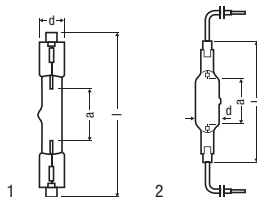
Areas of application

- Sunlight simulation
- Glue curing
- Artificial material aging
- Exposure of UV-sensitive photoresist coatings
- Terrariums
- Equine solaria







See safety advice no. 9 on pages 128/129

SUPRATEC® HTC/HTT

Ultraviolet lamps



Product name	Product number	W	V	UVA/W	UVB/W
HTT 150-211	4008321912848	150	230	22	6
HTC 400-241	4008321694676	400	230	82	12
HTC 1000-241	4008321694690	1000	230	240	40
HTC 2000-349	4008321739704	2000	400	490	60

Product name	 d [mm]	 l [mm]	 a [mm]			 No.
HTT 150-211	10	57.6	10	R7s	25	1
HTC 400-241	14	104	33	R7s	25	1
HTC 1000-241	28	140	48	KY10s	25	2
HTC 2000-349	30	196	104	KY10s	25	2

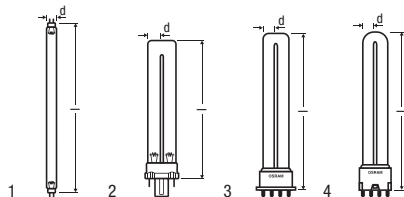
Product features


- SUPRATEC® UV high-pressure lamps for technical applications

Areas of application






- Curing large areas of plastic
- Drying paint and varnishes
- Glue curing
- Exposure of diazo film material and print masters
- Artificial material aging
- Fluorescence excitation (with black glass filters)

See safety advice no. 10 on pages 128/129

PURITEC® HNS®**Germicidal ultraviolet lamps**

Product name	Product number	W	A	
HNS 4 W G5	4008321378316	4	0.2	16
HNS 6 W G5	4008321378330	6	0.2	16
HNS 8 W G5	4008321378385	8	0.2	16
HNS 11 W G5	4008321468796	11	0.4	16
HNS 16 W G5	4008321620774	16	0.4	16
HNS 15 W G13	4008321770271	15	0.3	26
HNS 25 W G13	4052899083851	25	0.6	26
HNS 30 W G13	4008321770301	30	0.4	26
HNS 36 W G13	4052899084018	36	0.4	26
HNS 55 W G13	4052899083936	55	0.8	26
HNS S 5 W G23 ¹⁾	4008321229946	5	0.2	28
HNS S 7 W G23 ¹⁾	4050300941202	7	0.2	28
HNS S 9 W G23 ¹⁾	4050300941226	9	0.2	28
HNS S 11 W G23 ¹⁾	4050300941240	11	0.2	28
HNS S 13 W GX23	4052899040410	13.4	0.3	28
HNS S/E 7 W 2G7	4008321383891	7	0.2	28
HNS S/E 9 W 2G7	4008321384911	9	0.2	28
HNS S/E 11 W 2G7	4008321384935	11	0.2	28
HNS L 18 W 2G11	4008321220431	18	0.4	40
HNS L 24 W 2G11	4008321220561	24	0.4	40
HNS L 36 W 2G11	4008321220684	36	0.4	40
HNS L 55 W 2G11	4052899012394	55	0.6	40
HNS L 60 W 2G11	4052899012462	60	0.8	40
HNS L 95 W 2G11	4052899012509	95	0.8	40



Product name	 [mm]		 $\frac{1000}{\lambda_{UV}} \frac{W}{m^2}$		 No.
HNS 4 W G5	136	G5	0.8	25	1
HNS 6 W G5	212	G5	1.7	25	1
HNS 8 W G5	288	G5	2	25	1
HNS 11 W G5	212	G5	2.5	25	1
HNS 16 W G5	288	G5	4	25	1
HNS 15 W G13	438	G13	4.9	25	1
HNS 25 W G13	438	G13	6.9	25	1
HNS 30 W G13	895	G13	13.4	25	1
HNS 36 W G13	1200	G13	15	25	1
HNS 55 W G13	895	G13	18	25	1
HNS S 5 W G23 ¹⁾	108	G23	1	10	2
HNS S 7 W G23 ¹⁾	135.5	G23	1.9	10	2
HNS S 9 W G23 ¹⁾	165.5	G23	2.5	10	2
HNS S 11 W G23 ¹⁾	235.5	G23	3.6	10	2
HNS S 13 W GX23	179	GX23	3.4	10	2
HNS S/E 7 W 2G7	112	2G7	1.9	10	3
HNS S/E 9 W 2G7	142	2G7	2.5	10	3
HNS S/E 11 W 2G7	212	2G7	3.6	10	3
HNS L 18 W 2G11	214	2G11	5.5	10	4
HNS L 24 W 2G11	314.5	2G11	8.5	10	4
HNS L 36 W 2G11	408	2G11	12	10	4
HNS L 55 W 2G11	533	2G11	17	10	4
HNS L 60 W 2G11	408	2G11	19	10	4
HNS L 95 W 2G11	533	2G11	27	10	4

¹⁾ UV of irradiance 253.7 nm measured at a distance of 1 m at mid-lamp level, at ambient temperature of 20 °C, free-burning; between 0.3...3.0 m, the irradiance is inversely proportional to the square of the distance

Product features

- Dominant wavelength: 254 nm (OFR version)

Product benefits

- Effective and environmentally friendly disinfection without chemicals
- Low mercury content
- Long lifetime due to specific coating
- Ozone-free






Areas of application

- Efficient disinfecting of air, water and surfaces

See safety advice no. 10 on pages 128/129

BLACKLIGHT BLUE**Blacklight & blue fluorescent lamps**

Product name	Product number	W	t [h]	UVA/W
L 18 W/73	4008321054685	18	2000	3.5
L 36 W/73	4008321054715	36	2000	8

Product name	 d [mm]	 l [mm]			 No.
L 18 W/73	26	590	G13	25	1
L 36 W/73	26	1200	G13	20	1

Product features

- Long-wave UV radiation: 300...400 nm

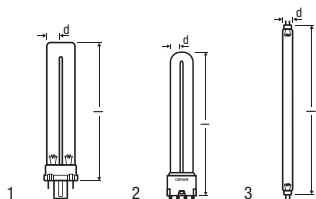
Product benefits

- Visible radiation is almost completely absorbed




Areas of application

- Material inspection (e.g. detection of cracks in engine shafts or banknote checks)
- Inspection in textile industry
- Effect lighting for theaters, stages, discotheques and shows
- Fluorescence excitation (with black glass filters)

OSRAM DULUX® BLUE and BLUE UVA



Product name	Product number	W	d [mm]	l [mm]
DULUX S BL UVA 7 W/78	4008321198907	7	12	137
DULUX S BL UVA 9 W/78	4052899125094	9	12	165.5
DULUX S BL UVA 11 W/78	4052899037885	11.8	12	234.5
DULUX S BL 9 W/71 ¹⁾	4008321198860	9	12	167
DULUX L BL 18 W/71 ²⁾	4008321198884	18	18	217
DULUX L BL UVA 18 W/78	4008321198990	18	18	217
DULUX L BL UVA 24 W/78	4052899037984	24	18	317
DULUX L BL UVA 36 W/78	4008321875303	36	18	408
DULUX L BL UVA 55 W/78	4008321894618	55	18	533
L BLUE UVA 8 W/78 G5	4052899077355	8	16	288
L BLUE UVA 15 W/78 G13	4008321880482	15	26	438
L BLUE UVA 15 W/78 G5	4052899077386	15	16	288
L BLUE UVA 18 W/78 G13	4008321880468	18	26	590

Product name		UVA/W		
DULUX S BL UVA 7 W/78	G23	1.2	50	1
DULUX S BL UVA 9 W/78	G23	1.5	10	1
DULUX S BL UVA 11 W/78	G23	1.8	10	1
DULUX S BL 9 W/71 ¹⁾	G23	-	50	1
DULUX L BL 18 W/71 ²⁾	2G11	-	10	2
DULUX L BL UVA 18 W/78	2G11	3	10	2
DULUX L BL UVA 24 W/78	2G11	5.3	10	2
DULUX L BL UVA 36 W/78	2G11	7.9	10	2
DULUX L BL UVA 55 W/78	2G11	12	10	2
L BLUE UVA 8 W/78 G5	G5	1.6	25	3
L BLUE UVA 15 W/78 G13	G13	4	25	3
L BLUE UVA 15 W/78 G5	G5	3.1	25	3
L BLUE UVA 18 W/78 G13	G13	4.7	25	3

¹⁾ 2.3 W at 400...550 nm

²⁾ 4.2 W at 400...550 nm

Areas of application

- Polymerization of blue-sensitive plastics, adhesives, paints and dyes (BLUE)
- Curing plastics (BLUE UVA)
- Sealing surfaces in dentistry (BLUE UVA)
- Cosmetic finger nail treatments (BLUE UVA)
- Insect traps (BLUE UVA)
- Exposure during printed circuit board manufacturing (BLUE UVA)
- Terrariums (BLUE UVA)
- Scientific investigations (BLUE UVA)

Efficient heat for excellent results IR applications



Outdoor and indoor zone heating

Provide rapid and targeted heat with no time-consuming preheating time



Keeping food warm

Ensure that food stays hot and fresh – in restaurants, hotels, canteens etc.



Processing of plastics

Mold plastics with maximum efficiency in numerous industrial sectors



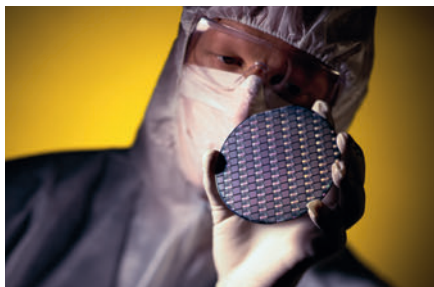
Paper and printing industry

Use infrared radiation in various processes, e.g. reliable drying for paper finishing



Paint drying

Profit from rapid response times in drying processes for water-based paints and varnishes



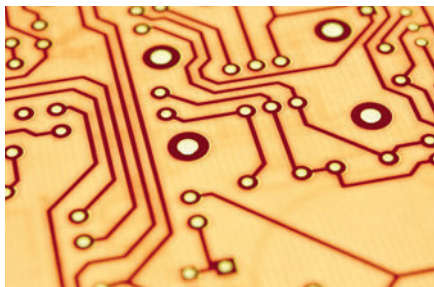
Surface processing (RTP)

Change materials on base plates for chips or wafers with tungsten halogen lamps



Steel coating

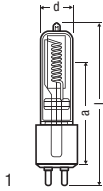
Apply short-wave IR lamps for powder coating – an eco-friendly alternative to liquid paint coating



Reflow soldering

Achieve good control through short response times – with durable and reliable short-wave IR lamps

Special lamps for IR applications



Product name	Product number	W	V		t [h]
54555	4008321216304	1000	120	G9.5 ¹⁾	300

Product name		LCL a [mm]		I [mm]		No.
54555	Any	60.3	20	101	12	1

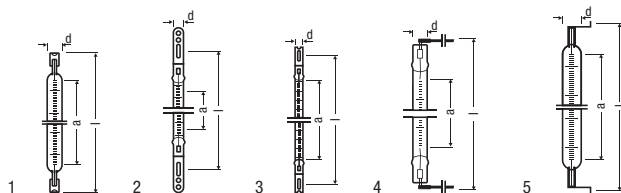
1) Ceramic base

Product features

- Can be supplied in clean-room packaging
- Short-wave infrared lamps (IR-A) for technical applications

Product benefits

- Rapid and precise temperature control
- Rapid reaction time for controlling the temperature
- Small space requirements
- Robust design

HALOTHERM®**Infrared halogen lamps, quartz clear**

Product name	Product number	W	V	A	t [h]	K	Ø [mm]
ITT 200 W 235 V-0170 R7S	4008321203472	200	235	0.9	5000	2350	10
ITT 300 W 235 V-0170 K R7S	4052899909274	300	235	1.3	5000	2350	9.6
ITT 350 W 235 V-0170 R7S	4008321204219	350	235	1.5	5000	2350	10
ITT 500 W 235 V-0170 R7S	4008321203519	500	235	2.1	5000	2350	10
ITT 500 W 235 V-0170 K R7S	4008321206701	500	235	2.1	5000	2350	10
ITT 700 W 235 V-0170 K R7S	4008321203533	700	235	3	5000	2350	10
ITT 1000 W 235 V-0170 R7S	4008321203557	1000	235	4.3	5000	2350	10
ITT 1000 W 235 V-01X0	4008321555076	1000	235	4.3	5000	2350	10
ITT 2000 W 235 V-01Y0 K	4008321555137	2000	235	8.5	5000	2350	12
ITT 2000 W 400 V-01X0 S	4008321645890	2000	400	5	5000	2350	10
ITT 2200 W 235 V-0102	4008321555175	2200	235	9.3	5000	2350	12
ITT 3000 W 235 V-01Y0 Z/K	4008321206725	3000	235	12.8	5000	2350	12
ITT 3000 W 400 V-0102 K	4008321507174	3000	400	7.5	5000	2400	12
ITT 3000 W 400 V-01X0 S	4008321645876	3000	400	7.5	5000	2350	10
ITT 3300 W 235 V-01Y0 Z/K	4008321819123	3300	235	14	5000	2350	12

Product name	l [mm]	a [mm]	Beam angle	Beam shape	Mounting	Accessories	No.
ITT 200 W 235 V-0170 R7S	185.7	120	p15	R7s	2	12	1
ITT 300 W 235 V-0170 K R7S	114.2	67	p15	R7s	-	20	1
ITT 350 W 235 V-0170 R7S	185.7	120	p15	R7s	4	12	1
ITT 500 W 235 V-0170 R7S	250.7	170	Any	R7s	4	12	1
ITT 500 W 235 V-0170 K R7S	214	157	Any	R7s	4	12	1
ITT 700 W 235 V-0170 K R7S	250.7	170	p15	R7s	6.3	12	1
ITT 1000 W 235 V-0170 R7S	327.4	270	p15	R7s	6.3	12	1
ITT 1000 W 235 V-01X0	365	270	p15	X ¹⁾	-	12	2
ITT 2000 W 235 V-01Y0 K	365	285	Any	Y	-	12	3
ITT 2000 W 400 V-01X0 S	508	430	Any	X ¹⁾	-	12	2
ITT 2200 W 235 V-0102	345	285	Any	-	-	12	4
ITT 3000 W 235 V-01Y0 Z/K	361	280	Any	Y/Z	-	30	5
ITT 3000 W 400 V-0102 K	348	280	Any	-	-	60	4
ITT 3000 W 400 V-01X0 S	798	705	Any	X ¹⁾	-	12	2
ITT 3300 W 235 V-01Y0 Z/K	365	280	Any	Y	-	30	5

1) Metal strip connection according to EN 60240-1

Product features

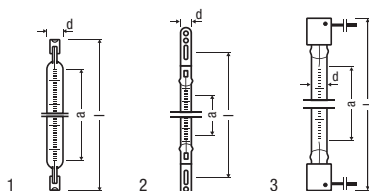
- Short-wave infrared lamps (IR-A) for technical applications
- Maximum radiation at a wavelength of about 1,100nm

Product benefits

- Short response time
- High efficiency
- Precise controllability
- Long lamp life

Areas of application

- Plastics, paper and printing industries
- Drying paint and varnishes
- Coil coating
- Keeping food warm in restaurants

HALOTHERM®**Infrared halogen lamps with white reflector**

Product name	Product number	W	V	A	t[h]	K
ITT 500 W 235 V-0870 R7S	4008321206299	500	235	2.1	5000	2350
ITT 500 W 235 V-08X0	4008321555090	500	235	2.1	5000	2350
ITT 1000 W 235 V-08X0	4008321555113	1000	235	4.3	5000	2350
ITT 1000 W 235 V-0826 S	4008321206275	1000	235	4.3	5000	2350
ITT 1200 W 235 V-0826	4008321206374	1200	235	5.1	4000	2700
ITT 1600 W 235 V-0826	4008321206398	1600	235	6.8	5000	2700
ITT 2000 W 235 V-0826 K/S	4008321206350	2000	235	8.5	5000	2350
ITT 2000 W 235 V-0826 K/S ¹⁾	4008321259790	2000	235	8.5	5000	2350
ITT 2500 W 235 V-0826 K/S	4008321252944	2500	235	8.5	4000	2700
ITT 2500 W 400 V-0826 K	4008321206336	2500	400	6.3	5000	2500
ITT 2500 W 400 V-0828 M/PH	4008321676610	2500	400	6.3	5000	2350
ITT 2500 W 400 V-0838 M/PH	4008321756985	2500	400	6.3	5000	2350
ITT 2500 W 235 V-0826 K/S	4008321894595	2500	235	6.3	5000	2350
ITT 3000 W 400 V-0826 K	4008321206312	3000	400	7.5	5000	2500
ITT 3000 W 400 V-0828 M/PH	4008321676634	3000	400	7.5	5000	2350
ITT 3000 W 400 V-0838 M/PH	4008321757005	3000	400	7.5	5000	2350

Product name	Ø [mm]	l [mm]	a [mm]	Base	Socket	Mounting	No.
ITT 500 W 235 V-0870 R7S	10	250.7	170	Any	R7s	12	1
ITT 500 W 235 V-08X0	10	238	157	Any	X ²⁾	12	2
ITT 1000 W 235 V-08X0	10	365	270	p15	X ²⁾	12	2
ITT 1000 W 235 V-0826 S	10	351	270	Any	K9x15/21	12	3
ITT 1200 W 235 V-0826	10	222	157	p15	K9x15/21	12	3
ITT 1600 W 235 V-0826	10	222	157	p15	K9x15/21	12	3
ITT 2000 W 235 V-0826 K/S	10	351	285	Any	K9x15/21	12	3
ITT 2000 W 235 V-0826 K/S ¹⁾	10	351	285	Any	K9x15/21	60	3
ITT 2500 W 235 V-0826 K/S	10	351	285	Any	K9x15/21	12	3
ITT 2500 W 400 V-0826 K	11	351	285	p15	K9x15/21	12	3
ITT 2500 W 400 V-0828 M/PH	10	380	310	p15	K9x15/21	12	3
ITT 2500 W 400 V-0838 M/PH	10	380	310	p15	K9x15/20	12	3
ITT 2500 W 235 V-0826 K/S	11	351	285	Any	K9x15/21	12	3
ITT 3000 W 400 V-0826 K	11	351	285	p15	K9x15/21	12	3
ITT 3000 W 400 V-0828 M/PH	10	380	310	p15	K9x15/21	12	3
ITT 3000 W 400 V-0838 M/PH	10	380	310	p15	K9x15/20	12	3

¹⁾ Cable length 600 mm

²⁾ Metal strip connection according to EN 60240-1

Product features

- Short-wave infrared halogen lamps (IR-A) for technical applications
- Maximum radiation at a wavelength of about 1,100 nm

Product benefits

- High efficiency
- Precise controllability
- Long lamp life
- Short response time





Areas of application

- Manufacture of PET bottles
- Coil coating
- Professional grills and heated counters in restaurants

OSRAM BLACKSTAR®
Short-wave infrared halogen lamps



Product name	Product number	W	V	A
BLACKSTAR 1500 W 235 V-0926 S	4008321875105	1500	235	6.4

Product name	 d [mm]	 l [mm]		
BLACKSTAR 1500 W 235 V-0926 S	10	353	K9x15/21	12

Product features

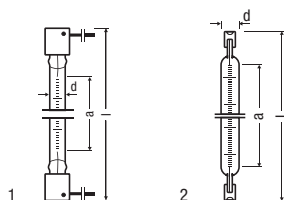
- BLACKSTAR® lamps based on the technology of HALOTHERM® lamps

Product benefits

- Predominantly emits the desired thermal radiation
- Effectively reduces the visible light component
- High efficiency
- Long lamp life
- Short response time

Areas of application

- For use in professional indoor and outdoor infrared heating systems
- For use in special systems in automobile paint shops for drying paint
- Suitable for outdoor applications in fixtures with IP > 54

RUBYSTAR®**Infrared halogen lamps**

Product name	Product number	W	V	A	t _h	K	Ø d (mm)
RUBYSTAR 1000 W 235 V-0028 S	4008321817747	1000	235	4.3	5000	2350	10
RUBYSTAR 1100 W 235 V-0028 1000 mm CL	4008321780881	1100	235	4.7	5000	2350	10
RUBYSTAR 1200 W 235 V-0026 PH	4008321204233	1200	235	5.1	5000	2350	10
RUBYSTAR 1300 W 235 V-0070 R7S	4008321203618	1300	235	5.5	5000	2350	10
RUBYSTAR 1500 W 235 V-0026	4008321120557	1500	235	6.4	5000	2350	10

Product name	l (mm)	a (mm)	Ø	A	Ø	Ø	No.
RUBYSTAR 1000 W 235 V-0028 S	351	271	Any	6.3	K9x15/21	12	1
RUBYSTAR 1100 W 235 V-0028 1000 mm CL	528	458	Any	10	K9x15/21	35	1
RUBYSTAR 1200 W 235 V-0026 PH	351	280	p15	10	K9x15/21	12	1
RUBYSTAR 1300 W 235 V-0070 R7S	250.7	185	p15	10	R7s	12	2
RUBYSTAR 1500 W 235 V-0026	351	280	Any	10	K9x15/21	12	1

Product benefits

- Predominantly emits the desired thermal radiation
- Effectively reduces the visible light component
- High efficiency
- Long lamp life
- Short response time

Areas of application

- For use in professional indoor and outdoor infrared heating systems
- For use in special systems in automobile paint shops for drying paint



Special lights for safe flights

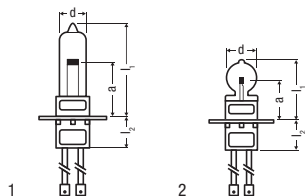
Airfield lighting



Approach, runway and taxiway lighting





The right lighting on airfields is fundamental for ensuring safe landings and take-offs at night and in poor weather conditions. Lighting is used to mark out the important areas of the airfield. The light sources are integrated in appropriate obstacle lights, either set into the ground or installed above ground. This calls for lamps that are shock-proof and can withstand the vibrations that occur when aircraft take off and land.

Halogen lamps, current-controlled with PK30d base



Product name	Product number	LIF	W	A	t [h]	Im	d (mm)
64319 Z/C 45-15	4008321345578		45	6.6	1500	800	13.5
64317 C 45-15	4008321345493	J1/76	45	6.6	1500	800	13.5
64317 IRC-C 45-30	4008321340139	J1/76	45	6.6	3000	800	15
64318 A 45-15	4008321345516	J1/77	45	6.6	1500	800	13.5
64319 IRC-C 45-30	4008321340153		45	6.6	3000	800	15
64318 Z/C 45-15	4008321345530	J1/77	45	6.6	1500	800	13.5
64319 A 45-15	4008321345554		45	6.6	1500	800	13.5
64328 HLX-A 65-15	4008321345592		65	6.6	1500	1450	13.5
64328 HLX-Z/C 65-15	4008321345615		65	6.6	1500	1450	13.5
64341 HLX-A 100-15	4008321345639	J1/79	100	6.6	1500	2700	13.5
64341 HLX-Z/C 100-15	4008321345653	J1/79	100	6.6	1500	2700	13.5
64342 HLX-C 100-15	4008321345677	J1/80	100	6.6	1500	2700	13.5
64361 HLX-A 150-15	4008321345691	J1/83	150	6.6	1500	3600	13.5
64361 HLX-Z/C 150-15	4008321345714	J1/83	150	6.6	1500	3600	13.5
64382 HLX-A 200-15	4008321345738	J1/84	200	6.6	1500	4800	13.5
64382 HLX-C 200-15	4008321345752	J1/84	200	6.6	1500	4800	13.5



Product name	$\frac{l}{[mm]}$	$\frac{l_2}{[mm]}$	$\frac{l_1 \text{ max.}}{[mm]}$	$\frac{LCL}{a [mm]}$				 No.
64319 Z/C 45-15	50	16	32	20	s90	PK30d	100	1
64317 C 45-15	56	20	36	16	s90	PK30d	100	1
64317 IRC-C 45-30	48	20	28	16	s90	PK30d	100	2
64318 A 45-15	50	20	30	16	s90	PK30d	100	1
64319 IRC-C 45-30	48	16	32	20	s90	PK30d	100	2
64318 Z/C 45-15	50	20	30	16	s90	PK30d	100	1
64319 A 45-15	50	16	32	20	s90	PK30d	100	1
64328 HLX-A 65-15	48	16	36	20	s90	PK30d	100	1
64328 HLX-Z/C 65-15	48	16	32	20	s90	PK30d	100	1
64341 HLX-A 100-15	48	16	35	20	s90	PK30d	100	1
64341 HLX-Z/C 100-15	48	16	35	20	s90	PK30d	100	1
64342 HLX-C 100-15	56	16	40	20	s90	PK30d	100	1
64361 HLX-A 150-15	50	16	35	20	s90	PK30d	100	1
64361 HLX-Z/C 150-15	50	16	35	20	s90	PK30d	100	1
64382 HLX-A 200-15	57	21	36	20	s90 ¹⁾	PK30d	100	1
64382 HLX-C 200-15	57	21	36	20	s90	PK30d	100	1

1) Despite a transverse filament, the lamp can be inclined at any angle in s90 position

Product features

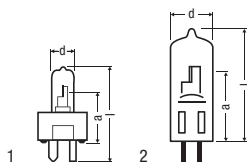
- Dimmable
- Available with connector combinations A, B, C/Z on request
- Infrared radiation output

See safety advice no. 5 on pages 128/129

Product benefits

- Reduced operation and maintenance costs due to long lifetime
- Instant and constant light output over the lamp life
- Flicker-free operation
- Mercury-free

Halogen lamps, current-controlled, single-ended



Product name	Product number	ANSI	LIF	W	A	t[h]	Im
64322	4008321100146	EXL		30	6.6	1500	430
64311	4008321106346		J1/59	36	6	1500	600
64321	4008321106360		J1/57	45	6.6	1500	900
64320	4008321100122	EXM		45	6.6	1500	900
64346	4008321106384		J1/58	100	6.6	1200	2300
64354	4008321100207	EWB		150	6.6	1500	4000
64386	4050300317755		J1/39	200	6.6	1500	4700
58750	4008321100160	EZL		200	6.6	1300	5200

Product name	d [mm]	l [mm]	LCL a [mm]	s90 ¹⁾	GY9.5	G6.35	G29.5	No.
64322	13.5	44.5	25.4	s90 ¹⁾	GY9.5	12		1
64311	11	47	33	s90	G6.35	40		2
64321	11.5	47	33	s90	G6.35	40		2
64320	11.5	44.5	25.4	s90	G29.5	12		1
64346	13.5	47	33	s90	G6.35	40		2
64354	13.5	65	39.1	s90	GY9.5	12		2
64386	13.5	47	33	s90	G6.35	100		2
58750	13	65	39.1	Any	GY9.5	12		1

¹⁾ Despite a transverse filament, the lamp can be inclined at any angle in s90 position

Product features

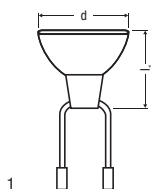
- Dimmable
- Infrared radiation output

See safety advice no. 5 on pages 128/129

Product benefits

- Reduced operation and maintenance costs due to long lifetime
- Instant and constant light output over the lamp life
- Flicker-free operation
- Mercury-free

Halogen lamps with reflector, current-controlled, 30...40W



1



Product name	Product number	W	A	t [h]	
64331 SP-A ¹⁾	4008321102560	30	6.6	1000	Leads w/female flat connectors
64331 FL-A 30-10 ²⁾	4008321229564	30	6.6	1000	Leads w/female flat connectors
64331 FL-AC 30-10 ²⁾	4008321102584	30	6.6	1000	Leads w/female flat connectors
64333 A 40-15	4008321166340	40	6.6	1500	Leads w/female flat connectors
64333 B 40-15	4008321104731	40	6.6	1500	Leads w/female round connectors
64333 C 40-15	4008321104885	40	6.6	1500	Leads w/male flat connectors

Product name	cd	Con- nection with cable	d [mm]	h [mm]		No.
64331 SP-A ¹⁾	16000	Yes	50.4	48	20	1
64331 FL-A 30-10 ²⁾	4000	Yes	50.4	48 ³⁾	20	1
64331 FL-AC 30-10 ²⁾	4000	Yes	50.4	48	20	1
64333 A 40-15	10000	Yes	35.3	37	20	1
64333 B 40-15	10000 ⁴⁾	Yes	35.3	37	20	1
64333 C 40-15	10000	Yes	35.3	37	20	1

1) Spot adjustment

2) Flood adjustment

3) Maximum 48.0 mm

4) Minimum

Product features

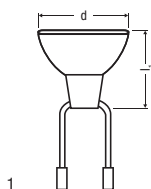
- Dimmable
- Available with connector combinations A, B, C/Z on request
- Infrared radiation output

See safety advice no. 5 on pages 128/129

Product benefits

- Reduced operation and maintenance costs due to long lifetime
- Instant and constant light output over the lamp life
- Flicker-free operation
- Mercury-free

Halogen lamps with reflector, current-controlled, 45...48 W



1



Product name	Product number	W	A	t [h]		
64337 A 45-15	4008321102515	45	6.6	1500	Leads w/female flat connectors	
64337 B 45-15	4008321104700	45	6.6	1500	Leads w/female round connectors	
64337 A 48-15	4008321102737	48	6.6	1500	Leads w/female flat connectors	
64337 B 48-15	4008321105226	48	6.6	1500	Leads w/female round connectors	
64337 C 48-15	4008321105240	48	6.6	1500	Leads w/male flat connectors	
64338 AC 48-10	4008321105301	48	6.6	1000	Leads w/male and female flat connectors	
64337 IRC-A 48-30	4008321341174	48	6.6	3000	Leads w/female flat connectors	
64337 IRC-C 48-30 ¹⁾	4008321341198	48	6.6	3000	Leads w/male flat connectors	
Product name	cd	d [mm]	h [mm]			No.
64337 A 45-15	19000 ³⁾	50.4	45	Horizontal	20	1
64337 B 45-15	19000 ³⁾	50.4	45	Horizontal	20	1
64337 A 48-15	20000	50.4	45	Horizontal	20	1
64337 B 48-15	20000	50.4	45	Horizontal	20	1
64337 C 48-15	20000	50.4	45	Horizontal	20	1
64338 AC 48-10	23000	50.2	44	Horizontal	20	1
64337 IRC-A 48-30	20000	50.4	45	Horizontal	20	1
64337 IRC-C 48-30 ¹⁾	20000	50.4	45 ²⁾	Horizontal	20	1

1) Available on request

2) Maximum 45.0 mm

3) Minimum

Product features

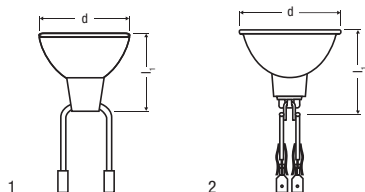
- Dimmable
- Available with connector combinations A, B, C/Z on request
- Infrared radiation output

See safety advice no. 5 on pages 128/129

Product benefits

- Reduced operation and maintenance costs due to long lifetime
- Instant and constant light output over the lamp life
- Flicker-free operation
- Mercury-free

Halogen lamps with reflector, current-controlled, 62...105 W



Product name	Product number	W	A	t [h]	
64336 A 62-15	4008321186713	62	6.6	1500	Leads w/female flat connectors
64339 A 105-10	4008321101600	112.5	6.6	1000	Leads w/female flat connectors
63339 AC 105-10	4008321105424	112.5	6.6	1000	Leads w/male and female flat connectors
64339 B 105-10	4008321105462	112.5	6.6	1000	Leads w/female round connectors
64339 C 105-10	4008321105486	112.5	6.6	1000	Leads w/male flat connectors

Product name	cd	d [mm]	h [mm]			
64336 A 62-15	28000	50.4	45	Horizontal	20	1
64339 A 105-10	30000	50.4	48	Horizontal	20	2
63339 AC 105-10	30000	50.4	48	Horizontal	20	2
64339 B 105-10	30000	50.4	48	Horizontal	20	2
64339 C 105-10	30000	50.4	48	Horizontal	20	2

Product features

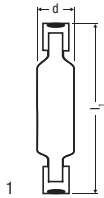
- Dimmable
- Available with connector combinations A, B, C/Z on request
- Infrared radiation output











See safety advice no. 5 on pages 128/129

Product benefits

- Reduced operation and maintenance costs due to long lifetime
- Instant and constant light output over the lamp life
- Flicker-free operation
- Mercury-free

Halogen lamps, current-controlled, double-ended



Product name	Product number					
64340	4050300017266	J1/82	100	6.6	1000	
64380	4050300209944	J1/40	200	6.6	1000	
Product name						
64340	51	65.6	Horizontal	R7s	25	1
64380	15	65.6	p15	R7s	25	1

Product features

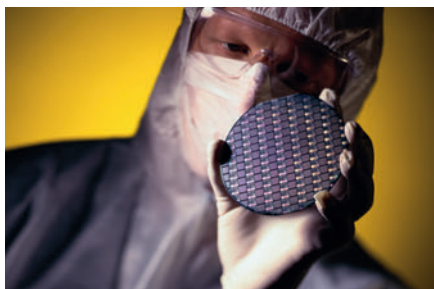
- Dimmable
- Infrared radiation output

See safety advice no. 5 on pages 128/129

Product benefits

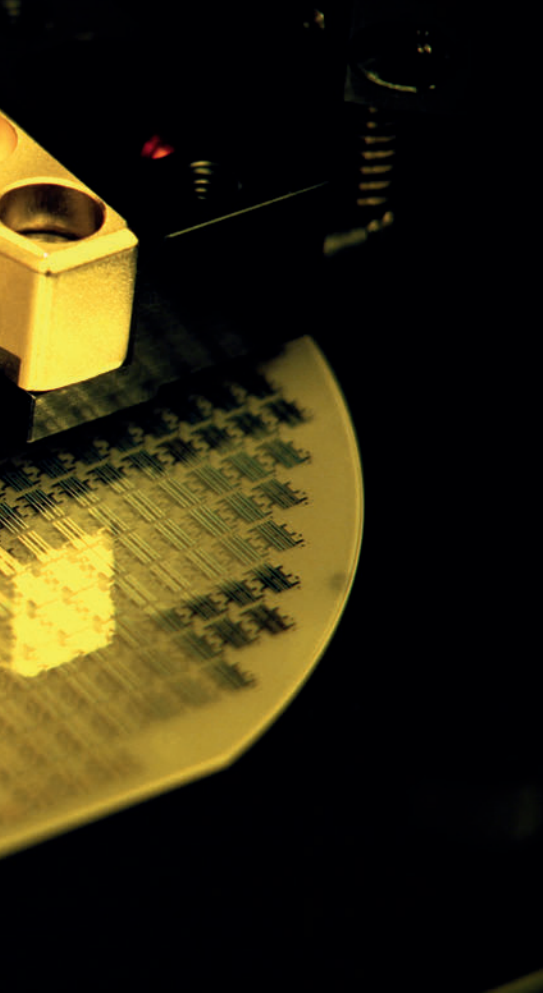
- Reduced operation and maintenance costs due to long lifetime
- Instant and constant light output over the lamp life
- Flicker-free operation
- Mercury-free

Precision for trouble-free production Microlithography



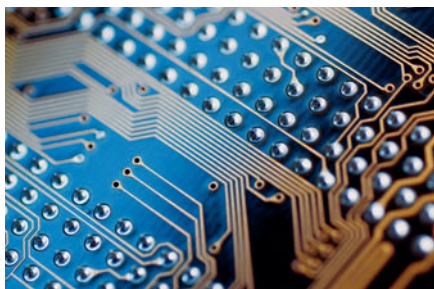
Exposure of integrated circuits

Create complex structures on microchips with the optimum radiated power of short-arc mercury vapor lamps



LCD panel exposure

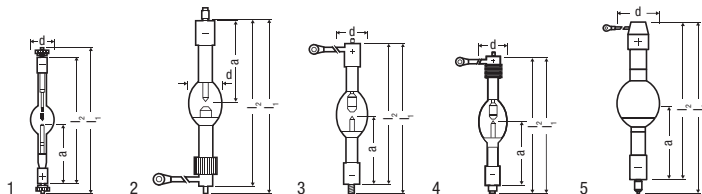
Help to bring breathtaking TV pictures to life with the high-intensity UV light of OSRAM HBO® lamps



Printed circuit boards (PCB) exposure

Produce patterns on PC boards or printed circuits with the high-intensity UV light of OSRAM HBO® IC lamps

Microlithography lamps for ASML® i-line systems



Product name	Product number	W	V	A	t [h]	d [mm]	l [mm]
HBO 1003 W/PIL	4050300461380	1000	27.1	25.8	2250	29	195
HBO 1500 W/PIL	4050300461465	1500	23	65	1500	46	273
HBO 2500 W/PIL	4050300947396	2500	28	90	1500	62	340
HBO 3500 W/PIL	4008321355843	3500	23	148	3000	77	360
HBO 5500 W/PIL	4008321498533	5500	27	204	2250	85	325.5

Product name	LCL a [mm]	+	+	+	+	+	+	No.
HBO 1003 W/PIL	85 ¹⁾	3	Forced ²⁾	Vertical ³⁾	SfCx14-6/25 ⁵⁾	SfC15-6/25 ⁹⁾	8	1
HBO 1500 W/PIL	118 ¹⁾	4	Forced ²⁾	Vertical ³⁾	SfC30-6/25 ⁶⁾	SfC27-10/35	6	2
HBO 2500 W/PIL	149 ¹⁾	7	Forced ²⁾	Vertical ⁴⁾	SfA30-6/50 ⁷⁾	SfC30-6.5/50	1	3
HBO 3500 W/PIL	154 ¹⁾	4.5	Forced ²⁾	Vertical ⁴⁾	SfA40-6/50 ⁷⁾	SfC32.5-6.7/50	4	4
HBO 5500 W/PIL	154 ¹⁾	5.5	Forced ²⁾	Vertical ⁴⁾	SfCx42.5-6/50 ⁸⁾	SfA37.5-9/50	1	5

1) Distance from end of base to tip of anode or cathode (cold)

2) Maximum permissible base temperature: 200 °C

3) Anode underneath

4) Anode on top

5) With cooling fins

6) With cooling fins and cable connection (M 8)

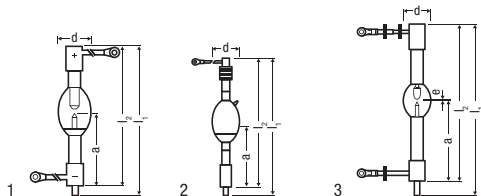
7) With cooling fins and cable connection (M 10)

8) With cable connection (M 10)

9) With thread (M 6)

See safety advice no. 11 on pages 128/129

Microlithography lamps for Canon® i-line systems



Product name	Product number	W	A	V	t [h]	d [mm]	h [mm]	l2 [mm]
HBO 2001 W/CIEL	4050300972121	2000	77	26	2500	62	327	307
HBO 2700 W/CIL ¹⁾	4008321786838	2700	110	26	2250	62	332	307
HBO 4500 W/CIL ¹⁾	4008321387455	4500	147.5	30.5	2250	85	354	330
Product name	LCL a [mm]							
HBO 2001 W/CIEL	148.75 ²⁾	4.5	Forced ³⁾	Vertical ⁴⁾	SF33.5/50 ⁵⁾	SFa33.5-10/50 ⁶⁾	4	1
HBO 2700 W/CIL ¹⁾	149.1 ²⁾	5	Forced ³⁾	Vertical ⁴⁾	SF33.5/50 ⁵⁾	SFa33.5-14/50 ⁶⁾	4	3
HBO 4500 W/CIL ¹⁾	157.75 ²⁾	7	Forced ³⁾	Vertical ⁴⁾	SFaX46-36/50 ⁵⁾	SFa36-16/50	4	2

¹⁾ The lamp is subject to overpressure even in cold state – additional safety regulations, supplied with the lamps, have to be fulfilled; please carefully read technical bulletin DO-SEM TB 004

²⁾ Distance from end of base to tip of anode or cathode (cold)

³⁾ Maximum permissible base temperature: 200 °C / Base cooling

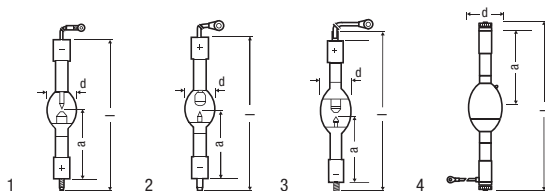
⁴⁾ Anode on top

⁵⁾ With cable connection (M 8)

⁶⁾ With cable connection (M 6)

See safety advice no. 11 on pages 128/129

Microlithography lamps for Nikon® i-line systems



Product name	Product number	W	V	A	t [h]	d [mm]	l [mm]
HBO 2001 W/NIEL	4008321806031	1750	24	67	2500	55	251
HBO 2011 W/NIL	4050300652641	2000	23	80	2250	55	256
HBO 2510 W/NIL	4050300628400	2500	23	109	2250	70	357
HBO 3500 W/NIL ¹⁾	4050300660769	3500	27	130	2250	82	382
HBO 7500 W/NILH ¹⁾	4008321651518	7500	36.5	206	1500	110	485

Product name	LCL a [mm]							
HBO 2001 W/NIEL	112 ²⁾	4.5	Forced ³⁾	Vertical ⁵⁾	SFc27-10/35	SFc27-7/35 ⁷⁾	6	1
HBO 2011 W/NIL	107.75 ²⁾	4.5	Forced ³⁾	Vertical ⁶⁾	SFc27-7/35 ⁷⁾	SFc27-12x1.5/35	6	2
HBO 2510 W/NIL	157.75 ²⁾	4.5	Forced ³⁾	Vertical ⁶⁾	SFc33.5-12/50 ⁷⁾	SFc33.5-14/50	4	3
HBO 3500 W/NIL ¹⁾	180 ²⁾	5.5	Forced ⁴⁾	Vertical ⁶⁾	SFc33.5-16/50 ⁸⁾	SFa33.5-12/50 ⁷⁾	1	4
HBO 7500 W/NILH ¹⁾	205 ²⁾	7.5	Forced ⁴⁾	Vertical ⁶⁾	SFaX46-15/72 ⁷⁾	SFaX85-16/70	1	3

1) The lamp is subject to overpressure even in cold state – additional safety regulations, supplied with the lamps, have to be fulfilled; please carefully read technical bulletin DO-SEM TB 004

2) Distance from end of base to tip of anode or cathode (cold)

3) Maximum permissible base temperature: 200 °C

4) Maximum permissible base temperature: 200 °C / Base cooling

5) Anode underneath

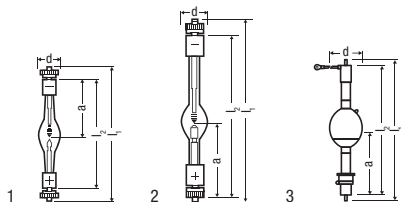
6) Anode on top

7) With cable connection (M 8)

8) With thread (M 16)

See safety advice no. 11 on pages 128/129

Microlithography lamps for Süss® systems



Product name	Product number	W	V	A	AC/DC	t [h]	d [mm]	l ₂ [mm]	h max. [mm]
HBO 350 W/S	4050300258041	350	68	5.2	DC	600	20	103	127
HBO 1000 W/DHL	4008321673145	1000	45	22.2	DC	2250	40	208	240
HBO 1000 W/D	4050300288857	1000	37.7	26.5	DC	1500	40	208	240
HBO 5000 W/S	4008321635549	5000	50	100	DC	2250	40	318	360

Product name	LCL a [mm]	3	Convection	Vertical	SFcY10-4/15 ³⁾	SFcY10-4 ³⁾	SFcY10-4 ³⁾	1	1
HBO 350 W/S	52.5 ²⁾	3	Convection	Vertical	SFc15-6/25	SFc15-6/25 ⁴⁾	SFc15-6/25 ⁴⁾	1	2
HBO 1000 W/DHL	89.5 ²⁾	3	Convection	Vertical	SFc15-6/25	SFc15-6/25 ⁴⁾	SFc15-6/25 ⁴⁾	1	2
HBO 1000 W/D	89.5 ¹⁾	3	Convection	Vertical	SFc15-6/25	SFc15-6/25 ⁴⁾	SFc15-6/25 ⁴⁾	1	2
HBO 5000 W/S	143.5 ²⁾	7.5	Forced ⁷⁾	Vertical	SFa33.5/SFa33.5	SFa33.5-9.4/50 ⁵⁾	SFa33.5-7.85/50	1	3

1) The lamp is subject to overpressure even in cold state – additional safety regulations, supplied with the lamps, have to be fulfilled; please carefully read technical bulletin D0-SEM TB 004

2) Distance from end of base to tip of anode or cathode (cold)

3) With 8-32 UNC-3 B thread

4) With thread (M 6)

5) With cable connection (M 10)

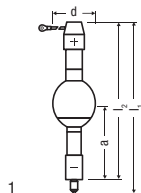
6) Cooling fins on cathode base

7) Maximum permissible base temperature: 200 °C / Base cooling

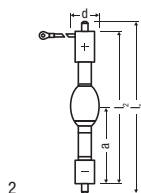
8) Anode underneath

9) Anode on top

Microlithography lamps for Canon® LCD systems



1



2



Product name	Product number	W	V	A	t[h]	d [mm]	l _r [mm]	l _z [mm]
HBO 5000 W/CH	4008321381934	5000	74	68	1500	80	362	338
HBO 8000 W/CHL	4008321545756	8000	81	98	2500	105	434	385.5
HBO 12000 W/CHL	4008321651129	12000	110	109	2500	124	500	450

Product name	LCL a [mm]							
HBO 5000 W/CH	156 ¹⁾	6	Forced ²⁾	Vertical ⁴⁾	SFc33.5-50 ⁵⁾	SFc33.5-12/50	4	1
HBO 8000 W/CHL	179 ¹⁾	7	Forced ³⁾	Vertical ⁴⁾	SFaX40-13/50 ⁵⁾	SFa40-12/45	1	2
HBO 12000 W/CHL	200 ¹⁾	11	Forced ³⁾	Vertical ⁴⁾	SFaX46-14/60 ⁵⁾	SFa37-16/60	1	2

1) Distance from end of base to tip of anode or cathode (cold)

2) Maximum permissible base temperature: 200 °C / Base cooling

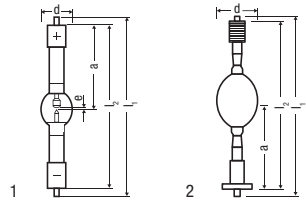
3) Maximum permissible base temperature: 200 °C

4) Anode on top

5) With cable connection (M 10)

See safety advice no. 11 on pages 128/129

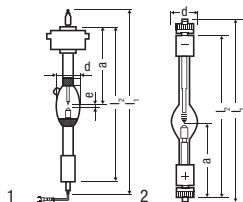
Microlithography lamps for Nikon® LCD systems



Product name	Product number	W	V	t [h]	d [mm]	l1 [mm]	l2 [mm]	LCL a [mm]
HBO 4300 W/NHL	4008321857002	4300	54	3000	80	387	335	177.5 ⁴⁾
HBO 12000 W/NHL	4008321605672	12000	117	1500	124	505	465	229 ⁴⁾
Product name						A		No.
HBO 4300 W/NHL	5	Forced ¹⁾	Vertical ²⁾	SFYc33.5-14/50	SFc33.5-12/50	80	4	1
HBO 12000 W/NHL	12	Forced ¹⁾	Vertical ²⁾	SF46-13/60 ³⁾	SFa85-16/70	103	1	2

1) Maximum permissible base temperature: 200 °C
2) Anode on top
3) With cable connection (M 8)
4) Distance from end of base to tip of anode or cathode (cold)

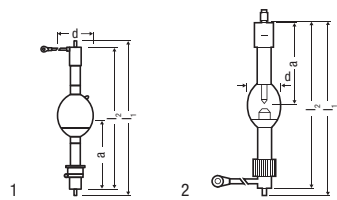
See safety advice no. 11 on pages 128/129



- 1) Lamp suitable for pulse operation between 250...500W; maximum permissible power is 350 W for constant-power operation; duty cycle 12 h ON/30 min OFF
- 2) Distance from end of base to tip of anode or cathode (cold)
- 3) Maximum permissible base temperature: 230 °C
- 4) Cooling fins on cathode base
- 5) Anode underneath
- 6) With 8-32 UNC-3 B thread
- 7) With thread (M 6)

See safety advice no. 11 on pages 128/129

Other microlithography lamps above 3,000 W

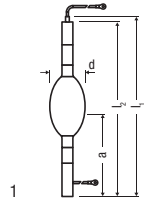


Product name	Product number	W	V	A	t [h]	d [mm]	h [mm]	l ₂ [mm]
HBO 5000 W/MF ¹⁾	4050300772264	5000	50	100	1500	80	360	318
HBO 5000 W/HK	4050300897585	5000	70	72	1500	82	355	302
Product name	LCL a [mm]							No.
HBO 5000 W/MF ¹⁾	143.5 ²⁾	7.5	Forced ³⁾	Vertical ⁴⁾	SFa33.5-9.4/50 ⁶⁾	SFa33.5-7.85/50	4	1
HBO 5000 W/HK	152.5 ²⁾	7.5	Forced ³⁾	Vertical ⁵⁾	SFa29-10/42 ⁷⁾	SFc29-20-12/42	4	2

1) The lamp is subject to overpressure even in cold state – additional safety regulations, supplied with the lamps, have to be fulfilled; please carefully read technical bulletin D0-SEM TB 004
2) Distance from end of base to tip of anode or cathode (cold)
3) Maximum permissible base temperature: 200 °C / Base cooling
4) Anode on top
5) Anode underneath
6) With cable connection (M 10)
7) With cable connection (M 6)

See safety advice no. 11 on pages 128/129

Microlithography lamps for other LCD systems



Product name	Product number	W	V	A	t [h]	d [mm]	h [mm]	l [mm]
HBO 16005 W/AU	4052899196933	16000	134	119	2250	140	550	490

Product name	LCL a [mm]							
HBO 16005 W/AU	239 ¹⁾	17	Forced ²⁾	Vertical ³⁾	SFa46-35-14/70 ⁴⁾	SFa40-35-12/85 ⁵⁾	6	1

1) Distance from end of base to tip of anode or cathode (cold)
2) Maximum permissible base temperature: 200 °C
3) Anode on top
4) With cable connection (M 8)
5) With cable connection (M 10)

See safety advice no. 11 on pages 128/129

A large photograph of surgeons in an operating room, wearing blue scrubs and masks, illuminated by large overhead surgical lamps.

Creating vision for most advanced systems

Lamps and LED modules for scientific applications



Endoscopy lighting

Achieve a precise diagnosis in minimal invasive surgery with optimum artificial daylight



Microscopy lighting

Make microstructures visible with high luminance and good color rendering



Surgical lighting

Ensure the best possible view on the operating table and the patient's tissue



Surgical headlights

Provide additional light exactly where the surgeon needs it



Medical analysis

Deliver precise analysis results with reliable and powerful light sources



Bilirubin therapy

Treat newborn babies for jaundice with blue light from highly efficient and durable lamps



Dental treatment

Use mercury discharge lamps and LED solutions for tooth whitening and hardening of composite fillings



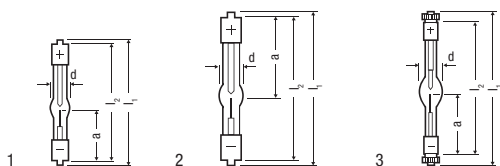
Scientific lamps

Apply special lamps with high luminance and radiance when monochromatic radiation is required








Otoscopy

Examine ears with LED light and benefit from a high luminous efficacy, high CRI and long lifetime

XBO®**Xenon short-arc lamps without reflector**

Product name	Product number	W	V	A	t [h]	lm	$\frac{l}{a}$ [mm]	$\frac{l}{z}$ max. [mm]
XBO 75 W/2	4050300508801	64...86	12...16 ⁸⁾	4.9...5.9	400	1000 ¹¹⁾	90	82
XBO 75 W/2 OFR ¹⁾	4050300508825	64...86	12...16 ⁸⁾	4.9...5.9	400	1000 ¹¹⁾	90	82
XBO 100 W OFR ¹⁾	4008321386328	85...115	12.8...14.4 ⁸⁾	7...7.4	500	1600 ¹¹⁾	90	82
XBO 150 W/CR OFR ¹⁾	4050300508788	125...180	15...18 ⁸⁾	8.5 ⁹⁾	3000/1200 ¹⁰⁾	2900 ¹¹⁾	150	127
XBO 150 W/1	4050300508344	130...175	17...21 ⁸⁾	7.5 ⁹⁾	1200	3000 ¹¹⁾	150	127
XBO 150 W/4 ²⁾	4050300508382	130...175	17...21 ⁸⁾	7.5 ⁹⁾	1200	3000 ¹¹⁾	150	127

Product name	LCL a [mm]	ϕ [mm]					AC/DC		No.
XBO 75 W/2	37 ³⁾	10	Convection	s100 ³⁾	SFa9-2	SFa7.5-2	DC	10	1
XBO 75 W/2 OFR ¹⁾	37 ³⁾	10	Convection	s100 ³⁾	SFa9-2	SFa7.5-2	DC	10	1
XBO 100 W OFR ¹⁾	44.5 ⁴⁾	11	Convection	s100 ³⁾	SFa9-2	SFa7.5-2	DC	10	2
XBO 150 W/CR OFR ¹⁾	57 ³⁾	20	Forced	s15 ⁵⁾	SFc12-4	SFcX12-4	DC	10	3
XBO 150 W/1	57 ³⁾	20	Forced	s15 ⁷⁾	SFc12-4	SFcX12-4	DC	10	3
XBO 150 W/4 ²⁾	57 ³⁾	20	Forced	s15 ⁷⁾	SFc12-4	SFcX12-4	DC	10	3

1) OFR = ozone-free version

2) Lamp uses a special quality of quartz glass, known as SUPRASIL, which – in comparison to conventional quartz – provides higher transmission below 250 nm

3) Distance from end of base to tip of electrode (cold)

4) Distance from end of base to tip of anode (cold)

5) If vertical, then anode on top; up to 10° below horizontal, cathode on top

6) For vertical burning position: anode (+) on top

7) Anode (+) on top

8) Initial voltage range

9) Operation with rated current recommended

10) In vertical burning position / In horizontal burning position

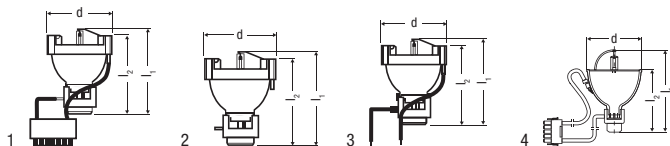
11) Typical initial photometric value


Product features









- Color temperature: approx. 6,000 K (daylight)
- High color rendering index: $R_a > 95$
- Continuous spectrum in the visible range
- High arc stability
- Hot restart capability
- Dimmable
- Instant light on starting

See safety advice no. 13 on pages 128/129**Product benefits**

- Very high luminance (point light source)
- Continual color quality, irrespective of lamp type and lamp wattage
- Constant light color throughout the life of the lamp
- Long lamp life

XBO®**Xenon short-arc lamps with reflector 75...300 W**

Product name	Product number	W	V	A	t[h]	lm	
XBO R 100 W/45 C ¹⁾	4050300367767	85...115	12...14 ²⁾	7...7.4	500	530 ³⁾	45
XBO R 100 W/45 OFR ¹⁾	4050300317205	85...115	12...14 ²⁾	7...7.4	500	530 ³⁾	45
XBO R 101 W/45 C OFR ¹⁾	4050300388458	85...115	12...14 ²⁾	7...7.4	500	530 ³⁾	45
XBO R 180 W/45 ¹⁾	4050300432175	150...210	12.8...14.8 ²⁾	11.8...12.25	500	800 ³⁾	45
XBO R 180 W/45 C OFR ¹⁾	4050300432199	150...210	12.8...14.8 ²⁾	11.8...12.25	500	800 ³⁾	45
XBO R 181 W/45 C ¹⁾	4050300450872	150...210	12.8...14.8 ²⁾	11.8...12.25	500	800 ³⁾	45
XBO R 300 W/60 C OFR ¹⁾	4008321137722	250...300	16...20 ²⁾	18	1000	1500 ³⁾	60

Product name								
XBO R 100 W/45 C ¹⁾	83	77	64	Forced	p20	DC	2	1
XBO R 100 W/45 OFR ¹⁾	83	77	64	Forced	p20	DC	2	2
XBO R 101 W/45 C OFR ¹⁾	83	77	64	Forced	p20	DC	2	3
XBO R 180 W/45 ¹⁾	90	81.5	64	Forced	p20	DC	2	2
XBO R 180 W/45 C OFR ¹⁾	90	81.5	64	Forced	p20	DC	2	1
XBO R 181 W/45 C ¹⁾	90	81.5	64	Forced	p20	DC	2	3
XBO R 300 W/60 C OFR ¹⁾	110	80	82.5	Forced	p20	DC	2	4

1) OFR = ozone-free version

2) Initial voltage range

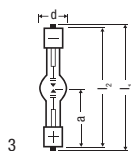
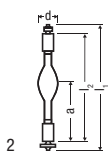
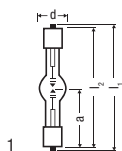
3) Aperture 3 mm (round); typical initial photometric value

Product features

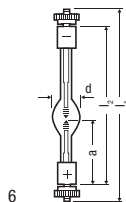
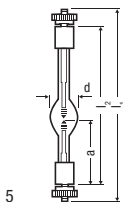
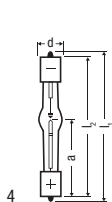
- Color temperature: approx. 6,000 K (daylight)
- High color rendering index: $R_a > 95$
- High arc stability
- Hot restart capability
- Dimmable
- Instant light on starting
- Continuous spectrum in the visible range

See safety advice no. 13 on pages 128/129**Product benefits**

- Very high luminance (point light source)
- Continual color quality, irrespective of lamp type and lamp wattage
- Constant light color throughout the life of the lamp
- Long lamp life

HBO®**Mercury short-arc lamps without reflector 50...200 W**

Product name	Product number	W	V	A	AC/DC	t [h]	lm	⌀ d [mm]
HBO 50 W/AC 39 V	4050300507132	50	39...45 ²⁾	1.1...1.3 ²⁾	AC	100	2000 ⁸⁾	10
HBO 50 W/AC 34 V	4050300507118	50	34...39 ²⁾	1.3...1.5 ²⁾	AC	100	2000 ⁸⁾	10
HBO 50 W/3	4050300506692	50	20...26 ²⁾	1.9...2.5 ²⁾	DC	200	1300 ⁹⁾	9
HBO 100 W/2	4050300507095	100	17...25 ²⁾	4.3...5.6 ²⁾	DC	200	2200 ⁸⁾	10
HBO 103 W/2	4050300382128	100	17...25 ²⁾	4...5 ²⁾	DC	300	3000 ⁸⁾	10
HBO 200 W/4	4050300506715	200	54...67 ²⁾	3...3.7 ²⁾	AC	200	9500 ⁸⁾	17
HBO 202 W/4	4050300507156	200	54...67 ²⁾	3...3.7 ²⁾	AC	200	9500 ⁹⁾	17
HBO 200 W/2 57 V	4050300508153	200	57...66 ²⁾	3...3.5 ²⁾	AC/DC	200/400 ⁷⁾	10000 ⁸⁾	17
HBO 200 W/DC 57 V	4050300506791	200	46...66 ²⁾	3...4.3 ²⁾	DC	1000	10000 ⁸⁾	17
HBO 200 W/DC TM	4008321137623	200	46...66 ²⁾	3...4.3 ²⁾	DC	1000	10000 ⁸⁾	17



Product name									
HBO 50 W/AC 39 V	47	53	47	22 ¹⁾	s45 ³⁾	SFa6-2	SFa6-2	10	1
HBO 50 W/AC 34 V	47	53	47	22 ¹⁾	s45 ³⁾	SFa6-2	SFa6-2	10	2
HBO 50 W/3	47	53	47	22 ¹⁾	s45 ⁴⁾	SFa8-2	SFa6-2	10	3
HBO 100 W/2	82	90	82	43 ¹⁾	s90 ⁴⁾	SFa9-2	SFa7.5-2	10	4
HBO 103 W/2	82	90	82	43 ¹⁾	s90 ⁴⁾	SFa9-2	SFa7.5-2	10	4
HBO 200 W/4	102	128	102	102 ¹⁾	s20 ⁵⁾	SFc10-4	SFc10-4	10	5
HBO 202 W/4	102	128	102	102 ¹⁾	s90 ⁵⁾	SFc10-4	SFc10-4	10	5
HBO 200 W/2 57 V	102	128	102	102 ¹⁾	s90 ⁴⁾	SFc10-4	SFc10-4	10	6
HBO 200 W/DC 57 V	102	128	102	102 ¹⁾	s90 ⁴⁾	SFc10-4	SFc10-4	10	6
HBO 200 W/DC TM	102	128	102	102 ¹⁾	s90 ⁴⁾	SFc10-4 ⁶⁾	SFc10-4 ⁶⁾	10	6

1) Distance from end of base to tip of anode (cold)

2) Initial electrical values

3) Observe "UP" marking

4) Anode underneath

5) Reference base pointing downwards (shorter shaft)

6) With 8-32 UNC-3 B thread

7) Reduced lifespan in AC operation

8) Typical initial photometric value

9) Typical initial photometric value, compared to HBO 200 W/4, with increased output of wavelength range below 450 nm for UV curing

Product features

- Multi-line spectrum

See safety advice no. 11 on pages 128/129

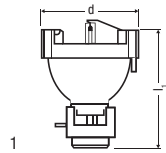
Product benefits









- High radiance
- High radiant power in the UV and the visible range

Areas of application

- Fluorescence microscopy
- UV curing
- A variety of light guide applications

HBO®
Mercury short-arc lamps with reflector 100 W



Product name	Product number	W	V	A	AC/DC	t [h]	Im	UVA/W
HBO R 103 W/45	4050300405957	100	20...25 ¹⁾	4...5 ¹⁾	DC	300	not relevant	3.8/5 ²⁾
Product name	 d [mm]	 I1 max. [mm]						 No.
HBO R 103 W/45	68	77	45	p20	Pin	Pin	2	1

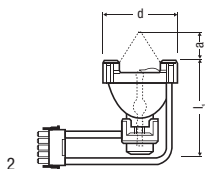
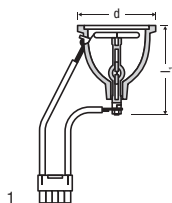
1) Initial electrical values

2) Aperture 3 mm round / Aperture 5 mm round, 315...400 mm

Product features

— Multi-line spectrum

See safety advice no. 11 on pages 128/129

HXP®**Mercury short-arc lamps, long life**

Product name	Product number	W	V	A	AC/DC	t[h]
HXP R 120 W/17 C ¹⁾	4050300786476	120	70...95 ⁴⁾	1.5	AC	2000
HXP R 120 W/45 C VIS ¹⁾	4050300882772	120	60...90 ⁴⁾	1.6	AC	2000
HXP R 120 W/45 C UV ¹⁾	4050300666525	120	60...90 ⁴⁾	1.6	AC	2000
HXP R 200 W/45 M ²⁾	4008321180070	200	60...96 ⁴⁾	3.1	AC	2000
HXP R 206 W/45 C ³⁾	4008321331472	200	48...82 ⁴⁾	4.3	AC	1000

Product name	d [mm]	l _t max. [mm]	a			
HXP R 120 W/17 C ¹⁾	65	77	17.3	Forced	p20	50
HXP R 120 W/45 C VIS ¹⁾	67	77	45	Forced	p20	2
HXP R 120 W/45 C UV ¹⁾	67	77	45	Forced	p20	2
HXP R 200 W/45 M ²⁾	67	77	45	Forced	p20	2
HXP R 206 W/45 C ³⁾	67	77	45	Forced	p20	2

1) To be operated with PT-VIP 2AC/380 01 DIM 120 VS25

2) To be operated with PT-VIP 4AC/380 03 200 DIM VS50

3) To be operated with PT-VIP 4AC/380 03 DIM 206 VS50

4) Initial voltage range

5) Typical; measured with 5.0 mm * 3.8 mm rectangular aperture in working distance a from reflector

6) Typical; measured with 5.0 mm diameter round aperture in working distance a from reflector

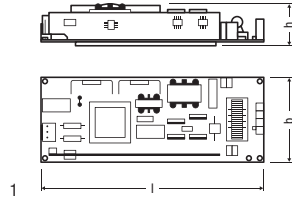
Product features

- AC operation with square-wave current

See safety advice no. 14 on pages 128/129**Product benefits**

- Very high luminance
- Elliptical reflector for efficient focusing of the light
- Long lamp life

ECG for medical applications

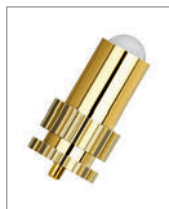
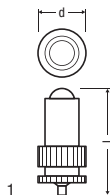



Product name	Product number	<div>kV START</div>	<div>W</div>	<div>I [mm]</div>	<div>b [mm]</div>	<div>h [mm]</div>	<div>AC /DC</div>	<div></div>	<div>No.</div>
PT-VIP 4AC/380 03 DIM	4008321337276	5.0 kVp ¹⁾	200	135	50	30	DC/AC ²⁾	50	1
PT-VIP 2AC/380 01 DIM 120 EN	4008321040855	20 kVp ¹⁾	120	150	60	32	DC/AC ²⁾	25	

1) Maximum
2) Input/output

Product benefits

- Optimized lamp operation (luminous efficacy)
- Long lamp life
- Small size

ITOS® O-03100**LED modules for medical applications**

Product name	Product number	W	V	t[h]	lm	K	R _a	φ [mm]	l [mm]		No.
ITOS O-03100	4008321785664	2.1	3.5	25000	8 ¹⁾	3000	> 90	6.3	19	10	1

1) Typical light output from the LED module at 610 mA

Product features

- Very long lifetime: up to 25,000 h

Product benefits

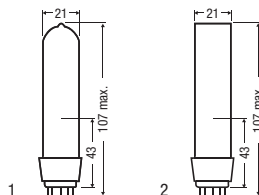
- High luminous efficacy and very high color rendering index
- Very stable color location and rendering index over lifetime and dimming range
- Color temperature similar to a halogen lamp
- Very uniformly illuminated spot
- UV- and IR-free light
- Low thermal output
- Long operation on battery thanks to low energy consumption

Areas of application

- Devices for otoscopy
- Devices for examination of outer and middle ear
- Replacement for halogen lamps for Welch Allyn otoscopes 20000, 20200, 21700, 25020

See safety advice no. 15 on pages 128/129

Spectroscopic lamps



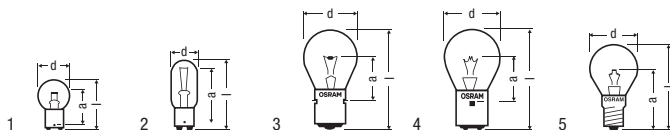
Product name	Product number	W	V	A	\varnothing [mm]	l [mm]
CS/10 1A PICO	4050300213842	10	10	1	21	107
K/10 1A PICO	4050300212197	10	10	1	21	107
RB/10 1A PICO	4050300213866	10	10	1	21	107
CD/10 1A PICO	4050300210353	15	15	1	21	107
Na/10	4008321417800	15	15	1	21	107
TL/10 1A PICO	4050300211435	15	15	1	21	107
ZN/10 1A PICO	4050300212234	15	15	1	21	107
HG100 1A PICO	4050300231310	22	45	1	21	107
HG CD/10 1A PIC	4050300211459	25	30	1	21	107
NE/10 1A PICO	4050300212210	30	30	1	21	107
HE/10 1A PICO	4050300212258	55	60	1	21	107

Product name	LCL a [mm]	AC DC				No.
CS/10 1A PICO	43	AC	Cesium	PIC09	1	1
K/10 1A PICO	43	AC	Potassium	PIC09	1	1
RB/10 1A PICO	43	AC	Rubidium	PIC09	1	1
CD/10 1A PICO	43	AC	Cadmium	PIC09	1	1
Na/10	43	AC	Sodium	PIC09	1	1
TL/10 1A PICO	43	AC	Thallium	PIC09	1	1
ZN/10 1A PICO	43	AC	Zinc	PIC09	1	1
HG100 1A PICO	43	AC/DC	Mercury	PIC09	1	2
HG CD/10 1A PIC	43	AC	Mercury/cadmium	PIC09	1	1
NE/10 1A PICO	43	AC	Neon	PIC09	1	1
HE/10 1A PICO	43	AC	Helium	PIC09	1	1

Areas of application

- Optics, photophysics and spectroscopy
- Chemical engineering and medicine

Lamps without halogen, low voltage



Product name	Product number	W	V	t [h]	φ [mm]
8013	4050300206356	10	6	200	25
8017	4050300017327	15	6	1000	19
8018 15W 6V B15 ¹⁾	4050300206417	15	6	100	19
8022	4050300206677	50	12	50	35
8024	4050300013817	40	12	500	35
8100 5A 6V E14	4050300342122	30	6	600	35
SOANG70313 30W	4050300426815	30	6	200	35
SOANG70314 25W	4050300351872	25	6	75	25
SOANG70335 4,5A	4050300219851	28	6	400	35

Product name	l [mm]	LCL a [mm]	Beam angle	Base	Power supply	No.
8013	46	30	Any	BA15d	100	1
8017	54	7	hs30	B15d	100	2
8018 15W 6V B15 ¹⁾	52	5		B15d	100	2
8022	69	39.5	h105	BA20d	100	3
8024	67	30	s135	BA20d	100	4
8100 5A 6V E14	65	35		E14	100	5
SOANG70313 30W	65.3	44	s	P47d	100	
SOANG70314 25W	69	38.5	s	P47d	100	
SOANG70335 4,5A	66	37	s	E14	200	

1) Flat-core filament, filament area perpendicular to the lamp axis

Safety advices








































1. Because of their high luminance, UV radiation and high internal pressure during operation, the lamps may only be operated in enclosed lamp casings specially constructed for the purpose. Appropriate filters must ensure that UV radiation is reduced to a safe level. Mercury is released if the lamp breaks. Information on safety and handling can be found in the leaflet included with the lamp or in the operating instructions.
2. HSR® lamps are not suitable for hot restarts. Hot restarts may lead to lamp shattering.
3. Because of their high luminance, UV radiation and high internal pressure in both the hot and cold state, the lamps must only be operated in enclosed lamp casings specially constructed for the purpose. Always use the supplied protective jackets when handling these lamps. They may only be used as open lamps if appropriate safety measures are taken. More information can be found in the leaflet included with the lamp or the operating instructions.
4. Because of their high luminance, UV radiation (does not apply to HMI® UVS) and high internal pressure during operation, HMI® lamps may only be operated in enclosed lamp casings specially constructed for the purpose. Appropriate filters must ensure that UV radiation of standard HMI® lamps is reduced to a safe level. Mercury is released if the lamp breaks. Information on safety and handling can be found in the leaflet included with the lamp or in the operating instructions.
5. To prevent personal injury or damage to property, halogen lamps may only be operated in suitable luminaires designed with suitable mechanisms (protective shields, grids etc.) to ensure that in the event of a lamp bursting no parts/shards can escape and that during operation no ultraviolet radiation can escape. The lamps emanate intense heat.
6. To prevent personal injury or damage to property, halogen lamps may only be operated in suitable luminaires designed with suitable mechanisms (cover panel etc.) to ensure that in the event of a lamp bursting no parts/shards can escape and that during operation no ultraviolet radiation can escape. Because of the heat produced, only heat-resistant lamp connections (holders) may be used.
7. XERADEX® lamps produce extremely intensive UV radiation that is heavily absorbed by oxygen. Ozone is produced as a result. Adequate ventilation must be provided during their operation. The lamps must be operated only in air-tight housings. XERADEX® lamps are operated at high voltage and may only be connected to the original OSRAM DBD control gear. DBD control gear can be purchased separately.
8. OSRAM DBD electronic control gears are designed to operate XERADEX® lamps only. Only the appropriate DBD electronic control gear may be connected to the relevant lamp. For detailed information, see the operating instructions supplied with the product.

9. UV radiation may lead to sunburn and conjunctivitis. Not approved for use on persons according to the new edition of EN 60335-2-27.
10. The lamps emit high-intensity UV radiation that can cause sunburn and conjunctivitis. Skin and eyes must not be exposed to direct or reflected unfiltered radiation. Operate in closed fixtures only.
11. Because of their high luminance, UV radiation and high internal pressure, HBO® lamps may only be operated in enclosed lamp casings specially constructed for the purpose. Mercury is released if the lamp breaks. More information can be found in the leaflet included with the lamp or in the operating instructions.
12. Because of their high luminance, UV radiation and high internal pressure in both the hot and cold state, XBO® lamps must only be operated in appropriate enclosed casings. Always use the protective jackets supplied when handling these lamps. More information can be found in the leaflet included with the lamp or the operating instructions.
13. Because of their high luminance, UV radiation and high internal pressure in both the hot and cold state, XBO® lamps must only be operated in appropriate enclosed casings. Always use the protective jackets supplied when handling these lamps. More information can be found in the leaflet included with the lamp or the operating instructions.
14. Because of their high luminance, UV radiation and high internal pressure, HXP® lamps may only be operated in enclosed lamp casings specially constructed for the purpose. Mercury is released if the lamp breaks. More information can be found in the leaflet included with the lamp or in the operating instructions.
15. Not suitable for use in wall mount diagnostic system units Welch Allyn 767.

The xenon lamp element is always under very high pressure. It may explode if subject to impact or damage. Therefore, spent XBO® lamps should be stored in the supplied casing or under the protection cap if not in use.

Symbols

Symbols for all chapters

 W Power in W	 h [mm] Height h in mm	 Standard pack in pcs.
 V Voltage in V	 LCL a [mm] Light center length (LCL) in mm	 No. Fig. no.
 A Current in A	 a [mm] Spacing a in mm	 Energy efficiency class
 K Color temperature in K	 a Focal length a in mm	 A Fuse, quick-acting, in A
 lm Luminous flux in lm	 Beam angle in °	 Overall length in mm
 cd Luminous intensity in cd	 Base	 kV START Ignition voltage in kV
 d [mm] Diameter d in mm	 t [h] Average period of use/life	 g Weight in g
 l [mm] Length l in mm	 Burning position	 Electrode spacing e in mm
 l₁ [mm] Length l ₁ in mm	 COLOR Color	 cd/cm² Average luminance
 l₁ max. [mm] Length l ₁ max. in mm	 R_a Color rendering index	 Lamp Reference Lamp reference
 l₂ [mm] Length l ₂ in mm	 Dimmable	 Arc length in mm
 l₂ max. [mm] Length l ₂ max. in mm	 T_a Ambient temperature range in °C	 A Current control range
 b [mm] Width b in mm	 IP Type of protection	 Base anode



Base cathode



ANSI code



LIF code



Filament dimensions
b x h in mm



Coating



Forced cooling



Cable length in mm



Irradiance



UVA radiation flux
(315–400 nm in W)



UVB radiation flux
(280–315 nm in W)



Radiated power



Connection with cable



Type of current



Shape/model



Spectral radiance distribution



Max. black body temperature



Special lamp,
not for household lighting

Fields of application



Entertainment lighting



Scientific applications



Projection



Industrial applications



Animal care



Thermal infrared heating
applications



Airfield lighting

Glossary of the most important lighting terms

As with any technical or scientific discipline, lighting technology has its own special terms and concepts for defining the characteristics of lamps and fixtures and for standardizing the units of measurement.

The most important terms are described here.

Luminous flux Φ

Unit of measurement: lumen [lm]

Luminous flux Φ is all the radiated power emitted by a light source evaluated with the spectral sensitivity of the eye and the photometric radiation equivalent k_m .

Luminous intensity I

Unit of measurement: candela [cd]

Generally speaking, a light source emits its luminous flux Φ in different directions and at different intensities.

Luminous intensity is the luminous flux radiated in a particular direction (solid angle Ω).

Illuminance E

Unit of measurement: lux [lx]

Illuminance E is the ratio between the luminous flux and the area being illuminated.

An illuminance of 1 lx occurs when a luminous flux of 1 lm is evenly distributed over an area of 1 m².

Luminance L

Unit of measurement: candela per square meter [cd/m²]

The luminance L of a light source or an illuminated area is a measure of the impression of brightness.

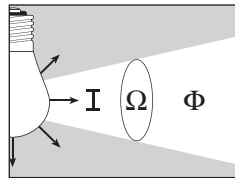
Luminous efficacy η

Unit of measurement: lumen per watt [lm/W]

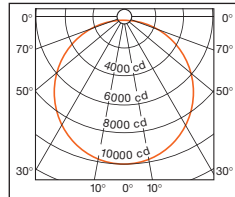
Luminous efficacy η indicates the efficiency with which the electrical power consumed is converted into light.

Light and radiation

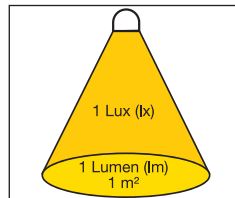
Light is taken to mean the electromagnetic radiation that the human eye perceives as brightness, in other words that part of the spectrum that can be seen. This is the radiation between 380 and 780 nm, a tiny fraction of the known spectrum of electromagnetic radiation.



Luminous intensity I is a measure of the luminous flux Φ emitted in solid angle Ω .

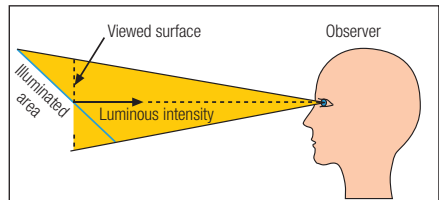


Polar diagram



Illuminance E

Luminance L



The most important photometric formulae:

Luminous intensity I [cd]	$I = \frac{\Phi}{\Omega}$
Illuminance E [lx]	$E = \frac{\Phi}{A}$

Luminous flux [lm] Solid angle Ω [sr]	$\Phi = I \cdot \Omega$
Luminous flux falling on area [lm] Illuminated area [m ²]	$\Phi = E \cdot A$

Luminance L [cd/m ²]	$L = \frac{I}{A}$
Luminous efficacy η [lm/W]	$\eta = \frac{\Phi}{P}$

Luminous intensity [cd] Viewed luminous area [m ²]	$I = L \cdot A$
Generated luminous flux [lm] Electrical power consumed [W]	$\Phi = \eta \cdot P$

Color temperature

Unit of measurement: kelvin [K]

The color temperature of a light source is defined in comparison with a "black body radiator" and plotted on what is known as the "Planckian curve". The higher the temperature of this "black body radiator", the greater the blue component in the spectrum and the smaller the red component. An incandescent lamp with a warm white light, for example, has a color temperature of 2,700 K, whereas a daylight fluorescent lamp has a color temperature of 6,000 K.

Light color

The light color of a lamp can be neatly defined in terms of color temperature. There are three main categories here:

Warm White < 3,300 K

Cool White 3,300–5,300 K

Daylight > 5,300 K

Despite having the same light color, lamps may have very different color rendering properties owing to the spectral composition of their light.

Color rendering

As a rule, artificial light should enable the human eye to perceive colors correctly, as it would in natural daylight. Obviously, this depends to some extent on the location and purpose for which light is required.

The criterion here is the color rendering property of a light source. This is expressed as a "general color rendering index" (R_A).

The color rendering index is a measure of the correspondence between the color of an object (its "self-luminous color") and its appearance under a reference light source. To determine the R_A values, eight test colors defined in accordance with DIN 6169 are illuminated with the reference light source and the light source under test. The smaller the discrepancy, the better the color rendering property of the lamp being tested.

A light source with an R_A value of 100 displays all colors exactly as they appear under the reference light source. The lower the R_A value, the worse the colors are rendered.

Luminaire efficiency

Luminaire efficiency (also known as light output ratio) is an important criterion in gauging the energy efficiency of a luminaire. This is the ratio between the luminous flux emitted by the luminaire and the luminous flux of the lamp (or lamps) installed in the luminaire.

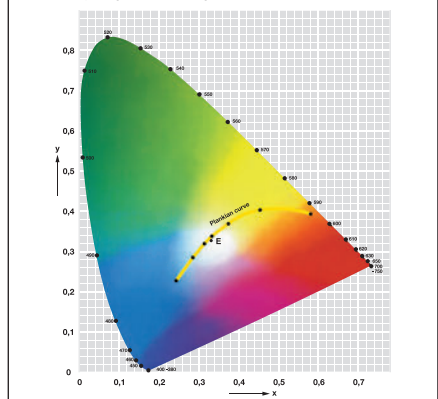
Average life

The average life of a lamp is an average of the lives of individual lamps operated under standard conditions (50 % failure = average rated life).

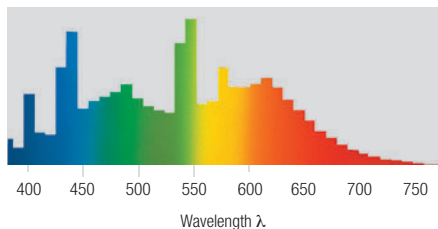
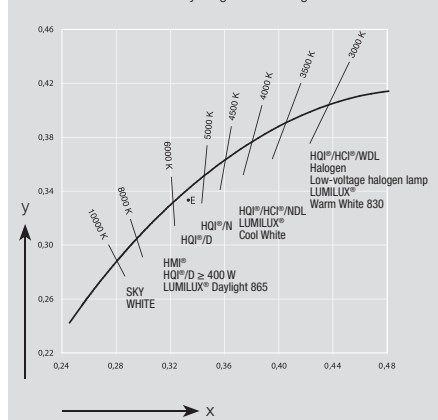
Service life

Service life is a simple practical measure of the economical life of a lamp. It is the number of hours of operation after which the system luminous flux (i.e. the product of the relative luminous flux and the relative proportion of lamps still in operation) is around 80 % of the initial value.

Chromaticity diagram according to DIN 5033

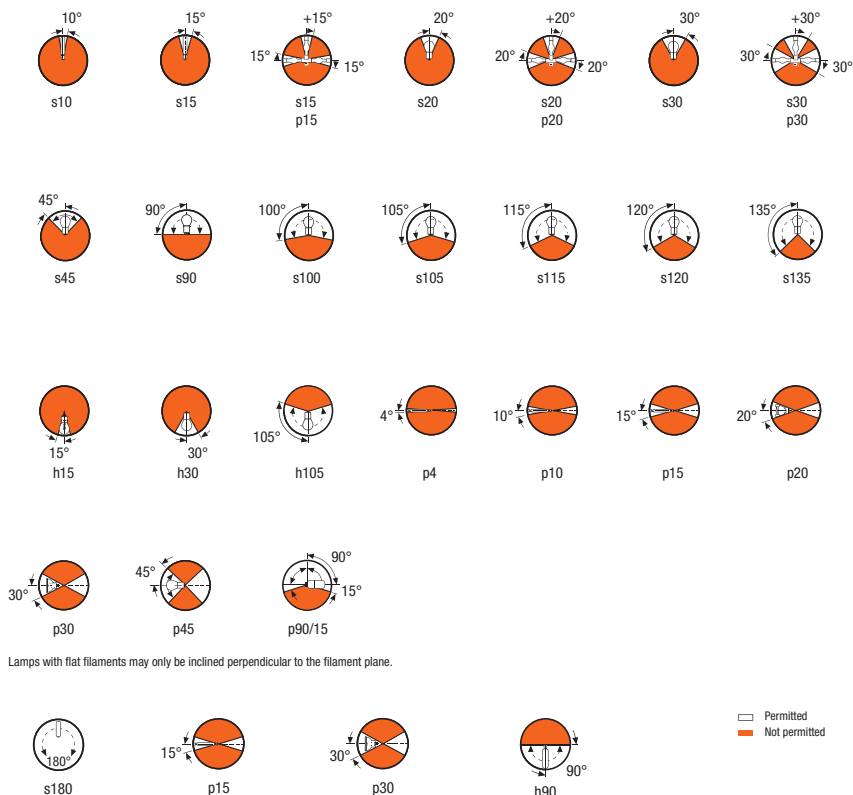


Extract from the chromaticity diagram showing the Planckian curve



Spectrum of a BIOLUX® fluorescent lamp.
The radiation is very evenly distributed over the entire visible range.

Burning positions – schematic diagram



The lamps must be installed only in the burning positions specified. Any other burning positions may lead to premature failure of the lamps.

Where:

s = standing (base down)

h = hanging (base up)

p = horizontal (base at the side)

Permitted angle: The number after the letter for the main burning position indicates the permitted angle of deviation from the main burning position in degrees.

The lamps are guaranteed only if they are operated with approved control gears or with control gears declared to be suitable. A list of sources of control gears and igniters is available on request. With the exception of the XBO®, LINEX® and XERADEX® product families, all discharge lamps contain small quantities of materials

which are harmful to the environment (such as mercury). In Europe, they therefore have to be disposed of under EEC Code 06 04 04*, Waste containing mercury, or 20 01 21*, Fluorescent tubes and other waste containing mercury. In other countries, the relevant national regulations must be followed.

Disposing of your lamps and luminaires

EU directive 2002/96/EC WEEE relates, among other things, to luminaires (with the exception of luminaires in households), fluorescent lamps, compact fluorescent lamps, discharge lamps including high-pressure sodium lamps, metal halide lamps and low-pressure sodium lamps. Since the start of 2010, LED lamps that can be operated in standardized holders are also affected by the directive, e.g. LED retrofit lamps or LED tubes. Starters, control gears and light-emitting diodes are classed as luminaire components and as such are part of the luminaire disposal process.

All OSRAM products that need to be disposed of under the WEEE directive are labeled with the symbol shown here.



Incandescent lamps and tungsten halogen lamps do not contain any substances that are harmful to the environment and can be thrown away with household waste.

All manufacturers must register with their relevant national authority. Products from non-registered manufacturers may no longer be marketed.

In Germany, OSRAM is registered as a manufacturer in the "Elektro-Altgeräte-Register" [Old Electrical Equipment Register] (EAR) as number **DE 71568000**.

In addition, there are individual regulations governing the disposal of lamps and luminaires in the other member states of the EU and also in Norway and Switzerland. For more information, please contact the local OSRAM company.

The primary objectives of the WEEE directive are to reduce the load on the environment, safeguard valuable resources and protect the environment and public health.

All consumers (commercial and domestic) are obliged to return old lamps for separate disposal. Collection points have been set up for this. Consumers in Germany do not have to sort the old lamps by manufacturer or by product age. Lamps from private households and businesses (in volumes of normal household proportions) can be disposed of at local recycling centers. Large quantities of lamps can be disposed of via the Lightcycle scheme.

On behalf of lamp manufacturers, Lightcycle organizes the logistics processes for disposing of the lamps cost-effectively and with minimal impact on the environment, both directly and at local recycling centers. Lightcycle bundles the volume to be transported and coordinates the collection logistics. You drop off your old lamps and Lightcycle does the rest.

Disposal of luminaires from commercial applications is also handled by Lightcycle. OSRAM is a contract partner of Lightcycle. Since 2010, luminaires can be disposed of directly throughout Germany at any one of 100 Lightcycle luminaire collection points. In addition to dropping off luminaires at collection points, luminaires can also be collected from wholesalers, installers, building sites or customers. There are basically no volume restrictions on collection jobs.

For large quantities, Lightcycle can set up an individual permanent collection point. You drop off your old luminaires and Lightcycle does the rest.

The latest information for Germany can be found on the Internet at: www.osram.de/WEEE

Lightcycle: www.lightcycle.de

German Ministry for the Environment, Nature and

Reactor Safety: www.bmu.de

German Central Association of Electrical Engineering

and the Electrical Industry: www.zvei.org

Stiftung Elektro-Altgeräte Register: www.stiftung-ear.de

German Environment Office: www.uba.de

European Lamp Companies Federation: www.elcfd.org

RoHS directive: 2002/95/EC

Greatly reduced mercury content

Since July 1, 2006, this EU directive has prohibited the use of certain hazardous substances. The mercury content in some discharge lamps has been restricted. As a company committed to the protection of the environment, OSRAM is doing more than just meeting statutory requirements. Our objective is to reduce hazardous substances such as mercury to the absolute minimum needed and to promote the development, for example, of efficient mercury-free lighting systems. Because it promotes the use of new environmentally friendly technologies and materials, we comply with the RoHS directive (Restriction of Hazardous Substances) for the benefit of the environment and health.

¹⁾ Since March 23, 2006, there is an obligation in Germany to take products back

General information – standard packs

General

All OSRAM articles are EAN-coded in their various packaging formats. The EAN numbers listed in this catalog normally relate to the smallest packaging unit unless otherwise indicated.

Technical data is in accordance with DIN (German Industrial Standards) and IEC (International Electrotechnical Commission).

Unless otherwise indicated, all lamps are designed for a mains voltage of 230V.

For CE labeling, see notes on page 137.

Sales and shipments are based on the OSRAM Conditions of Supply and Payment valid on the contract date.

Technical data and dimensions are subject to the customary small tolerances.

Subject to technical modification and availability of supplies. The information in this catalog supersedes information in previous catalogs.

® = registered trademark

Standard packs

There is a surcharge on order quantities different from the standard pack quantities listed in this catalog because standard packs have to be broken open.

There are considerable advantages in ordering original cartons/standard packs:

- Prompt delivery
- No surcharges
- Simple cost-saving handling on receipt
- No time-consuming checks when the goods arrive
- Exact contents description on each stacked carton
- No danger of mistaking one type of lamp for another
- Reduced risk of losses in transit
- Reduced risk of breakage

Types not listed

Available on request. Surcharge for different bases and voltages.

CE labeling for fixtures, lamps and accessories

Products that fall under the scope of the European directives on low voltage (LVD), electromagnetic compatibility (EMC) and the eco-design of energy-related products (ErP and its applicable implementation measures) must carry the CE label in order to be sold in the EU. The CE label indicates compliance with the principal requirements of these directives. Of course, all OSRAM products meet the requirements of the relevant European directives and therefore carry the CE label.

Notes on CE labeling:

1. CE labeling as a requirement for marketing products in Europe

The CE label is applied to the product itself or to its type plate (minimum height of the label: 5 mm). If this is not possible in certain circumstances, the label may be applied to the packaging, if any, and also to the accompanying paperwork.

The CE label is a requirement for sales within the EU and must therefore be applied before a product can be marketed. By applying the CE label to their products, manufacturers and importers are confirming that their products comply with the "basic requirements" of special European directives and ordinances and that they meet the stated objectives of the directives (electromagnetic compatibility, for example). As a rule, these "basic requirements" are met if the products were manufactured in compliance with the relevant ordinances and harmonized European standards.

2. The CE label is an administrative mark

The CE label is an administrative mark addressed to the national inspection agencies. The CE label indicates to these agencies that at the time of its marketing the labeled product complies with the European directives that apply to the product and require a CE label.

3. Neither retailers nor consumers have the right to inspect the conformity certificates of the manufacturers

The right to request and inspect conformity certificates is reserved exclusively for those market inspection agencies responsible for checking that electrical and electronic products comply with statutory requirements. In Germany, these are the Bundesnetzagentur (Federal Network Agency, responsible in connection with the EMC directive), the Gewerbeaufsichtsämter (Trade Supervision Offices, responsible in connection with the low-voltage directive), the relevant authorities and the Bundesanstalt für Materialforschung und -Prüfung (Federal Agency for Material Research and Testing) as the commissioned agency (in connection with the ErP directive).

4. The CE label is not a seal of quality or an approval mark

CE labeling relates solely to compliance with the statutory "basic requirements" contained in certain directives and ordinances. It is therefore not an indicator of the quality of the product.

The product features required in the ordinances for implementing the ErP directive are verified by the manufacturers by means of type testing and confirmed with the CE label.

As an administrative label required by law, the CE label should not be confused with the approval marks (such as ENEC and VDE marks) issued by independent inspectorates. These inspectorates do not even check whether or not a product carries the CE label legitimately.



Member of the
Fördergemeinschaft Gutes Licht
(Good Light Association)

Overview by product name

Product name	Product number	Page	Product name	Product number	Page
8013	4050300206356	127	64619	4050300017273	30
8017	4050300017327	127	64620	4050300797397	30
8022	4050300206677	127	64624	4050300013916	28
8024	4050300013817	127	64628	4008321099549	24
54555	4008321216304	88	64629	4050300943169	30
58750	4008321100160	98	64637	4008321352071	30
64222	4050300327273	24	64643	4008321099648	26
64223	4008321107039	24	64647	4008321107114	26
64223	4050300772110	24	64650	4008321107138	26
64225	4050300006758	24	64659	4008321197795	30
64255	4050300006833	28	64662	4052899015449	39
64258	4050300285153	24	64662	4052899144248	39
64259	4008321352569	24	64670	4008321624017	42
64260	4050300099798	24	64670	4008321624031	42
64275	4050300258690	24	64672	4008321098559	40
64311	4008321106346	98	64672	4008321098535	40
64320	4008321100122	98	64673	4052899015463	42
64321	4008321106360	98	64673	4052899015487	42
64322	4008321100146	98	64674	4052899015500	42
64340	4050300017266	102	64674	4052899015524	42
64346	4008321106384	98	64678	4008321624055	42
64354	4008321100207	98	64680	4008321098573	42
64380	4050300209944	102	64680	4008321098597	42
64386	4050300317755	98	64686	4052899158269	40
64502	4052899080751	39	64686	4052899158283	40
64502	4052899080775	39	64716	4008321623973	42
64504	4052899101654	39	64716	4008321623997	42
64504	4052899101678	39	64717	4008321624215	42
64540	4052899158221	40	64717	4008321624239	42
64540	4052899158245	40	64718	4008321624253	42
64571	4050300014180	49	64718	4008321624277	42
64571	4050300283388	49	64719	4008321638076	42
64572	4008321325181	49	64720	4008321638090	42
64575	4008321098856	40	64721	4008321638113	42
64575	4008321098450	40	64741	4050300209333	49
64576	4008321099860	40	64741	4050300283197	49
64579	4050300014104	49	64743	4008321225702	41
64580	4050300006888	49	64744	4008321554833	41
64580	4050300283173	49	64744	4008321554857	41
64583	4050300249094	49	64745	4008321468611	41
64583	4050300411477	49	64745	4008321468659	41
64602	4008321107077	24	64747	4008321468635	41
64607	4050300006789	30	64747	4008321468741	41
64617	4050300231211	28	64751	4050300214641	49

Product name	Product number	Page
64751	4050300283357	49
64752	4008321624475	44
64752	4008321624499	44
64754	4008321624529	44
64756	4008321624550	44
64777	4008321632197	44
64781	4050300229997	49
64781	4050300283500	49
64787	4008321653994	44
64788	4008321632173	44
64788	4008321632180	44
64789	4008321654021	44
64789	4008321654038	44
64796	4008321653987	44
64797	4052899129542	44
64805	4052899129580	44
64805	4052899129566	44
64805	4052899129573	44
64815	4050300780696	44
64818	4008321792051	44
93506	4050300349930	30
93518	4050300350059	30
93637	4050300350097	30
93638	4050300456843	30
93653	4050300636450	30
93723	4008321370594	44
93734	4050300350073	41
4ArXS HSD 150 W/70	4008321202147	16
4ArXS HSD 200 W/60	4050300424682	16
4ArXS HSD 250 W/60	4050300501925	16
4ArXS HSD 250 W/80	4008321625786	16
4ArXS HSD 575 W/72	4050300593937	16
62138 HLX	4050300242958	24
62139 HLX	4008321746276	24
63339 AC 105-10	4008321105424	101
64250 HLX	4050300012407	24
64251 HLX	4050300338316	24
64261 HLX	4050300220529	24
64265 HLX	4008321107053	24
64291 XIR	4008321330550	26
64292 XIR	4008321330598	26
64317 C 45-15	4008321345493	96
64317 IRC-C 45-30	4008321340139	96
64318 A 45-15	4008321345516	96
64318 Z/C 45-15	4008321345530	96
64319 A 45-15	4008321345554	96
64319 IRC-C 45-30	4008321340153	96
64319 Z/C 45-15	4008321345578	96
64328 HLX-A 65-15	4008321345592	96
64328 HLX-Z/C 65-15	4008321345615	96
64331 FL-A 30-10	4008321229564	99
64331 FL-AC 30-10	4008321102584	99

Product name	Product number	Page
64331 SP-A	4008321102560	99
64333 A 40-15	4008321166340	99
64333 B 40-15	4008321104731	99
64333 C 40-15	4008321104885	99
64336 A 62-15	4008321186713	101
64337 A 45-15	4008321102515	100
64337 A 48-15	4008321102737	100
64337 B 45-15	4008321104700	100
64337 B 48-15	4008321105226	100
64337 C 48-15	4008321105240	100
64337 IRC-A 48-30	4008321341174	100
64337 IRC-C 48-30	4008321341198	100
64338 AC 48-10	4008321105301	100
64339 A 105-10	4008321101600	101
64339 B 105-10	4008321105462	101
64339 C 105-10	4008321105486	101
64341 HLX-A 100-15	4008321345639	96
64341 HLX-Z/C 100-15	4008321345653	96
64342 HLX-C 100-15	4008321345677	96
64361 HLX-A 150-15	4008321345691	96
64361 HLX-Z/C 150-15	4008321345714	96
64382 HLX-A 200-15	4008321345738	96
64382 HLX-C 200-15	4008321345752	96
64505	4008321746078	39
64505	4008321746092	39
64512	4008321746115	39
64514	4008321746139	39
64515	4008321746153	39
64515	4008321746177	39
64516	4008321746191	39
64516	4008321746214	39
64610 HLX	4050300006697	24
64611 HLX	4008321107091	24
64613	4050300241012	28
64615 HLX	4050300006796	30
64617 S	4050300461106	28
64621 HLX	4050300535531	24
64623 HLX	4050300012018	24
64625 HLX	4050300006703	24
64626 HLX	4050300006765	24
64627 HLX	4050300006802	30
64633 HLX	4050300006710	24
64634 HLX	4050300006819	30
64635 HLX	4050300238807	30
64638 HLX	4050300283050	26
64640 HLX	4050300006727	26
64641 HLX	4050300048260	26
64642 HLX	4050300012025	26
64652 HLX	4052899100916	26
64653 HLX	4050300006826	30
64654 HLX	4008321241399	26
64655 HLX	4050300006734	26

Product name	Product number	Page
64656 HLX	4050300023120	26
64657 HLX	4050300012001	26
64663 HLX	4050300006741	26
64664 HLX	4008321241474	26
64665 HLX	4008321833815	26
64668 XIR	4008321331182	26
8018 15W 6V B15	4050300206417	127
8100 5A 6V E14	4050300342122	127
93520	4050300350196	29
93591	4050300481555	40
93592	4050300481531	40
aluPAR 56 MFL	4008321369574	50
aluPAR 56 MFL	4008321209863	50
aluPAR 56 MFL	4008321107985	50
aluPAR 56 NSP	4008321369550	50
aluPAR 56 NSP	4008321209788	50
aluPAR 56 NSP	4008321107947	50
aluPAR 56 WFL	4008321369598	50
aluPAR 56 WFL	4008321209801	50
aluPAR 56 WFL	4008321209887	50
aluPAR 64 MFL	4008321341327	52
aluPAR 64 MFL	4008321341402	52
aluPAR 64 MFL	4008321205858	52
aluPAR 64 MFL	4008321205919	52
aluPAR 64 NSP	4008321341273	52
aluPAR 64 NSP	4008321341389	52
aluPAR 64 NSP	4008321205797	52
aluPAR 64 NSP	4008321205896	52
aluPAR 64 VNSP	4008321341259	52
aluPAR 64 VNSP	4008321341365	52
aluPAR 64 VNSP	4008321205773	52
aluPAR 64 VNSP	4008321205872	52
aluPAR 64 WFL	4008321341921	52
aluPAR 64 WFL	4008321341945	52
Baby SharXS HTI 250 W/D5/80	4008321129161	11
Baby SharXS HTI 300 W/D5/57	4008321129185	11
Baby SharXS HTI 300 W/D5/65	4008321129208	11
Baby SharXS HTI 575 W/D5/56	4008321129345	11
BLACKSTAR 1500 W 235 V-0926 S	4008321875105	91
CD/10 1A PICO	4050300210353	126
CS/10 1A PICO	4050300213842	126
DBD 1000/220...240 DIM	4008321939333	79
DBD 20/110...240	4050300939469	79
DBD 300/100...240 DIM	4052899096295	79
DULUX L BL 18 W/71	4008321198884	85
DULUX L BL UVA 18 W/78	4008321198990	85
DULUX L BL UVA 24 W/78	4052899037984	85
DULUX L BL UVA 36 W/78	4008321875303	85
DULUX L BL UVA 55 W/78	4008321894618	85
DULUX S BL 9 W/71	4008321198860	85
DULUX S BL UVA 11 W/78	4052899037885	85
DULUX S BL UVA 7 W/78	4008321198907	85

Product name	Product number	Page
DULUX S BL UVA 9 W/78	4052899125094	85
EMH 1200 W/DE/60	4008321412379	17
EMH 150 W/SE/70	4008321345004	17
EMH 250 W/SE/80	4008321412294	17
EMH 575 W/DE/60	4008321412317	17
EMH 575 W/DE/75	4008321345066	17
EMH 575 W/SE/75	4008321345080	17
HBO 100 W/2	4050300507095	120
HBO 1000 W/D	4050300288857	109
HBO 1000 W/D	4050300288857	112
HBO 1000 W/DHL	4008321673145	109
HBO 1003 W/PIL	4050300461380	106
HBO 103 W/2	4050300382128	120
HBO 12000 W/CHL	4008321651129	110
HBO 12000 W/NHL	4008321605672	111
HBO 1500 W/PIL	4050300461465	106
HBO 16005 W/AU	4052899178633	114
HBO 200 W/2 57 V	4050300508153	120
HBO 200 W/4	4050300506715	120
HBO 200 W/DC 57 V	4050300506791	120
HBO 200 W/DC TM	4008321137623	120
HBO 2001 W/CIEL	4050300972121	107
HBO 2001 W/NIEL	4008321806031	108
HBO 2011 W/NIL	4050300652641	108
HBO 202 W/4	4050300507156	120
HBO 250 W/LS	4008321336668	112
HBO 2500 W/PIL	4050300947396	106
HBO 2510 W/NIL	4050300628400	108
HBO 2700 W/CIL	4008321786838	107
HBO 350 W	4050300351599	112
HBO 350 W/S	4050300258041	109
HBO 3500 W/NIL	4050300660769	108
HBO 3500 W/PIL	4008321355843	106
HBO 4300 W/NHL	4008321857002	111
HBO 4500 W/CIL	4008321387455	107
HBO 50 W/3	4050300506692	120
HBO 50 W/AC 34 V	4050300507118	120
HBO 50 W/AC 39 V	4050300507132	120
HBO 5000 W/CH	4008321381934	110
HBO 5000 W/HK	4050300897585	113
HBO 5000 W/MF	4050300772264	113
HBO 5000 W/S	4008321635549	109
HBO 5500 W/PIL	4008321498533	106
HBO 7500 W/NILH	4008321651518	108
HBO 8000 W/CHL	4008321545756	110
HBO R 103 W/45	4050300405957	122
HE/10 1A PICO	4050300212258	126
HG CD/10 1A PIC	4050300211459	126
HG100 1A PICO	4050300231310	126
HMI 1200 W/DXS	4008321931153	36
HMI 1200 W/SEL UVS	4052899152670	34
HMI 12000 W/DXS	4008321210227	36

Product name	Product number	Page
HMI 12000 W/SE XS	4050300650418	34
HMI 1200W EVENT	4052899152673	19
HMI 1600 W/SE UVS	4052899152687	34
HMI 1800 W/SE UVS	4052899152694	34
HMI 18000 W/DXS	4008321370280	36
HMI 18000 W/SE XS	4008321098955	34
HMI 200 W/SE	4052899152618	34
HMI 24000 W/DXS	4008321355805	36
HMI 2500 W/DXS	4008321182197	36
HMI 2500 W/S XS	4050300025780	36
HMI 2500 W/SE XS	4050300284293	34
HMI 400 W/SE UVS	4052899152632	34
HMI 4000 W/DXS	4008321210203	36
HMI 4000 W/DXS SOLAR	4052899152601	36
HMI 4000 W/SE XS	4008321244314	34
HMI 575 W/DXS	4008321285102	36
HMI 575 W/SEL UVS	4052899152656	34
HMI 575W EVENT	4052899152658	19
HMI 6000 W/DXS	4008321210210	36
HMI 6000 W/SE XS	4050300564067	34
HMI 800 W/SE UVS	4052899087125	34
HMI 9000 W/SE	4008321762573	34
HNS 11 W G5	4008321468796	82
HNS 15 W G13	4008321770271	82
HNS 16 W G5	4008321620774	82
HNS 25 W G13	4052899083851	82
HNS 30 W G13	4008321770301	82
HNS 36 W G13	4052899084018	82
HNS 4 W G5	4008321378316	82
HNS 55 W G13	4052899083936	82
HNS 6 W G5	4008321378330	82
HNS 8 W G5	4008321378385	82
HNS L 18 W 2G11	4008321220431	82
HNS L 24 W 2G11	4008321220561	82
HNS L 36 W 2G11	4008321220684	82
HNS L 55 W 2G11	4052899012394	82
HNS L 60 W 2G11	4052899012462	82
HNS L 95 W 2G11	4052899012509	82
HNS S 11 W G23	4050300941240	82
HNS S 13 W GX23	4052899040410	82
HNS S 5 W G23	4008321229946	82
HNS S 7 W G23	4050300941202	82
HNS S 9 W G23	4050300941226	82
HNS S/E 11 W 2G7	4008321384935	82
HNS S/E 7 W 2G7	4008321383891	82
HNS S/E 9 W 2G7	4008321384911	82
HPL 575 W 230 V	4050300461816	47
HPL 575 W 230 V	4008321090102	47
HPL 575 W 240 V	4050300461830	47
HPL 575 W 240 V	4008321174444	47
HPL 750 W 230 V	4050300654201	47
HPL 750 W 230 V	4008321090324	47

Product name	Product number	Page
HPL 750 W 240 V	4050300654225	47
HPL 750 W 240 V	4008321174468	47
HSR 400 W/60	4050300315942	15
HSR 575 W/60	4050300941776	15
HSR 575 W/72	4050300651187	15
HTC 1000-241	4008321694690	81
HTC 2000-349	4008321739704	81
HTC 400-241	4008321694676	81
HTI 1200 W/SE XS	4050300371153	9
HTI 150 W	4050300301402	9
HTI 152 W	4050300461519	9
HTI 250 W/32	4050300226576	14
HTI 250 W/32 C	40503000821805	14
HTI 2500 W/SE XS	4050300371146	9
HTI 400 W/24	4050300228327	14
HTI 4000 W/DE	4050300519845	10
HTI 705 W/SE XS	4050300618074	9
HTT 150-211	4008321912848	81
HXP R 120 W/17 C	4050300786476	123
HXP R 120 W/45 C UV	4050300666525	123
HXP R 120 W/45 C VIS	4050300882772	123
HXP R 200 W/45 M	4008321180070	123
HXP R 206 W/45 C	4008321331472	123
ITOS O-03100	4008321785664	125
ITT 1000 W 235 V-0170 R7S	4008321203557	89
ITT 1000 W 235 V-01X0	4008321555076	89
ITT 1000 W 235 V-0826 S	4008321206275	90
ITT 1000 W 235 V-08X0	4008321555113	90
ITT 1200 W 235 V-0826	4008321206374	90
ITT 1600 W 235 V-0826	4008321206398	90
ITT 200 W 235 V-0170 R7S	4008321203472	89
ITT 2000 W 235 V-01Y0 K	4008321555137	89
ITT 2000 W 235 V-0826 K/S	4008321206350	90
ITT 2000 W 235 V-0826 K/S	4008321259790	90
ITT 2000 W 400 V-01X0 S	4008321645890	89
ITT 2200 W 235 V-0102	4008321555175	89
ITT 2500 W 235 V-0826 K/S	4008321252944	90
ITT 2500 W 235 V-0826 K/S	4008321894595	90
ITT 2500 W 400 V-0826 K	4008321206336	90
ITT 2500 W 400 V-0828 M/PH	4008321676610	90
ITT 2500 W 400 V-0838 M/PH	4008321756985	90
ITT 300 W 235 V-0170 K R7S	4052899909274	89
ITT 3000 W 235 V-01Y0 Z/K	4008321206725	89
ITT 3000 W 400 V-0102 K	4008321507174	89
ITT 3000 W 400 V-01X0 S	4008321645876	89
ITT 3000 W 400 V-0826 K	4008321206312	90
ITT 3000 W 400 V-0828 M/PH	4008321676634	90
ITT 3000 W 400 V-0838 M/PH	4008321757005	90
ITT 3300 W 235 V-01Y0 Z/K	4008321819123	89
ITT 350 W 235 V-0170 R7S	4008321204219	89
ITT 500 W 235 V-0170 K R7S	4008321206701	89
ITT 500 W 235 V-0170 R7S	4008321203519	89

Product name	Product number	Page
ITT 500 W 235 V-0870 R7S	4008321206299	90
ITT 500 W 235 V-08X0	4008321555090	90
ITT 700 W 235 V-0170 K R7S	4008321203533	89
K/10 1A PICO	4050300212197	126
KREIOS FL	4052899193178	71
KREIOS FL/FLX GEL HOLDER	4052899201361	71
KREIOS FLX	4052899193130	71
KREIOS G1 24" LENS	4008321832870	72
KREIOS G1 Black	4008321676160	72
KREIOS G1 C-CLAMP BRACK	4052899173040	72
KREIOS G1 GEL HOLDER	4008321832894	72
KREIOS G1 GOBO HOLDER	4008321843913	72
KREIOS G1 POWER CABLE 3m	4008321843890	72
KREIOS G1 SHUTTER	4008321832917	72
KREIOS G1 TRACK MOUNT	4008321832931	72
KREIOS G1 White	4008321676146	72
KREIOS PAR 108 W MFL	4052899205178	68
KREIOS PAR 108 W NSP	4052899205147	68
KREIOS PAR 108 W VNSP	4052899205093	68
KREIOS PAR 108 W WFL	4052899205185	68
KREIOS PAR 144 W MFL	4052899205079	68
KREIOS PAR 144 W MFL IP	4052899204935	68
KREIOS PAR 144 W NSP	4052899205062	68
KREIOS PAR 144 W NSP IP	4052899204904	68
KREIOS PAR 144 W VNSP	4052899205055	68
KREIOS PAR 144 W VNSP IP	4052899204898	68
KREIOS PAR 144 W WFL	4052899205086	68
KREIOS PAR 144 W WFL IP	4052899204942	68
KREIOS PAR 162 W MFL	4052899204997	68
KREIOS PAR 162 W MFL IP	4052899204850	68
KREIOS PAR 162 W NSP	4052899204966	68
KREIOS PAR 162 W NSP IP	4052899204829	68
KREIOS PAR 162 W VNSP	4052899204959	68
KREIOS PAR 162 W VNSP IP	4052899204751	68
KREIOS PAR 162 W WFL	4052899205024	68
KREIOS PAR 162 W WFL IP	4052899204867	68
KREIOS SL 120 V	4052899000001	70
KREIOS SL 230 V	4008321843951	70
KREIOS SL CABLE	4052899070097	70
L 18 W/73	4008321054685	84
L 36 W/73	4008321054715	84
L BLUE UVA 15 W/78 G13	4008321880482	85
L BLUE UVA 15 W/78 G5	4052899077386	85
L BLUE UVA 18 W/78 G13	4008321880468	85
L BLUE UVA 8 W/78 G5	4052899077355	85
Lok-iti! 1200 W 80 V/32/P50	4008321382795	46
Lok-iti! HSD 300 W/80/P28	4008321644831	8
Lok-iti! HTI 1000-2/PS	4008321893406	8
Lok-iti! HTI 1000/PS	4008321788368	8
Lok-iti! HTI 1400/PS	4052899135079	8
Lok-iti! HTI 1500 W/60/P50	4008321553416	8
Lok-iti! HTI 1500 W/60/P50 M3W	4008321818997	8

Product name	Product number	Page
Lok-iti! HTI 1700/PS	4052899152700	8
Lok-iti! HTI 400 W/60/P28	4008321605481	8
Lok-iti! HTI 700 W/60/P28	4052899179790	8
Lok-iti! HTI 700 W/75/P28	4008321510549	8
Lok-iti! HTI 700 W/75/P50	4008321485205	8
Maxi SharXS HTI 2000 W/D10/60	4008321334947	13
Na/10	4008321417800	126
NE/10 1A PICO	4050300212210	126
PAR56 WFL	4008321362209	51
PT-VIP 2AC/380 01 DIM 120 EN	4008321040855	124
PT-VIP 4AC/380 03 DIM	4008321337276	124
QXL 750 W 77 V	4008321090218	48
RB/10 1A PICO	4050300213866	126
RUBYSTAR 1000 W 235 V-0028 S	4008321817747	92
RUBYSTAR 1100 W 235 V-0028 1000 mm		
CL	4008321780881	92
RUBYSTAR 1200 W 235 V-0026 PH	4008321204233	92
RUBYSTAR 1300 W 235 V-0070 R7S	4008321203618	92
RUBYSTAR 1500 W 235 V-0026	4008321120557	92
SharXS HTI 1200 W/D7/60	4050300854595	12
SharXS HTI 1200 W/D7/75	4008321285270	12
SharXS HTI 1500 W/D7/60	4008321349569	12
SharXS HTI 1500 W/D7/75	4008321570871	12
SharXS HTI 400 W/D3/75	4008321285157	12
SharXS HTI 700 W/D4/60	4008321285218	12
SharXS HTI 700 W/D4/75	4008321285232	12
SIRIUS HRI 132W	4052899028708	18
SIRIUS HRI 140W RO	4052899258969	18
SIRIUS HRI 190W+	4008321866592	18
SIRIUS HRI 230W	4008321810311	18
SIRIUS HRI 280W	4008321810342	18
SIRIUS HRI 280W RO	4052899110397	18
SIRIUS HRI 330W	4008321810373	18
SIRIUS HRI 330W X8	4052899140295	18
SIRIUS HRI 330W XL	4052899195431	18
SOANG70313 30W	4050300426815	127
SOANG70314 25W	4050300351872	127
SOANG70335 4,5A	4050300219851	127
STUDIOLINE 55 W/3200 K	4050300575292	38
STUDIOLINE 55 W/5600 K	4050300575278	38
TL/10 1A PICO	4050300211435	126
ULTRA-VITALUX 300 W 230 V E27	4008321543929	80
XBO 100 W OFR	4008321386328	118
XBO 1000 W/DHS OFR	4008321082114	56
XBO 1000 W/HSC OFR	4008321082107	56
XBO 1000 W/HTP OFR	4008321081353	56
XBO 10000 W/HS OFR	4008321552327	56
XBO 1200 W/DHP OFR	4008321396433	60
XBO 1200 W/HPN OFR	4008321741547	61
XBO 150 W/1	4050300508344	118
XBO 150 W/4	4050300508382	118
XBO 150 W/CR OFR	4050300508788	118

Product name	Product number	Page
XBO 1600 W XL OFR	4008321299918	58
XBO 1600 W/HS XL OFR	4008321299925	58
XBO 1600 W/HSC XL OFR	4008321299932	58
XBO 2000 W/DHP OFR	4052899013056	60
XBO 2000 W/DTP OFR	4008321191533	62
XBO 2000 W/H XL OFR	4008321211781	58
XBO 2000 W/HPN OFR	4052899013070	61
XBO 2000 W/HPS OFR	4052899013063	63
XBO 2000 W/HS OFR	4008321081360	56
XBO 2000 W/HTP XL OFR	4008321650429	58
XBO 2000 W/SHSC OFR	4008321082077	56
XBO 2001 W/HPN OFR	4052899233973	61
XBO 2200 W/DHP OFR	4008321865489	60
XBO 2500 W OFR	4008321064783	56
XBO 2500 W/HS XL OFR	4008321299963	58
XBO 3000 W/DHP L OFR	4052899212886	60
XBO 3000 W/DHP OFR	4008321330048	60
XBO 3000 W/DTP OFR	4008321191540	62
XBO 3000 W/DTS OFR	4008321645050	62
XBO 3000 W/H XL OFR	4008321226174	58
XBO 3000 W/HPN OFR	4008321756589	61
XBO 3000 W/HPS OFR	4052899213630	63
XBO 3000 W/HS XL OFR	4008321330031	58
XBO 3000 W/HSLA OFR	4008321330079	64
XBO 3000 W/HTP XL OFR	4008321650436	58
XBO 4000 W/DHP L OFR	4052899212879	60
XBO 4000 W/DHP OFR	4052899091825	60
XBO 4000 W/HPN L OFR	4052899134829	61
XBO 4000 W/HPN OFR	4052899091931	61
XBO 4000 W/HS XL OFR	4008321412812	58
XBO 4000 W/HSA OFR	4008321337030	56
XBO 4000 W/HTP XL OFR	4008321412874	58
XBO 4200 W/HPS OFR	4052899202092	63
XBO 4200 W/HPS OFR	4052899202108	63
XBO 450 W	4008321082640	56
XBO 450 W OFR	4008321082633	56
XBO 450 W/1	4008321082510	56
XBO 450 W/2 OFR	4008321082626	56
XBO 450 W/4	4006584412990	56
XBO 4500 W/DHP OFR	4008321633422	60
XBO 4500 W/DTP OFR	4008321372734	62
XBO 4500 W/HPN OFR	4008321756657	61
XBO 4500 W/HS XL OFR	4008321412881	58
XBO 4500 W/HSLA OFR	4008321372710	64
XBO 500 W/H OFR	4008321082503	56
XBO 5000 W/H XL OFR	4008321412829	58
XBO 6000 W/DHP OFR	4052899144026	60
XBO 6000 W/DTP OFR	4052899143975	62
XBO 6000 W/HPN OFR	4052899136373	61
XBO 6000 W/HS XL OFR	4008321412904	58
XBO 6000 W/HSLA OFR	4052899144057	64
XBO 6500 W/DHP OFR	4008321676078	60

Product name	Product number	Page
XBO 6500 W/HSLA OFR	4008321676085	64
XBO 7000 W/HS XL OFR	4008321412928	58
XBO 75 W/2	4050300508801	118
XBO 75 W/2 OFR	4050300508825	118
XBO 8000 W/HS OFR	4008321552310	56
XBO 8000 W/HSLA OFR	4008321549747	64
XBO R 100 W/45 C	4050300367767	119
XBO R 100 W/45 OFR	4050300317205	119
XBO R 101 W/45 C OFR	4050300388458	119
XBO R 180 W/45	4050300432175	119
XBO R 180 W/45 C OFR	4050300432199	119
XBO R 181 W/45 C	4050300450872	119
XBO R 300 W/60 C OFR	4008321137722	119
XERADEX L40/120/SB-S46/85	4008321190994	76
XERADEX L40/120/SB-SX48/KF50	4008321191014	76
XERADEX L40/120/SB-SX48/KF50HV	4008321211255	76
XERADEX L40/175/SB-S45/95	4008321191052	76
XERADEX L40/175/SB-SX48/KF50HV	4008321243713	76
XERADEX L40/1800/DB-SH48/90	4008321880185	77
XERADEX L40/375/DB-AZ48/90	4008321939289	77
XERADEX L40/620/DB-AZ48/90	4008321939296	77
XERADEX L40/910/DB-AZ48/90	4008321939302	77
XERADEX L40/910/DB-SH48/90	4008321880178	77
XIS 170 60 W 110...240 V	4008321158253	78
XIS 375 housing	4052899198524	78
Xstage 2000 W OFR	4008321288820	20
Xstage 3000 W OFR	4008321288837	20
Xstage 4000 W OFR	4008321288844	20
Xstage 7000 W OFR	4008321288851	20
XTU 70 30 W 110...240 V	4008321216328	78
ZN/10 1A PICO	4050300212234	126



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