

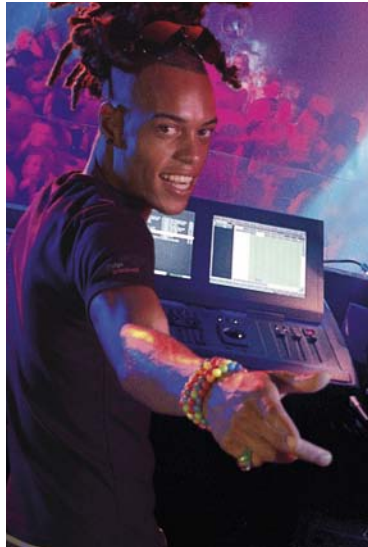


# Philips Entertainment Lamps catalogue

**PHILIPS**

sense and simplicity





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## General Introduction

Philips Lighting, as market leader in the world of lighting, is continuously looking for the best lighting solutions. We have been doing this for many years. By staying close to the market and doing a lot of research we have been able to provide innovative technologies and improved lamps. This has been done in close cooperation with our partners in the Entertainment Industry. With the development of new products we deliver to our brand promise "Sense and Simplicity". Some of our major innovations of the last couple of years:

- P3 technology
- Halogen Hi-Brite
- MSR Gold™ double ended concept
- FastFit concept for Halogen and Discharge lamps
- MiniFastFit concept
- Helios®
- Digital Cinema
- LED systems

These technologies are explained in the relevant chapters.



Some of our products carry the Philips Green Flagship logo: Ceramic ST and CDM-SA/T 315. These products are top Philips EcoDesigned. They show superior environmental performance compared to competitors' products. Product performance is measured through five key Green Focal Areas:

- They should use less energy
- They should weight less
- There should be less packaging
- There should be fewer hazardous substances used (or none at all)
- They should be more easily recycled

This catalogue contains the international Philips Entertainment product range. It is possible that some of the products are not available in your country. For more information you can contact one of our local sales organisations. The contact details can be found in the back of this catalogue. Please also visit our website: [www.philips.com/lighting/entertainment](http://www.philips.com/lighting/entertainment)



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## Reliability in performance



The enhanced P3 technology of Philips Lighting means a revolutionary step in the professional application of halogen and discharge lamps. The heat tolerance of these types of lamps was until recently an important limitation in their use. For the range of Broadway halogen lamps and MSR SA lamps, Philips introduces with Enhanced P3 a solution: Pinch protection with a special protective chromium coating. Heat tolerance of the Halogen as well as the MSR SA lamps is lifted to a level of no less than 500°C. This means a reliable light source even under extreme conditions, with some remarkable advantages.

### Philips P3 technology

Reliability, through longer lifetime and fewer early failures.  
Quality, through excellent storage characteristics and consistent performance over time.  
Freedom in both luminaire design and burning position.

### Endurance in lighting

Defects in the pinch leads of halogen and discharge lamps are the most common source of lamp failure.

The main reason for these defects are the extreme high temperatures at which the pinch leads are exposed. Enhanced P3 means a significant improvement in pinch protection, resulting in an extended lamp lifetime.

Enhanced P3 technology stands for a longer lifetime and increased reliability. And, of course, that is of major importance: the show must go on! The combination with high efficiency in luminance and excellent colour characteristics makes Philips Enhanced P3 lamps the most successful in its kind in entertainment applications. And that is exactly the place where these qualities are of crucial importance.

### Efficiency in costs

Performing under severe conditions, without any further demands. With that vision Philips Lighting developed the Entertainment lamps range. Enhanced P3 is a perfect example of how the limits of cost efficiency can be pushed.

A lower rate of lamp failure, reliable performance and greater safety minimise the costs of operation.

It offers the end user more freedom to concentrate on the creative use of entertainment lighting and, in the end, that is the only thing that counts.

### Freedom in the art of performing

Creativity needs space. In spotlight or projection applications the limits in that respect are set by what is technical possible. Enhanced P3 technology allows a lamp to be used in any burning position, without affecting its performance. The creative freedom of the lighting professional is not obstructed. Of course the same applies to the luminaire designer. Enhanced P3 enables compact and flexible design, meaning a strong impulse to the development of creative light applications.



**See the difference... try Philips MSR Gold™**

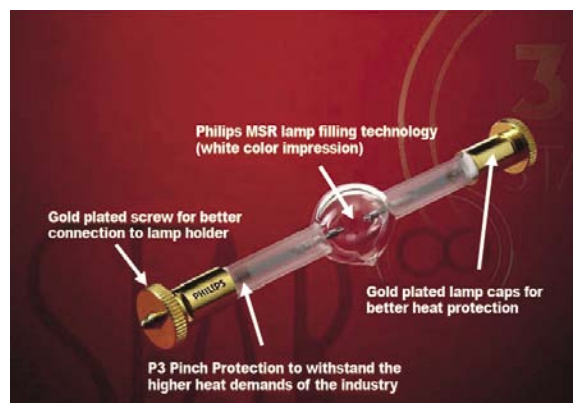
Philips has a wide range of double ended and single ended lamps for stage applications. The Philips MSR Gold™ lamps are double ended lamps which provide pure, white light. They are equipped with gold plated lamp caps which prevent early lamp and lamp holder failures. Their gold plated screws improve the connection to the lamp holder:

**Simplicity is a lamp that's faster fitting for more free time**

The newest innovation is Philips FastFit. This is a new lamp concept for single ended MSR Gold™ and Halogen Hi-Brite lamps. The rear load lamp base system, co-developed with Bender & Wirth, enables easy lamp replacement and adjustments in seconds. It is made for both Halogen and HID lamps, so both technologies can be easily exchanged. Recently an even smaller lamp base, called MiniFastFit, is introduced. These lamps with a PGJX28 base make even smaller and lighter fixtures possible.



FastFit lamp replacement



MSR Gold™



MSR Gold™ FastFit

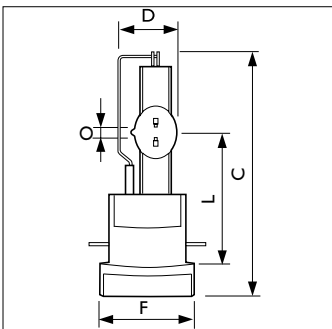
FastFit is also available in MSD Gold™, Ceramic ST and Halogen.

**Product Features**

- Philips FastFit
- Very short arc
- Compact design
- Flexible power range
- Philips pinch protection
- Innovative gold plated pins
- MSR filling

**Product Benefits**

- Lamp replacement in just seconds, exchangeable with halogen lamp
- High beam intensity
- Easy handling, smaller and lighter fixtures possible
- Boostable light levels
- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Reduces early lamp or lamp holder failures. Excellent current transfer
- Pure, white light; color point close to black body line



MSR Gold™ FastFit

Type	C Max	D Max	F Nom	L Nom	L Max	O Nom
MSR Gold™ 700 FastFit	112	23.2	41	65	66	3.8
MSR Gold™ 700/2 FastFit	112	23.2	41	65	66	3.8
MSR Gold™ 1200 FastFit	128	26.1	41	65	66	5.5
MSR Gold™ 1500 FastFit	128	28	41	65	66	5.5
MSR Gold™ 2000 FastFit	134	34	41	67	68	8.0
MSR Gold™ 2000/2 FastFit	134	34	41	67	68	8.0
MSR Gold™ 2500/2 FastFit	153	35.5	41	74.9	75.9	9.5

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSR Gold™ 700 FastFit	700	PGJX50	50000	71	6000	80	750	any
Philips MSR Gold™ 700/2 FastFit	700	PGJX50	50000	71	7500	75	750	any
Philips MSR Gold™ 1200 FastFit	1200	PGJX50	95000	80	6000	80	750	any
Philips MSR Gold™ 1500 FastFit	1500	PGJX50	120000	80	6000	80	750	any
Philips MSR Gold™ 2000 FastFit	2000	PGJX50	170000	85	6000	85	750	any
Philips MSR Gold™ 2000/2 FastFit	2000	PGJX50	160000	80	7500	88	750	any
Philips MSR Gold™ 2500/2 FastFit	2500	PGJX50	193000	77	7200	85	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 700 FastFit	10.2	9281 060 05114
Philips MSR Gold™ 700/2 FastFit	10.2	9281 062 05114
Philips MSR Gold™ 1200 FastFit	15	9281 750 05114
Philips MSR Gold™ 1500 FastFit	15.3	9281 073 05114
Philips MSR Gold™ 2000 FastFit	15	9281 769 05114
Philips MSR Gold™ 2000/2 FastFit	15.4	9281 061 05114
Philips MSR Gold™ 2500/2 FastFit	19.53	9281 064 05114



MSR Gold™ 575 SA/2 DE



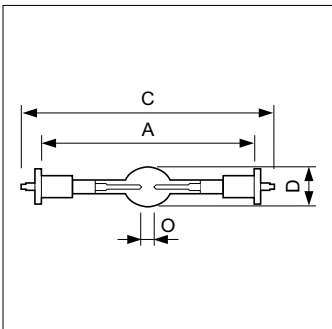
MSR Gold™ SA(2) DE

**Product Features**

- Philips Pinch Protection
- MSR filling
- Gold plated lamp caps

**Product Benefits**

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Pure, white light; color point close to black body line. Consistent color impression over MSR Range
- Reduces early lamp or lamp holder failures



MSR Gold™ SA/DE

Type	A Min	A Nom	A Max	C Max	D Max	O Nom
MSR Gold™ 400 SA/2 DE	114.4	114.8	115.2	136	16.5	3.0
MSR Gold™ 575 SA/2 DE	69.6	70	70.4	92	18.5	5.0
MSR Gold™ 700 SA/2 DE	114.4	114.8	115.2	136	19	4.0
MSR Gold™ 1200 SA/DE	114.4	114.8	115.2	136	22	7.0
MSR Gold™ 1200 SA/2 DE	114.4	114.8	115.2	136	22	7.0
MSR Gold™ 1510 SA/DE	114.4	114.8	115.2	136	23	7.0

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSR Gold™ 400 SA/2 DE	400	SFC10-4	27000	68	7500	70	750	any
Philips MSR Gold™ 575 SA/2 DE	575	SFC-11	42000	73	7500	75	750	any
Philips MSR Gold™ 700 SA/2 DE	700	SFC10-4	56000	80	7500	75	750	any
Philips MSR Gold™ 1200 SA/DE	1200	SFC10-4	109000	91	6000	85	750	any
Philips MSR Gold™ 1200 SA/2 DE	1200	SFC10-4	103000	86	7500	85	750	any
Philips MSR Gold™ 1510 SA/DE	1500	SFC10-4	140000	93	6000	85	750	any

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 400 SA/2 DE	8.4	9281 736 05114
Philips MSR Gold™ 575 SA/2 DE	7	9281 751 05114
Philips MSR Gold™ 700 SA/2 DE	11.5	9281 747 05114
Philips MSR Gold™ 1200 SA/DE	13.6	9280 996 05114
Philips MSR Gold™ 1200 SA/2 DE	13.6	9281 753 05114
Philips MSR Gold™ 1510 SA/DE	13.5	9281 766 05114



**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.



MSR 400, MSR 575/2



MSR 700 (/2), MSR 1200 (/2)

**Product Features**

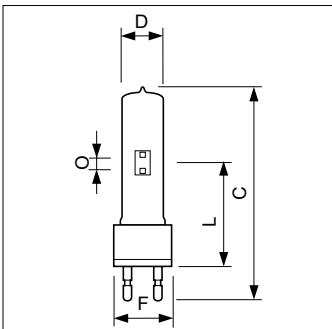
- Single ended lamp concept
- High CRI
- Daylight Colour Temperatures

**Product Benefits**

- Optimal light collection
- Excellent colour characteristics
- Brightness on stage

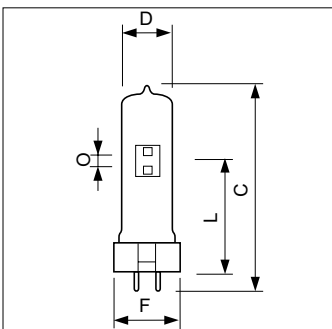
**Luminaires**

- Must only be operated in closed luminaires, because of the high internal working pressure
- Luminaires must block the emitted UV radiation, with no radiation spill through ventilation slots



G22

Type	C Max	D Max	L Nom	L Max	O Nom
MSR 700	152	30	75	76	8.0
MSR 700/2	152	30	75	76	8.0
MSR 1200W	175	40	85	86	10.0
MSR 1200/2	175	40	85	86	10.0



GX9.5

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 400 1CT	112	23	34	35	36	62	63	6.0
MSR 575/2 10H	125	30	34	35	36	65	66	7.0
MSR 575/2 7H	125	30	34	35	36	65	66	7.0

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSR 400	400	GX9.5	32000	80	5900	95	1000	any
Philips MSR 575/2 7H	575	GX9.5	49000	85	7200	70	750	any
Philips MSR 575/2 10H	575	GX9.5	49000	85	7200	70	1000	any
Philips MSR 700	700	G22	55000	80	5900	75	1000	any
Philips MSR 700/2	700	G22	55000	78	7200	80	1000	any
Philips MSR 1200	1200	G22	110000	91	5900	80	800	any
Philips MSR 1200/2	1200	G22	110000	91	7200	85	800	any

Type	Lamp current (A)	Ordering number
Philips MSR 400	6.9	9280 779 05114
Philips MSR 575/2 7H	6.95	9281 077 05109
Philips MSR 575/2 10H	6.95	9281 716 05114
Philips MSR 700	12	9280 780 05114
Philips MSR 700/2	11	9281 715 05114
Philips MSR 1200	13.8	9280 781 05114
Philips MSR 1200/2	13.8	9281 718 05114



MSR 400 SA, MSR 700 SA



MSR 1200 SA, MSR 2000 SA

**Product Features**

- Philips Pinch Protection
- Short arc
- Compact lamp design
- MSR filling

**Product Benefits**

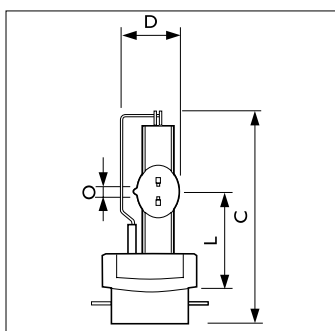
- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- High beam intensity
- Compact design luminaires
- Excellent color characteristics, optimal colors on stage

**Luminaires**

- Must only be operated in closed luminaires, because of the high internal working pressure
- Luminaires must block the emitted UV radiation, with no radiation spill through ventilation slots

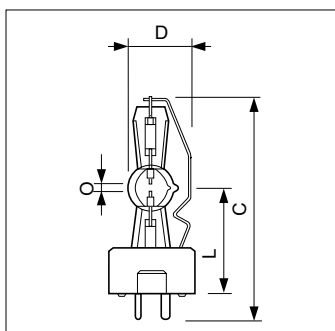


MSR Gold™ SE



MSR Gold™ SE

Type	C Max	D Max	L Nom	L Max	O Nom
MSR Gold™ 1200 SA/SE	109	26.1	45	46	5.5



GY9.5

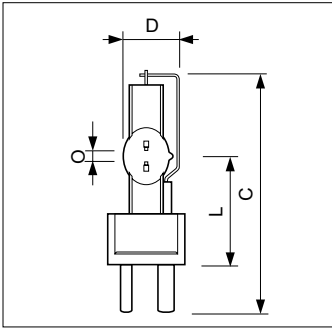
Type	C Max	D Max	L Nom	L Max	O Nom
MSR 400 SA	80	23.5	36.5	37	3.0
MSR 700 SA	83	25	39	39.5	4.0



**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

## MSR Short Arc



GY22

Type	C Max	D Max	L Nom	L Max	O Nom
MSR 1200 SA	135	34	59	60	7.0
MSR 2000 SA	135	34	59	60	7.0

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSR 400 SA	400	GY9.5	30000	75	5600	75	750	any
Philips MSR 700 SA	700	GY9.5	55000	80	5600	80	750	any
Philips MSR 1200 SA	1200	GY22	96000	80	6000	80	750	any
Philips MSR 2000 SA	2000*	GY22	174000	88	6000	89	750	any
Philips MSR Gold™ 1200 SA/SE	1200	PGJ41	93000	78	6000	80	750	any

Type	Lamp current (A)	Ordering number
Philips MSR 400 SA	8.4	9281 702 05114
Philips MSR 700 SA	11	9281 703 05114
Philips MSR 1200 SA	13.8	9281 709 05114
Philips MSR 2000 SA	21.5	9281 732 05114
Philips MSR Gold™ 1200 SA/SE	15	9281 746 05114

\* Lamp can be operated at 2000W for max. 50% of specified average lifetime



XE 2003 CH



XE 2200 BA

**Product Features**

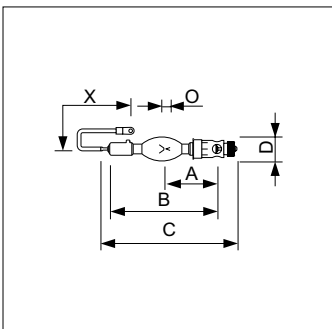
- Customized by projector model
- High initial light output
- Advanced electrode design

**Product Benefits**

- Optimum projector performance
- Achieve rated projector light output on screen
- Long lamp life, less envelope darkening

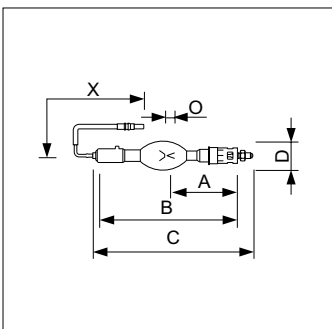


XE 3002 DP



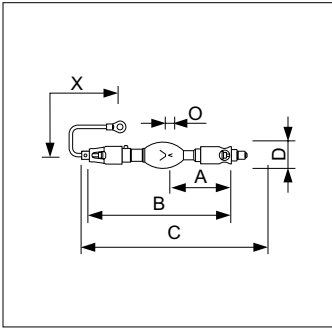
XE 2003 CH

Type	A Nom	B Max	C Max	D Nom	X Nom
XE 2003 CH	101	215	235	42	143



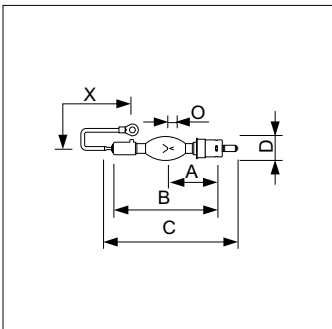
XE 3002 DP

Type	A Nom	B Max	C Max	D Nom	X Nom
XE 3002 DP	123	245	270	51	241



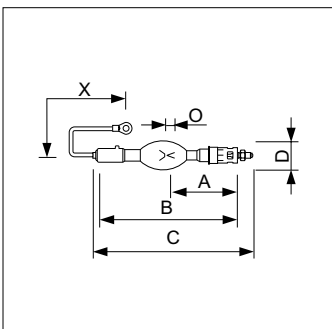
XE 3000 BA

Type	A Nom	B Max	C Max	D Nom	X Nom
XE 3000 BA	110	248	287	46	125



XE 2200 BA

Type	A Nom	B Max	C Max	D Nom	X Nom
XE 2200 BA	95	215	240	42	133



XE 3003 BA

Type	A Nom	B Max	C Max	D Nom	X Nom
XE 3003 BA	123	245	270	51	125

Type	Lamp wattage (W)	Lamp voltage (V)	Lamp current (A)	Min/Max (A)	Ignition voltage (V)	Cooling (min. air flow) (m/s)	Burning position
Philips XE 2003 CH	2003	30	140	60/110	36000	7	p30
Philips XE 2200 BA	2200	24	92	70/100	36000	7	p20
Philips XE 3000 BA	3000	30	100	80/110	36000	7	p30
Philips XE 3002 DP	3002	30	100	60/110	36000	7	p30
Philips XE 3003 BA	3003	30	100	60/110	36000	7	p30

Type	Average life expectancy (hour)	Ordering number
Philips XE 2003 CH	750	9284 106 06201
Philips XE 2200 BA	1000	9284 109 06201
Philips XE 3000 BA	750	9284 127 06201
Philips XE 3002 DP	750	9284 130 06201
Philips XE 3003 BA	500	9284 132 06201



MSI 575 (1/2)



MSI 1200

### Product Features

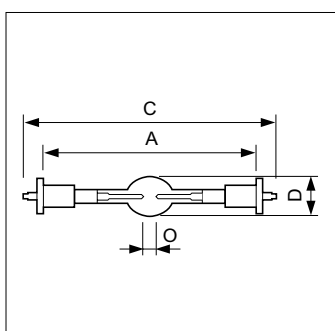
- Excellent Colours Characteristics
- High Luminous efficacy

### Product Benefits

- Matching colours on the set
- High Light levels

### Luminaires

- In view of their high internal working pressure, these lamps must only be operated in closed luminaires. They radiate a considerable amount of ultra-violet; the luminaire lenses must block this, and no radiation must be spilled through ventilation slots.



MSI 575, MSI 1200

Type	A Max	C Max	D Max	O Nom
MSI 575	115	138	21.0	7
MSI 575/2	115	138	21.0	7
MSI 1200	180	220	28.5	10

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSI 575	575	SFC10-4	47000	82	7000	-	750	p15
Philips MSI 575/2	575	SFC10-4	47000	82	7000	-	750	p15
Philips MSI 1200	1200	SFC15.5-6	110000	92	6000	80	1000	any

Type	Lamp current (A)	Ordering number
Philips MSI 575	6.95	9249 117 00020
Philips MSI 575/2	6.95	9249 117 00040
Philips MSI 1200	13.8	9281 044 00021



**“In fact it’s early evening... I make it high noon.”**

The star products of the Philips Film Lighting range are the MSR Hot Restrike lamps. The lamps create the perfect daylight in any condition. They give excellent quality and the right amount of light, constantly on call.

Furthermore they are stable and reliable to ensure perfect performance conditions and their compact Single Ended Lamp technology enables hot re-ignition while maintaining superb color characteristics.



**“They’ve got hot news... I’ve got cool lighting.”**

The Philips Studio Lighting lamp range is led by the innovative Ceramic ST lamp, which combines cool lighting with long lifetime. Ceramic ST is the world's first discharge lamp that matches halogen color characteristics.

Compared to halogen lamps, lamps with Ceramic ST technology produce 4 times less heat, consume 4 times less power (for same light level) and have a much longer lifetime.

The Ceramic ST 250 HR can also be exchanged by a daylight lamp (MSR 250 HR).



MSR 125 HR, MSR 200 HR, MSR 250 HR, MSR 400 HR



MSR 1200 HR



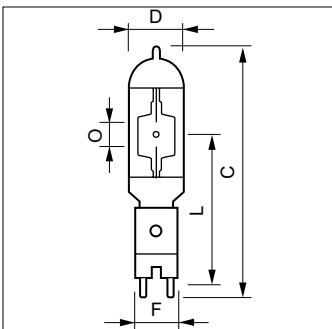
MSR 2500 HR, MSR 4000 HR



MSR 6000 HR, MSR 12000 HR, MSR 18000 HR



MSR 575 HR



MSR 6000 HR, MSR 12000 HR, MSR 18000 HR

The MSR 250 HR can be used as the daylight alternative for Ceramic ST 250 HR. It is exchangeable in the same fixture.

**Product Features**

- Philips Pinch Protection
- MSR filling
- Optimal discharge tubes geometry
- High efficacy
- Single ended lamp concept
- Hot Restrike capability

**Product Benefits**

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Perfect daylight color due to 6000K temperature with excellent color characteristics required for the set
- No arc movement
- High lumen output
- High beam intensity
- Hot re-ignition is possible ensuring the availability of the light at any time

**Luminaires**

- Must only be operated in closed luminaires, because of the high internal working pressure
- Luminaires must block the emitted UV radiation, with no radiation spill through ventilation slots

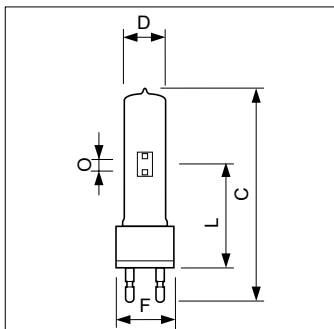
Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 6000 HR	378	74	60	62	64	210	212	24.0
MSR 12000 HR	460	103	70	72	74	255	257	30
MSR 18000 HR	490	103	76.5	78	79.5	260	261	35

For 2500W and higher



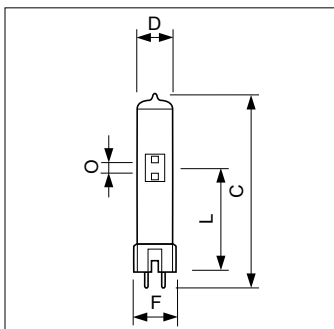
**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.



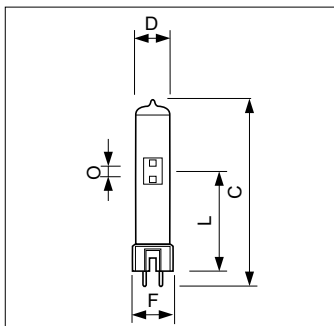
MSR 575 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 575 HR P	145	30	41	42	43	70	71	7.0
MSR 575 HR UV-block	145	30	41	42	43	70	71	7.0
MSR 575 HR	145	30	41	42	43	70	71	7.0



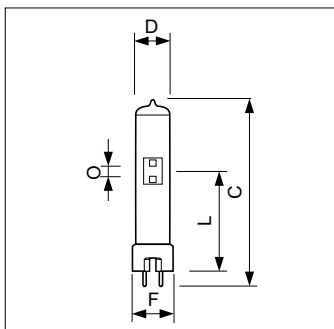
MSR 400 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 400 HR	110	23	23	23.5	24	60	61	6.0



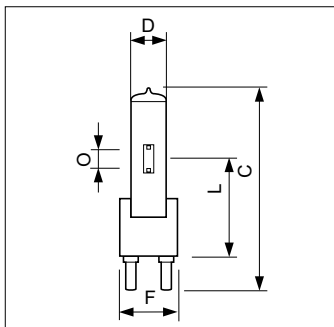
MSR 125 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 125 HR	77	17	23	23.5	24	39	40	4.0



MSR 200 HR, MSR 250 HR

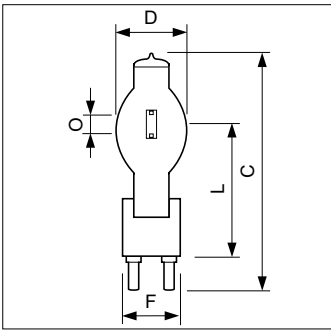
Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 200 HR	80	20	23	23.5	24	39	40	5.0
MSR 250 HR	110	23	23	23.5	24	59	60	5.0



MSR 1200 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 1200 HR	200	40	63	65	67	107	108	10.0

## MSR Hot Restrike



MSR 2500 HR, MSR 4000 HR

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSR 2500 HR 1CT	240	60	63	65	67	127	128	14.0
MSR 4000 HR UNP	255	77	63	65	67	142	143	20.0

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSR 125 HR	125	GZX9.5	9400	75	6000	92	200	any
Philips MSR 200 HR	200	GZY9.5	15000	75	6000	92	200	any
Philips MSR 250 HR	250	GZY9.5	20000	80	6000	90	750	any
Philips MSR 400 HR	400	GZZ9.5	32000	80	6000	92	1000	any
Philips MSR 575 HR	575	G22	49000	85	6000	90	1000	any
Philips MSR 575 HR P	575	G22	49000	85	5900	90	1000	any
Philips MSR 575 HR UV-block	575	G22	46000	81	6000	90	1000	any
Philips MSR 1200 HR	1200	G38	110000	91	6000	95	1000	any
Philips MSR 2500 HR	2500	G38	240000	96	6000	95	500	any
Philips MSR 4000 HR	4000	G38	380000	95	6000	95	500	any
Philips MSR 6000 HR	6000	GY38	570000	95	6000	95	500	any
Philips MSR 12000 HR	12000	GY38	1120000	93	6000	95	300	any
Philips MSR 18000 HR	18000	GX51	1650000	92	6000	90	300	any

Type	Lamp current (A)	Ordering number
Philips MSR 125 HR	1.9	9280 602 05114
Philips MSR 200 HR	3.3	9280 979 05114
Philips MSR 250 HR	2.6	9281 756 05114
Philips MSR 400 HR	6.9	9280 502 05114
Philips MSR 575 HR	6.95	9280 977 05114
Philips MSR 575 HR P	6.95	9280 980 05114
Philips MSR 575 HR UV-block	6.95	9281 074 05914
Philips MSR 1200 HR	13.8	9281 050 05114
Philips MSR 2500 HR	25.6	9281 049 05114
Philips MSR 4000 HR	27.5	9280 504 05114
Philips MSR 6000 HR	55	9281 727 05120
Philips MSR 12000 HR	84	9281 733 05120
Philips MSR 18000 HR	77.6	9281 055 05120



MSI 2500, MSI 4000



MSI 6000, MSI 12000

**Product Features**

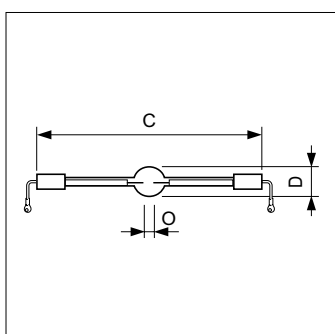
- Excellent Colours Characteristics
- High Luminous efficacy

**Product Benefits**

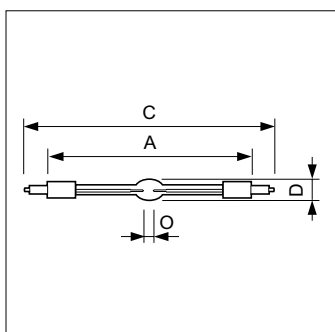
- Matching colours on the set
- High Light levels

**Luminaires**

- In view of their high internal working pressure, these lamps must only be operated in closed luminaires. They radiate a considerable amount of ultra-violet; the luminaire lenses must block this, and no radiation must be spilled through ventilation slots.



MSI 6000, MSI 12000



MSI 2500, MSI 4000

Type	C Max	D Max	O Nom
MSI 6000	450	52.0	22
MSI 12000	470	65.0	32

Type	A Max	C Max	D Max	O Nom
MSI 2500	290	355	32.5	20
MSI 4000	340	405	40.0	34

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSI 2500	2500	SFA21-12	240000	96	6000	90	600	p30
Philips MSI 4000	4000	SFA21-12	410000	95	6000	90	600	p15
Philips MSI 6000	6000	S25.5x60	570000	95	6000	90	400	p15
Philips MSI 12000	12000	S30x70	1100000	92	6000	90	300	p15

Type	Lamp current (A)	Ordering number
Philips MSI 2500	25.6	9281 045 00021
Philips MSI 4000	24	9281 046 00021
Philips MSI 6000	55	9281 047 00021
Philips MSI 12000	82	9281 048 00021



Ceramic ST 250 HR

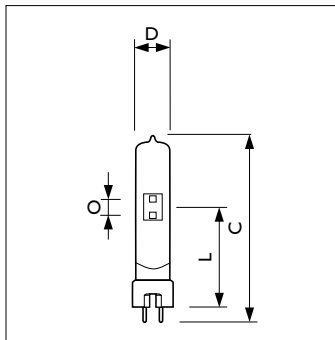
- MSR 250 HR is the daylight alternative for Ceramic ST 250 HR. It is exchangeable in the same fixture.

**Product Features**

- Ceramic Discharge Technology
- Hot Restrikeable

**Product Benefits**

- Due to 4 times less power consumption for same light level as halogen, smaller fixtures can be used and less cooling is needed
- Attractive cost of ownership, less replacement costs. Lifespan is 16 times longer compared to halogen. Payback time is < 2 years.
- Discharge lamp of 3200K color temperature with excellent color characteristics and homogeneous beam quality



Ceramic ST 250 HR

Type	C Max	D Max	L Max	O Nom
Ceramic ST 250W HR	110	23	61	8

Type	Lamp wattage (W)	Cap base	Light flux (lm)	Efficacy source (lm/W)	Color rendering (RA)	Average life expectancy (hour)	Burning position	Lamp current (A)
Philips Ceramic ST 250W HR	250	GZY9.5	23000	92	90	4000	any	2.6

Type	Ordering number
Philips Ceramic ST 250W HR	9281 735 05114



G22



G38



G9.5



GX9.5



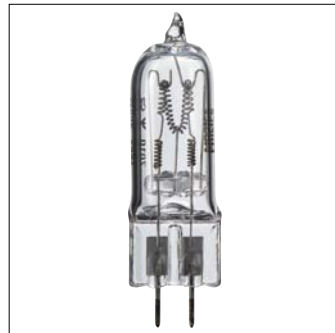
GY16



GY9.5



P28s



GX6.35



G6.35



BA15d

### Product Features

- Studio/film:
  - All lamps have a correlated color temperature of 3200K
  - P3 technology
- Video:
  - High constant light output and color temperature

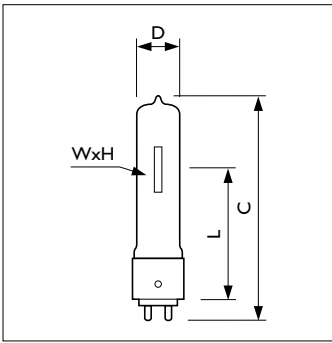
### Product Benefits

- Studio/film:
  - High lumen output
  - Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time.
- Video:
  - Makes attractive, accurately exposed pictures possible



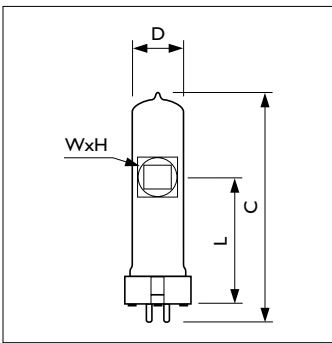
### Philips Pinch Protection technology

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.



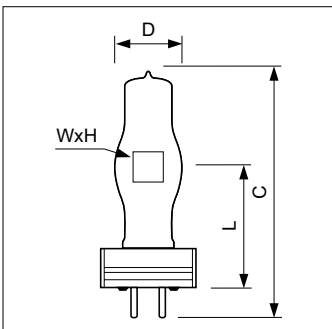
G9,5

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6985P 575W G9.5 115V	105	20	60.5	5.5x12.5
6983P 1000W G9.5 120V	105	20	60.5	6.0x23.0
6983P 1000W G9.5 230V	105	20	60.5	6.0x23.0
6983P 1000W G9.5 240V	105	20	60.5	6.0x23.0



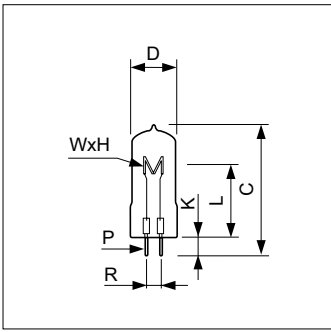
GX9,5

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6999P 650W GX9.5 230V	110	22	55	11.0x9.5
6984P 1000W GX9.5 230V	110	23	55	15.5x13.0



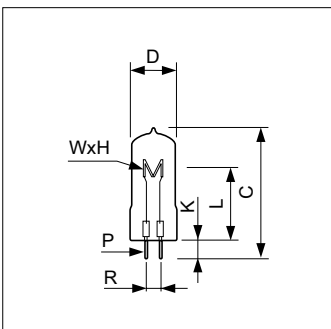
GY16

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6994P 2000W GY16 230V	145	40	70	17.0x18.5
6994P 2000W GY16 240V	145	40	70	17.0x18.5



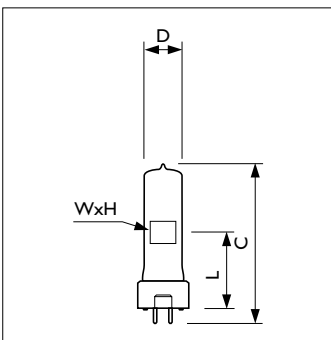
GX6.35

Type	C Max	D Max	K Min	K Nom	K Max	L Nom	P Min	P Nom	P Max	R Min	R Nom	R Max	Filament Dimensions (WxH) (mm)
VL150 150W GX6.35 230V	54	18	6.5	7	7.5	30	0.95	1	1.05	6.1	6.35	6.6	6.0x6.0
VL150 150W GX6.35 240V	54	18	6.5	7	7.5	30	0.95	1	1.05	6.1	6.35	6.6	6.0x6.0
VL300 300W GX6.35 120V	56	18	6.5	7	7.5	31.5	0.95	1	1.05	6.1	6.35	6.6	6.0x9.0
VL300 300W GX6.35 230V	56	18	6.5	7	7.5	31.5	0.95	1	1.05	6.1	6.35	6.6	6.0x9.0
VL300 300W GX6.35 240V	56	18	6.5	7	7.5	31.5	0.95	1	1.05	6.1	6.35	6.6	6.0x9.0



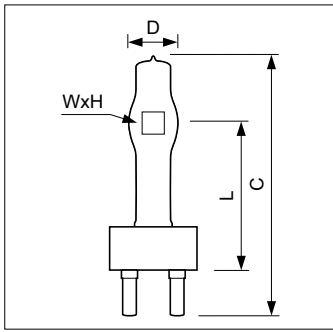
GX6.35

Type	C Max	D Max	K Min	K Nom	K Max	L Nom	P Min	P Nom	P Max	R Min	R Nom	R Max	Filament Dimensions (WxH) (mm)
7003 150W GX6.35 230V	54	18	6.5	7	7.5	30	0.95	1	1.05	6.1	6.35	6.6	6.0x6.0
7010 300W 120V	60	18	6.5	7	7.5	33	0.95	1	1.05	6.1	6.35	6.6	13.0x8.0



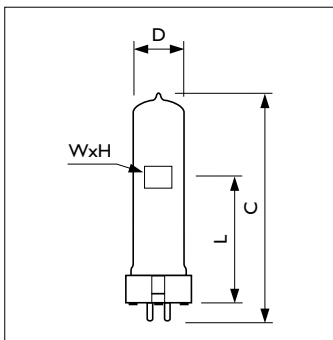
GY9.5

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6872P 300W GY9.5 230V	90	18	46.5	8.0x13.0
6872P 300W GY9.5 240V	90	18	46.5	8.0x13.0
6873P 500W GY9.5 230V	90	18	46.5	8.0x18.0
6873P 500W GY9.5 240V	90	18	46.5	8.0x18.0
7389 500W GY9.5 230V	75	22	36.5	10.5x9.0
7389 500W GY9.5 240V	75	22	36.5	10.5x9.0
6638P 650W GY9.5 120V	90	22	46.5	11.0x12.0
6638P 650W GY9.5 230V	90	22	46.5	11.0x12.0
6638P 650W GY9.5 240V	90	22	46.5	11.0x12.0



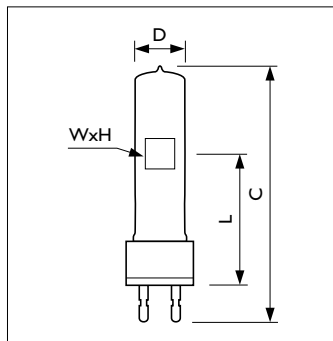
G38

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6995Y 1000W G38 120V	200	30.5	127	11.0x13.5
6994Z 2000W G38 120V	210	40	127	17.0x15.5
6994Z 2000W G38 230V	210	40	127	17.0x18.5
6994Z 2000W G38 240V	210	40	127	17.0x18.5
6963Z 5000W G38 230V	280	62	165	26.0x28.5
6963Z 5000W G38 240V	280	62	165	26.0x28.5



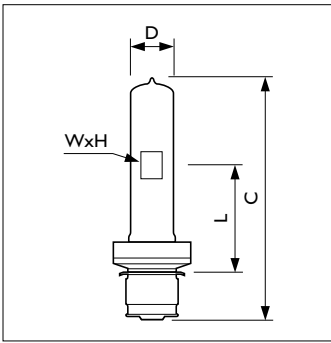
GX9.5

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6993P 650W GX9.5 230V	110	22	55	10.0x10.0
71-2526 1000W GX9.5 120V	110	30.5	55	11.0x13.5
71-2526 1000W GX9.5 230V	110	30.5	55	11.0x14.5
6995P 1000W GX9.5 230V	110	23	55	11.0x14.5
6995P 1000W GX9.5 240V	110	23	55	11.0x14.5
71-2529 1200W GX9.5 120V	110	30.5	55	15.5x11.0
6895P 1200W GX9.5 230V	120	28	67	17.0x15.5



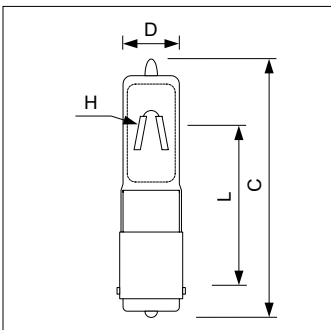
G22

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6993Z 650W G22 230V	140	22	63.5	10.0x10.0
6827Z 750W G22 120V	140	28	63.5	11.0x11.0
6995Z 1000W G22 120V	140	23	63.5	10.0x10.5
6995Z 1000W G22 230V	140	23	63.5	11.0x14.5
6995Z 1000W G22 240V	140	23	63.5	11.0x14.5
7002Y 1000W G22 115V	140	22	72.5	11.5x10.5
7002Y 1000W G22 230V	140	22	72.5	10.5x14.0
7002Y 1000W G22 240V	140	22	72.5	11.5x13.5
6975Z 2000W G22 230V	175	40	90	17.0x18.5
6975Z 2000W G22 240V	175	40	90	17.0x18.5
6994Y 2000W G22 230V	160	40	75	17.0x18.5
6894Y 2500W G22 230V	175	40	90	20.0x21.0
6894Y 2500W G22 240V	175	40	90	20.0x21.0



P28s

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6827C 750W P28s 120V	127	22	55.6	11.0x14.0
7001C 750W P28s 120V	127	22	55.6	10.0x11.0
6995C 1000W P28s 120V	127	28	55.6	10.0x10.0



Ba15d

Type	C Max	D Max	L Min	L Nom	L Max	Filament Dimension (H) (mm)
7011W 200W BA15d 120V	62	13.5	33	35	37	8.0

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)
Philips 7003 150W GX6.35 230V	150	230	GX6.35	-	-	3000	3000	150
Philips 7011W 200W BA15d 120V	200	120	BA15d	FEV	-	5500	3100	50
Philips 6872P 300W GY9.5 230V	300	230	GY9.5	FSL	CP/81	7050	3200	180
Philips 6872P 300W GY9.5 240V	300	240	GY9.5	FSK	CP/81	7050	3200	180
Philips 7010 300W 120V	300	120	GX6.35	-	-	7500	3200	15
Philips 6873P 500W GY9.5 230V	500	230	GY9.5	FRH	CP/82	13500	3200	180
Philips 6873P 500W GY9.5 240V	500	240	GY9.5	FRJ	CP/82	13500	3200	180
Philips 7389 500W GY9.5 230V	500	230	GY9.5	-	A1/244	14000	3200	75
Philips 7389 500W GY9.5 240V	500	240	GY9.5	-	A1/244	14000	3200	75
Philips 6985P 575W G9.5 115V	575	115	G9.5	FLK	-	16500	3200	300
Philips 6638P 650W GY9.5 120V	650	120	GY9.5	-	-	16900	3200	200
Philips 6638P 650W GY9.5 230V	650	230	GY9.5	FRL	CP/89	16500	3200	180
Philips 6638P 650W GY9.5 240V	650	240	GY9.5	FRM	CP/89	16500	3200	180
Philips 6993P 650W GX9.5 230V	650	230	GX9.5	FVC	CP/67 (CP/23)	16500	3200	120
Philips 6993Z 650W G22 230V	650	230	G22	FKH	CP/68 (CP/39)	16500	3200	120
Philips 6999P 650W GX9.5 230V	650	230	GX9.5	-	CP/65	14000	3200	125
Philips 6827C 750W P28s 120V	750	120	P28s	BTP	-	20000	3200	200
Philips 6827Z 750W G22 120V	750	120	G22	EGR	-	20000	3200	200
Philips 7001C 750W P28s 120V	750	120	P28s	BTN	-	17500	3200	500
Philips 71-2526 1000W GX9.5 120V	1000	120	GX9.5	-	-	27000	3200	180
Philips 71-2526 1000W GX9.5 230V	1000	230	GX9.5	-	-	25000	3200	200
Philips 6983P 1000W G9.5 230V	1000	230	G9.5	FEP	CP/77	26000	3200	180
Philips 6983P 1000W G9.5 240V	1000	240	G9.5	FEP	CP/77	26000	3200	180
Philips 6984P 1000W GX9.5 230V	1000	230	GX9.5	-	CP/63	22500	3200	180
Philips 6995C 1000W P28s 120V	1000	120	P28s	BTR	-	27000	3200	250

## Halogen High Voltage SE (Film/Studio)

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)
Philips 6995P 1000W GX9.5 230V	1000	230	GX9.5	FVA	CP/70 (CP/24)	25000	3200	240
Philips 6995P 1000W GX9.5 240V	1000	240	GX9.5	FVB	CP/70 (CP/24)	25000	3200	240
Philips 6995Y 1000W G38 120V	1000	120	G38	CYV	-	27000	3200	175
Philips 6995Z 1000W G22 120V	1000	120	G22	EGT	-	27000	3200	240
Philips 6995Z 1000W G22 230V	1000	230	G22	FKJ	CP/71 (CP/40)	25000	3200	240
Philips 6995Z 1000W G22 240V	1000	240	G22	FKJ	CP/71 (CP/40)	25000	3200	240
Philips 7002Y 1000W G22 115V	1000	115	G22	-	-	29000	3200	250
Philips 7002Y 1000W G22 230V	1000	230	G22	-	-	29000	3200	250
Philips 7002Y 1000W G22 240V	1000	240	G22	-	-	29000	3200	250
Philips 71-2529 1200W GX9.5 120V	1200	120	GX9.5	-	-	34200	3200	150
Philips 6895P 1200W GX9.5 230V	1200	230	GX9.5	-	CP/90	30000	3200	240
Philips 6975Z 2000W G22 230V	2000	230	G22	-	CP/92	50000	3200	400
Philips 6975Z 2000W G22 240V	2000	240	G22	-	CP/92	50000	3200	400
Philips 6994P 2000W GY16 230V	2000	230	GY16	FTM	CP/72 (CP/43)	50000	3200	480
Philips 6994P 2000W GY16 240V	2000	240	GY16	FTL	CP/72 (CP/43)	50000	3200	480
Philips 6994Y 2000W G22 230V	2000	230	G22	-	CP/75 (CP/55)	50000	3200	480
Philips 6994Z 2000W G38 120V	2000	120	G38	CYX	-	54000	3200	420
Philips 6994Z 2000W G38 230V	2000	230	G38	FKK/FKP	CP/73 (CP/41)	50000	3200	480
Philips 6994Z 2000W G38 240V	2000	240	G38	FKK/FKP	CP/73 (CP/41)	50000	3200	480
Philips 6894Y 2500W G22 230V	2500	230	G22	-	CP/91	65000	3200	400
Philips 6894Y 2500W G22 240V	2500	240	G22	-	CP/91	65000	3200	400
Philips 6963Z 5000W G38 230V	5000	230	G38	-	CP/85 (CP/29)	132500	3200	400
Philips 6963Z 5000W G38 240V	5000	240	G38	-	-	132500	3200	285
Philips VL150 150W GX6.35 230V	150	230	GX6.35	-	-	3750	3200	20
Philips VL150 150W GX6.35 240V	150	240	GX6.35	-	-	3750	3200	20
Philips VL300 300W GX6.35 120V	300	120	GX6.35	-	-	8700	3200	20
Philips VL300 300W GX6.35 230V	300	230	GX6.35	-	-	8550	3200	20
Philips VL300 300W GX6.35 240V	300	240	GX6.35	-	-	8550	3200	20

Type	Burning position	Max. permissible pinch temp. (°C)	Ordering number
Philips 7003 150W GX6.35 230V	any	400	9245 537 44258
Philips 7011W 200W BA15d 120V	any		9245 693 36360
Philips 6872P 300W GY9.5 230V	any	350	9239 495 42928
Philips 6872P 300W GY9.5 240V	any	350	9239 495 45728
Philips 7010 300W 120V	any	400	9245 306 36358
Philips 6873P 500W GY9.5 230V	any	350	9239 496 42928
Philips 6873P 500W GY9.5 240V	any	350	9239 496 45528
Philips 7389 500W GY9.5 230V	s90	400	9238 716 43228
Philips 7389 500W GY9.5 240V	s90	400	9238 716 45728
Philips 6985P 575W G9.5 115V	any	500	9245 245 34428
Philips 6638P 650W GY9.5 120V	any	500	9245 013 36348
Philips 6638P 650W GY9.5 230V	any	500	9245 013 42928
Philips 6638P 650W GY9.5 240V	any	500	9245 013 45528
Philips 6993P 650W GX9.5 230V	s90	400	9238 903 42928
Philips 6993Z 650W G22 230V	any	500	9238 904 42928
Philips 6999P 650W GX9.5 230V	any	500	9238 905 42928
Philips 6827C 750W P28s 120V	any	500	9245 099 36328

Type	Burning position	Max. permissible pinch temp. (°C)	Ordering number
Philips 6827Z 750W G22 120V	any	500	9238 996 36328
Philips 7001C 750W P28s 120V	any	500	9245 097 36328
Philips 1000W GX9.5 120V	any	450	9245 051 36334
Philips 1000W GX9.5 230V	any	450	9245 051 44234
Philips 6983P 1000W G9.5 230V	any	500	9244 000 42928
Philips 6983P 1000W G9.5 240V	any	500	9244 000 45528
Philips 6984P 1000W GX9.5 230V	any	500	9238 913 42928
Philips 6995C 1000W P28s 120V	any	500	9245 117 36328
Philips 6995P 1000W GX9.5 230V	any	500	9238 846 42928
Philips 6995P 1000W GX9.5 240V	any	500	9238 846 45528
Philips 6995Y 1000W G38 120V	s90	400	9238 518 36328
Philips 6995Z 1000W G22 120V	any	500	9238 801 36328
Philips 6995Z 1000W G22 230V	any	500	9238 847 42928
Philips 6995Z 1000W G22 240V	any	500	9238 847 45528
Philips 7002Y 1000W G22 115V	any	500	9245 536 34428
Philips 7002Y 1000W G22 230V	any	500	9245 536 44228
Philips 7002Y 1000W G22 240V	any	500	9245 536 45528
Philips 1200W GX9.5 120V	any	500	9245 215 36328
Philips 6895P 1200W GX9.5 230V	s90	400	9239 314 42928
Philips 6975Z 2000W G22 230V	s90	400	9245 154 44248
Philips 6975Z 2000W G22 240V	s90	400	9245 154 45548
Philips 6994P 2000W GY16 230V	s90	400	9238 910 42948
Philips 6994P 2000W GY16 240V	s90	400	9238 910 45548
Philips 6994Y 2000W G22 230V	s90	400	9238 947 42948
Philips 6994Z 2000W G38 120V	s90	400	9245 026 36349
Philips 6994Z 2000W G38 230V	s90	400	9238 911 42948
Philips 6994Z 2000W G38 240V	s90	400	9238 911 45548
Philips 6894Y 2500W G22 230V	s90	400	9245 038 42948
Philips 6894Y 2500W G22 240V	s90	400	9245 038 45548
Philips 6963Z 5000W G38 230V	any	500	9238 659 42924
Philips 6963Z 5000W G38 240V	any	500	9238 659 45524
Philips VL150 150W GX6.35 230V	any	400	9239 493 43258
Philips VL150 150W GX6.35 240V	any	400	9239 493 45758
Philips VL300 300W GX6.35 120V	any	400	9239 494 36358
Philips VL300 300W GX6.35 230V	any	400	9239 494 43258
Philips VL300 300W GX6.35 240V	any	400	9239 494 45758



R7s



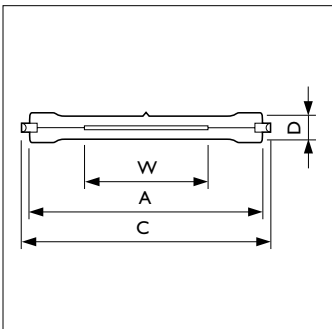
RX7s

**Product Features**

- Studio/film: Color temperature of 3200K
- Video: High constant light output and color temperature

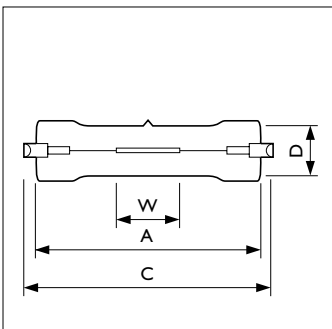
**Product Benefits**

- Studio/film: Good color rendering
- Video: Makes attractive, accurately exposed pictures possible



R7s, RX7s

Type	A Min	A Nom	A Max	C Max	D Max	W Nom
7775R/16 625W R7s 230V	184.1	185.7	187.3	189.1	11	120
7775R/16 625W R7s 240V	184.1	185.7	187.3	189.1	11	120
13162R 800W R7s 230V	73.3	74.9	76.5	78.3	15.8	25
13162R 800W R7s 240V	73.3	74.9	76.5	78.3	15.8	25
13477R 800W R7s 230V	112.6	114.2	115.8	117.5	11	60
13477R 800W R7s 240V	112.6	114.2	115.8	117.5	11	60
7786R 1000W R7s 120V	112.6	114.2	115.8	117.5	11	70
7786R 1000W R7s 230V	112.6	114.2	115.8	117.5	11	60
7786R 1000W R7s 240V	112.6	114.2	115.8	117.5	11	60
13203R 1000W R7s 120V	136.5	138.1	139.7	141.5	29	35
13704R 1000W R7s 230V	112.6	114.2	115.8	-	-	-
13989R 1000W R7s 230V	184.1	185.7	187.3	189.1	11	120
13989R 1000W R7s 240V	184.1	185.7	187.3	189.1	11	120
6358R 1250W R7s 230V	184.1	185.7	187.3	189.1	11	120
6358R 1250W R7s 240V	184.1	185.7	187.3	189.1	11	120
7012R 2000W RX7s 120V	136.4	138	139.6	141.5	18	30
7012R 2000W RX7s 230V	136.4	138	139.6	141.5	18	30
7012R 2000W RX7s 240V	136.4	138	139.6	141.5	18	30



R7s

Type	A Min	A Nom	A Max	C Max	D Max	W Nom
PF821 R 500W R7s 120V	128.2	129.8	131.4	133.2	11	75
PF821 R 500W R7s 230V	128.2	129.8	131.4	133.2	11	65
PF821 R 500W R7s 240V	128.2	129.8	131.4	133.2	11	65
PF801 R 1000W R7s 230V	120.1	121.7	123.3	125.1	9	72
PF801 R 1000W R7s 115-120V	120.1	121.7	123.3	125.1	9	68

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)
Philips 7775R/16 625W R7s 230V	625	230	R7s	-	P2/10	16250	3200	150
Philips 7775R/16 625W R7s 240V	625	240	R7s	-	P2/10	16250	3200	150
Philips 13162R 800W R7s 230V	800	230	R7s	DXX	P2/13	20000	3200	30
Philips 13162R 800W R7s 240V	800	240	R7s	DXX	P2/13	21600	3200	75
Philips 13477R 800W R7s 230V	800	230	R7s	EME	P2/11	23600	3200	150

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)
Philips 13477R 800W R7s 240V	800	240	R7s	EME	P2/11	24400	3200	150
Philips 7786R 1000W R7s 230V	1000	230	R7s	-	P2/20	30000	3200	300
Philips 7786R 1000W R7s 240V	1000	240	R7s	-	P2/20	30000	3200	300
Philips 13203R 1000W R7s 120V	1000	120	R7s	DWT	-	21500	3200	2000
Philips 13704R 1000W R7s 230V	1000	230	R7s	-	P2/35	26600	3200	150
Philips 13989R 1000W R7s 230V	1000	230	R7s	EKM	P2/7	26000	3200	200
Philips 13989R 1000W R7s 240V	1000	240	R7s	EKM	P2/7	26000	3200	200
Philips 6358R 1250W R7s 230V	1250	230	R7s	-	P2/12	33750	3200	200
Philips 6358R 1250W R7s 240V	1250	240	R7s	-	P2/12	33750	3200	200
Philips 7012R 2000W RX7s 120V	2000	120	RX7s	FEY	-	57000	3200	300
Philips 7012R 2000W RX7s 230V	2000	230	RX7s		P2/27	50000	3200	300
Philips 7012R 2000W RX7s 240V	2000	240	RX7s		P2/27	50000	3200	300
Philips PF821 R 500W R7s 120V	500	120	R7s	GDA	-	12500	3200	50
Philips PF821 R 500W R7s 230V	500	230	R7s	-	-	11000	3200	75
Philips PF821 R 500W R7s 240V	500	240	R7s	-	-	11000	3200	75
Philips PF801 R 1000W R7s 230V	1000	230	R7s	FDG	P1/12	34000	3400	15
Philips PF801 R 1000W R7s 115-120V	1000	115-120	R7s	-	-	34000	3400	15

Type	Burning position	Max. permissible pinch temp. (°C)	Ordering number
Philips 7775R/16 625W R7s 230V	p15	400	9238 790 43201
Philips 7775R/16 625W R7s 240V	p15	400	9238 790 45701
Philips 13162R 800W R7s 230V	p15	400	9238 921 43260
Philips 13162R 800W R7s 240V	p15	400	9238 921 45760
Philips 13477R 800W R7s 230V	p15	400	9238 925 43201
Philips 13477R 800W R7s 240V	p15	400	9238 925 45701
Philips 7786R 1000W R7s 120V	p15	400	9238 950 34501
Philips 7786R 1000W R7s 230V	p15	400	9238 849 43201
Philips 7786R 1000W R7s 240V	p15	400	9238 849 45701
Philips 13203R 1000W R7s 120V	any	350	9245 156 36330
Philips 13704R 1000W 230V	any	400	9239 361 42960
Philips 13989R 1000W R7s 230V	any	400	9238 780 43201
Philips 13989R 1000W R7s 240V	any	400	9238 780 45701
Philips 6358R 1250W R7s 230V	p15	400	9238 784 43201
Philips 6358R 1250W R7s 240V	p15	400	9238 784 45701
Philips 7012R 2000W RX7s 120V	p15	350	9245 694 36360
Philips 7012R 2000W RX7s 230V	p15	350	9245 694 44260
Philips 7012R 2000W RX7s 240V	p15	350	9245 694 45560
Philips PF821 R 500W R7s 120V	p4	400	9238 817 36301
Philips PF821 R 500W R7s 230V	p4	400	9238 817 43201
Philips PF821 R 500W R7s 240V	p4	400	9238 817 45701
Philips PF801 R 1000W R7s 230V	any	450	9238 627 43201
Philips PF801 R 1000W R7s 115-120V	any	450	9238 627 34501



## Cinema

Philips Cinema Xenon Lamps are high power short arc discharge lamps designed specifically for the cinema projection market. The arc is formed in an atmosphere of pure xenon gas which creates a broad spectrum white light with outstanding color rendition. Philips Cinema Xenon Lamps are available in three product ranges:

- Standard, fitting all leading film cinema projectors
- Helios, a high performance alternative for those applications requiring higher brightness
- Digital, for today's demanding 2D and 3D digital cinema applications.

All Philips Cinema Xenon Lamps offer long life, high stability and instant ignition and are backed by the best customer support in the industry.

### Abbreviations in this chapter:

- H: Horizontal
- HC: Horizontal with cable
- HS: Short lamp
- HSC: Short lamp with cable
- HTP: Lamp with threaded pin
- HTT: Threaded on both ends
- SHSC: Super short lamp
- HE: Helios®
- HEH: Helios® standard lamp
- HEHS: Short Helios®
- HETP: Helios® lamp with threaded pin



XDC-4200S



XDC-3000C



XDC-6000N



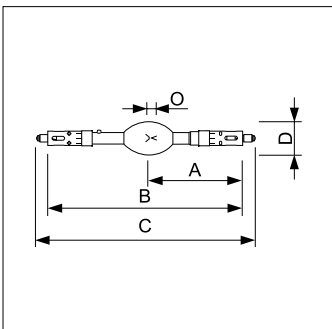
XDC 6500B

**Product Features**

- Higher light output than standard lamps
- Customized by projector model
- Pure xenon fill gas
- Proprietary electrode design

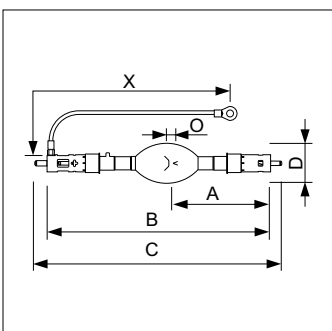
**Product Benefits**

- Increased brightness on the screen
- Optimum projector performance
- Constant color temperature
- High arc stability



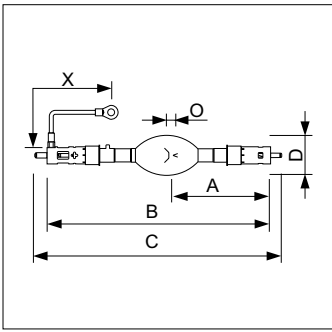
XDC-3000C

Type	A Nom	B Max	C Max	D Nom
XDC 3000 C	162	351	397	60



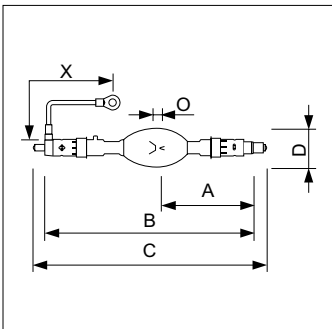
XDC-6000/6500TA

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 6000TA	170.5	393	433	70	400
XDC 6500TA	170.5	393	433	70	400



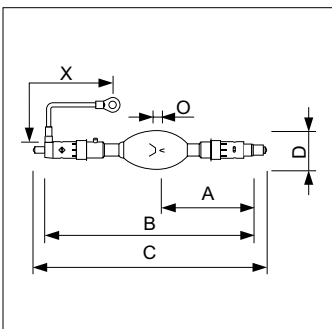
XDC-6500B

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 6500 B	170.5	391	433	70	152



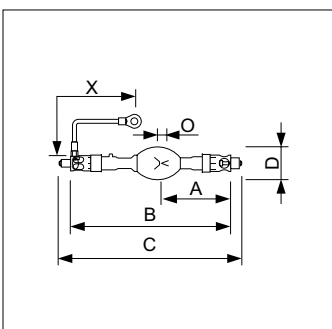
XDC-4000B

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 4000 B	123	294	341	60	132



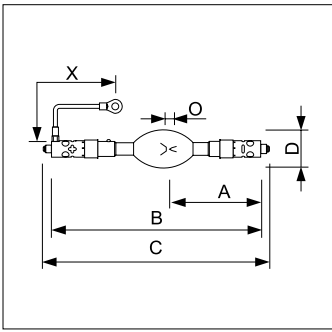
XDC-3000B

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 3000 B	123	294	341	55	132



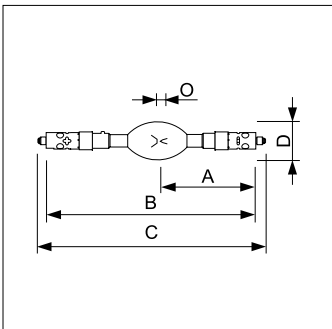
XDC-3000S

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 3000 S	128	295	336	60	203



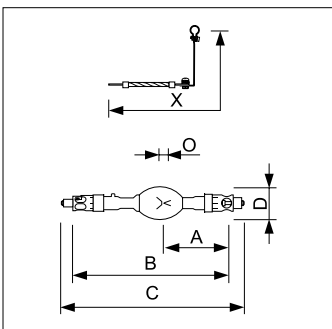
XDC-6000N

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 6000 N	171.5	387	425	70	750



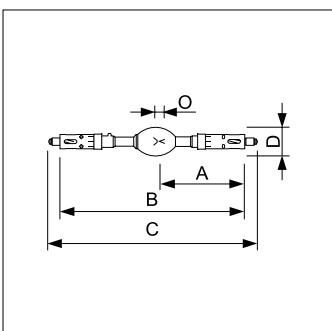
XDC-6000C

Type	A Nom	B Max	C Max	D Nom
XDC 6000 C	165	381	413	70



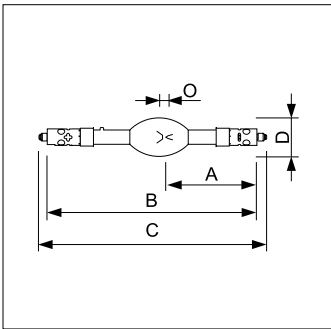
XDC-4200S

Type	A Nom	B Max	C Max	D Nom
XDC 4200 S	128	295	336	60

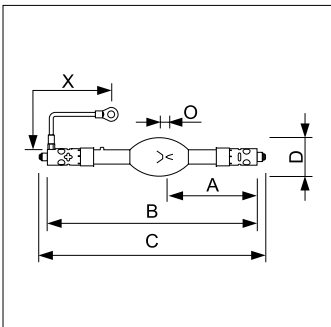


XDC-2000C

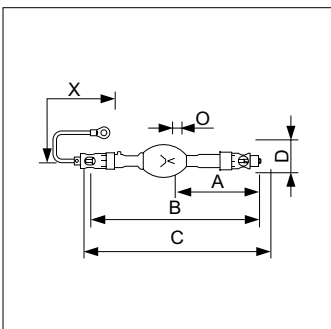
Type	A Nom	B Max	C Max	D Nom
XDC 2000 C	162	351	397	55



XDC-4500C



XDC-4500N



XDC-4000N

Type	A Nom	B Max	C Max	D Nom
XDC 4500 C	165	381	413	70

Type	A Nom	B Max	C Max	D Nom	X
XDC 4500 N	170	387	425	70	750

Type	A Nom	B Max	C Max	D Nom	X Nom
XDC 4000 N	147	306	332	60	180

Type	Lamp wattage (W)	Lamp voltage (V)	Lamp current (A)	Light flux (lm)	Min/Max (A)	Cooling (min. air flow) (m/s)	Burning position
Philips XDC 3000 B	3000	30	90	140000	60/100	7	p15
Philips XDC 4000 B	4000	33	120	180000	100/130	7	p15
Philips XDC 6500 B	6500	38	170	300000	140/175	7	p15
Philips XDC 2000 C	2000	25	80	80000	50/90	7	p30
Philips XDC 3000 C	3000	29	110	130000	90/120	7	p20
Philips XDC 4500 C	4500	33	140	190000	120/160	7	p20
Philips XDC 6000 C	6000	40	155	270000	110/160	7	p20
Philips XDC 3000 S	3000	28	100	140000	80/115	7	p15
Philips XDC 4200 S	4200	31	135	190000	80/148	7	p15
Philips XDC 4000 N	4000	32	125	170000	105/135	7	p15
Philips XDC 4500 N	4500	33	140	190000	100/150	7	p15
Philips XDC 6000 N	6000	40	155	280000	110/160	7	p15
Philips XDC 6000 TA	6000	35	170	270000	140/175	7	p15
Philips XDC 6500 TA	6500	38	170	300000	140/175	7	p15

## Digital Xenon Cinema lamps

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Type	Average life expectancy (hour)	Ordering number
Philips XDC 3000 B	1500	9284 152 06301
Philips XDC 4000 B	750	9284 151 06301
Philips XDC 6500 B	500	9284 150 06301
Philips XDC 2000 C	2400	9284 133 06301
Philips XDC 3000 C	1500	9284 117 06201
Philips XDC 4500 C	1000	9284 153 06201
Philips XDC 6000 C	600	9284 167 06201
Philips XDC 3000 S	1000	9284 118 06201
Philips XDC 4200 S	500	9284 146 06201
Philips XDC 4000 N	650	9284 154 06301
Philips XDC 4500 N	900	9284 154 06201
Philips XDC 6000 N	600	9284 168 06201
Philips XDC 6000 TA	600	9284 149 06301
Philips XDC 6500 TA	500	9284 146 06301



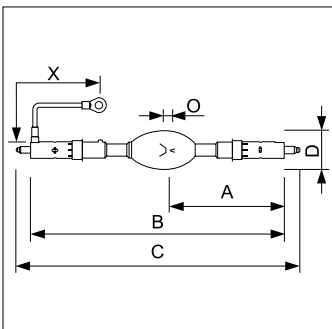
LTIX 2000W Helios® Standard lamp



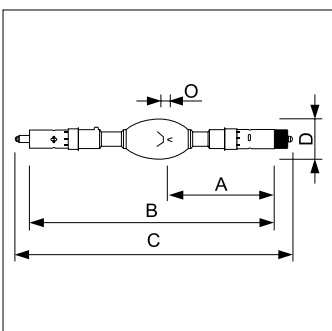
LTIX 3000W Short Helios®



LTIX 4200W Helios® standard lamp with threaded pin



LTIX 2000W, 3000W HEH



LTIX 4200W HETP

**Product Features**

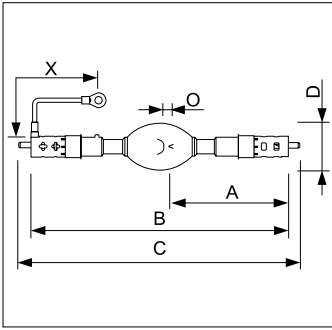
- Can increase light output on screen at same lamp wattage \*
- Can allow use of smaller wattage lamp while maintaining light output on screen \*
- Drop-in replacement for standard lamps
- \* As there are many variations in equipment type and condition, as well as in lamp types, these improvements are not guaranteed. Philips encourages customers to test Helios® lamps against their current lamps and see for themselves the benefits

**Product Benefits**

- Avoid upgrading older equipment
- Can reduce power consumption and lower cost of ownership
- No lamp house modifications
- No lens change required

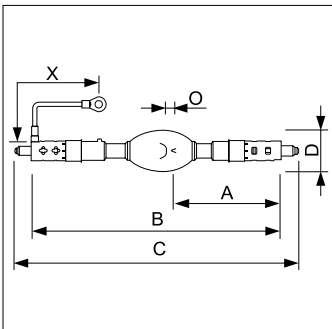
Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W HEH	142.5	322	366	46	-
Philips LTIX 3000W HEH	167.5	382	428	52	280

Type	A Nom	B Max	C Max	D Nom
Philips LTIX 4200W HETP	167.5	382	428	62



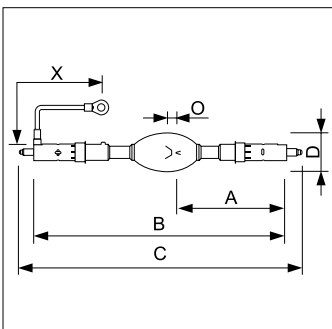
LTIX 7000W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 7000W HEHS	170.5	393	433	70	305



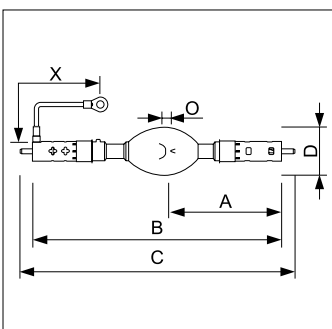
LTIX 4201W HEH

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4201W HEH	167.5	382	428	62	305



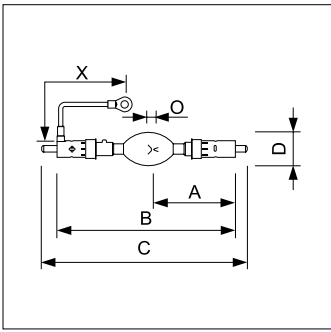
LTIX 4200W, 7000W HEH

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4200W HEH	167.5	382	428	62	305
Philips LTIX 7000W HEH	170	382	433	78	305



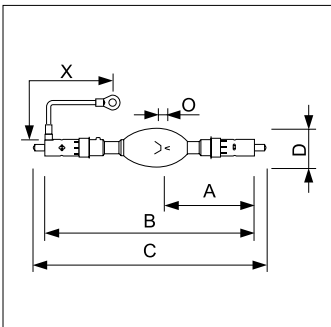
LTIX 3005W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 3005W HEHS	171	370	342	52	305



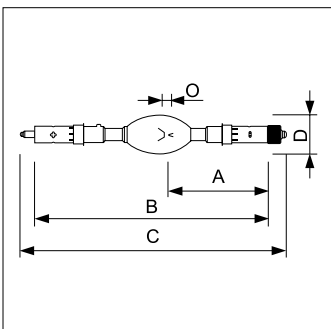
LTIX 3000W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 3000W HEHS	145	302	342	52	280



LTIX 2000W, 4202W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W HEHS	145	302	337	46	280
Philips LTIX 4202W HEHS	171	370	410	62	305



LTIX 2000W, 3000W, 3005W HETP

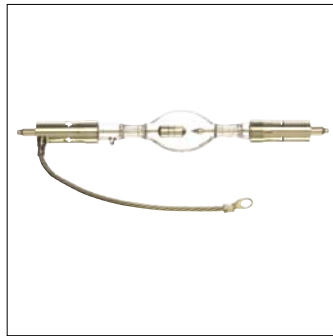
Type	A Nom	B Max	C Max	D Nom
Philips LTIX 2000W HETP	142	322	375	46
Philips LTIX 3000W HETP	162.5	357	405	52
Philips LTIX 3005W HETP	166.5	380	423	52

Type	Lamp wattage (W)	Lamp voltage (V)	Lamp current (A)	Light flux (lm)	Min/Max (A)	Ignition voltage (V)	Cooling (min. air flow) (ft./s)	Burning position
Philips LTIX 2000W HEH	2000	27	70	80000	50/85	36000	20	hor/ver20
Philips LTIX 2000W HEHS	2000	24	80	80000	50/85	36000	20	hor/ver30
Philips LTIX 2000W HETP	2000	27	70	80000	50/85	36000	20	hor/ver30
Philips LTIX 3000W HEH	3000	29	100	130000	60/110	36000	20	hor/ver30
Philips LTIX 3005W HEHS	3000	29	100	130000	60/100	36000	20	hor/ver30
Philips LTIX 3005W HETP	3000	29	100	130000	60/110	36000	20	hor/ver20
Philips LTIX 4200W HETP	4200	29	140	190000	80/160	36000	20	hor/ver20
Philips LTIX 4200W HEH	4200	29	140	190000	80/160	36000	20	hor/ver20
Philips LTIX 4201W HEH	4200	29	140	190000	80/160	36000	20	hor/ver20
Philips LTIX 4202W HEHS	4200	29	140	190000	80/160	36000	20	hor/ver20
Philips LTIX 7000W HEH	7000	41	160	350000	110/165	44000	20	hor/ver15
Philips LTIX 7000W HEHS	7000	41	160	350000	110/165	44000	20	hor/ver15

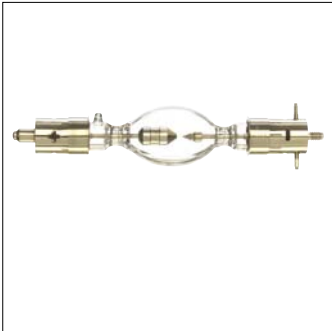
Type	Magnet	Average life expectancy (hour)	Ordering number
Philips LTIX 2000W HEH	-	1800	9284 137 06301
Philips LTIX 2000W HEHS	-	1800	9284 138 06301
Philips LTIX 2000W HETP	-	1800	9284 140 06301
Philips LTIX 3000W HEH	-	1200	9284 121 06201
Philips LTIX 3005W HEHS	-	1200	9284 135 06201
Philips LTIX 3005W HETP	-	1200	9284 136 06201
Philips LTIX 4200W HETP	required	700	9284 150 06201
Philips LTIX 4200W HEH	required	700	9284 149 06201
Philips LTIX 4201W HEH	required	700	9284 151 06201
Philips LTIX 4202W HEHS	required	700	9284 152 06201
Philips LTIX 7000W HEH	-	600	9284 181 06201
Philips LTIX 7000W HEHS	Horizontal required	600	9284 182 06201



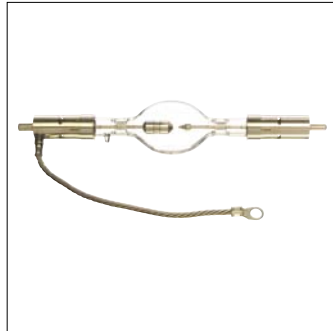
LTIX 900W Horizontal



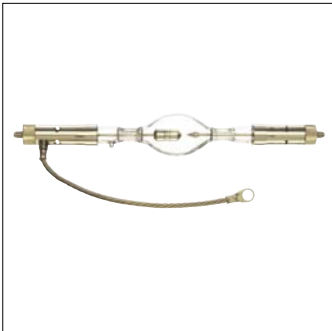
LTIX 1600W Horizontal with Cable



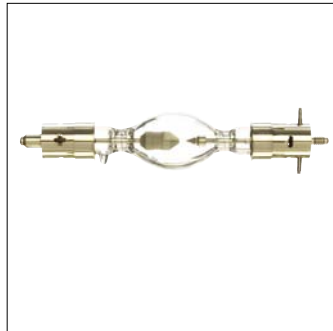
LTIX 1600W Short lamp



LTIX 2000W Short lamp



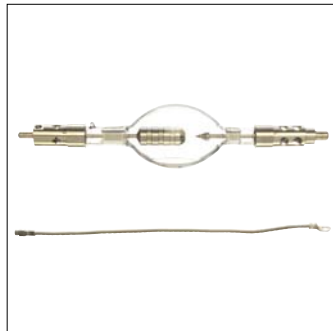
LTIX 2000W threaded on both ends



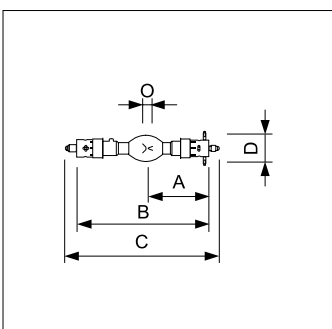
LTIX 2000W super short lamp



LTIX 3000W lamp with threaded pin



LTIX 10000W Short lamp



LTIX 700W, 1000W, 1600W HS

**Product Features**

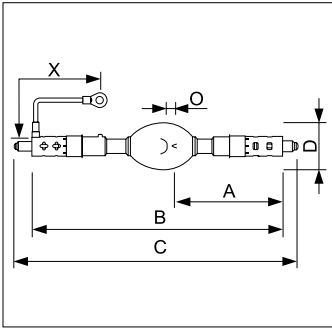
- Pure Xenon fill gas
- Approximately 6000K color temperature
- Hot restrike
- High arc stability

**Product Benefits**

- Constant color properties for the life of the lamp
- Pure, white light, matching the spectra distribution of the sun
- Hot re-ignition is possible ensuring the availability of the light at any time
- Provides flicker-free operation

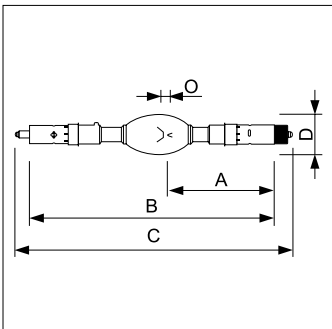
Type	A Nom	B Max	C Max	D Nom
Philips LTIX 700W HS	95	205	235	40
Philips LTIX 1000W HS	95	205	235	40
Philips LTIX 1600W HS	95	205	235	46

# Standard Xenon Cinema lamps



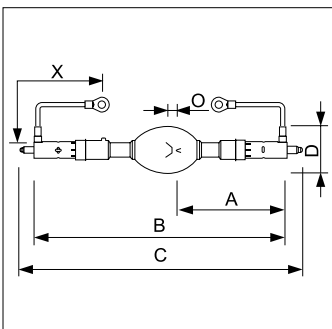
LTIX 5000W H

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 5000W H	167.5	382	428	70	305



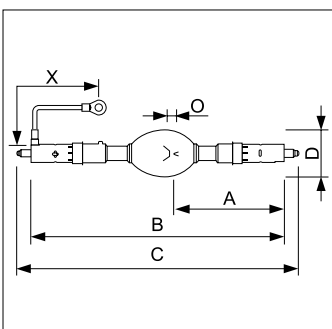
LTIX 4500W, 6000W HTP

Type	A Nom	B Max	C Max	D Nom
Philips LTIX 4500W HTP	166.5	380	433	70
Philips LTIX 6000W HTP	166.5	380	420	78



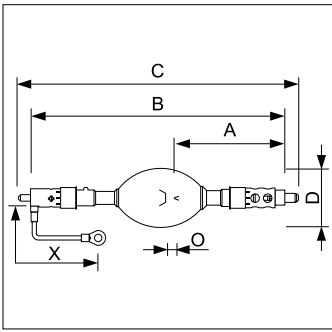
LTIX 4200W HC

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4200W HC	167.5	382	428	70	305



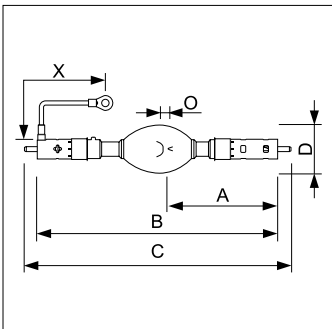
LTIX 5001W H

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 5001W H	168	382	428	70	305



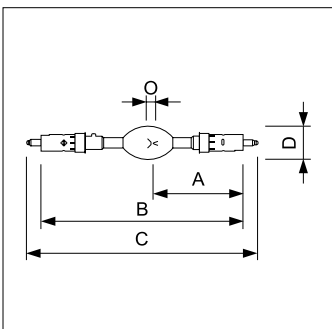
LTIX 10000W HS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 10000W HS	170	390	435	90	457



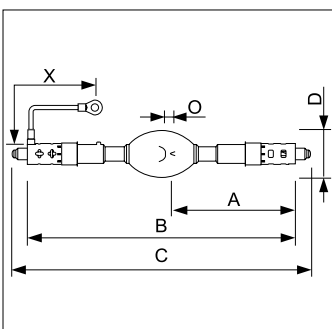
LTIX 6000W HS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 6000W HS	170.5	370	410	78	305



LTIX 1600W H

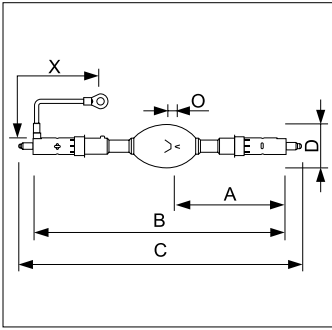
Type	A Nom	B Max	C Max	D Nom
Philips LTIX 1600W H	142.5	322	370	52



LTIX 6500W H

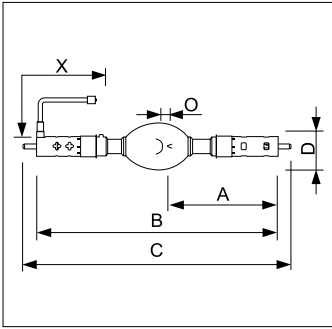
Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 6500W H	200	434	483	78	305

# Standard Xenon Cinema lamps



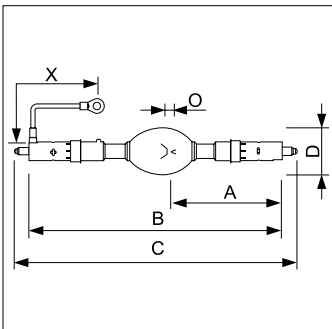
LTIX 4200W H

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4200W H	167.5	382	428	70	305



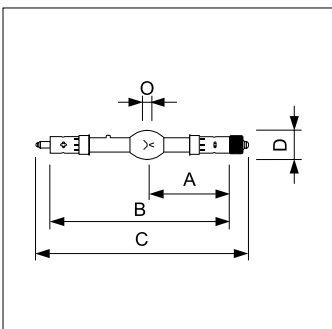
LTIX 4500W, 5000W, 6002W, 7000W HS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4500W HS	171	370	410	70	305
Philips LTIX 5000W HS	171	370	410	70	305
Philips LTIX 7000W HS	170.5	393	433	78	305
Philips LTIX 6002W HS	170.5	393	433	78	370



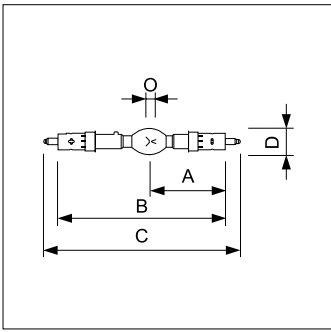
LTIX 7000W H

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 7000W H	170	382	433	78	305



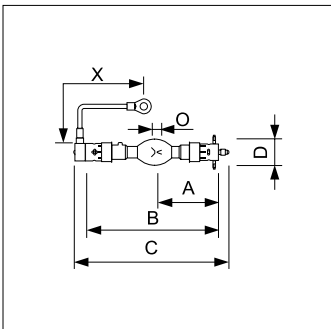
LTIX 1000W, 2000W, 3000W, 4000W HTP

Type	A Nom	B Max	C Max	D Nom
Philips LTIX 1000W HTP	121.5	275	328	46
Philips LTIX 2000W HTP	142	322	375	52
Philips LTIX 3000W HTP	162.5	357	405	66
Philips LTIX 4000W HTP	167.5	382	433	70



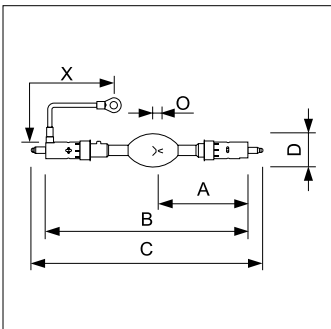
LTIX 900W H

Type	A Nom	B Max	C Max	D Nom
Philips LTIX 900W H	123	277	325	40



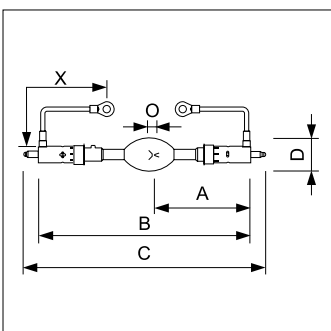
LTIX 700W, 1000W, 1600W HSC,  
2000W SHSC

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 700W HSC	95	222	235	40	254
Philips LTIX 1000W HSC	95	222	235	40	254
Philips LTIX 1600W HSC	95	222	235	46	254
Philips LTIX 2000W SHSC	95	222	235	46	254



LTIX 1600W HC

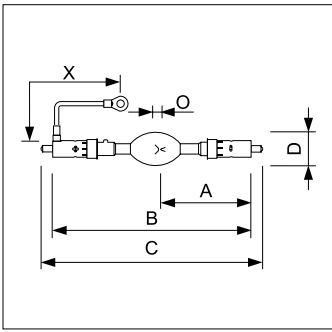
Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 1600W HC	142.5	322	370	52	280



LTIX 2000W HC

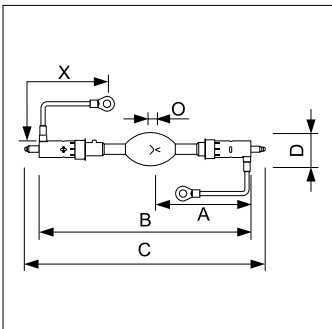
Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W HC	142.5	322	270	52	280

# Standard Xenon Cinema lamps



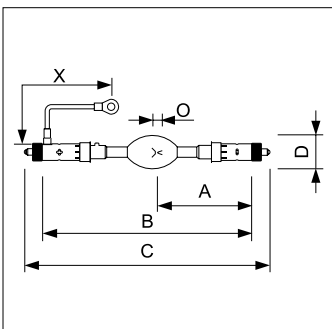
LTIX 2000W, 2500W, 3000W HS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W HS	145	302	342	60	280
Philips LTIX 2500W HS	145	302	342	60	280
Philips LTIX 3000W HS	145	302	342	60	280



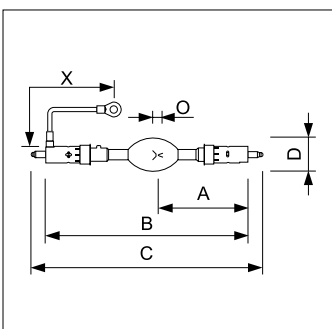
LTIX 3000W HC

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 3000W HC	167.5	382	428	66	280



LTIX 2000W HTT

Type	A Nom	B Max	C Max	D Nom
Philips LTIX 2000W HTT	142.5	322	370	52



LTIX 2000W, 2500W, 3000W H

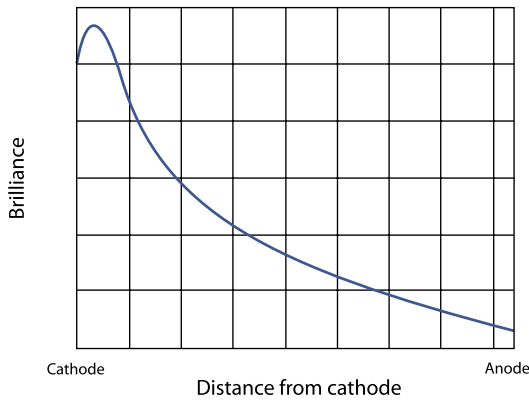
Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W H	142.5	322	370	52	280
Philips LTIX 2500W H	167.5	382	428	60	280
Philips LTIX 3000W H	167.5	382	428	66	280

Type	Lamp wattage (W)	Lamp voltage (V)	Lamp current (A)	Light flux (lm)	Min/Max (A)	Ignition voltage (V)	Cooling (min. air flow) (ft./s)	Burning position
Philips LTIX 700W HS	700	18	37	20000	30/45	33000	20	hor/ver20
Philips LTIX 700W HSC	700	18	37	20000	30/45	33000	20	hor/ver20
Philips LTIX 900W H	900	19	45	30000	30/53	33000	20	hor/ver20
Philips LTIX 1000W HS	1000	19	50	32000	30/55	33000	20	hor/ver20
Philips LTIX 1000W HSC	1000	19	50	32000	30/55	33000	20	hor/ver20
Philips LTIX 1000W HTP	1000	21	45	35000	30/55	33000	20	hor/ver30
Philips LTIX 1600W H	1600	24	65	60000	45/75	33000	20	hor/ver30
Philips LTIX 1600W HC	1600	24	65	60000	45/75	33000	30	hor/ver30
Philips LTIX 1600W HS	1550	23	65	60000	50/70	33000	20	hor/ver20
Philips LTIX 1600W HSC	1600	23	65	60000	50/70	33000	20	hor/ver20
Philips LTIX 2000W H	2000	27	70	80000	50/85	36000	20	hor/ver30
Philips LTIX 2000W HC	2000	27	70	80000	50/85	36000	20	hor/ver20
Philips LTIX 2000W HS	2000	24	80	80000	50/85	36000	20	hor/ver30
Philips LTIX 2000W HTP	2000	27	70	80000	50/85	36000	20	hor/ver20
Philips LTIX 2000W HTT	2000	24	80	80000	50/85	36000	20	hor/ver20
Philips LTIX 2000W SHSC	2000	27	70	80000	50/85	36000	20	hor/ver20
Philips LTIX 2500W H	2500	29	83	100000	60/95	36000	20	hor/ver20
Philips LTIX 2500W HS	2500	28	90	100000	70/100	36000	20	hor/ver30
Philips LTIX 3000W H	3000	29	100	130000	60/100	36000	20	hor/ver30
Philips LTIX 3000W HC	3000	29	100	130000	60/100	36000	20	hor/ver20
Philips LTIX 3000W HS	3000	29	100	130000	60/110	36000	20	hor/ver30
Philips LTIX 3000W HTP	3000	29	100	130000	60/110	36000	20	hor/ver30
Philips LTIX 4000W HTP	4000	30	130	155000	100/140	36000	20	hor/ver20
Philips LTIX 4200W H	4200	29	140	190000	80/160	36000	20	hor/ver20
Philips LTIX 4200W HC	4200	29	140	190000	80/160	36000	20	hor/ver20
Philips LTIX 4500W HS	4000	29	135	155000	80/150	36000	20	hor/ver30
Philips LTIX 4500W HTP	4500	30	150	155000	80/150	36000	20	hor/ver15
Philips LTIX 5000W H	5000	33	140	225000	100/150	36000	20	hor/ver15
Philips LTIX 5001W H	5000	33	140	225000	100/150	36000	20	hor/ver20
Philips LTIX 7000W H	7000	41	160	350000	110/165	44000	20	hor/ver15
Philips LTIX 7000W HS	7000	41	160	350000	110/165	44000	20	hor/ver15
Philips LTIX 5000W HS	5000	33	140	225000	100/150	36000	20	hor/ver15
Philips LTIX 6000W HS	6000	37	160	320000	110/165	44000	20	hor/ver15
Philips LTIX 6000W HTP	6000	37	160	320000	110/165	44000	20	hor/ver15
Philips LTIX 6002W HS	6000	37	160	350000	110/165	44000	20	hor/ver15
Philips LTIX 6500W H	6500	40	160	325000	80/160	44000	20	hor/ver15
Philips LTIX 10000W HS	10000	50	200	510000	190/210	45000	33	hor/ver15

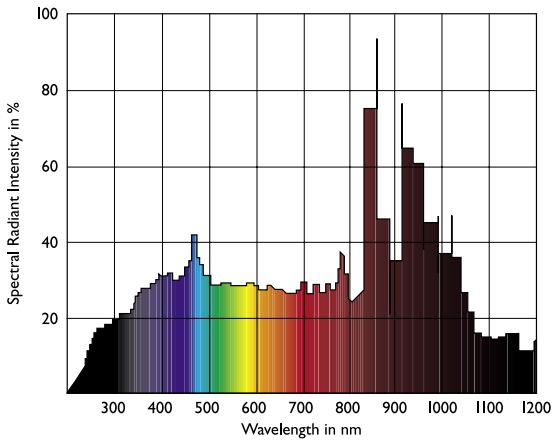
## Standard Xenon Cinema lamps

Type	Magnet	Average life expectancy (hour)	Ordering number
Philips LTIX 700W HS	-	1500	9284 103 06301
Philips LTIX 700W HSC	-	1500	9284 104 06301
Philips LTIX 900W H	-	2400	9284 106 06301
Philips LTIX 1000W HS	-	1500	9284 107 06301
Philips LTIX 1000W HSC	-	1500	9284 108 06301
Philips LTIX 1000W HTP	required	2400	9284 109 06301
Philips LTIX 1600W H	-	2400	9284 120 06301
Philips LTIX 1600W HC	-	2400	9284 121 06301
Philips LTIX 1600W HS	-	1500	9284 122 06301
Philips LTIX 1600W HSC	Horizontal required	1500	9284 124 06301
Philips LTIX 2000W H	Horizontal required	2400	9284 135 06301
Philips LTIX 2000W HC	Horizontal required	2400	9284 136 06301
Philips LTIX 2000W HS	-	2400	9284 141 06301
Philips LTIX 2000W HTP	Horizontal required	2400	9284 142 06301
Philips LTIX 2000W HTT	-	2400	9284 143 06301
Philips LTIX 2000W SHSC	-	2400	9284 144 06301
Philips LTIX 2500W H	-	1800	9284 110 06201
Philips LTIX 2500W HS	-	1500	9284 114 06201
Philips LTIX 3000W H	required	1500	9284 119 06201
Philips LTIX 3000W HC	required	1500	9284 120 06201
Philips LTIX 3000W HS	required	1500	9284 125 06201
Philips LTIX 3000W HTP	Horizontal required	1500	9284 126 06201
Philips LTIX 4000W HTP	-	1200	9284 141 06201
Philips LTIX 4200W H	-	1000	9284 147 06201
Philips LTIX 4200W HC	-	1000	9284 148 06201
Philips LTIX 4500W HS	Horizontal required	1000	9284 155 06201
Philips LTIX 4500W HTP	Horizontal required	1000	9284 156 06201
Philips LTIX 5000W H	required	1000	9284 158 06201
Philips LTIX 5001W H	Horizontal required	800	9284 162 06201
Philips LTIX 7000W H	-	600	9284 180 06201
Philips LTIX 7000W HS	Horizontal required	600	9284 183 06201
Philips LTIX 5000W HS	Horizontal required	800	9284 160 06201
Philips LTIX 6000W HS	Horizontal required	500	9284 169 06201
Philips LTIX 6000W HTP	-	500	9284 170 06201
Philips LTIX 6002W HS	required	500	9284 173 06201
Philips LTIX 6500W H	required	500	9284 178 06201
Philips LTIX 10000W HS	Horizontal required	500	9284 191 06201

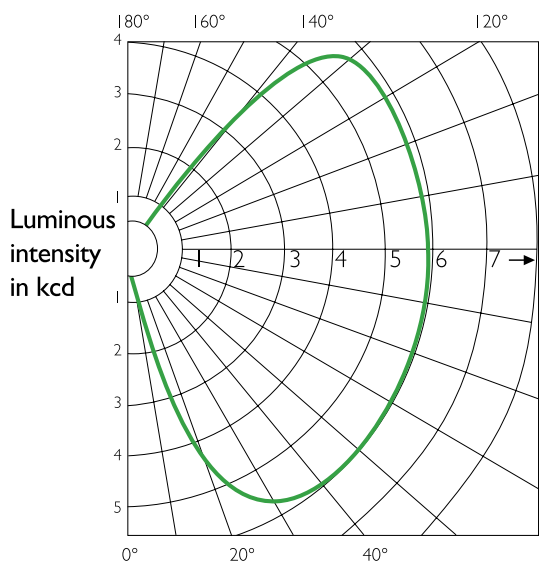
# Photometric Characteristics



Brilliance

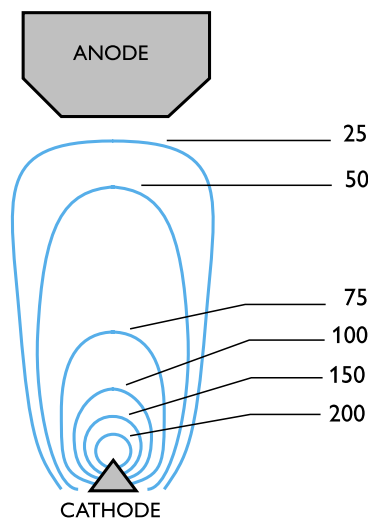


Spectral distribution



Luminous intensity

(values in 1000 cd/cm<sup>2</sup>)





**“Just good isn’t good enough...  
P3 technology really steals the show.”**

Philips understands what’s needed in theaters: lamps with a high light quality and a reliable long life. That’s why P3 pinch protection technology was developed, enabling a pinch temperature up to 500°C. This guarantees reliable, long life lamp performance and above all a perfect show.

The newest innovation is Philips FastFit. This is a new lamp concept for single ended MSR Gold™ and Halogen Hi-Brite lamps. The rear load lamp base system, co-developed with Bender & Wirth, enables easy lamp replacement and adjustments in seconds. It is made for both Halogen and HID lamps, so both technologies can be easily exchanged.



FastFit lamp replacement

## **NEW**

### **StagePainter D60 1000**

Exactly the lighting experience you intended.

#### **Abbreviations in this chapter:**

- H: Horizontal
- HS: Short lamp
- HEHS: Short Helios®
- HTP: Lamp with threaded pin
- XB: Brightlight fixture
- XS: Sky-tracker fixture



© Mike Lethby, Media

## StagePainter D60 1000

LED provides several advantages over traditional lamp-based systems, such as a longer life time, cooler beam, lower maintenance costs and green energy. Because of the improvements in high-power LED technology, LEDs are now also suitable for the demanding Entertainment market.

The new Philips StagePainter D60 1000 complies with that. But, the Philips StagePainter is more than just a LED module: it's a system consisting of a LED module and a driver (DMX compatible), it's a flexible lighting solution creating thousands of colors and any white from a single light source.

It simplifies the adoption of the LED technology because of the automatic color adjustments and the smart lighting control. This helps OEMs and lighting designers to create the perfect lighting experience without color shadows.



StagePainter

**Product Features**

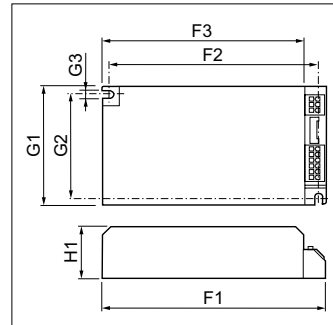
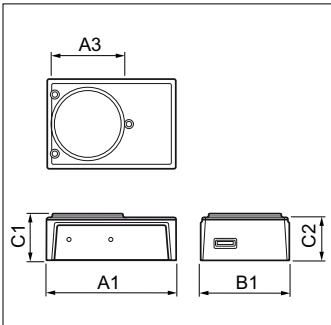
- Smart system (LED + Driver)
- Internal colour feedback mechanism
- Integrated colour mixing
- High colour purity
- Dimming to 0 without visible steps
- Adjustable Tc: 2700-6500K

**Product Benefits**

- Easy to design-in and easy and intuitive interface
- High colour consistency, between modules as well as over time
- Perfect colour homogeneity
- Nice saturated colours can be displayed
- Smooth dimming
- Allows perfect control of colour temperature and light output level, ideal for TV studio

**Applications**

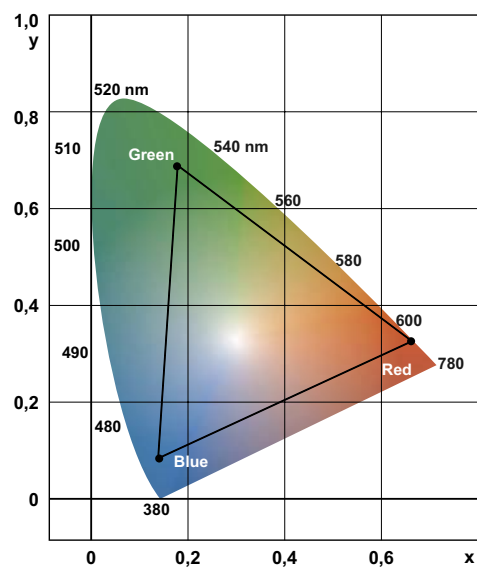
- Theater
- Studio



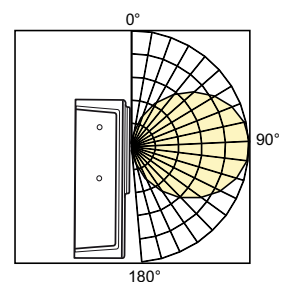
	A1	A3	B1	C1	C2	F1	F2	F3	G1	G2	G3	H1
StagePainter D60 1000	121.6	66.8	82.8	43.9	40.4	138	128.5	124.5	74	63.6	4.5	32

Type	Light Output (lm)	Dimming (%)	Colour Temperature (K)	Colour Rendering index	RGB gamut R: x= 0.670 G: x= 0.189 B: x= 0.150 y= 0.075	Colour consistency initial / at 10 k hrs (SDCM)	Lumen maintenance (W)	Power (W)	Efficacy LED module + driver (lm/W)	Input Voltage (V)	Input Frequency (Hz)	Control Interface	TC max (°C)	Burning position
Philips StagePainter D60 1000	1000	100-0.03	2700-6500	>80		5/6	70% @ 35,000hrs (100% expected at > 10,000hrs)	20-40*	50-25*	120-277	50-60	DMX/RDM	65	Universal

\* Initial power consumption is 20-25W, and efficiency 40-50 lm/W; over lifetime LED efficiency diminishes and power consumption is increased to maintain lumen output.



Color triangle



Light distribution diagram



Halogen FastFit

**Product Description**

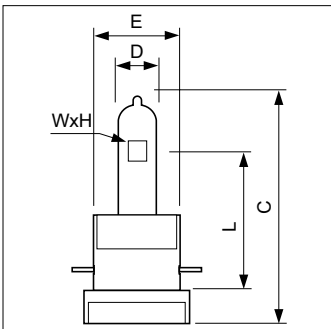
- FastFit is also available in several MSR/MSD Gold™ versions and Ceramic ST.

**Product Features**

- Philips FastFit
- Compact Filament
- Philips P3 pinch protection technology
- Compact, shock resistant design

**Product Benefits**

- Lamp replacement in just seconds, exchangeable with HID lamp
- High beam intensity
- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Ease handling, ideal for moving head systems



Halogen FastFit

Type	B Max	C Max	D Max	E Max	Filament Dimensions (WxH) (mm)
7017G Hi-Brite 750W FastFit	65	125	19	41	8.5x9.5
7016G Hi-Brite 1200W FastFit	82	140	25	41	11.7x10.2
7016G 1200W 115V FastFit	82	140	25	41	12.0x13.0
7016G 1200W 230V FastFit	82	140	25	41	16.0x16.0
7016G 1200W 240V FastFit	82	140	25	41	16.0x16.0
7019G 750W 115V FastFit	79	140	19	41	9.5x9.0
7018G 800W 230V FastFit	79	140	19	41	9.0x12.5

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)	Burning position	Max. permissible pinch temp. (°C)
Philips 7017G Hi-Brite 750W FastFit	750	80	PGJX50	-	22500	3250	300	any	500
Philips 7016G Hi-Brite 1200W FastFit	1200	80	PGJX50	-	36000	3250	200	any	500
Philips 7016G 1200W 115V FastFit	1200	115	PGJX50	-	33600	3200	300	any	500
Philips 7016G 1200W 230V FastFit	1200	230	PGJX50	-	29000	3200	300	any	500
Philips 7016G 1200W 240V FastFit	1200	240	PGJX50	-	29000	3200	300	any	500
Philips 7019G 750W 115V FastFit	750	115	PGJX50	GRS	20500	3200	300	any	500
Philips 7018G 800W 230V FastFit	800	230	PGJX50	GRT	20000	3200	200	any	500



**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

Type	Ordering number
Philips 7017G Hi-Brite 750W FastFit	9245 768 28928
Philips 7016G Hi-Brite 1200W FastFit	9245 752 28928
Philips 7016G 1200W 115V FastFit	9245 752 34428
Philips 7016G 1200W 230V FastFit	9245 752 44228
Philips 7016G 1200W 240V FastFit	9245 752 45528
Philips 7019G 750W 115V FastFit	9245 824 34428
Philips 7018G 800W 230V FastFit	9245 823 44228



6980Z, 7009Z



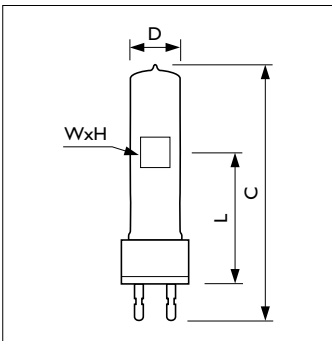
7015TXO

**Product Features**

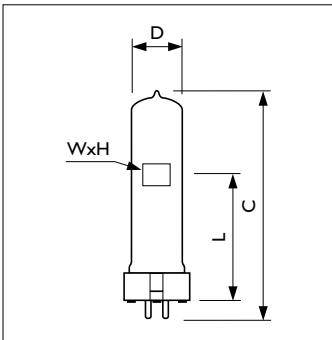
- Philips Pinch Protection
- Compact, shock resistant design
- Compact filament

**Product Benefits**

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time
- Easy handling, ideal for moving head systems
- High beam intensity resulting in reduced energy consumption (1200W instead of 2500W)



Hi-Brite



7015TXO

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6980Z 1200W G22 80V	140	25	63.5	11.7x10.2
7009Z 1200W G22 80V	140	25	72.5	11.7x10.2

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
7015TXO 750W GX9.5 100V	95	22	46.5	11.5x11.0

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)	Burning position
Philips 6980Z 1200W G22 80V	1200	80	G22		36000	3250	200	any
Philips 7009Z 1200W G22 80V	1200	80	G22	CP110	36000	3250	200	any
Philips 7015TXO 750W GX9.5 100V	750	100	GX9.5	-	20250	3200	-	any

Type	Max. permissible pinch temp.(°C)	Ordering number
Philips 6980Z 1200W G22 80V	500	9245 465 28928
Philips 7009Z 1200W G22 80V	500	9245 690 28928
Philips 7015TXO 750W GX9.5 100V	500	9245 745 30928

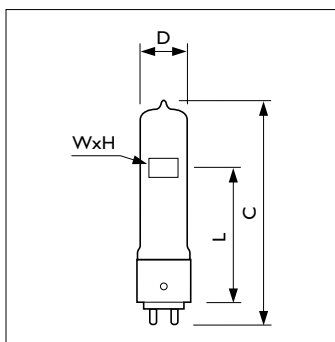


**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.



Compact Source



Compact Source

**Product Features**

- Philips P3 pinch protection
- Very compact filament

**Product Benefits**

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time.
- High beam intensity. Due to low energy consumption, more fixtures from each dimmer can be offered.

**Luminaires**

- These lamps are the ideal solution for the latest generation of high-performance luminaires



Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6989P 575W G9.5 115V	101	19	60.5	9.0x7.5
6992P 575W G9.5 115V	101	19	60.5	9.0x9.5
6986P 600W G9.5 230V	101	19	60.5	8.0x12.0
6986P 600W G9.5 240V	101	19	60.5	8.0x12.0
6991P 600W G9.5 230V	101	19	60.5	8.5x15.5
6991P 600W G9.5 240V	101	19	60.5	8.5x15.5
6981P 750W G9.5 115V	104	19	60.5	9.5x9.0
6982P 800W G9.5 230V	101	19	60.5	9.0x12.5
6982P 800W G9.5 240V	101	19	60.5	9.0x12.5

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)	Burning position
Philips 6989P 575W G9.5 115V	575	115	G9.5	GLC	15500	3200	400	any
Philips 6992P 575W G9.5 115V	575	115	G9.5	GLA	13500	3100	1500	any
Philips 6986P 600W G9.5 230V	600	230	G9.5	GKV	14700	3200	300	any
Philips 6986P 600W G9.5 240V	600	240	G9.5	GKV	15000	3200	300	any
Philips 6991P 600W G9.5 230V	600	230	G9.5	GLB	13000	3100	1500	any
Philips 6991P 600W G9.5 240V	600	240	G9.5	GLB	13000	3100	1500	any
Philips 6981P 750W G9.5 115V	750	115	G9.5	GLD	20500	3200	300	any
Philips 6982P 800W G9.5 230V	800	230	G9.5	-	20000	3200	200	any
Philips 6982P 800W G9.5 240V	800	240	G9.5	-	20000	3200	200	any



**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

Type	Max. permissible pinch temp. (°C)	Ordering number
Philips 6989P 575W G9.5 115V	500	9245 342 34428
Philips 6992P 575W G9.5 115V	500	9245 385 34428
Philips 6986P 600W G9.5 230V	500	9245 344 44228
Philips 6986P 600W G9.5 240V	500	9245 344 45528
Philips 6991P 600W G9.5 230V	500	9245 386 44228
Philips 6991P 600W G9.5 240V	500	9245 386 45528
Philips 6981P 750W G9.5 115V	500	9245 468 34428
Philips 6982P 800W G9.5 230V	500	9245 456 44228
Philips 6982P 800W G9.5 240V	500	9245 456 45528



Blue pinch

### Product Features

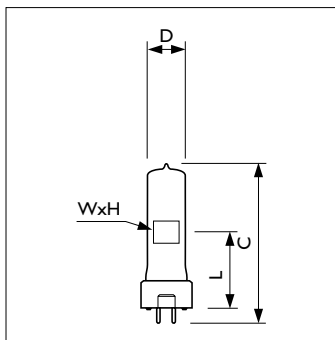
- Enables a significant reduction of light centre length (LCL), or an increase in lamp power by up to 300 per cent with same LCL, compared with unprotected lamps
- Unique pinch protection

### Product Benefits

- Meet the needs of fixture manufacturers who wish to create compact and lightweight luminaires without sacrificing lumen output or lamp life
- Lamp pinch can be operated at up to 500°C

### Luminaires

- Pinch-protected lamps must be used in dedicated luminaires



Blue pinch

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6995I/BP 1000W GY9.5 120V 1CT	95	22	46.5	11.0x11.0
6995I/BP 1000W GY9.5 230V 1CT	95	22	46.5	11.0x14.5
6995I/BP 1000W GY9.5 240V 1CT	95	22	46.5	11.0x14.5

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)	Burning position
Philips 6995I/BP 1000W GY9.5 120V	1000	120	GY9.5	GAC	27000	3200	250	≤90
Philips 6995I/BP 1000W GY9.5 230V	1000	230	GY9.5	GAB	25000	3200	250	≤90
Philips 6995I/BP 1000W GY9.5 240V	1000	240	GY9.5	GAD	25000	3200	250	≤90

Type	Max. permissible pinch temp. (°C)	Ordering number
Philips 6995I/BP 1000W GY9.5 120V	500	9245 267 36328
Philips 6995I/BP 1000W GY9.5 230V	500	9245 267 44228
Philips 6995I/BP 1000W GY9.5 240V	500	9245 267 45528



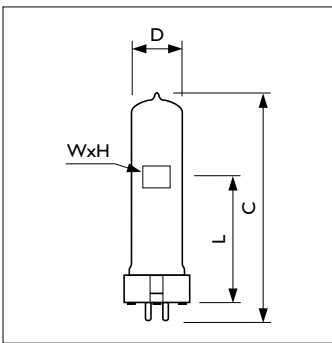
GX9,5



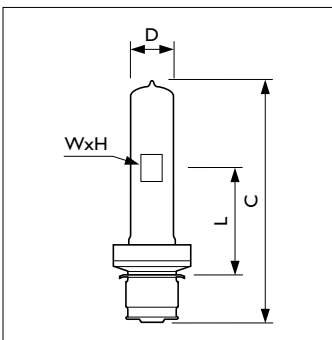
GY9,5



P28s



GX9,5



P28s

**Product Features**

- Philips Pinch Protection
- Special filament design for use in luminaires where longer life is of great importance

**Product Benefits**

- Enables use at higher temperatures in any burning position. Longer lifetime, fewer early failures, consistent performance over time.
- Ideal for theater lighting applications



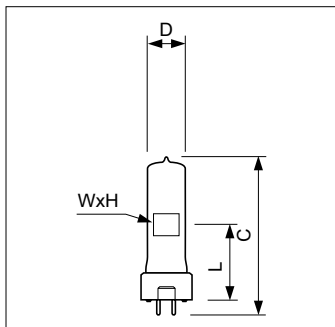
Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6998P 650W GX9.5 230V	110	22	55	10.0x12.5
6998P 650W GX9.5 240V	110	22	55	10.0x12.5
6996P 1000W GX9.5 230V	110	23	55	11.0x17.0
6996P 1000W GX9.5 240V	110	23	55	11.0x17.0
6897P 1200W GX9.5 230V	120	25	67	15.0x14.5
6897P 1200W GX9.5 240V	120	25	67	15.0x14.5

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6800C 500W P28s 120V	130	20	55.6	8.5x10.0
6800C 500W P28s 230V	130	22	55.6	11.0x13.0
6800C 500W P28s 240V	130	22	55.6	9.5x13.0
6996C 1000W P28s 230V	125	23	55.6	10.0x16.0
6996C 1000W P28s 240V	125	23	55.6	10.0x16.0



**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.



GY9.5

Type	C Max	D Max	L Nom	Filament Dimensions (WxH) (mm)
6874P 300W GY9.5 230V	80	18	46.5	8.0x14.0
6874P 300W GY9.5 240V	80	18	46.5	8.0x14.0
6820P 500W GY9.5 230V	90	22	46.5	11.0x11.0
6820P 500W GY9.5 240V	90	22	46.5	11.0x11.0
6877P 500W GY9.5 230V	85	18	46.5	8.0x21.0
6877P 500W GY9.5 240V	85	18	46.5	8.0x21.0
6823P 650W GY9.5 230V	90	22	46.5	11.0x13.5
6823P 650W GY9.5 240V	90	22	46.5	11.0x13.5

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)
Philips 6874P 300W GY9.5 230V	300	230	GY9.5	-	M/38	5200	2950	2000
Philips 6874P 300W GY9.5 240V	300	240	GY9.5	-	M/38	5200	2950	2000
Philips 6800C 500W P28s 120V	500	120	P28s	BTL	-	11000	2950	750
Philips 6800C 500W P28s 230V	500	230	P28s	BTL	T/24 (T/17)	9500	2950	900
Philips 6800C 500W P28s 240V	500	240	P28s	-	T/24 (T/17)	9500	2950	900
Philips 6820P 500W GY9.5 230V	500	230	GY9.5	GCV/GVH	T/25 (T/18)	11000	3000	360
Philips 6820P 500W GY9.5 240V	500	240	GY9.5	GCV/GVH	T/25 (T/18)	11000	3000	360
Philips 6877P 500W GY9.5 230V	500	230	GY9.5	-	M/40	10000	2950	2000
Philips 6877P 500W GY9.5 240V	500	240	GY9.5	-	M/40	10000	2950	2000
Philips 6823P 650W GY9.5 230V	650	230	GY9.5	GCK/GCT	T/27 (T/26)	14500	3050	600
Philips 6823P 650W GY9.5 240V	650	240	GY9.5	GCK/GCT	T/27 (T/26)	14500	3050	600
Philips 6998P 650W GX9.5 230V	650	230	GX9.5	-	T/21 (T/12)	13000	3000	900
Philips 6998P 650W GX9.5 240V	650	240	GX9.5	-	T/21 (T/12)	12600	3000	900
Philips 6996C 1000W P28s 230V	1000	230	P28s	FKD	T/20 (T/14)	21000	3050	900
Philips 6996C 1000W P28s 240V	1000	240	P28s	FKD	T/20 (T/14)	21000	3050	900
Philips 6996P 1000W GX9.5 230V	1000	230	GX9.5	FWP	T/19 (T/11)	21000	3050	900
Philips 6996P 1000W GX9.5 240V	1000	240	GX9.5	FWR	T/19 (T/11)	21000	3050	900
Philips 6897P 1200W GX9.5 230V	1200	230	GX9.5	FWS	T/29	27600	3000	480
Philips 6897P 1200W GX9.5 240V	1200	240	GX9.5	FWT	T/29	27600	3000	480

Type	Burning position	Max. permissible pinch temp. (°C)	Ordering number
Philips 6874P 300W GY9.5 230V	any	400	9239 497 43228
Philips 6874P 300W GY9.5 240V	any	400	9239 497 45728
Philips 6800C 500W P28s 120V	any	450	9245 166 36328
Philips 6800C 500W P28s 230V	any	500	9238 547 43228
Philips 6800C 500W P28s 240V	any	500	9238 547 45528
Philips 6820P 500W GY9.5 230V	any	500	9238 940 43228
Philips 6820P 500W GY9.5 240V	any	500	9238 940 45528
Philips 6877P 500W GY9.5 230V	any	400	9239 498 43228
Philips 6877P 500W GY9.5 240V	any	400	9239 498 45728
Philips 6823P 650W GY9.5 230V	any	500	9238 654 43228
Philips 6823P 650W GY9.5 240V	any	500	9238 654 45528
Philips 6998P 650W GX9.5 230V	any	500	9238 650 43228
Philips 6998P 650W GX9.5 240V	any	500	9238 650 45528

## Halogen High Voltage SE (Theater)

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Type	Burning position	Max. permissible pinch temp. (°C)	Ordering number
Philips 6996C 1000W P28s 230V	any	500	9238 652 43228
Philips 6996C 1000W P28s 240V	any	500	9238 652 45528
Philips 6996P 1000W GX9.5 230V	any	500	9238 651 43228
Philips 6996P 1000W GX9.5 240V	any	500	9238 651 45528
Philips 6897P 1200W GX9.5 230V	any	500	9238 537 42928
Philips 6897P 1200W GX9.5 240V	any	500	9238 537 45528



HPL

**Product Description**

- Barrel-shape filament lamp approved by ETC for Source Four™ fixtures.

**Product Features**

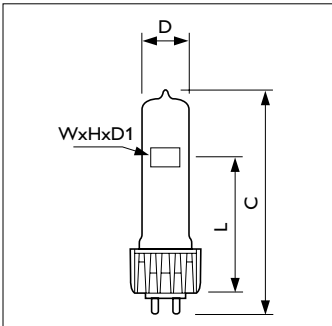
- Philips Pinch Protection
- Optimal filament
- Designed for Source Four™ fixtures

**Product Benefits**

- Enables use at higher temperature in any burning position. Longer lifetime, fewer early failures, consistent performance over time.
- High beam intensity
- High beam intensity and high quality bright light

**Luminaires**

- Source Four™ is a trademark of Electronic Theatre Controls.
- Licensed under Cunningham
  - U.S. Patent RE 36,316 claims 9-12 and 16-17 only. Japanese Patent #2,501.772 claims 6-9 only. European Patent application #991092123.
- No other licence expressed or implied.



HPL

Type	C Max	D Max	D1 Nom	L Nom	Filament Dimensions (WxHxD1) (mm)
7007 575W Heat Sink 115V	104	19	6	60.3	6.0x9.0x6.0
7007 575W Heat Sink 230V	104	19	7.5	60.3	8.6x9.5x7.5
7007 575W Heat Sink 240V	104	19	7.5	60.3	8.6x10.0x7.5
7007/LL 575W Heat Sink 115V	104	19	6	60.3	6.0x11.0x6.0
7007/LL 575W Heat Sink 230V	104	19	7.5	60.3	8.6x11.5x7.5
7007/LL 575W Heat Sink 240V	104	19	8	60.3	9.2x11.5x8.0
7008 750W Heat Sink 115V	104	19	6.3	60.3	6.3x10.5x6.3
7008 750W/Heat Sink 230V	104	19	7.5	60.3	8.6x11.5x7.5
7008 750W Heat Sink 240V	104	19	7.5	60.3	8.6x11.5x7.5



**Philips Pinch Protection technology**

- **Reliability**, through longer lifetime and fewer early failures.
- **Quality**, through excellent storage characteristics and consistent performance over time.
- **Compactness**, allowing more compact design of fixtures and burning positions.

Type	Lamp wattage (W)	Voltage	Cap base	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)	Burning position	Max. permissible pinch temp. (°C)
Philips 7007 575W Heat Sink 115V	575	115	Heat Sink	16520	3250	300	any	500
Philips 7007 575W Heat Sink 230V	575	230	Heat Sink	14900	3200	400	any	500
Philips 7007 575W Heat Sink 240V	575	240	Heat Sink	14900	3200	400	any	500
Philips 7007/LL 575W Heat Sink 115V	575	115	Heat Sink	12360	3050	2000	any	480
Philips 7007/LL 575W Heat Sink 230V	575	230	Heat Sink	11760	3050	1500	any	480
Philips 7007/LL 575W Heat Sink 240V	575	240	Heat Sink	11760	3050	1500	any	480
Philips 7008 750W Heat Sink 115V	750	115	Heat Sink	21900	3250	300	any	500
Philips 7008 750W/Heat Sink 230V	750	230	Heat Sink	19750	3200	300	any	500
Philips 7008 750W Heat Sink 240V	750	240	Heat Sink	19750	3200	300	any	500

Type	Ordering number
Philips 7007 575W Heat Sink 115V	9245 549 34428
Philips 7007 575W Heat Sink 230V	9245 549 44228
Philips 7007 575W Heat Sink 240V	9245 549 45528
Philips 7007/LL 575W Heat Sink 115V	9245 550 34428
Philips 7007/LL 575W Heat Sink 230V	9245 550 44228
Philips 7007/LL 575W Heat Sink 240V	9245 550 45528
Philips 7008 750W Heat Sink 115V	9245 551 34428
Philips 7008 750W/Heat Sink 230V	9245 551 44228
Philips 7008 750W Heat Sink 240V	9245 551 45528



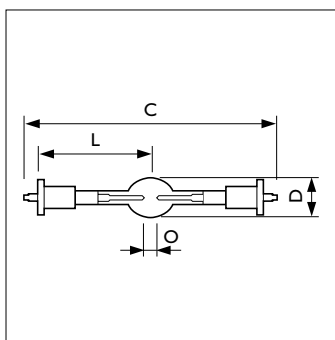
MSR 1800 DE

### Product Features

- MSR filling
- Same dimensions as MSI 1200W

### Product Benefits

- Pure, white light. Color point close to black body line
- Consistent color impression over MSR range
- Stable color temperature over lifetime
- More light in same size, for more punch
- Allows compact fixture design



MSR 1800 DE

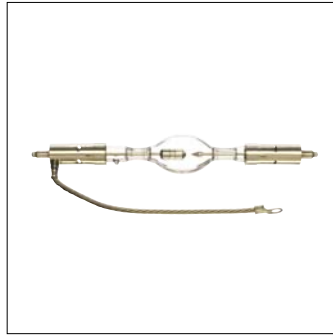
Type	C Max	D Max	L Nom	L Max	O Nom
MSR 1800 DE	220	28.5	67	68	10.0

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSR 1800 DE	1800	SFC15.5-6	145000	80	6000	85	750	any

Type	Lamp current (A)	Ordering number
Philips MSR 1800 DE	20	9281 067 05120



LTIX 700W/1000W/1600W/2000W Short lamp with cable/super short lamp



LTIX 2000W Horizontal

**Product Features**

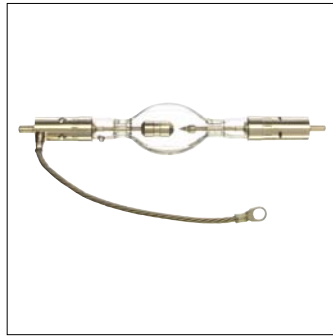
- Pure Xenon fill gas
- Approx. 6000K color temperature
- Hot restrike
- Dimmable

**Product Benefits**

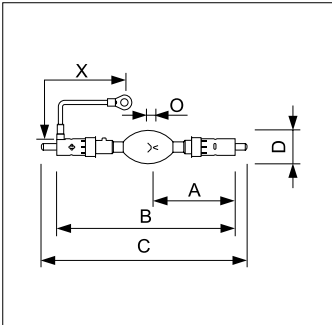
- Constant color properties during lamp life
- Pure, white light matching the spectral distribution of the sun
- Hot re-ignition is possible ensuring constant light availability
- Capable of operating at lower than rated wattages



LTIX 1000W/2000W lamp with threaded pin

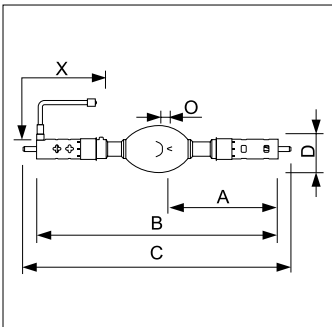


LTIX 2500W Short lamp



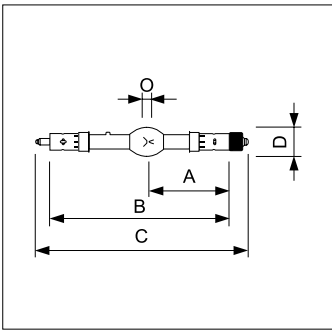
LTIX 3000W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 3000W HEHS	145	302	342	52	280



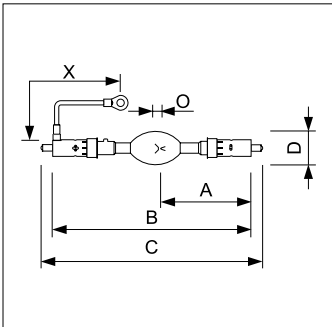
LTIX 4500W, 6002W, 7000W, 10001W HS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4500W HS	171	370	410	70	305
Philips LTIX 6002W HS	170.5	393	433	78	370
Philips LTIX 7000W HS	170.5	393	433	78	305
Philips LTIX 10001W HS	170	390	434	90	457



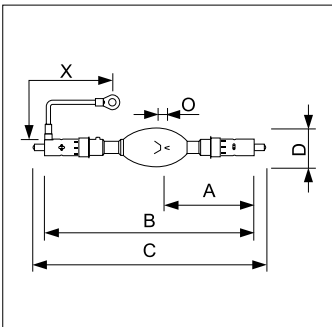
LTIX 2000W, 4000W HTP

Type	A Nom	B Max	C Max	D Nom
Philips LTIX 2000W HTP	142	322	375	52
Philips LTIX 4000W HTP	167.5	382	433	70



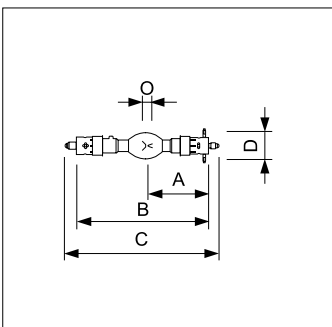
LTIX 2000W, 2500W, 3000W HS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W HS	145	302	342	60	280
Philips LTIX 2500W HS	145	302	342	60	280
Philips LTIX 3000W HS	145	302	342	60	280



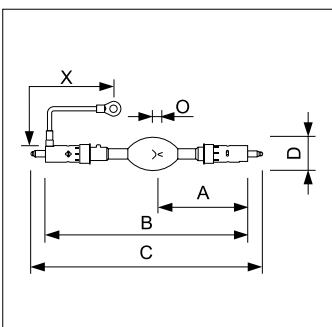
LTIX 2000W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W HEHS	145	302	337	46	280



LTIX 700W, 1000W, 1600W HS

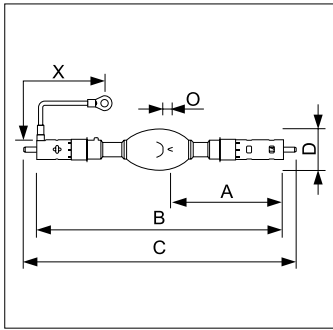
Type	A Nom	B Max	C Max	D Nom
Philips LTIX 700W HS	95	205	235	40
Philips LTIX 1000W HS	95	205	235	40
Philips LTIX 1600W HS	95	205	235	46



LTIX 2000W, 3000W H

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 2000W H	142.5	322	370	52	280
Philips LTIX 3000W H	167.5	382	428	66	280

## Xenon Entertainment (Follow Spots)



LTIX 4202W, 8000W HEHS

Type	A Nom	B Max	C Max	D Nom	X Nom
Philips LTIX 4202W HEHS	171	370	410	62	305
Philips LTIX 8000W HEHS	171	395	437	70	305

Type	Lamp wattage (W)	Lamp voltage (V)	Lamp current (A)	Light flux (lm)	Min/Max (A)	Ignition voltage (V)	Cooling (min. air flow) (ft./s)
Philips LTIX 700W HS	700	18	37	20000	30/45	33000	20
Philips LTIX 1000W HS	1000	19	50	32000	30/55	33000	20
Philips LTIX 1600W HS	1600	23	65	60000	50/70	33000	20
Philips LTIX 2000W H	2000	27	70	80000	50/85	36000	20
Philips LTIX 2000W HEHS	2000	24	80	80000	50/85	36000	20
Philips LTIX 2000W HS	2000	24	80	80000	50/85	36000	20
Philips LTIX 2000W HTP	2000	27	70	80000	50/85	36000	20
Philips LTIX 2000W XB	2000	27	70	80000	50/85	36000	20
Philips LTIX 2000W XS	2000	24	80	80000	75/85	36000	20
Philips LTIX 2500W HS	2500	28	90	100000	70/100	36000	20
Philips LTIX 3000W H	3000	29	100	130000	60/100	36000	20
Philips LTIX 3000W HEHS	3000	29	100	130000	60/110	36000	20
Philips LTIX 3000W HS	3000	29	100	130000	60/110	36000	20
Philips LTIX 4000W HTP	4000	30	130	155000	100/140	36000	20
Philips LTIX 4000W XS	4000	30	130	155000	85/100	36000	20
Philips LTIX 4202W HEHS	4202	29	140	190000	80/160	36000	20
Philips LTIX 4500W HS	4500	29	135	155000	80/150	36000	20
Philips LTIX 6002W HS	6002	37	160	350000	110/165	44000	20
Philips LTIX 7000W HS	7000	41	160	350000	110/165	44000	20
Philips LTIX 7000W XS	7000	41	160	350000	110/165	44000	20
Philips LTIX 8000W HEHS	8000	45	175	350000	135/180	45000	20
Philips LTIX 10001W HS	10000	50	200	510000	150/200	50000	33

Type	Burning position	Magnet	Average life expectancy (hour)	Ordering number
Philips LTIX 700W HS	hor/ver20	-	1500	9284 103 06301
Philips LTIX 1000W HS	hor/ver20	-	1500	9284 107 06301
Philips LTIX 1600W HS	hor/ver20	-	1500	9284 122 06301
Philips LTIX 2000W H	hor/ver30	Horizontal required	2400	9284 135 06301
Philips LTIX 2000W HEHS	hor/ver30	-	1800	9284 138 06301
Philips LTIX 2000W HS	hor/ver30	-	2400	9284 141 06301
Philips LTIX 2000W HTP	hor/ver30	Horizontal required	2400	-
Philips LTIX 2000W XB	hor/ver20	-	2400	9284 145 06301
Philips LTIX 2000W XS	hor/ver20	-	2000	9284 147 06301
Philips LTIX 2500W HS	hor/ver30	-	1500	9284 114 06201
Philips LTIX 3000W H	hor/ver30	required	1500	9284 119 06201
Philips LTIX 3000W HEHS	hor/ver30	-	1200	9284 122 06201
Philips LTIX 3000W HS	hor/ver30	required	1500	9284 125 06201
Philips LTIX 4000W HTP	hor/ver20	-	1200	9284 141 06201
Philips LTIX 4000W XS	hor/ver20	-	500	9284 142 06201
Philips LTIX 4202W HEHS	hor/ver20	required	700	9284 152 06201
Philips LTIX 4500W HS	hor/ver30	Horizontal required	1000	9284 155 06201
Philips LTIX 6002W HS	hor/ver15	required	500	9284 173 06201
Philips LTIX 7000W HS	hor/ver15	Horizontal required	600	9284 183 06201
Philips LTIX 7000W XS	hor/ver15	-	-	9284 184 06201
Philips LTIX 8000W HEHS	hor/ver15	-	500	9284 189 06201
Philips LTIX 10001W HS	hor/ver15	-	500	9284 193 06201



## **Simplicity is a range of lamps for every event**

The Philips Club Lighting range is now also featuring PAR 56, PAR 64 and PAR ACL. These lamps complete the range of quality Event Lighting from Philips. An efficient lighting package with high quality Philips components, all optically aligned and sealed into a robust lamp. In line with the renowned Philips Entertainment Lighting standards, Philips PAR lamps offer the very best quality, reliability and lowest cost of ownership available today.

### **NEW**

#### **Philips MSD Platinum R lamps.**

Powerful, compact and intense lighting, giving lighting designers the power to light their creativity.



MSD Platinum 15 R



MSD Platinum 5 R

### Product Description

MSD Platinum R lamps – The power to light your creativity

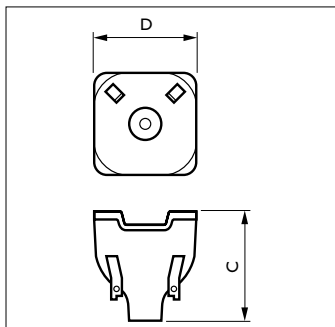
The new MSD Platinum R lamps open up new levels of creative freedom in entertainment lighting, with powerful, compact and brilliantly intense light. Their compact, lightweight design provides the freedom to create smaller, lighter luminaires – for use at any location on stage. And their short arc, high color temperature and innovative reflector produce a sparkling, high beam intensity for outstanding color reproduction. They also offer long and reliable lifetime, high efficacy and fast replacement times. It all adds up to an intensely exciting creative experience.

### Product Features

- Philips MSD technology
- Very short arc
- Smaller, compact design
- Reflector lamp
- High correlated color temperature

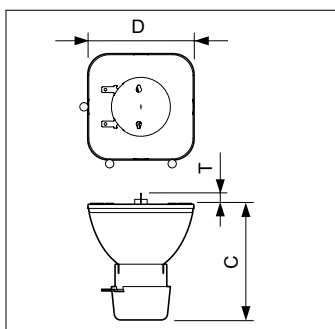
### Product Benefits

- A long and reliable lifetime
- High beam intensity
- Freedom to create smaller and lighter fixtures
- Perfect alignment and placing with lamp replacements in seconds.  
Renewed optical system with maximum light output
- High perceived brightness



MSD Platinum 15 R

Type	C Max	D Max
MSD Platinum 15 R	66.4	58.5



MSD Platinum 5 R

Type	C Max	D Max	T Nom
MSD Platinum 5 R	57.1	51.4	6.8

Type	Lamp Wattage (W)	Lumen output (lm)	Average lamp life (h)	Operating Position	Color temp (K)	Ordering number
Philips MSD Platinum 5 R	150-189	7950	2000	any	8000	9281 908 05308
Philips MSD Platinum 15 R	264-300	13500	1500	any	8000	9281 916 05308

Type	Max allowable pinch temp (°C)	CRI	Ordering number	Lamp driver code	Ordering number driver
Philips MSD Platinum 5 R	350	75	9281 908 05308	EUC 185d W/S41	9137 008 39305
Philips MSD Platinum 15 R	350	75	9281 916 05308	EUC 300c B/F12	9137 008 45403



MSR Gold™ MiniFastFit

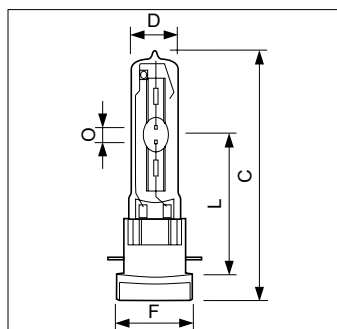
FastFit is also available in MSD Gold™, Ceramic ST and Halogen.

**Product Features**

- Philips MiniFastFit
- Compact design
- Innovative gold plated pins
- Color temperature >8000K
- Very short arc

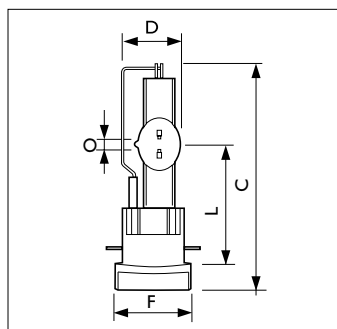
**Product Benefits**

- Lamp replacement in just seconds
- Easy handling, smaller and lighter fixtures
- Reduces early lamp or lamp holder failures. Excellent current transfer
- High perceived brightness
- High beam intensity



MSR Gold™ 300/2 MiniFastFit

Type	C Max	D Max	L Nom	L Max	O Nom
MSR Gold™ 300/2 MiniFastFit	126	23	66.8	67.8	5.0



MSR Gold™ 700/2 MiniFastFit

Type	C Max	D Max	L Nom	L Max	O Nom
MSR Gold™ 700/2 MiniFastFit	112	23.2	56	57	3.8

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Burning position	Average life expectancy (hour)
Philips MSR Gold™ 300/2 MiniFastFit	300	PGJX28	23000	77	9300*	80	any	750
Philips MSR Gold™ 700/2 MiniFastFit	700	PGJX28	47000	69	7200	75	any	750

Type	Lamp current (A)	Ordering number
Philips MSR Gold™ 300/2 MiniFastFit	3.8	9281 771 05114
Philips MSR Gold™ 700/2 MiniFastFit	10.2	9281 999 05114

\* on electronic ballast



MSD Gold™ MiniFastFit

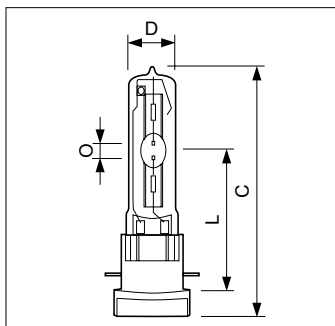
FastFit is also available in several MSR Gold™ versions, Ceramic ST and Halogen.

**Product Features**

- Philips MiniFastFit
- Compact design
- Innovative gold plated pins
- Color temperature >8000K
- Very short arc
- Long lifetime (2000hrs)

**Product Benefits**

- Lamp replacement in just seconds
- Easy handling, smaller and lighter fixtures
- Reduces early lamp or lamp holder failures. Excellent current transfer
- High perceived brightness
- High beam intensity
- Less lamp replacement



MSD Gold™ MiniFastFit

Type	C Max	D Max	L Nom	L Max	O Nom
MSD Gold™ 300/2 MiniFastFit	126	23	66.8	67.8	5

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSD Gold™ 300/2 MiniFastFit	300	PGJx28	22000	73	8600*	70	2000	any

Type	Lamp current (A)	Ordering number
Philips MSD Gold™ 300/2 MiniFastFit	3.8	9281 998 05114

\* on electronic ballast



PAR 56



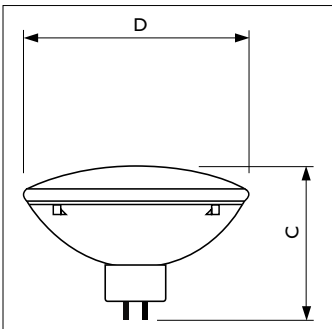
PAR 64

**Product Features**

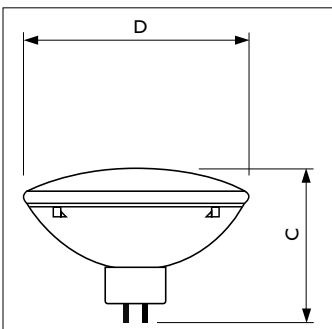
- Self-contained spotlight
- Front glass
- Universal burning
- Hot restrike

**Product Benefits**

- Allows details to be picked out over long distances with good beam control
- Excellent for long-range light projections
- Provides thermal and physical protection
- Allows fullest flexibility of luminaire angle and position to obtain the desired effect
- Immediate re-strike after any power interruption



PAR 56



PAR 64

Type	C Max	D Max
PAR56	127	178

Type	C Max	D Max
PAR64	150	204

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Color temperature (K)	Average life expectancy (hour)
Philips PAR56 300W 230V NSP	300	230	GX16d			3000	2000
Philips PAR56 300W 240V NSP	300	240	GX16d			3000	2000
Philips PAR56 300W 230V MFL	300	230	GX16d	-	-	3000	2000
Philips PAR56 300W 240V MFL	300	240	GX16d	-	-	3000	2000
Philips PAR56 300W 230V WFL	300	230	GX16d	-	-	3000	2000
Philips PAR56 300W 240V WFL	300	240	GX16d			2000	2000
Philips PAR64 250W 28V VNSP	250	28	Multipurpose/ screw terminals			3200	50
Philips PAR64 1000W 230V VNSP	1000	230	GX16d	EXC	CP60	3200	300
Philips PAR64 1000W 240V VNSP	1000	240	GX16d	EXC	CP60	3200	300
Philips PAR64 1000W 230V NSP	1000	230	GX16d	EXD	CP61	3200	300
Philips PAR64 1000W 240V NSP	1000	240	GX16d	EXD	CP61	3200	300
Philips PAR64 1000W 230V MFL	1000	230	GX16d	EXE	CP62	3200	300
Philips PAR64 1000W 240V MFL	1000	240	GX16d	EXE	CP62	3200	300

Type	Burning position	Ordering number
Philips PAR56 300W 230V NSP	any	9247 835 44204
Philips PAR56 300W 240V NSP	any	9247 835 45504
Philips PAR56 300W 230V MFL	any	9247 836 44204
Philips PAR56 300W 240V MFL	any	9247 837 45504
Philips PAR56 300W 230V WFL	any	9247 837 44204
Philips PAR56 300W 240V WFL	any	9247 837 45504
Philips PAR64 250W 28V VNSP	any	9247 832 21704
Philips PAR64 1000W 230V VNSP	any	9247 832 44204
Philips PAR64 1000W 240V VNSP	any	9247 832 45504
Philips PAR64 1000W 230V NSP	any	9247 833 44204
Philips PAR64 1000W 240V NSP	any	9247 833 45504
Philips PAR64 1000W 230V MFL	any	9247 834 44204
Philips PAR64 1000W 240V MFL	any	9247 834 45504



XOP

### Product Description

- Linear lamps equipped with special cable connections
- Straight XOP lamps have a diameter of 12 mm and an overall length of 241-698 mm, depending on wattage. The lamps are equipped with special cable connections. The spectrum of their radiation output is, like that of all xenon lamps, near-continuous, ranging from about 200 to 1000 nm. The colour temperature is 5600 K.
- Pulsed xenon lamps are operated on a ballast circuit of the semi-resonant type. In addition, they need an electronic ignitor to provide the starting pulse of some 10 kV and, for the higher wattage, a transformer to step up the mains voltage to the required lamp voltage. They have instant ignition and re-ignition and require no warming-up time. The average rated life ranges between 250 and 500 hours at a depreciation of 20% after 250 burning hours.
- XOP lamps need forced-air cooling. They do not emit any ozone. Since they emit short-wave UV radiation, they must be screened to protect the eyes and skin. In view of the high starting voltage, the lampholders must be insulated from the luminaire.
- The burning position is universal.

### Product Features

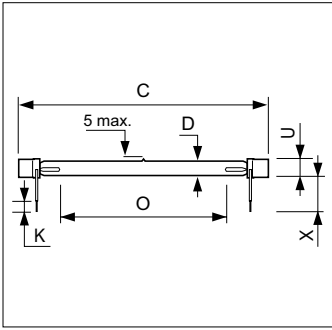
- Xenon filling
- Hot Restrike

### Product Benefits

- Good colour performance
- Instant on/no warming uptime

### Luminaires

- Screening must be provided to protect eyes and skin from short-wave UV radiation
- Lampholders must be insulated from the luminaire because of the high starting voltage



XOP

Type	C Max	D Max	O Min	O Nom	O Max	U Min	U Nom	U Max	X Min	X Nom	X Max
XOP 7-OF 1CT	241	12	155	158	161	14.35	14.7	15.05	110	115	120
XOP 15-OF 1CT	395	12	309	312	315	14.35	14.7	15.05	110	115	120
XOP 25-OF 1CT	540	12	454	457	460	14.35	14.7	15.05	110	115	120

Type	Lamp wattage (W)	Cap base	Efficacy source (lm/W)	Average life expectancy (hour)	Burning position	Lamp current (A)	Ordering number
Philips XOP 7-OF	650	Ceramic 15.8x14.7mm	4.5	250	any	12.3	9283 768 05102
Philips XOP 15-OF	1000	Ceramic 15.8x14.7mm	5	250	any	10.7	9283 769 05102
Philips XOP 25-OF	1100	Ceramic 15.8x14.7mm	5	250	any	10.5	9283 775 05102



MSD 150/2



MSD 200(2), MSD 250(2)

The MSD 150/2 has the same light characteristics as the MSD 250/2. Mechanically and electrically it is exchangeable in fixtures using CDM-SA/T 150W.

**Product Features**

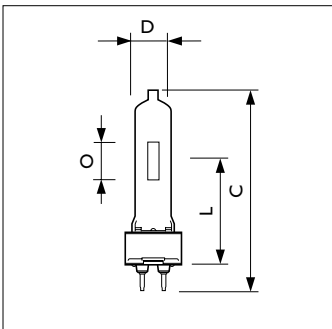
- Single ended lamp concept
- Long life
- Daylight Colour Temperatures

**Product Benefits**

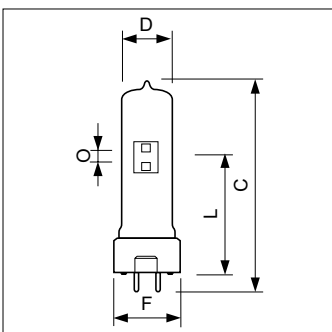
- Optimal light collection
- Low cost of ownership
- Brightness on stage

**Luminaires**

- Luminaire lenses must block the considerable UV output of the lamps
- No radiation must be spilled through ventilation slots
- Must only be operated in closed luminaires because of the high internal working pressure (but completely safe to handle when cold)



MSD 150/2



MSD 200(2), MSD 250(2)

Type	C Max	D Max	L Nom	L Max	O Nom
MSD 150/2	110	20	56	57	5

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSD 200	108	23	27	28	29	55	56	5
MSD 200/2	108	23	27	28	29	55	56	5
MSD 250	108	23	27	28	29	55	56	5
MSD 250/2 20H	108	23	27	28	29	55	56	5
MSD 250/2 30H	108	23	27	28	29	55	56	5

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSD 150/2	150	G12	10200	68	8500	62	3000	any
Philips MSD 200	200	GY9.5	13500	67	6000	80	2000	any
Philips MSD 200/2	200	GY9.5	13500	67	6700	70	3000	any
Philips MSD 250	250	GY9.5	18000	72	6700	75	3000	any
Philips MSD 250/2 20H	250	GY9.5	18000	72	8500	70	2000	any
Philips MSD 250/2 30H	250	GY9.5	18000	72	8500	70	3000	any

Type	Lamp current (A)	Ordering number
Philips MSD 150/2	1.85	9281 728 05114
Philips MSD 200	3.4	9280 972 05114
Philips MSD 200/2	3.4	9280 976 05114
Philips MSD 250	3	9280 987 05114
Philips MSD 250/2 20H	3	9281 063 05109
Philips MSD 250/2 30H	3	9280 990 05114



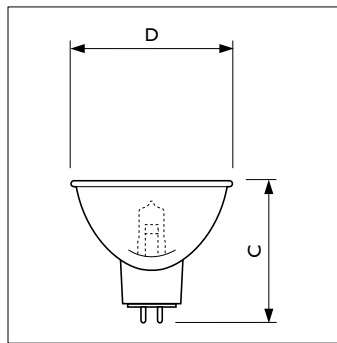
GZ6.35



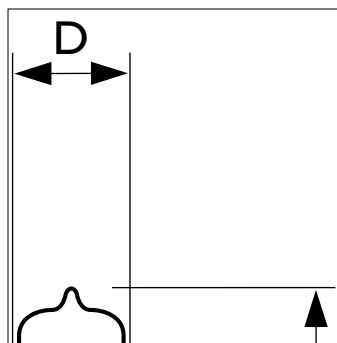
GX5.3



G6.35



GX5.3, GZ6.35



6958

**Product Features**

- Lifetime up to 1000 hours due to Philips Pinch Protection
- Compact filament
- White light
- Even light distribution

**Product Benefits**

- Lower lamp replacement costs
- High beam intensity
- Pure colors on stage
- Allows creative use without hotspots or shadows

Type	C Max	D Max
6834/5H 100W GZ6.35 12V	42	50
6834/8H 100W GZ6.35 12V	42	50
6423/5H 150W GZ6.35 15V	42	50
ELC/5H	44.5	50
ELC/10H	44.5	50

Type	C Max	D Max	L Nom	L Max	P Min	P Nom	P Max	Filament Dimensions (WxH) (mm)
6958	55	13.5	33	33.25	0.95	1	1.05	7.7x3.8

Type	Lamp wattage (W)	Voltage	Cap base	ANSI	LIF	Light flux (lm)	Color temperature (K)	Average life expectancy (hour)
Philips 6834/5H 100W GZ6.35 12V	100	12	GZ6.35	EFP/5H	A1/231-5H		3400	500
Philips 6834/8H 100W GZ6.35 12V	100	12	GZ6.35	EFP/8H	A1/231-8H		3400	800
Philips 6423/5H 150W GZ6.35 15V	150	15	GZ6.35	EFR/5H	A1/223-5H		3400	500
Philips 6958/10H 250W G6.35 24V	250	24	G6.35			7500	3400	1000
Philips 6958/5H 250W G6.35 24V	250	24	G6.35	EVC/FGX		7500	3400	500
Philips ELC/5H 250W 24V	250	24	GX5.3	ELC/5H	-		3400	500
Philips ELC/10H 250W GX5.3 24V	250	24	GX5.3	ELC/10H	A1/259-10H		3400	1000

Type	Burning position	Max. permissible pinch temp. (°C)	Ordering number
Philips 6834/5H 100W GZ6.35 12V	any	350	9240 565 17104
Philips 6834/8H 100W GZ6.35 12V	any	300	9240 594 17122
Philips 6423/5H 150W GZ6.35 15V	any	350	9240 592 18528
Philips 6958/10H 250W G6.35 24V	any	400	9240 596 20503
Philips 6958/5H 250W G6.35 24V	any	400	9240 664 20503
Philips ELC/5H 250W 24V	any	400	9248 627 20540
Philips ELC/10H 250W GX5.3 24V	any	400	9249 132 20540



**Philips Architainment lamps, unlimited flexibility.**

Philips Architainment lamps offer excellent colors, a strong beam and long life for amazing creativity and flexibility in architectural lighting. The high color temperature makes them especially suitable for architainment applications. Philips Architainment lamps can bring any object into the limelight and give it the charisma it deserves.



MSA 2500 DE

**Product Features**

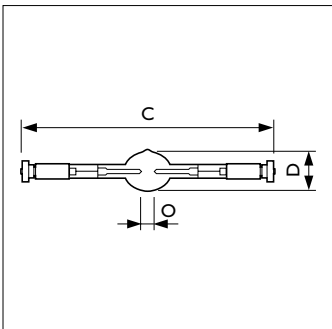
- High luminous efficacy
- Compact arc
- Optimal lamp filling

**Product Benefits**

- High lumen output
- High beam intensity
- Excellent colors

**Luminaires**

- Luminaire lenses must block the considerable UV output of the lamps
- No radiation must be spilled through ventilation slots
- Must only be operated in closed luminaires because of the high internal working pressure (but completely safe to handle when cold)



MSA 2500 DE

Type	C Max	D Max	O Nom
MSA 2500 DE	364	41	25

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position	Lamp current (A)
Philips MSA 2500 DE	2500	(P)5FC	250000	100	5600	90	2500	p15	21.2

Type	Ordering number
Philips MSA 2500 DE	9280 994 05103



MSD 575



MSD 575 HR

**Product Features**

- High luminous efficacy
- Long life
- Optimal lamp filling

**Product Benefits**

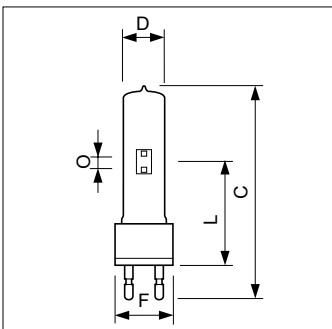
- High lumen output
- Low cost of ownership
- Excellent colors

**Luminaires**

- Luminaire lenses must block the considerable UV output of the lamps
- No radiation must be spilled through ventilation slots
- Must only be operated in closed luminaires because of the high internal working pressure (but completely safe to handle when cold)

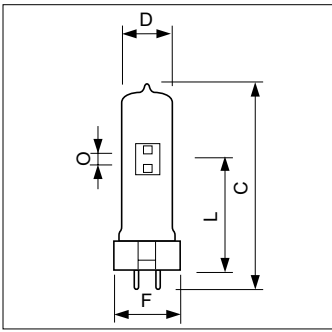


MSD 700, MSD 1200



G22

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSD 575 HR	145	30	41	42	43	70	71	7
MSD 700	175	40	52	53	54	85	86	10
MSD 1200	183	41	52	53	54	85	86	14



GX9.5

Type	C Max	D Max	F Min	F Nom	F Max	L Nom	L Max	O Nom
MSD 575	125	30	34	35	36	65	66	8

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips MSD 575	575	GX9.5	43000	75	6000	75	3000	any
Philips MSD 575 HR	575	G22	46000	80	6000	75	2000	any
Philips MSD 700	700	G22	50500	72	6000	75	3000	any
Philips MSD 1200	1200	G22	92000	77	6000	80	3000	any

Type	Lamp current (A)	Ordering number
Philips MSD 575	6.95	9280 988 05114
Philips MSD 575 HR	6.95	9280 989 05114
Philips MSD 700	11	9281 704 05114
Philips MSD 1200	13.8	9281 720 05114



CDM-SA/T 150W



CDM-SA/T 315W

**Product Features**

- High luminous efficacy
- Compact arc
- Optimal lamp filling

**Product Benefits**

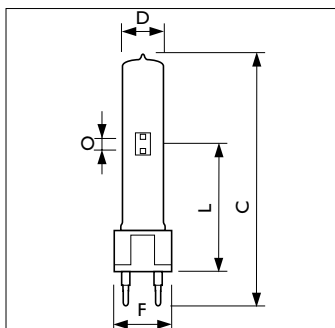
- High lumen output
- High beam intensity
- Excellent colors

**Luminaires**

- Must be used in closed luminaires with a hard glass cover

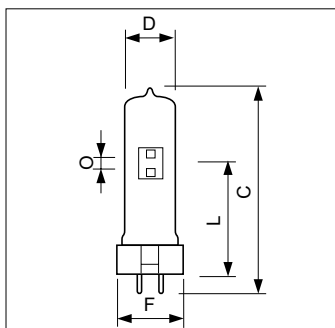


CDM-SA/T 315W



CDM-SA/T G12

Type	C Max	D Max	L Nom	L Max	O Nom
CDM-SA/T 150W/942	110	20	56	57	6



CDM-SA/T GX9.5

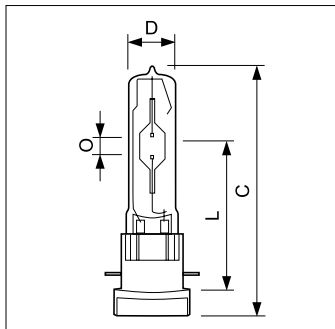
Type	C Max	D Max	L Nom	L Max	O Nom	F
CDM-SA/T 315W	150	28	81.5	83.5	16	36

Type	Lamp wattage (W)	Cap base	Lumen output (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips CDM-SA/T 150W/942	150	G12	14000	88	4200	95	9000	any
Philips CDM-SA/T 315W	315	GX9.5	36700	123	3100	90	10000	any

Type	Lamp current (A)	Ordering number
Philips CDM-SA/T 150W/942	1.8	9280 866 05103
Philips CDM-SA/T 315W	3.15	9286 011 66601



Ceramic ST 250 MiniFastFit



Ceramic ST MiniFastFit

**Product Features**

- Philips FastFit lamps concept
- Ceramic Discharge Technology

**Product Benefits**

- Easy and fast lamp replacement
- More compact and lighter fixture designs possible
- Due to 4 times less heat production compared to halogen 1000W, smaller fixtures can be used and less cooling is needed.
- Due to 4 times less power consumption for same light level as halogen 1000W, your energy costs will be 4 times less.
- Attractive cost of ownership, less replacement costs. Lifespan up to 16 times longer than halogen 1000W.
- Discharge lamp of 3200K color temperature with excellent color characteristics and homogeneous beam quality.

Type	C Max	D Max	L Max	O Nom
Ceramic ST 250 MiniFastFit	126	23	67.8	8

Type	Lamp wattage (W)	Cap base	Light flux (lm)	Efficacy source (lm/W)	Color temperature (K)	Color rendering (RA)	Average life expectancy (hour)	Burning position
Philips Ceramic ST 250 MiniFastFit	250	PGJ×28	23000	92	3200	90	4000	any

Type	Lamp current (A)	Ordering number
Philips Ceramic ST 250 MiniFastFit	2.6	9281 830 05114





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Cross reference list Filament lamps

<b>LIF code</b>	<b>Philips type</b>	<b>ANSI code</b>	<b>Philips type</b>
A1/223-5H	6423/5H	BTL	6800C 230V
A1/231-5H	6834/5H	DXX	13162R
A1/231-8H	6834/8H	EFP/5H	6834/5H
A1/244	7389	EFP/8H	6834/8H
CP/63	6984P	EFR/5H	6423/5H
CP/65	6999P	EKM	13989R
CP/67 (CP/23)	6993P	ELC/5H	ELC/5H
CP/68 (CP/39)	6993Z	EME	13477R
CP/70 (CP/24)	6995P	EXC	PAR64 VNSP
CP/71 (CP/40)	6995Z	EXD	PAR64 NSP
CP/72 (CP/43)	6994P	EXE	PAR64 MFL
CP/73 (CP/41)	6994Z	FDG	PF801 R
CP/75 (CP/55)	6994Y	FEP	6983P
CP/77	6983P	FEY	7012R
CP/81	6872P	FKB	6998C
CP/82	6873P	FKD	6996C
CP/85 (CP/29)	6963Z	FKH	6993Z
CP/89	6638P	FKJ	6995Z
CP/90	6895P	FKK/FKP	6994Z
CP/91	6894Y	FRH	6873P 230V
CP/92	6975Z	FRJ	6873P 240V
CP60	PAR64 VNSP	FRL	6638P 230V
CP61	PAR64 NSP	FRM	6638P 240V
CP62	PAR64 MFL	FSK	6872P 240V
M/38	6874P	FSL	6872P 230V
M/40	6877P	FTL	6994P 240V
P1/12	PF801 R	FTM	6994P 230V
P1/14	PF810	FVA	6995P 230V
P2/10	7775R/16	FVB	6995P 240V
P2/11	13477R	FVC	6993P
P2/12	6358R	FWP	6996P 230V
P2/13	13162R	FWR	6996P 240V
P2/20	7786R	FWS	6897P
P2/27	7012R	FWT	6897P
P2/35	13704R	GAB	6995I/BP 230V
P2/7	13989R	GAD	6995I/BP 240V
T/19 (T/11)	6996P	GCK/GCT	6823P 230V
T/20 (T/14)	6996C	GCL/GCS	6823P 240V
T/21 (T/12)	6998P	GCV/GVH	6820P 230V
T/22 (T/13)	6998C	GCW/GCJ	6820P 240V
T/24 (T/17)	6800C	GKV	6986P
T/25 (T/18)	6820P	GLA	6992P
T/27 (T/26)	6823P	GLB	6991P
T/29	6897P	GLC	6989P
		GLD	6981P
		GRS	7019G
		GRT	7018G

<b>Osram code</b>	<b>Philips type</b>	<b>Osram code</b>	<b>Philips type</b>
54532	7786R/16	64777	6975 Z
54574	6365 R	64781	7012R
54585	5968	64787	6994 Y
54613	6994 Z	64788	6994 P
54631	6638P	64789	6994 Z
54662	6827 Z	64789	6994 Z
54685	6800C	64796	6894Y
54687	7001C	64805	6963 Z
54689	6995C	93723	6980Z
54706	6995 Y	93728	7007
64501	VL 150	93728LL	7007LL
64502	VL 150	93729	7008
64512	VL 300	93734	6983 P
64515	VL 300		
64516	VL300		
64571	13162		
64571	13162 R		
64579	PF 801 R		
64580	PF 801 R		
64582	7786 R		
64583	7786 R		
64662	6874 P		
64670	6820P		
64672	6877 P		
64673	6872P		
64674	6873P		
64678	6928P		
64680	7389		
64716	6986 P		
64717	6638 P		
64718	6823 P		
64719	6998P		
64720	6993 P		
64721	6993 Z		
64722	6998 C		
64730	7764		
64732	7804		
64733	7804		
64741	13989 R		
64742	6995 Z		
64743	6983P		
64744	6996 P		
64745	6995 P		
64746	6996 C		
64747	6995 Z		
64748 BXS	6995I/BP		
64751	6358R		
64752	6897 P		
64754	6895 P		

## Cross reference list Discharge lamps

### Special HID lamps (Non Hot-Restrike lamps)

Philips	Osram	SLI	Koto	GE	Ushio	Xenbow/Jenbo
<b>Single-ended Metal Halide lamps with outer bulb</b>						
MSR 400	HSR 400/60	BA 400 SE NHR		CSR 400/CS		NSD 400
	HSR 575/60	BA 575 SE NHR			USR 575	
MSR 575/2	HSR 575/72	BA 575 SE NHR 7.2	DIS-7	CSR 575/2/SE CSR 575/2/T/SE (8000 K)	USD 5.75/2 NHR	
MSR 700	HSR 700/60	BA 700 SE NHR	DIS-7		USR 700 NHR	NSD 700
MSR 700/2				CSR 700/2/SE		NSD 700/2
MSR 1200	HSR 1200/60	BA 1200 SE NHR	DIS-12		USR 1200 SE	
MSR 1200/2	HSR 1200/2			CSR 1200/2/SE		
MSD 200	HSD 200/60	BA 200 SE D			USD-200 NHR	
MSD 200/2						
MSD 250	HSD 250/60	BA 250 SE D			USD-250 NHR	
MSD 250/2	HSD 250/80	BA 250/2 SE D8.5		CSD250/2 SE	USD-250/2 NHR	NSD 250/2
MSD 575	HSD 575/60 (6000K)	BA 575 SE D			USD-575 NHR	NSD 575
	HSD 575(7000K)					
MSD 700						
MSD 1200	HSD 1200/60					NSD 1200

Philips	Osram	SLI	GE	Xenbow/Jenbo
<b>Single-ended Metal Halide lamps without outer bulb</b>				
MSR Gold™ 300/2 MiniFastFit			CSR 300/TAL	
MSD Gold™ 300/2 MiniFastFit			CSR 300/TAL	
MSR Gold™ 700/2 MiniFastFit			CSR 300/TAL	
MSR Gold™ 700 FastFit			CSR 700/TAL	
MSR Gold™ 700/2 FastFit			CSR 700/TAL	
MSR Gold™ 1200 FastFit			CSR 1200/TAL	
MSR Gold™ 1500 FastFit	Lok-it HTI 1500W/60/S50		CSR 1500/TAL	
MSR Gold™ 2000 FastFit				
MSR Gold™ 2000/2 FastFit				
MSR Gold™ 2500/2 FastFit				
CDM-SA/T 150W/942	HSD 150/70	BA 150 SE NHR		NSD 150
	HTI 150 W			
	HTI 152 W			
	HTI 200 W/SE			
	HTI 250 W/SE			
	HTI 400 W/SE			
	HTI 403 W/SE			
	HTI 404 W/SE			
MSR 400 SA	HTI 405 W/SE XS			
	HTI 600 W/SE			
MSR 700 SA	HTI 705 W/SE	BA 700 SE SA5.6	CSR 700 SA CSR 700 SA/72	NSD 700/SA
MSR 1200 SA	HTI 1200 W/SE XS		CSR 1200 SA	
	HTI 1800 W/SE		CSR 1500 SA	
MSR 2000 SA			CSR 2000 SA	
	HTI 2500 W/SE			

Note: All Philips lamps have pinch protection up to 500degr Celsius

## Special HID lamps (Hot-Restrike lamps)

Philips	Osram	SLI	Koto	ILC	GE	Wolfram	Ushio	Xenbow/Jenbo
<b>Double ended Metal Halide Lamps</b>								
MSR Gold™ 400 SA/2 DE	SharXS HTI 400 W/D3/75				CSR 400/S/DE/75			HMQ 400
MSR Gold™ 575 SA/2 DE	SharXS HTI 575 W/D4/75				CSR 575/S/DE			
MSR Gold™ 700 SA/2 DE	SharXS HTI 700 W/D4/75				CSR 700/S/DE			HMQ 700/2
MSR Gold™ 1200 SA/DE	SharXS HTI 1200 W/D7/60	BA 1200 DE S 6.0 Gold™	DI-12/S		CSR 1200/S/DE/60		UMI 1200 G5	HMQ 1200/S
MSR Gold™ 1200 SA/2 DE	SharXS HTI 1200 W/D7/75	BA 1200 DE S 7.2 Gold™			CSR 1200/S/DE/72		1200 HB	HMQ 1200/2
MSR Gold™ 1510 SA/DE	SharXS HTI 1500W/D7/60				CSR 1500/S/DE/60			
	HMI 200	BA 200	DI – 2	DMI 200	CSR 200/DE		UMI 200	
	HTI 300 W/DX							
	HMD 300							
	HTI 600 W/D							
MSI 575	HMI 575 W/GS	BA 575 DE	DI – 6	DMI 575	CSR 575/DE	575	UMI 575 GS	HMQ 575
	HMI 575 W/GS LL							
	HTI 700 W/DE							
	HMI 575/WGS XS							
MSI 1200	HMI 1200 W/GS	BA 1200 DE	DI – 12 DI – 12/S	DMI 1200	CSR 1200/DE CSR 1200S/DE	1200	UMI 1200 UMI 1200 GS	HMQ 1200
MSR 1200 SA/DE	HMI 1200 W/S						1200 HB	
MSI 2500	HMI 2500 W/DEL	BA 2500	DI – 25	DMI 2500	CSR 2500/DE	2500	UMI 2500 GS	
	HMI 2500 W/S		DI – 25/S					
	HMD 2500		DI – 25/HV					
MSI 4000	HMI 4000 W DE	BA 4000 DE	DI – 40 DI – 40/HV	DMI 4000	CSR 4000/DE	4000	UMI 4000	
MSI 6000	HMI 6000 W XS	BA 6000 DE	DI – 60 DI – 80	DMI 6000	CSR 6000/DE	6000	UMI 6000	
MSI 12000	HMI 12000 W/XS	BA 12000 DE	DI – 120 DI – 120/HV	DMI 12000	CSR 12000/DE	12000	UMI 12000	
	HMI 18000 W		DI – 180 DI – 180/S	DMI 18000	CSR 18000/DE CSR 18000/S/DE	18000	UMI 18000	
<b>Single-ended Metal Halide lamps with outer bulb</b>								
MSR 125 HR					CSR 125/SE/HR			
	HMI 123							
MSR 200 HR	HMI 200 W/SE	BA 200 SE HR			CSR 200/SE/HR			
	HMI 250 W/SE							
MSR 250 HR	HMI 250 W/SE							
MSR 400 HR	HMI 400 W/SE	BA 400 SE HR			CSR 400/SE/HR CSR 400/SE/HR/75			
MSR 575 HR	HMI 575 W/SEL	BA 575 SE HR	DIS – 6 H DIC – 6 H		CSR 575/SE/HR	575	USR 575 BE SE	NSD 575 HR
		BA 800 SE HR			CSR 800/SE/HR			
MSR 1200 HR	HMI 1200 W/SE	BA 1200 SE NHR	DIS – 12 H		CSR 1200/SE/HR	1200	USR 1200 SE	
MSR 2500 HR	HMI 2500 W/SE XS	BA 2500 SE HR	DIS – 25 H	DSE 2500	CSR 2500/SE/HR	2500	USR 2500	
MSR 4000 HR	HMI 4000 W/SE XS	BA 4000 SE HR	DIS – 40 H	DSE 4000	CSR 4000/SE/HR	4000	USR 4000	
MSR 6000 HR	HMI 6000 W/SE XS		DIS – 60 H		CSR 6000/SE/HR	6000		
MSR 12000 HR	HMI 12000 W/SE XS		DIS – 120 H		CSR 12000/SE/HR	12000		
MSR 18000 HR	HMI 18000 W/SE		DIS – 180H		CSR 18000/SE/HR	18000		

## Cross reference list Xenon lamps

### XENON LAMPS for CINEMA

Philips	Osram	Christie	Ushio
Philips LTIX-700W-HS	XBO 700W/HS OFR	CXL-7S	UXL-7SB
Philips LTIX-700W-HSC	XBO 700W/HSC OFR		
Philips LTIX-900W-H	XBO 900W OFR	CXL-900(NC)	UXL-900-0
Philips LTIX-1000W-HS	XBO 1000W/HS OFR	CXL-10S	UXL-10SB
Philips LTIX-1000W-HSC	XBO 1000W/HSC OFR	CXL-10SC	UXL-10SCB
Philips LTIX-1000W-HTP	XBO 1000W/HTP OFR	CXL-10	UXL-1000HA
Philips LTIX-1600W-H	XBO 1600W OFR	CXL-1600(NC)	UXL-1600-0
Philips LTIX-1600W-HC	XBO 1600W/CA OFR	CXL-1600A	
Philips LTIX-1600W-HS	XBO 1600W/HS OFR	CXL-16S	UXL-16SB
Philips LTIX-1600W-HSC	XBO 1600W/HSC OFR	CXL-16SC	UXL-16SCB
Philips LTIX-2000W-H	XBO 2000W/H OFR	CXL2000/20R	UXL-2000HR
Philips LTIX-2000W-HC	XBO 2000W/HCC OFR	CXL-2000	
Philips LTIX-2000W-HS	XBO 2000W/HS OFR	CXL-20SC	UXL-20SC
Philips LTIX-2000W-HTP	XBO 2000W/HTP OFR	CXL-20	UXL-2000HA
Philips LTIX-2000W-HTT	XBO 2000W/HTT		
Philips LTIX-2000W-SHSC	XBO 2000W/SHSC OFR		UXL-21SCB
Philips LTIX-2500W-H	XBO 2500W OFR	CXL2500	UXL-2500-O
Philips LTIX-2500W-HS	XBO 2500W/HS OFR	CXL-25SC	UXL-25SC
Philips LTIX-3000W-H	XBO 3000W/H OFR	CXL-3000/30R	UXL-3000HR
Philips LTIX-3000W-HS	XBO 3000W/HS OFR	CXL-30SC	UXL-30SC
Philips LTIX-3000W-HTP	XBO 3000W/HTP OFR	CXL-30	UXL-3000HA
Philips LTIX-4000W-HTP	XBO 4000W/HTP OFR	CXL-40	UXL-4000HA
Philips LTIX-4200W-H	XBO 4200W/CA OFR	CXL-4200A	
Philips LTIX-4200W-HC		CXL-4200	
Philips LTIX-4500W-HS	XBO 4000W/HS OFR	CXL-45SC	UXL-40SC
Philips LTIX-4500W-HTP	XBO 5000W/HTP OFR XBO 4500W/HTP OFR	CXL-45	UXL-4500HA
Philips LTIX-5000W-H	XBO 5000W/H OFR		
Philips LTIX-5000W-HS	XBO 5000W/HS OFR		UXL-50SC
Philips LTIX-5002W-H	XBO 5000W HBM OFR		
Philips LTIX-6000W-HTP	XBO 6000W/HTP OFR	CXL-60	
Philips LTIX-6000W-HS	XBO 6000W/HS OFR	CXL-60SC	
Philips LTIX-6002W-HS		CXL-60SC	UXL-60SC
Philips LTIX-7000W-HS	XBO 7000W/HS OFR	CXL-70SC	UXL-70SC
Philips LTIX-8000W-HS		CXL-80SC	UXL-80SC
Philips LTIX-10000W-HS	XBO 10000W/C OFR		

**XENON LAMPS for CINEMA**

Philips (Helios®)	Philips (Standard)	Osram	Christie	Ushio
Philips LTIX-2000W-HEH	Philips LTIX-2000W-H	XBO 2000W/H OFR	CXL-2000/20R	UXL-2000HR/20R
Philips LTIX-2000W-HEH	Philips LTIX-2000W-HC		CXL-2000	
Philips LTIX-2000W-HEHS	Philips LTIX-2000W-HS	XBO 2000W/HS OFR	CXL-205C	UXL-205C
Philips LTIX 2005W HEH	Philips LTIX 3000W H	XBO 3000W/H OFR	CXL-3000/30R	UXL-3000HR/30R
Philips LTIX 2005W HEHS	Philips LTIX 3000W HS	XBO 3000W/HS OFR	CXL-305C	UXL-305C
Philips LTIX 2005W HETP	Philips LTIX 3000W HTP	XBO 3000W/HTP OFR	CXL-30	UXL-3000HA
Philips LTIX-3000W-HEH	Philips LTIX-3000W-H	XBO 3000W/H OFR	CXL-3000/30R	UXL-3000HR/30R
Philips LTIX-3000W-HEHS	Philips LTIX-3000W-HS	XBO 3000W/HS OFR	CXL-305C	UXL-305C
Philips LTIX-2000W-HETP	Philips LTIX-2000W-HTP	XBO 2000W/HTP OFR	CXL-20	UXL-2000HA
Philips LTIX-3000W-HETP	Philips LTIX-3000W-HTP	XBO 3000W/HTP OFR	CXL-30	UXL-3000HA
Philips LTIX-4200W-HEH	Philips LTIX-4200W-H	XBO 4200W/CA OFR	CXL-4200A	
Philips LTIX-4200W-HEH	Philips LTIX-4200W-HC		CXL-4200	
Philips LTIX-4200W-HEH		XBO 4200W/GS OFR		
Philips LTIX-4200W-HEH	Philips LTIX-5001W-H			
Philips LTIX-4200W-HEH	Philips LTIX-7000W-H			
Philips LTIX-4200W-HETP	Philips LTIX-4000W-HTP	XBO 4000W/HTP OFR	CXL-40	UXL-4000HA
Philips LTIX-4200W-HETP	Philips LTIX-4500W-HTP	XBO 4500W/HTP OFR	CXL-45	UXL-4500HA
Philips LTIX-4200W-HETP	Philips LTIX-4500W-HTP	XBO 5000W/HTP OFR	CXL-45	UXL-4500HA
Philips LTIX-4200W-HETP	Philips LTIX-6000W-HTP	XBO 6000W/HTP OFR	CXL-60	
Philips LTIX-4201W-HEH	Philips LTIX-5000W-H	XBO 5000W/H OFR		
Philips LTIX-4202W-HEHS	Philips LTIX-4500W-HS	XBO 4000W/HS OFR	CXL-455C	UXL-405C
Philips LTIX-4202W-HEHS	Philips LTIX-5000W-HS	XBO 5000W/HS OFR	CXL-505C	UXL-505C
Philips LTIX-4202W-HEHS	Philips LTIX-6000W-HS	XBO 6000W/HS OFR	CXL-605C	UXL-605C
Philips LTIX-4202W-HEHS	Philips LTIX-6002W-HS		CXL-605C	UXL-605C
Philips LTIX-4202W-HEHS	Philips LTIX-7000W-HS	XBO 7000W/HS OFR	CXL-705C	

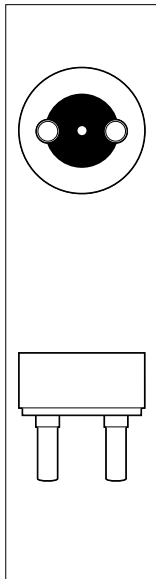
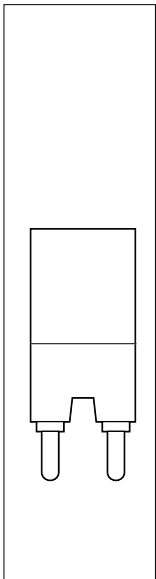
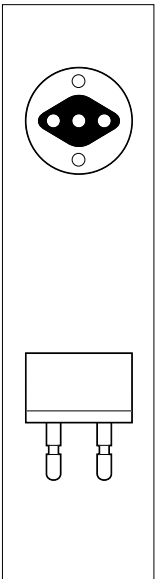
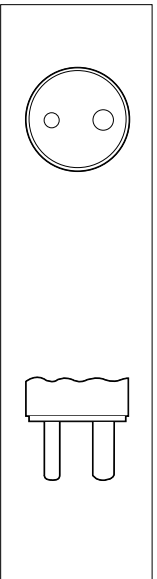
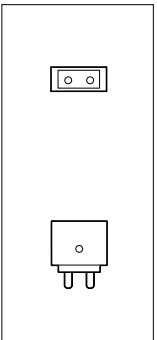
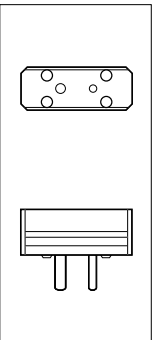
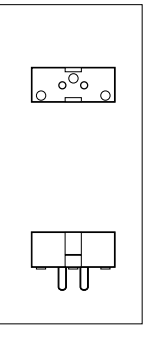
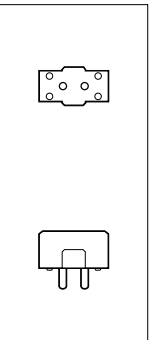
Note: This data only shows that these lamps are physically interchangeable. Light output may not be equivalent and must be verified through testing in the actual projector.

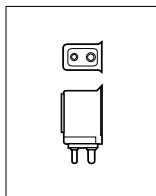
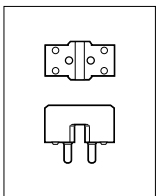
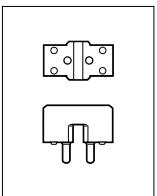
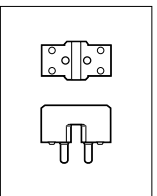
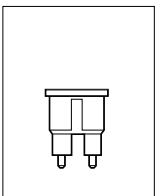
## Cross reference list for Searchlights and follow spots

Company	Model type	Wattage	Philips type
E/T/C Audiovisuel	pigi Xenon Projector 5/7K	6000	Philips LTIX-6002W-HS
	pigi Xenon Projector 5/7K	7000	Philips LTIX-7000W-HS
L.P.Associates	2KW Sky Dancer	2000	Philips LTIX-2000W-HS
	2KW XELAMP Architectural Spotlight	2000	Philips LTIX-2000W-HS
	4KW Sky Dancer	4000	Philips LTIX-4500W-HS
	4KW XELAMP Architectural Spotlight	4000	Philips LTIX-4500W-HS
	7KW Sky Dancer	7000	Philips LTIX-7000W-HS
	7KW XELAMP Architectural Spotlight	7000	Philips LTIX-7000W-HS
Lycian Stage Lighting	Lycian 1290 XLT	2000	Philips LTIX-2000W-HS
	Lycian 1293 X3K	3000	Philips LTIX-3000W-HS
	Lycian 1294 SuperArc 4K	4000	Philips LTIX-4500W-HS
	Lycian 1293 X3K	3000	Philips LTIX-3000W-HEHS
Phoebus Manufacturing	Silverbeam PSL-9 1K Xenon	1000	Philips LTIX-1000W-HS
	Silverbeam 360 2KW	2000	Philips LTIX-2000W-HS
	Silverbeam PSL-9 1K Xenon	1000	Philips LTIX-1000W-HS
	Silverbeam 360 4KW	4000	Philips LTIX-4500W-HS
	Silverbeam PSL-14 2K Xenon	2000	Philips LTIX-2000W-HTP
	Silverbeam PSL-20 4K Xenon	4000	Philips LTIX-4000W-HTP
Space Cannon Illumination	2.5KW	2500	Philips LTIX-2500W-HS
	3KW	3000	Philips LTIX-3000W-HS
	4KW	4000	Philips LTIX-4500W-HS
	7KW	7000	Philips LTIX-7000W-HS
Strong International	TROUPER	700	Philips LTIX-700W-HS
	SUPERTROUPER	1000	Philips LTIX-1000W-HS
	SUPERTROUPER	1600	Philips LTIX-1600W-HS
	SUPERTROUPER II Short Version	2000	Philips LTIX 2000W-HS
	GLADIATOR II	2500	Philips LTIX-2500W-HS
	TROUPER	700	Philips LTIX-700W-HS
	SUPERTROUPER	1000	Philips LTIX-1000W-HS
	Silverbeam PSL-20 7K Xenon	7000	Philips LTIX-7000W-HS
	Silverbeam 360 7KW	7000	Philips LTIX-7000W-HS
	XENON SUPERTROUPER	2000	Philips LTIX-2000W-H
	XENON GLADIATOR III	3000	Philips LTIX-3000W-H
	XENON BRITELIGHT 2K	2000	Philips LTIX-2000W-XB
	XENON SKY TRACKER (old)	2000	Philips LTIX-2000W-XS
	XENON BRITELIGHT& SKYTRACKER (old)	4000	Philips LTIX-4000W-XS
XENON BRITELIGHT& SKYTRACKER (old)	7000	Philips LTIX-7000W-XS	
Syncrolite	XL10	10000	Philips LTIX-10001W-HS
	XL10	8000	Philips LTIX-8000W-HEHS

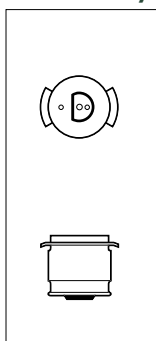
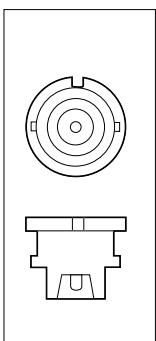
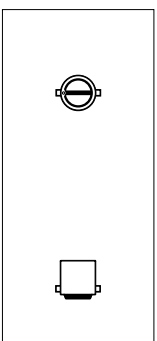
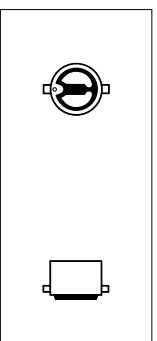
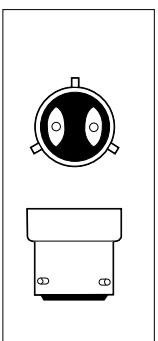


**Bipost/Bipin**

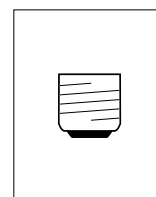
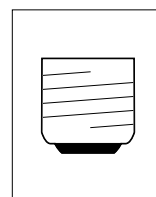
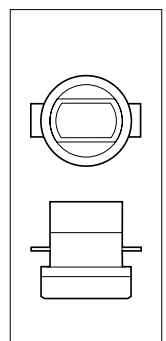
							
G38 IEC: 7004-76 ANSI: Mogul bipost	GY38	G22 IEC: 7004-70-1 ANSI: Medium bipost	GY22	G9.5 IEC: 7004-70-1 ANSI: Medium 2-pin	GY16 IEC: 7004-74	GX9.5 DIN: 49638 IEC: 7004-70A	GY9.5/GZ9.5 IEC: 7004-70B-2 ANSI: Two-pin ceramic

				
GX7.9	GZX9.5 IEC: 7004-70B ANSI: Two-pin ceramic	GZY9.5 IEC: 7004-70B ANSI: Two-pin ceramic	GZZ9.5 IEC: 7004-70B ANSI: Two-pin ceramic	Not standardised

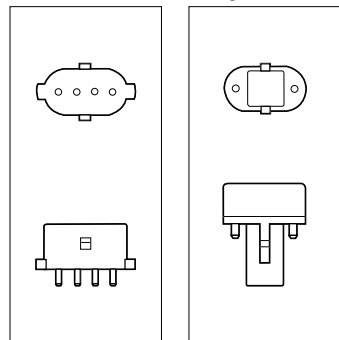
**Prefocus/Bayonet**

				
P28s DIN: 49728 IEC: 7004-42 ANSI: Medium prefocus base C 81-30-1976 sheet 1-5-1	P32d	BA15d DIN: 49720 IEC: 7004-11A ANSI: Candelabra bayaonet base double contact C 81-30-1976 sheet 1-3-1	B22d/22 IEC: 7004-10	B22d3

**FastFit**

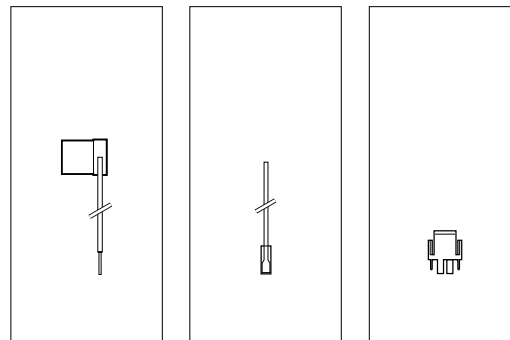
		
E27 DIN: 49620 IEC: 7004-21 Edison screw	E40 DIN: 49625 IEC: 7004-24 ANSI: Mogul screw base C 81-10-1976 sheet 1-17-1	PGJX50 PGJX28

**For fluorescent lamps**



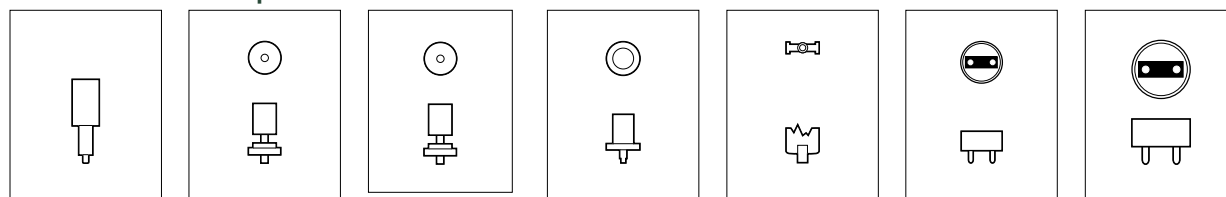
2G7 G23

**Cable/Connector**



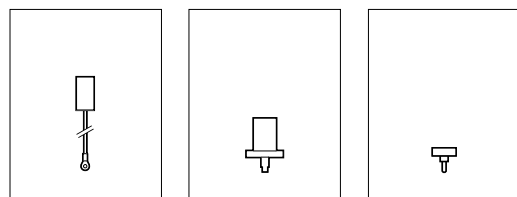
Cap 15.8/14.7 cable Cable AMP connector

**For double-ended lamps**



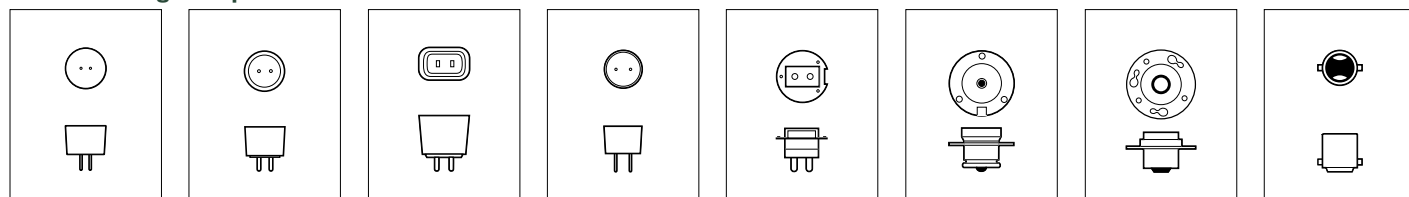
SFa21-12 SFc10-4 SFc11 SFc15.6-6 R7s, DIN:49750 G5 G13  
 DIN: 49759 DIN: 49759 DIN: 49759 DIN: 49759 IEC: 7004-92

ANSI: Recessed single contact base



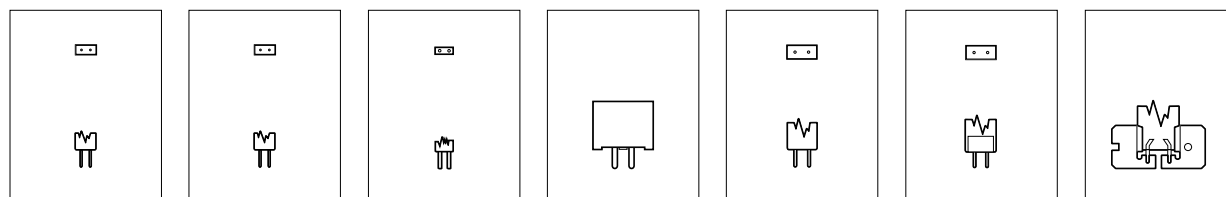
SFa7-5-2 SFc18-5-6 Fa4  
 S30x70 (P) SFc IEC: 7004-58-1

**For low-voltage lamps**



GZ4 GX5.3 GY5.3 GZ6.35 PG22-6.35 PX28s P30s BA15s, DIN:49720  
 (Round pin) DIN:49754 DIN: 49751 IEC: 7004-44 IEC: 7004-11A

ANSI: Single contact candelabra bayonet base, C81-30-1976, sheet 1-3-1

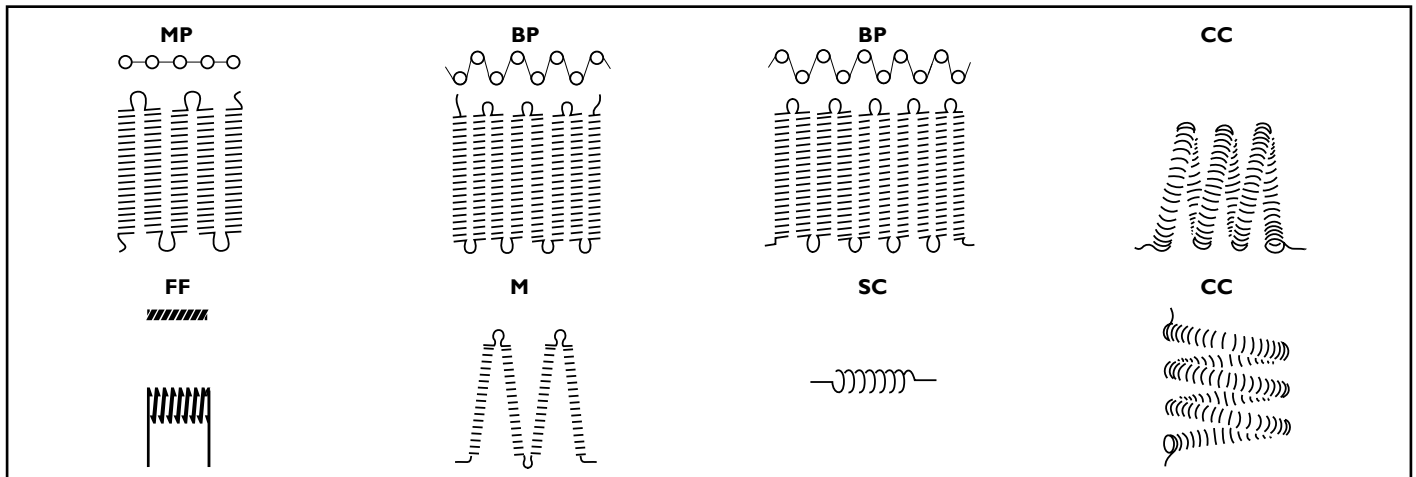


G3.9 G4 GU4 G5.3 GX6.35 B15d A26/14  
 IEC: 7004-72 IEC: 7004-72 IEC: 7004-73-2 GX6.35, DIN:49721 IEC: 7004-11a  
 ANSI: Miniature IEC: 7004-59 ANSI: C 8140-1972  
 2-pin

**Lamp bases and their names**

Bi-pin cap	G38	Prefocus cap	P28s	SFc15.6-6	Prefocus cap	PX28s
	GY38	Bayonet/Prefocus cap	GY38	Recessed single contact cap and end of lamp	Prefocus cap	P30s
Bi-pin cap and base	G22	Bayonet cap	P23d	R7s	Bayonet cap	BA15s
Bi-pin cap	GY22	Bayonet cap	BA15d	Bi-pin cap	G5	G3.9
Bi-pin cap	G9.5	Bayonet cap	B22d3	Bi-pin cap	G13	Bi-pin lamp base
Bi-pin cap	GY16	Screw cap	E27	SFA1-5-6	Bi-pin lamp base	GU4
Bi-pin cap	GX9.5	Screw cap	E40	SFc18-5-6	Bi-pin cap	G5.3
Bi-pin cap on finished lamp	GY9.5	Cap	2G7	Single-pin cap and end of tubular lamp	Fa4	Bi-pin lamp base for use
Bi-pin cap on finished lamp	GZ9.6	Bi-pin cap	G23	Bi-pin lamp base	GZ4	Bayonet cap
	GX7.9	Cap 15.8/14.7 cable		Bi-pin base	GX5.3	G6.35
	GZX9.5	Cable		Bi-pin base	GY5.3	B15d
	GZY9.5	AMP connector		Bi-pin base	GY5.3	A26/14
	GZZ9.5	SFa21-12		Bi-pin lamp base	GZ6.35	GZY
	Special	SFc10-4		Prefocus cap	PG22	FastFit cap
						PGJX50

**Filament shapes**



- FF = Flat filament
- CC = Coiled coil
- M = M shape
- MP = Mono Plane
- BP = Bi plane
- SC = Single coil

**Fusing**

All mains voltage filament lamps (halogen and non-halogen) must be fused to reduce the risk of shattering at end-of-life.

The table gives the appropriate value

Wattage W	Voltage V	Fuse A	Wattage W	Voltage V	Fuse A
500	55	16	1200	100-130	16
300	100-130	4	1200	220-250	10
300	220-250	2	2000	100-130	25
500	100-130	6.3	2000	220-250	10
500	220-250	4	2500	100	35
650	100	10	2500	115-130	25
650	115-130	6.3	2500	220-250	16
650	220-250	4	3250	220-230	16
750/800	115-130	10	3250	240-250	16
750/800	220-230	6.3	5000	115-130	50
900	220-230	6.3	5000	220-250	25
1000	100	16			
1000	115-130	10			
1000	220-250	6.3			

**Lamp Life**

Indication of lamp life can be a confusing matter. The lamps in this catalogue (unless indicated differently) have a lamp life indicated by "Average life" or "Life 50%". This means at least 50% of the population is still working at the indicated number of hours.

In other words:

- Average lamp life 1000 hours
- Batch size 100 pieces

then:

- At reaching 1000 hours;
- at least 50 pieces are still working.

Realise that certain types in special applications have degraded so much that although they still burn they are unfit to fulfill their given task!

### The halogen lamp

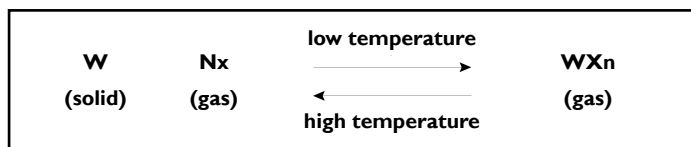
The difference between a halogen lamp and a conventional lamp is the adding of a halogen to the inert-gas filling of the lamp.

The halogens are I(Iodine), Br(Bromine), F(Fluorine) and Cl(Chlorine).

Non-halogen lamps have large bulbs to spread the evaporated tungsten over a large area. With the halogen cycle the lamp no longer blackens during its life-cycle, therefore the bulb can be made much smaller.

An additional advantage of these small bulbs is that they can withstand high filling pressures. A high filling pressure will reduce the dissipation of tungsten from the filament and can be used to increase the life of the lamp or the output (lm/W).

In the lamp a complex chemical process takes place where the basic reaction can be described as follows:



in which W = Tungsten  
X = Halogen

See also fig. 1

In the vicinity of the filament the temperature is so high that only atoms of tungsten and halogens are present. Near the bulb wall will be found a compound of WXn. The transition between these two situations depends on the kind of halogen which is used in the lamp. Generally this will be at 500 to 1600 °C for the gas phase and at 1200 to 1600 °C for the solid (dissociated) phase. In the lamp one finds several areas in which these processes are taking place. See fig. 2.

### So what happens in the lamp?

The evaporated tungsten of the filament associates near the bulb wall (area A) with the free halogens. Due to partial pressure this gas is transported back to area B where it dissociates and the tungsten is deposited back on the filament. The halogen can then be used for the next identical process.

Unfortunately the tungsten particles are not deposited on exactly the same spot from which they evaporated so that, in due time, certain parts of the filament get thinner; this causes so-called "hot-spots". At a hot spot the evaporation rate is higher than average due to the higher temperature. This phenomenon results in the failure of the lamp.

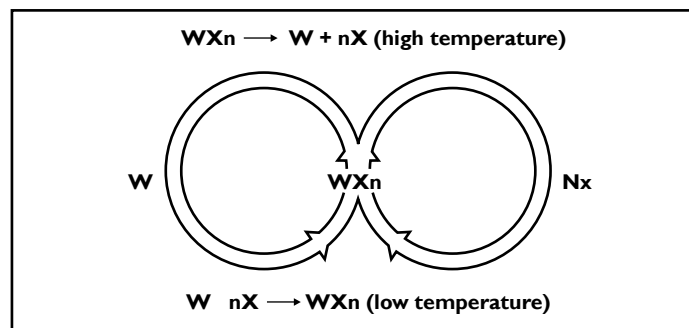


Fig. 1 The tungsten regenerative cycle

**Halogen lamps on different supply voltages**

Since the chemical processes which take place only function within certain temperature limits, a halogen lamp cannot be used on any desired voltage. Over- and under-rating can only be carried out within the limitations discussed below.

**a. Under-voltage**

Under-voltage of a lamp will decrease the filament temperature and therefore the rate of evaporation. For example, 5% under-voltage will result in 200% life expectancy. However, reduced evaporation of tungsten means more free halogens in the lamp. These free halogens will attack cold parts in the lamp; the coldest parts are the lead-in wires. Now, dissipation of tungsten takes place from the lead-in wires to the hot filament. The lead-in wires get thinner and thinner and after some time the filament collapses. To prevent this, a minimum bulb temperature of 250 °C must be maintained.

**b. Over-voltage**

Over-voltage will increase the filament temperature, causing a higher rate of evaporation. For example, 5% over-voltage results in 50% life expectancy. Moreover, zone "B" will be further away from the filament. At a certain moment zone "B" will be partly inside the bulb and partly outside. This means that evaporated particles of tungsten will blacken the inner side of the bulb wall. A black body absorbs more infrared, this infrared heats the glass, causing more blackening, etc., etc. At a particular instant the glass melts, the bulb will start to bulge and, some time later, the lamp will leak. Oxygen will enter and the filament will burn itself out soon after. To prevent the start of this disastrous sequence, a maximum bulb temperature of 900 °C is recommended.

**c. Short switching**

The percentage of added halides in a lamp is determined by the application of that lamp. Three main groups of lamps can be stated:

- a) Continuous use - studio lamps - car lamps, etc.
- b) Continuous or switching - slide projector lamps
- c) Very short switching - lamps for copying machines

Lamps cannot be used for an application other than that for which they are made without serious effects on the life of the lamp occurring.

**Summary**

It is not possible to quote minimum or maximum voltages on which halogen lamps can be used: the processes are governed by temperature. If a lamp is cooled very well, it can be satisfactorily operated on over-voltage, but it should not be under-run. When a lamp is under-run, the cooling must be cut down in order to maintain the 250 °C bulb temperature.

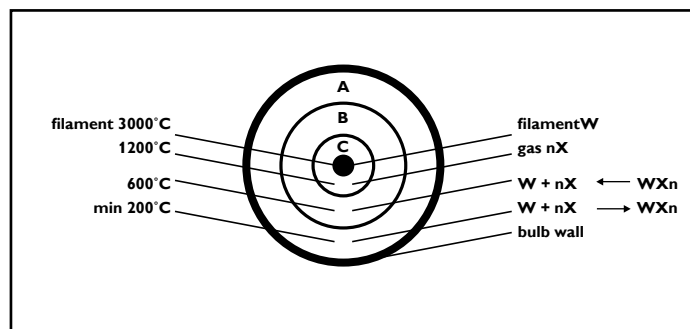


Fig. 2. Cross- section through a halogen lamp



**Temperature limits of halogen lamps**

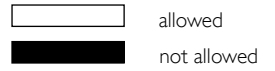
Although halogen lamps, with their quartz-glass envelopes, can withstand very high temperatures, there are certain limits within which the lamps should be held.

	Average life			
	< 15h	15 - 300 h	300 - 800 h	> 800 h
Pinch temperature (lamps without P3) in °C	max 450	max 400	max 350	max 350
Pinch temperature (lamps with P3) in °C	max 500	max 500	max 500	max 480
Bulb temperature in °C	250 - 900	250 - 900	250 - 900	250 - 900

Outside these limits the halogen will not function properly, leading to blackening and short life.

**Burning positions**

The lamps are illustrated in the position in which they are to be used. The deviations allowed are indicated by white sectors in a black circle.



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

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**S = BASE DOWN**

---

**H = BASE UP (hanging)**

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**SE = BASE DOWN and one direction of rotation**

---

**P = HORIZONTAL**

---

**ANY**

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<b>B &amp; S Elektronische Geräte GmbH</b> Aussigstrasse 5A D-38114 Braunschweig, Germany E-mail: mail@bs-ballasts.com Internet: www.bs-ballasts.com	Tel: + 49 531 590980 Fax: + 49 531 5909830	<b>ROTEC GmbH</b> Sandweg 42 D64385 Reichelsheim E-mail: ralf@rotec-gmbh.com Internet: www.rotec-gmbh.com	Tel: +49 61 64 50 18 51 Fax: +49 61 64 50 18 52
<b>CCI Power Supplies</b> 100 Industrial Parkway Pardeeville, WI 53954, US E-mail: info@ccips.com Internet: www.ccips.com	Tel: + 1 (608) 429 3000 Fax: + +1 (608) 42 9241	<b>SCHIEDERWERK MBZ Telekommunikation GmbH &amp; Co. KG</b> Neuburger Straße 40 D-90451 Nürnberg, Germany E-mail: info@schiederwerk.de Internet: www.schiederwerk.de	Tel: + 49 911 96 36 5 Fax: + 49 911 96 36 600
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<b>Mitronic P. Miller GmbH</b> Hans-Urmiller-Ring 13 D-82515 Wolfratshausen, Germany E-mail: info@mitronic.com Internet: www.mitronic.com	Tel: + 49 8171 34 489 39 Fax: + 49 8171 7 6037	<b>Optima German</b> Barbarastrasse 22 D-63801 Kleinostheim E-mail: OptimaGerman@t-online.de	Tel: +49 60 27/69 00 Fax: +49 60 27/46 56 10

## Fundamentals of Light and Colour

### Radiation

Radiation is emission or transfer of energy in the form of electromagnetic waves.

These electromagnetic waves travel through a vacuum with a velocity close to 300 000 km/s. Interactions between matter and radiation are explained with the quantum theory of radiation.

It states that energy is emitted and absorbed in discrete quanta (photons). Examples of these interactions are photoelectric, chemical, and biological effects of radiation.

#### *Optical Radiation (UV Light IR)*

Light may be defined as any radiation capable of causing a visual sensation directly.

Light waves occupy only a very small part of the spectrum of electromagnetic waves. The limits of visible radiation are not well defined and vary according to the individual – the lower limit is generally taken as being 380 nm and the upper limit 780 nm (1 nanometre (nm) =  $10^{-9}$  m).

The visible spectrum can be divided into a number of approximate wavelength ranges, each of which makes a certain colour impression on the human eye:

380	-	435	nm	violet
435	-	500	nm	blue
500	-	566	nm	green
565	-	600	nm	yellow
600	-	630	nm	orange
630	-	780	nm	red

#### *Ultraviolet and Infrared Radiation*

Electromagnetic radiation with wavelengths just beyond the violet and red ends of the visible spectrum are known as ultraviolet and infrared radiation respectively.

#### *Ultraviolet radiation*

A study of the effects obtained with ultraviolet radiation of different wavelengths has led to the following classification by the CIE into three wavebands:

UV-A	(long-wave)	315-400	nm
UV-B	(medium-wave)	280-315	nm
UV-C	(short-wave)	100-280	nm

This classification is based upon a small number of well-investigated processes - principally the effects on the human skin - and by no means implies that all practical applications of UV are confined to a distinct waveband. Some processes respond to a wide ultraviolet spectrum and others overlap into the visible spectrum as well.

#### *Infrared radiation*

As with ultraviolet radiation, infrared radiation occupies three wavebands:

IR-A	(short-wave)	800 - 1400	nm
IR-B	(medium-wave)	1400 - 3000	nm
IR-C	(long-wave)	3000 - 10000	nm

### Vision

The eye has a lens, which focuses an image on a light-sensitive surface, the retina.

The retina consists of a delicate layer of nerve tissue in which there are two types of nerve fibre endings in the form of light-sensitive cells, called cones and rods. The concentration of cones and rods varies over the retinal area. On the optical axis the centre of the retina (the fovea) only contains cones. Outside the fovea area, the rods and cones are mixed, the proportion of cones decreasing towards the periphery of the retina.

### Central vision

The cones in the fovea produce a very sharp image showing the greatest detail of which the eye is capable.

### Peripheral vision

The periphery of the retina, which is composed chiefly of rods, does not produce sharp vision, and objects seen by this area appear as fuzzy silhouettes. The periphery is, however, highly sensitive to movement and flicker.

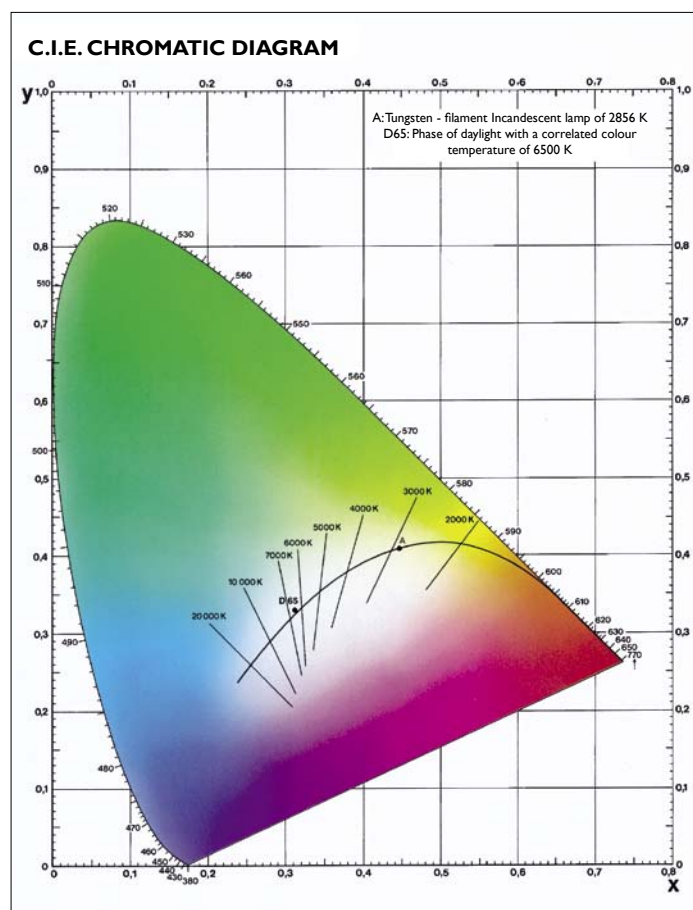
### Adaptation

Adaptation, the process whereby the eye is able to function over a wide range of illuminance levels, involves (amongst other things) a change in the pupillary opening along with photochemical changes in the retina.

### Colour Vision

The cones enable us to distinguish colours. This is possible because there are in fact three types of cones, with pigments sensitive to the red, green and blue parts of the spectrum, respectively.

The brain interprets the relative stimulation of the three colour receptors as the colour impression. Persons who miss one type of cone are partially colour blind.



### Spectral Sensitivity of the Eye

Within the visible range of the electromagnetic spectrum the eye sensitivity varies strongly with different wavelengths of the same energy content.

For example, under conditions of photopic vision the eye is about twenty times more sensitive to light with a wavelength of 555 nm (yellow-green) than it is to wavelengths of 700 nm (deep red) or 450 nm (violet-blue). The peak sensitivity for scotopic vision lies about 50 nm nearer to the blue end of the spectrum than the maximum sensitivity for photopic vision.

As early as 1924, the Commission Internationale de LEclairage (CIE) laid down a standard spectral eye sensitivity curve for photopic vision. The curves give the relative photopic eye sensitivity ( $V$ ) as a function of the wavelength ( $\lambda$ ), and are therefore generally called  $V(\lambda)$  curve having its maximum at 555 nm.

### Black body radiator

The black body, or full radiator, is a body that absorbs all radiation falling upon it, transmitting none and reflecting none. The radiation characteristics of such bodies are accurately known and can be very precisely calculated at all wavelengths and temperatures.

The spectral energy distribution of a black body is, according to Planck's law, a function of wavelength and absolute temperature. Not only does the radiant energy increase rapidly with operating temperature, but the wavelength at which the maximum occurs becomes shorter. Radiation of this form is called thermal radiation, or black-body radiation. And because all wavelengths are present in the spectrum of a thermal radiator, such a spectrum is called a continuous spectrum. The black-body radiator is often used as a primary reference standard when describing the light from practical light sources.

### Systems of Colour Specification

#### CIE System

##### The chromaticity diagram

The chromaticity diagram, or colour triangle, adopted by the CIE in 1931 permits the mathematically exact specification of any colour of light in terms of two chromaticity co-ordinates,  $x$  and  $y$ . These co-ordinates are calculated from a knowledge of the lamp's spectral energy distribution and the response of a CIE standard colorimetric observer related to the three types of light sensitive cones in the human eye. The most saturated light colours are found along the sides of the triangle, these gradually diluting into 'white light' toward the centre.

In this diagram the boundaries are formed by the spectral focus which is composed of the colour points of monochromatic radiation ranging from blue in the left corner towards green in the top and finally red in the bottom right corner.

#### *Colour Temperature*

Colour temperature is a term used to describe the colour of a light source by comparing it with the colour of a black body radiator, or full radiator. The temperature of the black body, in Kelvin, at which a colour match is obtained, is said to be the colour temperature of the source.

The curve formed on the CIE chromaticity diagram by plotting the chromaticities of a black body radiator at various temperatures, is known as the Planckian focus. Any source that has a chromaticity on this locus may be specified by a colour temperature. A source not on the Planckian focus can be described by means of its correlated colour temperature, that is, the temperature of the black body at which its colour resembles most closely that of the source; provided, that it is not too far from the Planckian focus.

### **Colour Rendering**

#### *The CIE General Colour Rendering Index $R_a$*

In order to be able to compare the colour characteristics of various types of light source, the concept of a colour rendering index, based on the appearance of a number of test colours under different illuminants, was introduced by the CIE.

The average of the chromaticity shifts occurring when the test colours are alternately illuminated, first by the lamp under test and then by a reference source of the same colour temperature, provides a good measure of the colour rendering properties of the test source.

The reference light source used for sources with a correlated colour temperature of 5000 K and below is a full (or black-body) radiator of the nearest colour temperature. Above 5000 K, the reference source used provides simulated or 'reconstituted' daylight of the appropriate colour temperature.

In the CIE test colour method recommended for international use in 1965, eight Munsell test colours of medium saturation were used for measuring and specifying these colour rendering properties.

Nowadays, fourteen test colours are often employed, saturated red, yellow, green and blue, and colours approximating the human skin and green foliage having been added.

The general colour rendering index, or  $R_a$ , of a source has a maximum value of 100, which occurs when the spectral distributions of the test source and the reference source are identical.

Incandescent lamps have a spectral energy distribution almost identical to that of the standard source, and therefore give excellent colour rendering. The efficacy of these lamps, however, is rather low.

In discharge lamps which have a much higher efficacy a large variety in spectral composition hence colour rendition is found, ranging from light sources like Fluorescent super 80 and 90 lamps and CDM metal Halide lamps with good or excellent colour rendition while still having a high efficacy on one hand and ultra high efficacy lamps like SOX with a very moderate colour rendition.

#### *Limitations of the $R_a$ System*

Two serious limitations of the  $R_a$  system should be mentioned.

In the first place, it should be remembered that the  $R_a$  of a lamp is an average value based on the examination of only eight test colours. Secondly, a low value for a particular colour can mean either that the colour will be poorly (weakly) - rendered, or that it will be exaggerated, perhaps even with a flattering effect as will be explained in the new CRV system. Thus, a source may be found to have a seemingly acceptable  $R_a$  value, despite the fact that it is incapable of faithfully reproducing a particular test colour.

### **The New CRV system: precise definition of colour quality**

#### **The right light**

Colour rendering is an important aspect of artificial lighting. In some situations colours should be represented as naturally as possible under daylight conditions yet in other cases lighting should highlight individual colours or create a specific atmosphere. However, there are various lighting situations where it is not so much a precise natural colour rendering that matters most but where light level and efficiency are of greater importance.

Whether your requirement is for medium quality colour rendering, natural colour rendering or highlighting of special colours, there is the right kind of lamp for each and every application.

In the past, finding the right quality colour rendering and tailoring it to your precise requirement was a complex task. It called for special skills acquired through long – and often costly – experience.

Now, however, the new CRV diagram (Colour Rendering Vector) means you can get the results you need – without first going through a costly learning curve!

The Colour Rendering Vectors (CRV) system provides a completely new and more sophisticated way of defining colour quality, making it a valuable tool for lighting professionals involved in the specification of light sources and the design of lighting installations.

### Up to 215 measuring points

Instead of being limited to just the eight colours of the colour rendering index (CRI) method, CRV uses a much larger number of colours as fixed measured points. In fact, 215 colours have been selected from a multitude of practical situations, and include colours which are widely used in textiles, paints and many other products, as well as those which are most commonly found in nature. The colour rendering ability of the light source under investigation is tested at each point of these 215 colour points, and compared with that of a reference light source.

### Separate analysis of deviations

Another important improvement is that the colour deviations are analysed separately for each of the 215 colours. There is no averaging, so the rendering of each individual colour is assessed and registered separately.

### The CRV diagram

These deviations are represented by a CRV diagram – a circle showing all the colours of the spectrum around its circumference, and containing two axes serving as references to show the deviation in the rendering of each colour.

The deviations are indicated by a vector pointing from the natural colour (viewed, under a reference or full-spectrum light source) to the perceived colour (viewed under the test light).

### Three aspects of colour quality

Each one of the up to 215 vectors is an arrow which shows three aspects of colour quality:

- The direction of the vector shows the direction of the colour deviation. A shift towards the circumference of the circle indicates an increase in colour saturation (more intense), while a shift towards the centre means a decrease in saturation (less intense).
- The start and end points of the vector show the true colour (under the reference light source) and the perceived colour (under the test light source), respectively.
- The length of the vector shows the magnitude of the colour deviation.

### Two main parameters

Thanks to its accurate representation of colour quality for up to 215 measuring points the CRV method gives a very precise impression of the colour rendering characteristics of a light source. In describing colour quality, two parameters are particularly important:

**Hue:** the direction and magnitude of the shift in colour.

**Chroma:** the direction and magnitude of the shift in saturation.

A third parameter, the colour value or 'lightness', refers to the amount of light reflected from a coloured surface, and can vary for colours of the same hue and chroma. In practise, colour shifts are almost always a combination of shifts in hue and chroma, and the lightness will not be considered further here.

### Selection of lighting on colour quality

Key factors in the selection of lighting for specific application include the type of activity carried out in the area, the general environment, the desired ambience and the products being sold. Three basic levels colour quality can be defined: high, good and average.

### High colour quality

An incandescent lamp, with its low efficacy of 12 lumen per watt, possesses a well balanced colour spectrum. Application of the CRV method therefore shows no deviation at all.

The discharge lamps with the best colour rendering properties are the fluorescent 'TL' lamps of the /90 series.

The diagram for these lamps (see next column) indicates hardly any deviation, thereby demonstrating the excellent colour rendering characteristics of this light source. In the home, up-market shops and showrooms and museums, high colour quality is essential to ensure that people, products and displayed objects have a natural colour appearance.

### **Good colour quality**

Fluorescent 'TL' lamps of the /80 series have good colour rendering characteristics. The diagram shows only a limited colour shift. These fluorescent lamps are therefore very widely used in many applications where good colour rendering is important.

In offices, department stores and light industrial premises, good colour quality is a major consideration. In these cases it is not acceptable for colours to deviate substantially from their natural appearance.

### **Average colour quality**

Fluorescent lamps of colour /33 cause appreciable deviations in colour rendering, as the CRV diagram shows. As a result, lamps of this colour quality are suitable only for use in situations where colour rendering is of little importance. In railway stations and car parks, efficiency takes priority over colour rendering. Here, the light source will not be selected primarily for its colour quality. However, when people are working in these areas, at least average colour quality is recommended.

### **Philips Quality Standards**

In striving for optimum quality levels, the internationally recognised ISO 9001 system for quality assurance, and the newer QS 9000 standard, have been implemented and rigidly enforced in Philips factories. Almost all phases of development and production are involved in a process of continual improvement within the framework of Total Quality Management (TQM) and achieving so-called 'world class' levels of quality.

But quality is not just a piece of paper or a set of good intentions. It is about making products with zero defects and good lifetime reliability for ease of mind. It is about supplying our customers with their goods at the right time, and it is about developing the best lighting products in the world and communicating the benefits in the most effective way. It is about handling questions and queries in the most helpful and speedy manner. In short it is about making us easy and rewarding to do business with. And with our company wide quality improvement program BEST (Business Excellence through Speed and Teamwork) we are confident we will also be capable of continuously 'Making things better'.

### **International standards and approvals for control gear**

In this publication the specification of Philips control gear satisfies the standards for safety, performance and reliability quoted in the numerous IEC publications for ballasts (electronic and electromagnetic), ignition devices, etc. As for Electro-Magnetic Interference, Philips products conform to the relevant European and/or IEC regulations.

On many occasions, formal approval will amount to supervised manufacturing test procedures or testing at the manufacturer's premises (SMT), meaning that these tests are then performed by Philips own engineers, under official supervision. As soon as approval is given, these may be shown on the product labelling (e.g. ENEC).

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