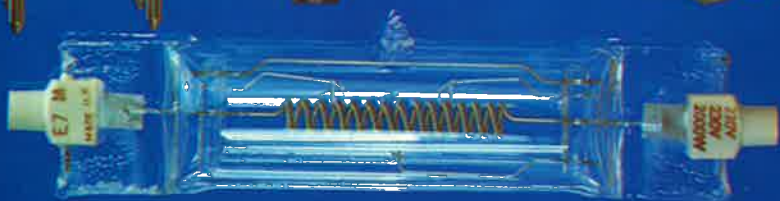


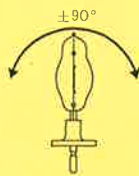
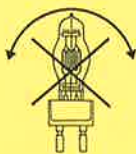
THORN



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Operating Positions



BD



BD $\pm 30^\circ$



BD $\pm 45^\circ$



BD $\pm 75^\circ$



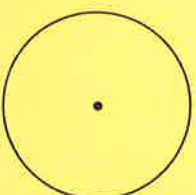
BD $\pm 90^\circ$



BD $\pm 135^\circ$



ANY



HOR $\pm 4^\circ$



HOR $\pm 30^\circ$



BU $\pm 15^\circ$



Special Features (excluding CP class)

- A Obscured top
- B Forced cooling necessary. Maximum bulb wall temperature 500 °C
- C Offset filament
- D Operates on Tungsten Halogen principle
- E Internal integral aluminised mirror
- F Internal integral dichroic mirror
- G Silvered bulb
- H Due to integral mirror nominal lumens not shown
- I Minimum bulb wall temperature 350 °C
- J Dual Voltage
- K External integral aluminised mirror

- L External integral dichroic mirror
- M Internal proximity reflector
- N Due to internal reflector nominal lumens not shown
- O Linear overhead projector lamp
- P 3 or 4 amp H.B.C. fuse necessary
- Q 5 or 6 amp H.B.C. fuse necessary
- R 6 or 7 amp H.B.C. fuse necessary
- S 10 amp H.B.C. fuse necessary
- T Opalised bulb
- U Satin etched bulb
- V Reflector PhotoFlood
- W Reflector Photospot
- X Light output measured in Centre Beam Candles

Caractéristiques (Classe CP exclue)

- A Calotte obscurcie
- B Refroidissement forcé nécessaire. Température maximum de la paroi de l'ampoule 500 °C
- C Filament excentré
- D Fonctionne selon le principe du tungstène-halogène
- E Miroir aluminisé interne incorporé
- F Miroir dichroïque interne incorporé
- G Ampoule argentée
- H Lumens nominaux non indiqués en raison du miroir incorporé
- I Température minimum de la paroi de l'ampoule 350 °C
- J Tension double

- K Miroir aluminisé externe incorporé
- L Miroir dichroïque externe incorporé
- M Réflecteur de proximité interne
- N Lumens nominaux non indiqués en raison du réflecteur interne
- O Lampe linéaire pour retro-projecteur
- P Fusible H.B.C. 3 ou 4 amp. nécessaire
- Q Fusible H.B.C. 5 ou 6 amp. nécessaire
- R Fusible H.B.C. 6 ou 7 amp. nécessaire
- S Fusible H.B.C. 10 amp. nécessaire
- T Ampoule opalisée
- U Ampoule satinée
- V Réflecteur photoflood
- W Réflecteur photospot

Code (ausschließlich CP-Klasse)

- A Abgedeckte Kolbenkuppe
- B Gebläsekühlung erforderlich. Maximale Kolbentemperatur 500 °C
- C Vorgebaute Wendel
- D Arbeitet nach Halogen-Prinzip
- E Mit Aluminium-Innenspiegel
- F Mit Kaltlicht-Innenspiegel
- G Verspiegelter Lampenkolben
- H Bei Innenspiegel keine Lm-Angaben
- I Minimale Kolbentemperatur 350 °C
- J Lamp für zwei Spannungsbereiche
- K Aluminium-Aussenspiegel

- L Kaltlicht-Aussenspiegel
- M Eingebauter Hilfsreflektor
- N Bei Hilfsreflektor keine Lm-Angaben
- O Halogenlampe, zweiseitig gesockelt, für Schreibprojektoren
- P HBC-Sicherung, 3 oder 4 A, erforderlich
- Q HBC-Sicherung, 5 oder 6 A, erforderlich
- R HBC-Sicherung, 6 oder 7 A, erforderlich
- S HBC-Sicherung, 10 A, erforderlich
- T Opalglaskolben
- U Mattierter Lampenkolben
- V Reflektorlampe – Weitstrahler
- W Reflektorlampe – Engstrahler
- X Lichtleistung in cd in der Bündelachse gemessen

Eigenschaften (exclusief C.P. klasse)

- A Gematteerde top
- B Koeling noodzakelijk; maximale temperatuur lampwand 500 °C
- C Offset Filament
- D Werkt volgens Tungsten-Halogen principe
- E Inwendige integraal gealuminiseerde spiegel
- F Inwendige integraal dichroïde spiegel
- G Verzilverde lamp
- H Nominale Lumen afwezig wegens integraal spiegel
- I Minimale temperatuur lampwand 350 °C
- J Dubbel voltage
- K Uitwendig integraal gealuminiseerde spiegel

- L Uitwendig integraal dichroïde spiegel
- M Interne nabijheids-reflector
- N Nominale Lumen afwezig wegens interne reflector
- O Lineaire overhead projector lamp
- P 3 of 4 amp. H.B.C. zekering vereist
- Q 5 of 6 amp. H.B.C. zekering vereist
- R 6 or 7 amp. H.B.C. zekering vereist
- S 10 amp. H.B.C. zekering vereist
- T Geopoliseerde lamp
- U Gesatineerde lamp
- V Reflector FotoFlood
- W Reflector Fotospot
- X Lichtsterkte in centrale bundel kaars

Caratteristiche particolari (eccetto classe CP)

- A Calotta annerita
- B Necessario il raffreddamento forzato. Temperatura massima del bulbo 500 °C.
- C Filamento noncentrato
- D Lampada ad alogeno
- E Specchio alluminato interno
- F Specchio dicroico interno
- G Bulbo argentato
- H A causa dello specchio i lumen nominali non possono essere indicati
- I Temperatura minima del bulbo 350 °C

- J Doppia tensione
- K Specchio alluminato esterno
- L Specchio dicroico esterno
- M Riflettore interno
- N A causa del riflettore interno i lumen nominali non possono essere indicati
- O Lampada lineare per lavagne luminose
- P Usare un fusibile di 3 o 4 amp
- Q Usare un fusibile di 5 o 6 amp
- R Usare un fusibile di 6 o 7 amp
- S Usare un fusibile di 10 amp
- T Bulbo opalino
- U Bulbo satinato

- Y Class CP and T Halogen Lamps require separate high breaking capacity fuse in the circuit, see instruction leaflet in the carton for individual lamp requirements.
- Z Higher lumen figures apply to low voltage lamps
- * Limited stock – Discontinued
- ** Minimum production quantity



×1000

Key to Symbols

Nominal lumens



Base



Filament formation



Average life hours



Special features



Operating positions

- X Rendement lumineux mesuré en candelas au centre du faisceau
- Y Les lampes halogène de catégorie CP et T nécessitent un fusible séparé de haute capacité de rupture dans le circuit; voir le mode d'emploi dans carton
- Z Les rendements élevés s'appliquent aux lampes des voltage inférieur
- * Stock limité – Interrompu
- ** Quantité minimum produite



×1000

Légende des symboles

Lumens nominaux



Base



Formation du filament



Durée moyenne en heures



Caractéristiques spéciales



Positions d'utilisation

- Y Halogenlampen der Gruppen CP und T erfordern Sicherungen mit hoher Abschaltleistung, siehe Anleitung
- Z Die jeweils höhere Lichtstrom- und Lebensdauer- Angabe gilt für Lampen mit 110/120V Spannung
- * Begrenzter Lagerbestand – Produktion eingestellt
- ** Mindest-Produktionsmenge



×1000

Schlüssel der Symbole

Nennlumen



Basis



Filamentanordnung



Durchschnittliche Lebensdauer



Besondere Vorzüge



Betriebspositionen

- Y Categorie CP en T Halogeen lampen, waarvoor afzonderlijke hoge capaciteits zekeringen vereist zijn, zie aanwijzingen in de verpakking voor individuele eisen
- Z Hôge Lumen-getallen verwijzen naar laag-voltage lampen
- * Beperkte voorraad – uit productie genomen
- ** Minimum hoeveelheid



×1000

Verklaring der symbolen:

Nominale lumenwaarde.



Basis



Gloeidraadformatie



Gemiddelde levensduur in uren



Speciale kenmerken



Werkstanden

- V Reflector: Photoflood
- W Reflector Photospot
- *X Emissione luminosa espressa in candele sull'asse
- Y Per le lampade ad alogeno Classe CP e T occorrono fusibili nel circuito; vedere le istruzioni allegate ad ogni lampada.
- Z I valori più alti dei lumen si riferiscono alle lampade a tensione minore.
- * Stock limitato – Non più reperibili
- ** Quantità minima di produzione



×1000

Codice dei simboli

Lumen nominali



Base



Formazione filamento



Durata media in ore



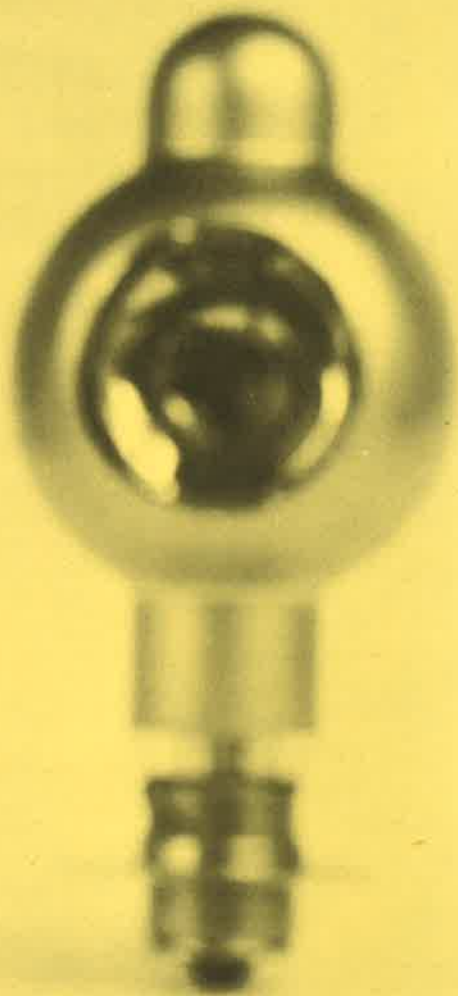
Caratteristiche particolari



Posizioni operative

THORN

A1/263





Give your 8 mm cine projector new life with this Thorn tungsten halogen lamp.

The new Thorn A1/263 8V 50W tungsten halogen projector lamp is a direct replacement for the A1/17 lamp and has all these advantages:

1. No projector modification required – no adjustment necessary.
2. Twice the life. 50 hours average life compared with 25 for the A1/17.
3. Brighter, whiter light throughout its life giving cleaner fresher colour.
4. Very even screen illumination. 65% average distribution compared with approximately 50% for the A1/17.

Redonnez une nouvelle vie à votre projecteur de cinéma 8 mm avec cette lampe aux halogènes Thorn

La nouvelle lampe de projection aux halogènes Thorn ref. A1/263 8V 50W remplace directement la lampe conventionnelle et offre les avantages suivants:

- 1e Aucune modification du projecteur n'est nécessaire, aucun réglage n'est requis.
- 2e Une durée de vie moyenne doublée: 50 heures au lieu de 25 heures pour la lampe conventionnelle.
- 3e Une lumière plus brillante et plus blanche pendant toute sa durée de vie donnant une couleur nette et fraîche.
- 4e Une répartition moyenne de lumière meilleure sur l'écran: 65% au lieu de environ 50% pour la lampe conventionnelle.

Schenken Sie Ihrem altbewährten 8 mm Projektor neues Leben durch die neue Thorn-Halogenlampe.

Eine der meistverkauften Projektionslampen der Welt 8 Volt 50 Watt wird abgelöst durch die neue Thorn Halogenlampe: Typ A1/263, 8 Volt 50 Watt

Diese neue Halogenlampe bietet gegenüber der bisherigen konventionellen Lampe folgende sichtbare Vorteile:

1. Doppelte Lebensdauer: "statt 25 Std. jetzt 50 Std. Lebensdauer".
2. Vollkommen gleichmässige Bildfeldausleuchtung, über 65% durchschnittliche Lichtverteilung.
3. Klare und reine Farbwiedergabe durch helleres und weisseres Licht.
4. Eine konstante Farbtemperatur bis zum Lebensdauerende.
5. Diese neue Halogenlampe ist sofort austauschbar gegen die bisherige konventionelle Lampe.

Gönnen Sie sich und Ihrem guten, treuen Projektor diese neue Halogenlampe und die Farben Ihrer alten Filme erwachen zu neuem Leben.

Geef Uw 8 mm film projectietoestel een tweede jeug met de nieuwe Thorn wolfram halogeen lamp.

De nieuwe Thorn A1/263 8V 50W wolfram halogeen projectielamp vervangt Uw A1/17 en geeft U de volgende voordelen:

1. Uw projectietoestel kan zonder veranderingen gebruikt worden – verstellen is onnodig.
2. De gebruikstijd is twee keer zo lang als die van de A1/17. Een gemiddelde gebruikstijd van ongeveer 50 uur, tegen ongeveer 25 voor de A1/17.
3. Gedurende de gehele gebruikstijd blijft het licht heller en duidelijker met als gevolg frissere en heldere kleuren.
4. Een uitermate gelijkmatige doekverlichting. Een gemiddelde distributie van ongeveer 65% tegen een gemiddelde van ongeveer 50% voor de A1/17.

Date nuova vita al vostro proiettore di 8 mm questa lampada al alogeno, Thorn

La nuova lampada per proiettore Thorn|A1/263 8V 50W ad alogeno, è una diretta sostituzione della lampada A1/17 e fornisce tutti i vantaggi seguenti.

1. Non occorre apportare modifiche o regolazioni al proiettore.
2. La durata è doppia 50 ore di funzionamento a confronto delle 25 ore della A1/17.
3. Luce più bianca e brillante che fornisce colori più nitidi.
4. Illuminazione uniforme dello schermo. Distribuzione media del 65% a confronto del 50% ottenibile con la A1/17.

Lamp Caps and Filament Formations



BH P46s



P 28s



P40s



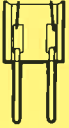
G 17q
G 17t



B 15s
S.C.C.



PG 22



G 6-35



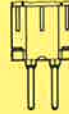
GY 9-53



GY 16



G 22



GX 38q



G 38



GX 9-5



B22d



B15d



G4



E40s



E27s



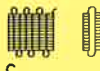
GY 7-9



A



B



C



D



E



F



G



H



J

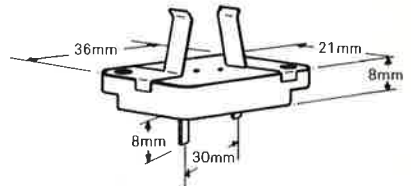
Photographic lampholders

GL 1079 series for G6.35 caps.

GL 1079-W

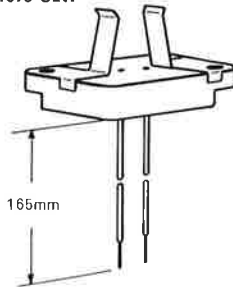


GL 1079



GL 1079-SL

GL 1079-SLW



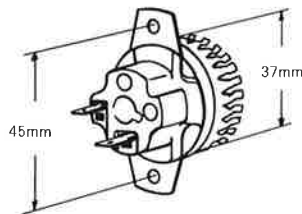
GL 1042-HV
For lamp voltages over 21·5V,
for G.17q G.17t caps.



GL 1123-A
for G.4 caps.



GL 1101
For 400W CSI lamps.



GL 1042-LV
up to and including 21·5V,
for G.17q G.17t caps.



GL 1177
for GY9.5 caps

PROJECTOR LAMP SUBSTITUTION GUIDE

ANSI Ref:	Volts	A1 Ref:	A1 Volts
BEH	120	A1/182	*
BEL	220	A1/183	220
BRJ	15	A1/234	15
BRL	12	A1/220	12
BXT	12	A1/186	12
CAL	120	A1/201	*
CBA	120	A1/241	*
CDS	120	A1/21	115
CEW/CFC	120	A1/167	*
CGW/CGT	120	A1/26	115
CLS/CLG	120	A1/37	115
CNP	230	A1/37	230
CMV/CMT	120	A1/37	115
CSF	240	A1/178	240
CTD	230	A1/182	230
CTT	120	A1/207	115
CWA	120	A1/206	115
CWD	120	A1/178	*
CXH	230	A1/201	230
CXK	120	A1/6	115
CXL	8	A1/202	8
CXR	8	A1/17	8
CYC	120	A1/183	*
CYN	24	A1/212	24
CZA/CZB	120	A1/205	*
CZG	230	A1/205	230
CZX/DAB	120	A1/7	115
DAK	120	A1/180	*
DBS	230	A1/180	230
DBT	230	A1/7	230
DCA	21.5	A1/184	21.5
DCR	21.5	A1/210	21.5
ddb	120	A1/9	115
DEF	21.5	A1/211	21.5
DEJ	120	A1/53	115
DFD	120	A1/59	115
DFN/DFC	125	A1/24	125
DFT	120	A1/59	115
DFY	120	A1/91	115
DKK	230	A1/9	230
DLG	21	A1/194	21.5
DNF	210	A1/266	21
DPT	120	A1/57	115
DYR	230	A1/233	230
DYS	120	A1/264	120
DZE/FDS	24	A1/262	24
EFM	8	A1/229	8
EFN	12	A1/230	12
EFP	12	A1/231	12
EFR	15	A1/232	15
EHE	12	A1/45	12
EHJ	24	A1/223	24
EJL	24	A1/252	24
EGH	120	A1/241	*
ELC	24	A1/259	24
EMM	24	A1/258	24
EPS	220/230, 240	A1/268	
ETA	12	A1/45	12
FAL	120	A1/227	120
FCB	120	A1/228	120
FCR	12	A1/215	12
FCS	24	A1/216	24
FDT	12	A1/261	
FDX	12	A1/209	12
FEA	230	A1/228	230
FEB	220	A1/228	220

ANSI Ref	Volts	Amps	GandM Ref
BGB	4	0.75	G 31
BRD	4	0.75	G 19
BRK	4	0.75	G 27
BRS	4	0.75	G 29
BSB	6	1.0	G 5
BSK	6	1.0	G 40
BSS	6	1.0	G 5
BSW	7	0.2	G 48
ESA	6	10W	M 29
ESB	6	20W	M 30

*Manufactured as stock items in 220/230v, 240/250v ratings only.

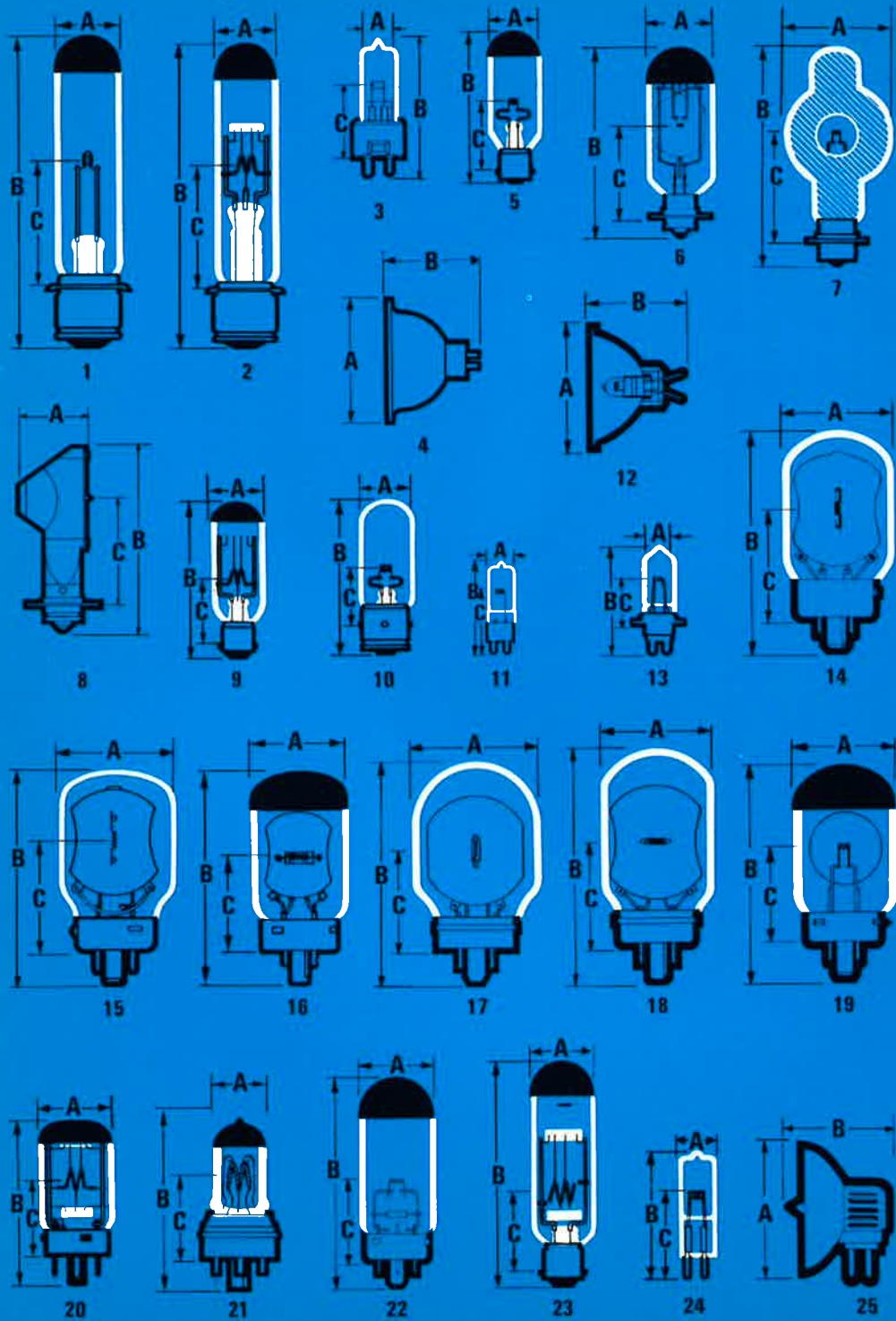
PHOTOGRAPHIC AND STUDIO LAMP SUBSTITUTION GUIDE

ANSI Ref:	ANSI Volts	TLL Ref:
BFE	120	HX21 (1)
BFK	120	HX21 (1)
BTL	120	HX17 (1)
BTM	120	BTM
BTN	120	HX21 (1)
BTP	120	BTP
BTR	120	BTR
BVM	220/230	P1/13*
BVT	120	(2)
BVV	120	BVV
BVW	120	BVW
BWA	120	(2)
BWF	120	(2)
CWZ	120	CWZ
CXZ	120	CXZ
CYX	120	CYX
DDY	120	BTP
DEB	120	HX80 (1)
DGH	120	HX21 (1)
DMX	120	BTM
DNS	120	HX80 (1)
DNT	120	HX35 (1)
DNV	120	HX15 (1)
DPJ	120	BTP
DPW	120	(2)
DPY	120	DPY
DTA	120	DTA
DTJ	120	DTA
DWK	230	CP52 (220, 240v)
DWY	120	P1/9
DXV	230	P1/11*
DXX	230, 240	P2/13*
ECG	120	CYX
ECN	120	DPY
EDC	120	EGN
EDG	120	EGR
EGE	120	HX80 (1)
EGG	120	HX35 (1)
EGN	120	EGN
EGR	120	EGR
EGT	120	EGT
EKM	240	P2/7*
FAD	120	P2/6
FCM	120	P2/28
FEX	220/230	P2/27*
FEY	120	P2/27
FHM	120	P2/29
500/T12/8	120	HX80 (1)
750/T12/9	120	HX35 (1)
IM/T20P/SP	120	HX14 (1)
IM/T12/2	120	HX15 (1)

(1) Non stock item – details on application

(2) Available to special order only

* Thorn manufacture in 220/230v and 240/250v ratings.



A1 50, 75, 100, 150 WATT

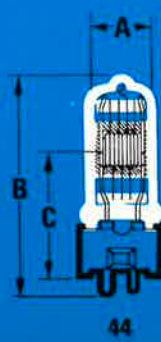
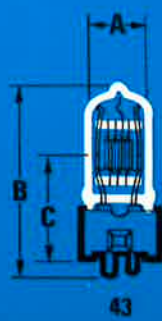
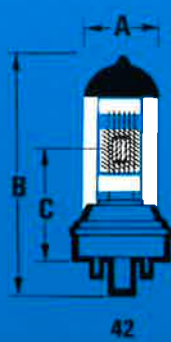
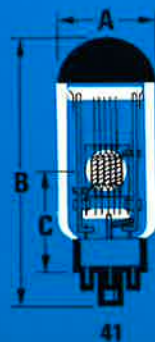
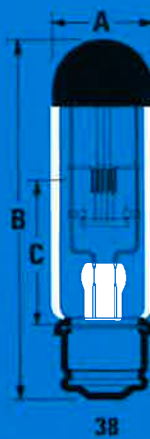
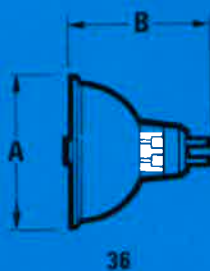
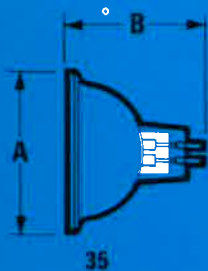
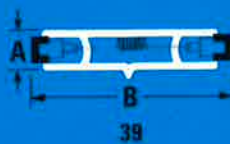
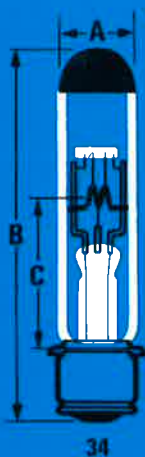
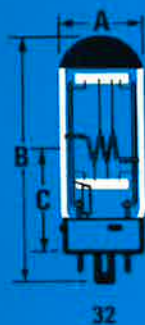
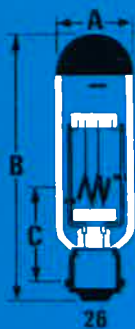
Diag. No.	Lamp Ref.	Volts	Watts	A	B	C						
							$\times 1000$					
7	A1/17	8	50	33 × 44	96	47 ± 0.5	—	P30s	J	25	ABGHN	BD
6	A1/202	8	50	31	96	47 ± 1	—	P30s	J	25	ABEH*	BD
24	A1/220	12	50	11.5	44	30 ± 0.25	1.4	G6-35	J	50	DI	BD ± 90
9	A1/225	220/230 240/250	50	26	67	35 ± 1	0.675	S.C.C.BA15s	F4	100	AJ**	BD
4	A1/229	8	50	50	42	—	—	G6-35	H	50	DHIK	HOR
12	A1/250	8	50	50	50	—	—	Special 2 Tab	H	50	DHIK	HOR
8	A1/263	8	50	36	85	47 ± 0.5	—	P30s	H	50	DHIK	BD
4	A1/230	12	75	50	42	—	—	G6-35	D	50	DHIL	HOR
1	A1/4	12	100	26	135	55.5 ± 0.5	2.7	P28s	J	25	A*	BD
2	A1/4	115	100	26	135	55.5 ± 0.5	1.85	P28s	F3	25	A*	BD
2	A1/4	220/230 240/250	100	26	135	55.5 ± 0.5	1.65	P28s	F4	25	A*	BD
9	A1/21	115	100	26	78	35 ± 1	1.85	S.C.C.BA15s	F3	25	A	BD
9	A1/21	220/230 240/250	100	26	78	35 ± 1	1.65	S.C.C.BA15s	F4	25	A	BD
13	A1/45	12	100	11.5	45	18 ± 0.2	3	PG22	J	50	DI**	BD ± 90
5	A1/186	12	100	26	78	35 ± 1	2.8	S.C.C.BA15s	J	25	A	BD
10	A1/193	12	100	26	78	29.5 ± 0.5	2.8	BA21s 4 Pin	J	25	—*	BD
11	A1/209	12	100	11	45	24 ± 0 -0.5	3	G6-35	J	50	DI	BD ± 90
24	A1/215	12	100	11	44	30 ± 0.25	3	G6-35	J	50	DI	BD ± 90
4	A1/231	12	100	50	42	—	—	G6-35	H	50	DHIL	HOR
3	A1/261	12	100	13	57	27.0 ± 0.25	3	GY9-5	J	50	DI	BD ± 90
14	A1/18	21-5	150	39	81	39.7 ± 1	—	G17q	G	25	BEH*	HOR
15	A1/24	125	150	39 × 42	81	39.7 ± 1	—	G17q	G	25	BCEH*	HOR
23	A1/167	220/230 240/250	150	26	90	35.5 ± 1	2.7	S.C.C.BA15s	F4	25	A	BD
2	A1/175	220/230 240/250	150	26	135	55.5 ± 0.5	2.7	P28s	F4	25	A*	BD
20	A1/182	220/230 240/250	150	30	76	33.5 ± 1	2.7	G17q	F4	25	AN	BD
16	A1/184	21-5	150	39	91	39.7 ± 1	—	G17q	G	25	ABEH*	BD
17	A1/194	21-5	150	48	86	39.7 ± 1	—	G17q	G	25	BEH*	HOR
18	A1/210	21-5	150	39	91	39.7 ± 1	—	G17q	G	25	BCEH	BD
19	A1/211	21-5	150	39	91	39.7 ± 1	—	G17q	G	25	ABFH	BD ± 90
22	A1/212	24	150	33	103	39.7 ± 0 -1.5	4.1	G17q	J	25	ABC**	BD
24	A1/216	24	150	13.5	47	32 ± 0 -0.25	5	G6-35	J	50	DI	BD ± 90
4	A1/232	15	150	50	42	—	—	G6-35	H	50	DHIL	HOR
4	A1/234	15	150	11.5	45	30 ± 0.25	4.7	G6-35	J	50	DI	BD ± 90
21	A1/243	220, 240	150	15	76	33.5 ± 1	3	G17t	F4	50	ADIP	BD
30	A1/248	115/120	150	14	62	40.0 ± 0.5	3.1	G6-35	J	50	AD	BD ± 90
25	A1/266	21	150	51	43	—	—	GY7-9	G	50	DHIL	HOR
3	A1/262	24	150	60	15	33.3 ± 0.25	5.0	GY9.5	J	50	DI	BD ± 90

A1/18 }
 A1/184 } Focal Distance 43.5mm
 A1/211 }
 A1/24 - Focal Distance 57.2mm
 A1/210 - Focal Distance 56.0mm







All dimensions are shown in mm.

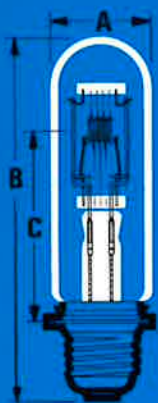
x 220V
 and 240V

220V
 225W

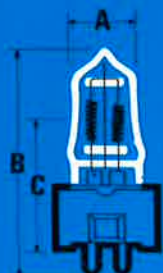


A1 200, 250, 300, 420, 500 WATT

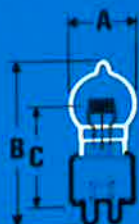
Diag. No.	Lamp Ref.	Volts	Watts	A	B	C	 × 1000					
35	A1/252	24	200	50	45	—	—	G5-3	G	50	DHIL	HOR
34	A1/5	115	250	33	135	55-5±0.5	5.5	P28s	F3	50	A*	BD
35	A1/5	220/230 240/250	250	33	135	55-5±0.5	5.2	P28s	F5	50	A*	BD
28	A1/223	24	250	13.5	55	33±0.25	8.5	G6-35	J	50	DI	BD±90
29	A1/235	24	250	12.5	56	23±0.2	8.5	PG22	J	50	DI	BD±90
36	A1/246	24	250	50	50	—	—	G6-35	J	50	DHIL	BD
37	A1/258	24	250	44	47.5	—	—	GY7-9	G	50	DHIL	HOR
35	A1/259	24	250	50	45	—	—	G5-3	G	25	DHIL	HOR
34	A1/6	115	300	33	135	55-5±0.5	7.4	P28s	F3	25	AB*	BD
34	A1/6	220/230 240/250	300	33	135	55-5±0.5	6.9	P28s	F5	25	AB*	BD
26	A1/37	115	300	28	105	35±1	7.4	S.C.C.BA15s	F3	25	AB	BD
26	A1/37	220/230 240/250	300	28	105	35±1	6.9	S.C.C.BA15s	F5	25	AB	BD
32	A1/178	220/230 240/250	300	33	103	39.7±1	6.9	G17q	F5	25	ABN	BD
27	A1/183	220/230 240/250	300	31	81	35±1	6.9	S.C.C.BA15s	F5	25	AB	BD
31	A1/201	220/230 240/250	300	33	103	39.7±1	—	G17q	F5	25	ABHMN*	BD
33	A1/240	220/230 240/250	300	15	87	39.7±1	7.2	G17t	F4	50	ADIP	BD
36	A1/249	220/230 240/250	300	15	62	40±0.5	7.2	G6-35	F4	50	ADIP	BD
39	A1/227	120	420	13.5	66.5	—	11	R7s	G	75	DIO*	HOR±4
38	A1/7	115	500	33	135	55-5±0.5	12.5	P28s	C8	25	AB**	BD
38	A1/7	220/230 240/250	500	33	135	55-5±0.5	11.4	P28s	C11	25	AB**	BD
40	A1/180	220/230 240/250	500	33	103	39.7±1	11.4	G17q	C8	25	ABN	BD
41	A1/205	220/230 240/250	500	33	103	39.7±1	—	G17q	C8	25	ABHN**	BD
42	A1/241	220/230 240/250	500	23	94	39.7±1	—	G17t	C10	50	ADHIMP	BD
43	A1/244	220/230 240/250	500	23	75	36.5±0.5	14.5	GY9-5	A8	75	DIP	BD±90
44	A1/254	220/230 240/250	500	23	75	36.5±0.5	—	GY9-5	A8	75	DHIMP*	BD±90
42	A1/268	220/230 240	500	23	94	39.7±1	—	G17t	C10	50	DHIMP	BD



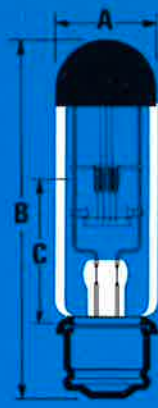
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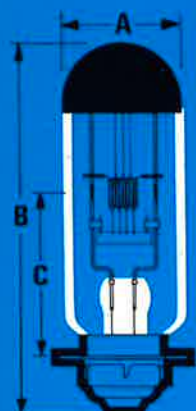
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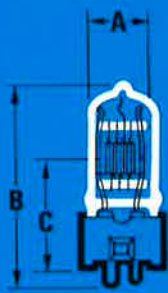
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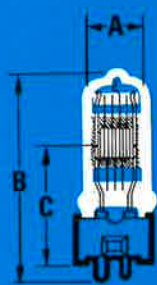
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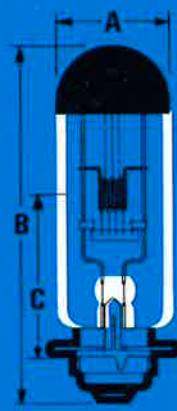
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50



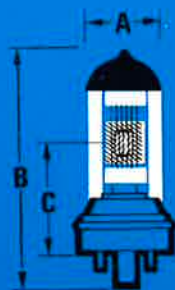
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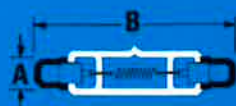
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53









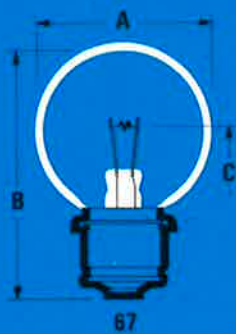
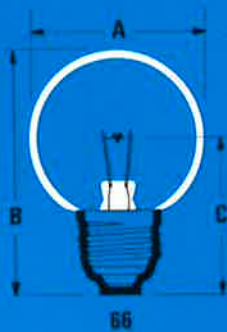
54








55

A1 600, 625, 650, 750, 800, 1000 WATT





Diag. Lamp No.	Ref.	Volts	Watts	A	B	C	 × 1000					
55	A1/228	120	600	13.5	91.5	—	17	R7s	G	75	DI0	HOR±4
55	A1/228	220/230 240/250	600	13.5	91.5	—	16.25	R7s	G	75	DIOP	HOR±4
47	A1/264	120	600	23	65	36.5±1	16	GY9.5	G	75	DIR	BD±90
51	A1/265	220/230 240	625	23	87	44.5±0.55	—	GY9.5	A8	75	DHIMP	BD±90
46	A1/233	220/230 240/250	650	23	65	36.5±1	16.5	GY9.5	E2	75	DIP	BD±90
50	A1/247	115	650	23	75	36.5±0.5	18.25	GY9.5	A6	75	DIR	BD±90
50	A1/247	220/240	650	23	75	36.5±0.5	17.75	GY9.5	A8	75	DIP	BD±90
51	A1/257	220/240	650	23	75	36.5±0.5	—	GY9.5	A8	75	DHIMP	BD±90
48	A1/9	115	750	39	140	55.5±0.5	19.5	P28s	C8	25	AB**	BD
48	A1/9	220/230 240/250	750	39	140	55.5±0.5	18	P28s	C10	25	AB**	BD
45	A1/52	115	750	37	153	81±0.5	19.5	P39s	C8	25	BC**	BU
49	A1/53	115	750	39	135	59±0.5	19.5	B.HP46s	C8	25	AB	BD
49	A1/53	220/230 240/250	750	39	135	59±0.5	18	B.HP46s	C10	25	AB	BD
53	A1/206	115	750	39	118	39.7±1	—	G17q	C8	25	ABHMN**	BD
53	A1/206	220/230 240/250	750	39	118	39.7±1	—	G17q	C10	25	ABHMN**	BD
54	A1/256	220, 240	750	23	94	39.7±1	—	G17t	C10	50	ADHMQ*	BD
50	A1/245	115/120 220/230 240/250	800	23	84	44.5±0.5	21.5	GY9.5	C6	75	DIQ	BD±90
51	A1/255	220/230 240/250	800	23	87	44.5±0.5	—	GY9.5	C8	75	DHIMQ*	BD±90
52	A1/59	115	1000	39	140	55.5±0.5	27	P28s	C8	25	AB**	BD
52	A1/59	220/230 240/250	1000	39	140	55.5±0.5	25	P28s	C10	25	AB**	BD
52	A1/91	115	1000	39	135	59±0.5	27	BHP46s	C8	25	AB**	BD
52	A1/91	220/230 240/250	1000	39	135	59±0.5	25	BHP46s	C10	25	AB**	BD
53	A1/207	115	1000	39	118	39.7±1	—	G17q	C8	25	ABHMN	BD
53	A1/207	220/230 240/250	1000	39	118	39.7±1	—	G17q	C10	25	ABHMN	BD
54	A1/242	220/230 240/250	1000	23	94	39.7±1	—	G17t	C10	50	ADHIMQ	BD



M






Diag. Lamp No.	Lamp Ref.	Volts	Watts	A	B	C		1000 			*	
56	M29	6	10	8.5	30	19.5±0.25	0.2	G4	D	100	D	ANY
56	M30	6	20	8.5	30	19.5±0.25	0.45	G4	D	100	D	ANY
12	M39	6	20	49.8	39	—	—	2 Tab	D	2000	D	ANY
56	M35	12	20	8.5	30	19.5±0.25	0.45	G4	D	250	D	ANY
		13.2	23	—	—	—	0.60	—	D	100	D	ANY
4	M37	12	50	50	42	—	—	G6-35	D	750	D	ANY

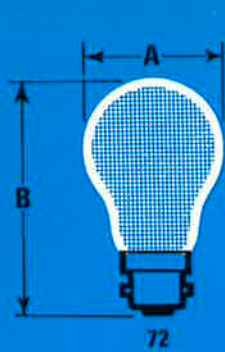
F

Diag. Lamp No.	Lamp Ref.	Volts	Watts	A	B	C	D				*	
58	F/10	6	24	39	65	—	10±2	0.41	S.E.S.E14s	100	— *	BD±135
58	F/10	12	24	39	65	—	10±2	0.44	S.E.S.E14s	100	— *	BD±135
57	F/3	12	24	39	65	—	10±2	0.44	S.B.S.BA15d	100	— *	BD±135
60	F/25	6	30	39	69	—	10±2	0.6	E.S.E27s	25	— *	HOR±30
61	F/58	6	48	40	65	—	7±2	0.675	S.E.S.E14s	200	† *	BD±135
62	F/59	6	48	40	70	—	7±2	0.675	E.S.E27s	200	† *	BD±135
63	F/81	6	48	39	63	41±0.5	—	0.675	P30s	200	† *	BD±135
64	F/38	12	48	40	65	40±3	—	0.85	S.B.C.BA15d	100	— *	BD±135
65	F/77	12	50	40	70	48±3	—	0.95	S.E.S.E14s	50	— *	BD±135
66	F/14	12	100	62	91	55±5	—	2.25	E.S.E27s	100	— *	BD±135
67	F/63	12	100	62	98	37±0.5	—	2.25	P28s	100	— *	BD±135

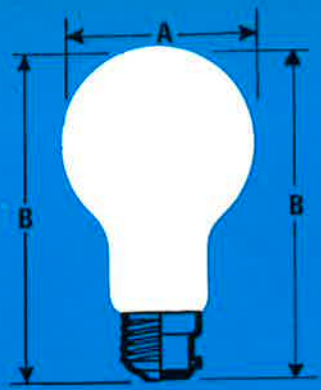
† Solid Source filament

G

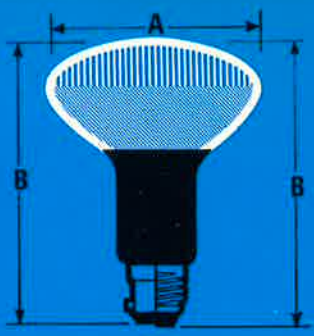
Diag. Lamp No.	Lamp Ref.	Volts	Amps	A	B	C					*	
71	G/19	4	0.75	16.5	50	31.8±0.8	30	S.C.C.BA15s	D	50	—	ANY
70	G/27	4	0.75	16.5	50	28.5±0.5	30	P30s	H	50	—	ANY
69	G/29	4	0.75	16.5	50	28.5±0.5	30	P30s	D	50	—	ANY
68	G/31	4	0.75	25.5	51	28.5±0.5	30	P30d	D	50	—	HOR±30
70	G/5	6	1	16.5	50	28.5±0.5	80	P30s	H	100	—	BD±45
69	G/40	6	1	16.5	57	28.5±0.5	80	P30s	D	100	—	BD±30
69	G/45	6	5	19	54	23±0.5	450	P30s	D	100	—	BD±30
70	G/48	7	0.2	16.5	50	28.5±0.25	13.10	P30s	H	50	—	ANY



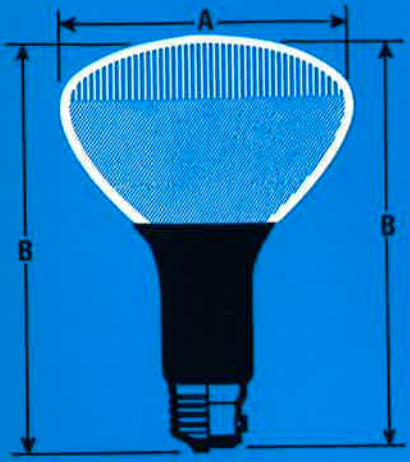
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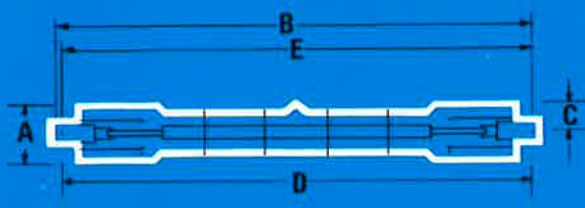
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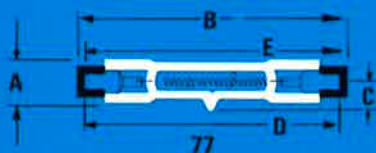
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75



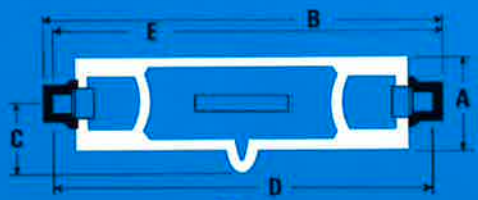
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77



78








79



80

P1 FOR 3400°K FILM

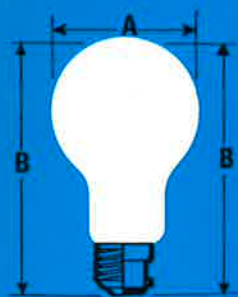
Diag. Lamp No.	Ref.	Volts	Watts	A	B	C	D	E	 × 1000				
77	P1/8	30	250	12	80	10.2	74.9±1.6	78.3	8	R7s	12	D	ANY
72	P1/1	220/230 240/250	275	61	108.5	—	—	—	8.3	B.C.B22d	3	U	ANY
72	P1/1	220/230 240/250	275	61	110	—	—	—	8.3	E.S.E27s	3	U	ANY
74	P1/6	220/230 240/250	375	97	133.5	—	—	—	13	B.C.B22d	4	UVX	ANY
74	P1/6	220/230 240/250	375	97	135	—	—	—	13	E.S.E27s	4	UVX	ANY
73	P1/2	220/230 240/250	500	82	164.5	—	—	—	15	B.C.B22d	6	—	ANY
73	P1/2	220/230 240/250	500	82	166	—	—	—	15	E.S.E27s	6	—	ANY
77	P1/9	120	650	15	80	11.4	74.9±1.6	78.3	21	R7s	12	D*	ANY
80	P1/13	220/230 240/250	650	28	65	—	—	—	20	G6-35	15	DP	BD±90
77	P1/11	220/230 240/250	800	15	80	11.4	74.9±1.6	78.3	24.5	R7s	12	DQ	HOR±4
80	P1/16	115	850	28	65	—	—	—	28	G6-35	15	DQ	BD±90
78	P1/12	220/230 240/250	1000	12	127	10.2	121.7±1.6	125.1	33	R7s	15	DQ	HOR±4
80	P1/15	220/230 240/250	1000	28	65	—	—	—	32	G6-35	12	DQ	BD±90
78	P1/18	220/230 240/250	1250	12	127	10.2	121.7±1.6	125.1	39	R7s	15	DR	HOR±4
80	P1/19	220/230 240/250	1250	28	75	—	—	—	40	G6-35	15	DR	BD±90

P2 FOR 3200°K FILM

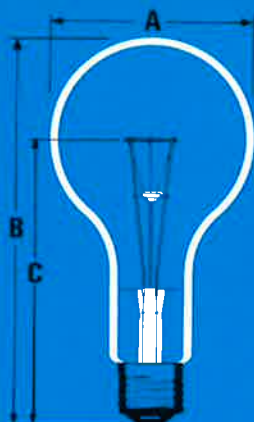
73	P2/1	220/230 240/250	500	89	183.5	—	—	—	11	E.S.E27s	100	U*	ANY
75	P2/4	220/230 240/250	500	127.5	182	—	—	—	7.2	E.S.E27s	12	UVX*	ANY
76	P2/10	220/230 240/250	625	12	190	10.2	185.7±1.6	189.1	15.5	R7s	200	DP	HOR±4
78	P2/15	220/240	625	12	119.5	10.2	114.2±1.6	117.6	16.25	R7s	75	DP	HOR±4
77	P2/6	120	650	15	80	11.4	79.9±1.6	78.3	17	R7s	100	D	HOR±4
80	P2/16	220/230 240/250	650	28	75	—	—	—	17.5	G6-35	50	DP	BD±90
78	P2/11	220, 240	800	12	119.5	10.2	114.2±1.6	117.6	21	R7s	150	DQ	HOR±4
77	P2/13	220, 240	800	15	80	11.4	74.9±1.6	78.3	20	R7s	75	DQ	HOR±4
78	P2/14	220, 240	800	15	93.5	12	88.4±1.6	91.8	20	R7s	50	DQ	HOR±4
80	P2/25	115	850	28	75	—	—	—	23	G6-35	50	D	BD±90
76	P2/7	220/230 240/250	1000	12	190	10.2	185.7±1.6	189.1	26	R7s	200	DQ	HOR±4
80	P2/17	220/230 240/250	1000	28	75	—	—	—	28	G6-35	50	DQ	BD±90
78	P2/28	120	1000	12	119.5	10.2	114.2±1.6	117.6	27	R7s	300	D	HOR±4
78	P2/29	120	1000	12	119.5	10.2	114.2±1.6	117.6	27	R7s	300	DU	HOR±4
76	P2/12	220/230 240/250	1250	12	190	10.2	185.7±1.6	189.1	26	R7s	200	DQ	HOR±4
80	P2/26	220/230 240/250	1250	28	75	—	—	—	35	G6-35	50	DR	BD±90
79	P2/27	115/120	2000	30	143	25	138.45±1.6	141.3	56.6	RX7s	500	DR	HOR±4
79	P2/27	220/230 240/250	2000	30	143	35	138.45±1.6	141.3	50	RX7s	300	DR	HOR±4

P3

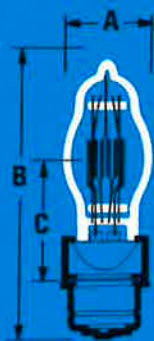
73	P3/3	220/230 240/250	75	61	108.5	—	—	—	1.15	B.C.B22d	100	T	ANY
73	P3/3	220/230 240/250	75	61	110	—	—	—	1.15	E.S.E27s	100	T	ANY
73	P3/4	220/230 240/250	150	61	108.5	—	—	—	2.5	B.C.B22d	100	T	ANY
73	P3/4	220/230 240/250	150	61	110	—	—	—	2.5	E.S.E27s	100	T	ANY



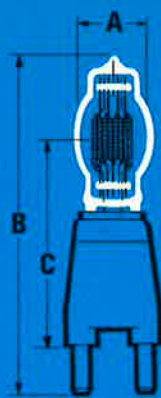
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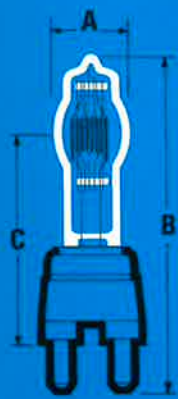
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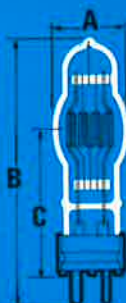
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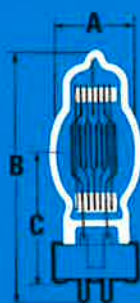
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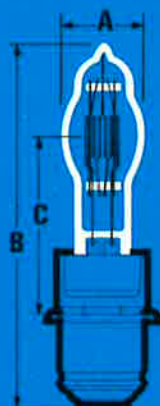
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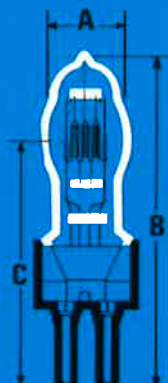
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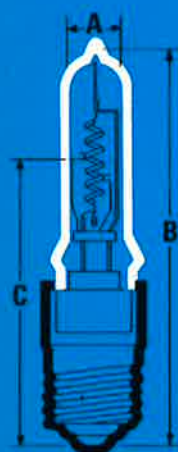
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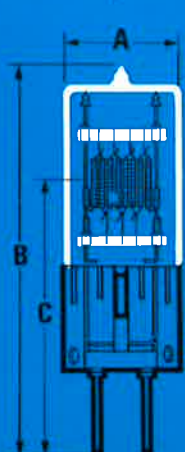
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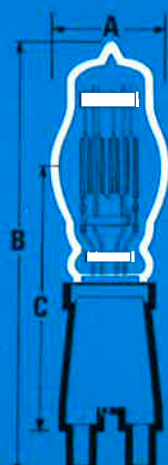
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91



93







94



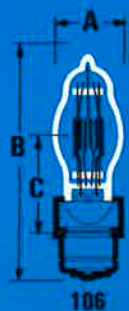
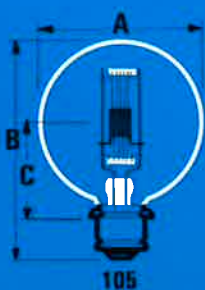
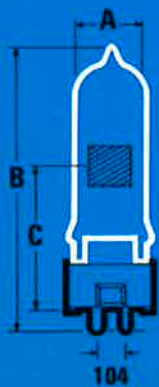
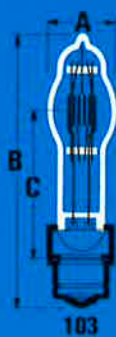
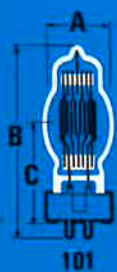
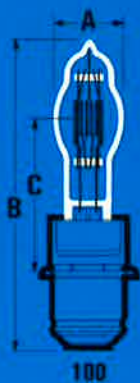
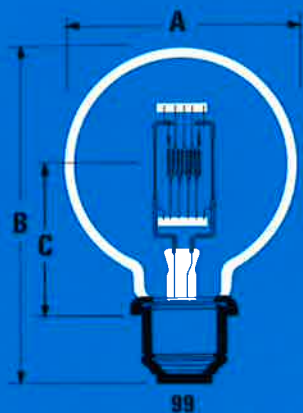
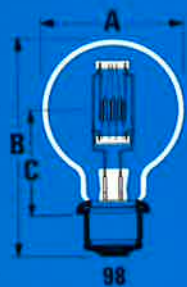
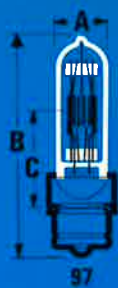
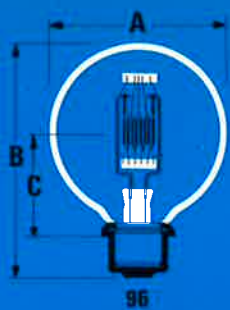
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CP for 3200°K Film





Dia. No.	Watts	TLL Ref.	Volts	 × 1000		A	B	C			
E27s Base											
81	500	CP2	240	13.75	15	82	166	—	J	ANY	
E40 Base											
82	1000	CP3	240	28	25	153	309	—	J	ANY	
89	2000	HX26**	120, 220, 240	58/54	400	40	200	127	DZ	VBD ±90	
91	2000	CP59	220/230, 240	50	300	30	190	133	DY	ANY	
GX9.5 Base											
88	650	CP23	115/120, 220, 240	17/16.8	100	35	110	55	DZ	VBD ±90	
88	1000	CP24	115/120, 220, 240	27/26	200	35	110	55	DZ	VBD ±90	
GY16 Base											
86	2000	CP43	115/120, 220, 240	56/54	400	40	145	70	DZ	VBD ±90	
86	2000	HX33**	220	52	250	40	145	70	DX	VBD ±90	
91†	2000	HX27**	220/230, 240	52	300	30	155	85	DUY	ANY	
G22 Base											
87	500	EGN1	120	13	100	27	140	63.5	D	VBD ±90	
87	650	CP39	115/120, 220, 240	17/16.8	100	35	140	63.5	DZ	VBD ±90	
87	650	HX37**	220, 240	16.8	100	35	175	102	DU	VBU ±45	
87	750	EGR1	120	20.5	200	35	140	63.5	D	VBD ±90	
87	1000	CP40	115/120, 220, 240	27/26	200	35	140	63.5	DZ	VBD ±90	
87	1000	EGT1	120	28	250	35	140	63.5	D	VBD ±90	
87	2000	CP55	115/120, 220, 240	56/54	400	40	160	75.0	DZ	VBD ±90	
87	2000	HX55**	120	58	400	40	160	75.0	D	VBD ±90	
G38 Base											
84	1500	CXZ1	120	41	300	40	210	127	D	VBD ±90	
84	2000	CP41	115/120, 220, 240	56/54	400	40	210	127	DZ	VBD ±90	
85	2000	CP56	115/120, 220, 240	56/54	400	40	210	127	DZ	VBD ±90	
84	2000	CYX1	120	58	400	40	210	127	D	VBD ±90	
85	3000	HX48**	120, 220, 240	82	400	47	210	127	DSZ	VBD ±45	
94	5000	CP29	115/120	145	400	75	280	165	D	VBD ±45	
94	5000	CP29*	220, 240	135	500	65	280	165	D	VBD ±45	
94	5000	DPY1	120	145	400	75	280	165	D	VBD ±45	
95	10000	CP54	220, 240	280	400	75	380	254	D	VBD ±45	
GX38q Base											
90	1 1/4/1 1/4 KW	CP30*	220, 240	27/56	300	60	220	143	DT	VBD ±45	
90	1 3/4/2 1/2/3 1/2 KW	CP58*	220, 240	27/59/91	300	70	220	143	DT	VBD ±45	
93	2 1/2/2 1/2 KW	CP32	220, 240	59/127	300	70	220	143	DT	VBD ±45	
P28s Base											
83	500	BTM1	120	13	100	27	130	55.5	D	VBD ±90	
83	650	CP51	115/120, 220, 240	17/16.8	100	35	130	55.5	DZ	VBD ±90	
83	750	BTP1	120	20.5	200	35	130	55.5	D	VBD ±90	
83	1000	CP52	115/120, 220, 240	27/26	200	35	130	55.5	DZ	VBD ±90	
83	1000	BTR1	120	28	250	35	130	55.5	D	VBD ±90	
P40s Base											
89	1000	BVV1	120	28	250	35	200	100	D	VBD ±90	
89	1500	CWZ1	120	41	300	40	215	100	D	VBD ±90	
89	1500	DTA1	120	41	300	40	200	87	D	VBD ±90	
89	2000	BVV1	120	58	400	40	215	100	D	VBD ±90	
89	2000	CP53	115/120, 220, 240	56/54	400	40	200	87	DZ	VBD ±90	
89	2000	HX53**	120	58	400	40	200	87	D	VBD ±90	
91†	2000	HX36**	220/230, 240	50	300	30	190	95	DY	VBD ±45	

D Operates on Tungsten Halogen principle. Require separate HBC fuse in circuit - see leaflet in lamp carton
 J Pearl Bulb
 S Special Development for ellipsoidal spotlights
 O 110/115V rating available to order
 T Twin filament lamp. Lumen figures relate to single/twin filament options
 U Special operating conditions

X Biplane filament (Ref. C Page 2)
 Y Coiled Coil filament (Ref. G Page 2)
 Z Higher lumens apply to low volt lamp
 * New monoseal design
 ** Non-stock item. Min. order
 † USA ANSI designation
 ‡ Base different to lamp indicated

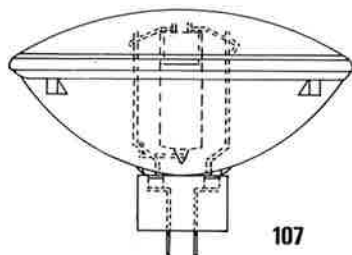


T




Dia. No.	Watts	TLL Ref.	Volts	 × 1000		A	B	C		
P28s Base										
98	250	T3	240, 250	4.25	200	78	124	55.5		VBD ±90
96	500	T1*	240, 250	9.5	200	100	140	55.5		VBD ±90
97	500	T17	115/120, 220, 240	10.5/9.5	750	27	130	55.5	DZ	VBD ±90
97	500	HX17**	120	10.5	750	27	130	55.5	DZ	VBD ±90
97	500	HX80**	120	10.5	750	27	160	89	D	VBU ±15
106	650	T13	115/120, 220, 240	13.5	750	35	130	55.5	D	VBD ±90
103	750	HX35**	120	17.0	750	35	160	89	D	VBU ±15
106	750	HX21**	120	17	750	35	130	55.5	D	VBD ±90
102	1000	T4*	240, 250	20	200	39	155	89		VBU ±15
105	1000	T6*	240, 250	20	200	102	140	55.5		VBD ±75
106	1000	T14	115/120, 220, 240	23	750	35	130	55.5	D	VBD ±90
103	1000	T15	115/120, 220, 240	23	750	35	160	89	D	ANY
106	1000	HX14**	120	24.5	750	35	130	55.5	D	VBD ±90
103	1000	HX15**	120	24.5	750	35	160	89	D	ANY
P40s Base										
89	1000	T2*	240, 250	20	200	132	200	87		VBD ±90
100	1000	T16	115/120, 220, 240	23	750	35	180	87	D	VBD ±90
100	1000	HX16**	120	24.5	750	35	180	87	D	VBD ±90
GX9.5 Base										
101	500	HX82**	115/120, 220, 240	10.5/9.5	750	27	110	55	DZ	VBD ±90
101	650	T12	115/120, 220, 240	13.5	750	35	110	55	D	VBD ±90
101	1000	T11	115/120, 220, 240	23	750	35	110	55	D	VBD ±90
101	1000	HX81**	115/120, 220, 240	23	750	35	130	75	D	VBD ±90
GY9.5 Base										
104	500	T18 (HX83)	220, 240	11	300	27	85	46.5	D	VBD ±90

* T.H. equivalent available (see table)
 ** Non-stock item. Min. order

NEW - Nouvelle - Neue - Nieuwe - Nuova
CP for 3200°K film



E.M.E.P. Base (PAR 64)

Dia. No.	Watts	TLL Ref.	Description	Volts	PK. Beam Candlepower × 1000		Field Angle 1/10 peak	Beam Angle 1/2 peak		
107	1000	CP.60	Clear Narrow Spot	220, 240	320	300	17°V × 20°H	9°V × 12°H	D	Any*
107	1000	CP.61	Stipple Spot	220, 240	270	300	20°V × 22°H	10°V × 14°H	D	Any*
107	1000	CP.62	Flood	220, 240	125	300	20°V × 38°H	11°V × 24°H	D	Any*

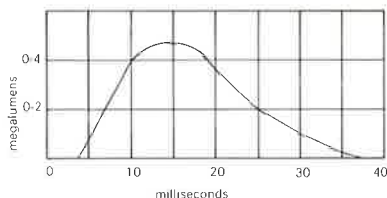
*Any horizontal through both contact lugs.

Photoflash bulbs

Tru-Flash Type 1B

Specification

Class	MF
Colour of bulb	Blue
Total light output (lumens secs)	7500
Peak light output (megalumens)	0.45
Time to peak (milliseconds)	13
Duration above half peak (milliseconds)	15
Voltage range	3-45
Maximum bulb diameter (mm)	11.9
Maximum overall length (mm)	40.5
Bulbs per pack	10
Bulbs per outer container	200
Colour code	Blue



Tru-Flash type 1B

Spécification

Catégorie	MF
Couleur de l'ampoule	bleu
Rendement lumineux total (en secs)	7500
Rendement lumineux maximum (megalumens)	0.45
Temps pour atteindre le maximum (msecs)	13
Durée de la $\frac{1}{2}$ intensité maximum supérieure (m secs)	15
Voltage	3-45
Diamètre maximal de l'ampoule (mm)	11.9
Longueur maximum hors-tout (mm)	40.5
Nombre d'ampoules par boîte	10
Nombre d'ampoules par carton	200
Code couleur	bleu

Flitslamp Type 1B

Specificaties

Categorie	MF
Lampkleur	blauw
Totaal rendement (Lumen/sec)	7500
Max. rendement (megalumen)	0.45
Grootste sterkte bereikt in (1000-ste sec)	13
Duur na halve sterkte (1000-ste sec)	15
Voltage bereik	3-45
Maximale lamp diameter (mm)	11.9
Maximale lengte (mm)	40.5
Lampen per verpakking	10
Lampen per doos	200
Kleurcode	blauw

Blitzlampe Typ: 1B

Technische Daten

Blitzkontakt	XF
Kolbenfarbe	blau
Gesamtlichtmenge (Lms)	7500
Spitzenlichtwert (Mlm)	0.45
Scheitelzeit (ms)	13
Leuchtzeit (ms)	15
Zündspannung (V)	3-45
Max. Kolbendurchmesser (mm)	11.9
Max. Gesamtlänge (mm)	40.5
Lampen pro Einzelpackung	10
Lampen pro Großpackung	200
Farbcode	blau

Tru-Flash Tipo 1B

Caratteristiche

Classe	MF
Colore del bulbo	blu
Quantità totale di luce (lumen. sec)	7500
Valore di picco del flusso (megalumen)	0.45
Tempo per arrivare al picco (msec)	13
Durata di accensione (msec)	15
Tensione di accensione (Volt)	3-45
Diametro massimo del bulbo (mm)	11.9
Lunghezza massima (mm)	40.5
Confezione (pezzi)	10
Pezzi per contenitore esterno	200
Codice colore	blu

Photoflash bulbs

Mini-Flash Super AG3B

Specification

Class	MF
Colour of bulb	Blue
Total light output (lumen secs)	7500
Peak light output (megalumens)	0.45
Time to peak (milliseconds)	13
Duration above half peak (milliseconds)	15
Voltage range	3-45
Maximum bulb diameter (mm)	11.9
Maximum overall length (mm)	33.3
Bulbs per pack	10
Bulbs per outer container	200
Colour code	Blue

Mini-Flash Super AG3B

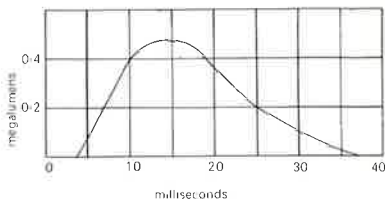
Spécification

Catégorie	MF
Couleur de l'ampoule	bleu
Rendement lumineux total (en secs)	7500
Rendement lumineux maximum (megalumens)	0.45
Temps pour atteindre le maximum (m secs)	13
Durée de la $\frac{1}{2}$ intensité maximum supérieure (m secs)	15
Voltage	3-45
Diamètre maximal de l'ampoule (mm)	11.9
Longueur maximum hors-tout (mm)	33.3
Nombre d'ampoules par boîte	10
Nombre d'ampoules par carton	200
Code couleur	bleu

Blitzlampe Typ: AG3B

Technische Daten

Blitzkontakt	XF
Kolbenfarbe	blau
Gesamtlichtmenge (Lms)	7500
Spitzenlichtwert (Mlm)	0.45
Scheitelzeit (ms)	13
Leuchtzeit (ms)	15
Zündspannung (V)	3-45
Max. Kolbendurchmesser (mm)	11.9
Max. Gesamtlänge (mm)	33.3
Lampen pro Einzelpackung	10
Lampen pro Großpackung	200
Farbcode	blau



Mini-Flash Super AG3B Flitslamp

Specificaties

Categorie	ME
Lampkleur	blauw
Totaal rendement (Lumen/sec)	7500
Max. rendement (megalumen)	0.45
Grootste sterkte bereikt in (1000-ste sec)	13
Duur na halve sterkte (1000-ste sec)	15
Voltage bereik	3-45
Maximale lamp diameter (mm)	11.9
Maximale lengte (mm)	33.3
Lampen per verpakking	10
Lampen per doos	200
Kleurcode	blauw

Mini-Flash Super AG3B

Caratteristiche

Classe	MF
Colore del bulbo	blu
Quantità totale di luce (lumen.sec)	7500
Valore di picco del flusso (megalumen)	0.45
Tempo per arrivare al picco (msec)	13
Durata di accensione (msec)	15
Tensione di accensione (Volt)	3-45
Diametro massimo del bulbo (mm)	11.9
Lunghezza massima (mm)	33.3
Confezione (pezzi)	10
Pezzi per contenitore esterno	200
Codice colore	blu

Photoflash bulbs

Photo-Flash M3

Specification

Class	M
Colour of bulb	Clear
Total light output (lumens secs)	16000
Peak light output (megalumens)	1
Time to peak (milliseconds)	17
Duration above half peak (milliseconds)	15
Voltage range	3-45
Maximum bulb diameter (mm)	22
Maximum overall length (mm)	45
Bulbs per pack	6
Bulbs per outer container	180
Colour code	Red

Photo-Flash M3

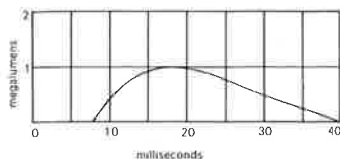
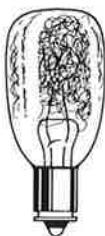
Spécification

Catégorie	M
Couleur de l'ampoule	transparent
Rendement lumineux total (en secs)	16000
Rendement lumineux maximum (megalumens)	1
Temps pour atteindre le maximum (m secs)	17
Durée de la ½ intensité maximum supérieure (m secs)	15
Voltage	3-45
Diamètre maximal de l'ampoule (mm)	22
Longueur maximum hors-tout (mm)	45
Nombre d'ampoules par boîte	6
Nombre d'ampoules par carton	180
Code couleur	rouge

Blitzlampe Typ: M3

Technische Daten

Blitzkontakt	XFM
Kolbenfarbe	klar
Gesamtlichtmenge (Lms)	16000
Spitzenlichtwert (Mlm)	1
Scheitelzeit (ms)	17
Leuchtzeit (ms)	15
Zündspannung (V)	3-45
Max. Kolbendurchmesser (mm)	22
Max. Gesamtlänge (mm)	45
Lampen pro Einzelpackung	6
Lampen pro Großpackung	180
Farbcode	Rot



M3 Flitslamp

Specificaties

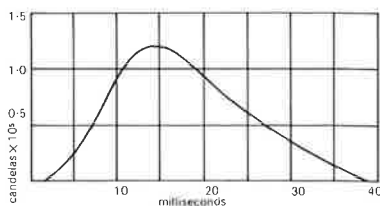
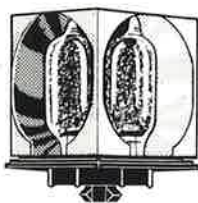
Categorie	M
Lampkleur	helder
Totaal rendement (Lumen/sec)	16000
Max. rendement (megalumen)	1
Grootste sterkte bereikt in (1000-ste sec)	17
Duur na halve sterkte (1000-ste sec)	15
Voltage bereik	3-45
Maximale lamp diameter (mm)	22
Maximale lengte (mm)	45
Lampen per verpakking	6
Lampen per doos	180
Kleurcode	rood

Photo-Flash M3

Caratteristiche

Classe	M
Colore del bulbo	chiaro
Quantità totale di luce (lumen, sec)	16000
Valore di picco del flusso (megalumen)	1
Tempo per arrivare al picco (msec)	17
Durata di accensione (msec)	15
Tensione di accensione (Volt)	3-45
Diametro massimo del bulbo (mm)	22
Lunghezza massima (mm)	45
Confezione (pezzi)	6
Pezzi per contenitore esterno	180
Codice colore	rosso

Flashcube



Specification

Class	MF
Colour of bulb	Blue
Total light output (beam candle power sec)	2000
Peak light output (beam candle power)	130000
Time to peak (milliseconds)	13
Duration above half peak (milliseconds)	15
Voltage range	3-45
Width (mm)	28.5
Overall length (mm)	35.5
Cubes per pack	3
Cubes per outer pack	60

Specification

Catégorie	MF
Couleur de l'ampoule	Bleue
Rendement lumineux total (puissance en candelas du faisceau par sec)	2000
Rendement lumineux maximum (puissance en candelas du faisceau)	130000
Temps pour atteindre le maximum (m secs)	13
Durée de la $\frac{1}{2}$ intensité maximum supérieure (m secs)	15
Voltage	3-45
Largeur (mm)	28.5
Longueur hors-tout (mm)	35.5
Nombre de flashcubes par boîte	3
Nombre de flashcubes par carton	60

Technische Angaben

Blitzkontakt	XF
Farbcode	blau
Gesamtlichtmenge (cd/sec. in der Bündelachse)	2000
Spitzenlichtwert (cd in der Bündelachse)	130000
Scheitelzeit (ms)	13
Leuchtzeit (ms)	15
Volt-Zündspannung	3-45
Breite (mm)	28.5
Gesamtlänge (mm)	35.5
Würfel pro Einzelpackung	3
Würfel pro Großpackung	60

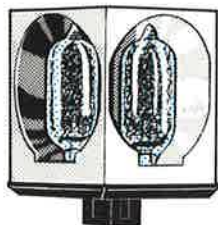
Specificatie

Categorie	MF
Lampkleur	Blauw
Totaal rendement (bundelsterkte in kaars/sec)	2000
Max. rendement (bundelsterkte in kaars)	130000
Grootste sterkte bereikt in (1000-ste sec)	13
Duur na halve sterkte (1000-ste sec)	15
Voltage bereik	3-45
Breedte (mm)	28.5
Lengte (mm)	35.5
Blokjes per verpakking	3
Blokjes per doos	60

Caratteristiche

Class	MF
Colore del bulbo	blu
Quantità di luce emessa (cd/sec)	2000
Candele di picco	130000
Tempo per arrivare al picco (msec)	13
Durata di accensione (msec)	15
Tensione di accensione (volt)	3-45
Larghezza (mm)	28.5
Lunghezza (mm)	35.5
Confezione (pezzi)	3
Pezzi per contenitore esterno	60

Magicube X



Specification

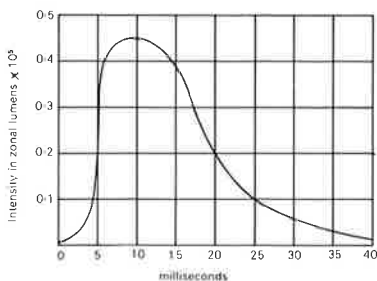
Colour of bulb	Blue
Total light output (zonal lumens/sec)	460
Peak intensity (zonal lumens)	44000
Time to peak (milliseconds)	7
Duration above half peak (milliseconds)	13
Maximum width (mm)	30.5
Maximum overall height (mm)	41
Cubes per pack	3
Cubes per outer	60

Spécification

Couleur de l'ampoule	Bleue
Rendement lumineux total (lumens de la zone/sec)	460
Intensité maximum (lumens de la zone)	44000
Temps pour atteindre le maximum (millièmes de secondes)	7
Durée de la $\frac{1}{2}$ intensité maximum supérieure (m secs)	13
Largeur maximum (mm)	30.5
Hauteur maximum hors-tout (mm)	41
Nombre de flashcubes par boîte	3
Nombre de flashcubes par carton	60

Technische Daten

Farbcode	blau
Gesamtlichtmenge (Zonale Lichtmenge Lms)	460
Spitzenlichtwert (Zonale Lm)	44000
Scheitelzeit (ms)	7
Leuchtzeit (ms)	13
Max. Breite (mm)	30,5
Max. Gesamthöhe (mm)	41
Würfel pro Einzelpackung	3
Würfel pro Großpackung	60



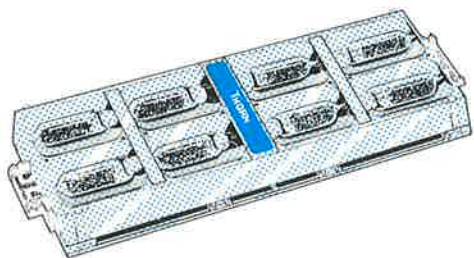
Specificatie

Lampkleur	Blauw
Totaal rendement (zonal lumen/sec)	460
Max. rendement (zonal lumen)	44000
Grootste sterkte bereikt in (1000-ste sec)	7
Duur na halve sterkte (1000-ste sec)	13
Maximale breedte (mm)	30.5
Maximale hoogte (mm)	41
Blokjes per verpakking	3
Blokjes per doos	60

Caratteristiche

Colore del bulbo	blu
Quantità totale di luce (lumen zonali/sec)	460
Valore di picco (lumen zonali)	44000
Tempo per arrivare al picco (msec)	7
Durata di accensione (msec)	13
Larghezza (mm)	30.5
Lunghezza (mm)	41
Confezione (pezzi)	3
Pezzi per contenitore esterno	60

Flip Flash



Specification

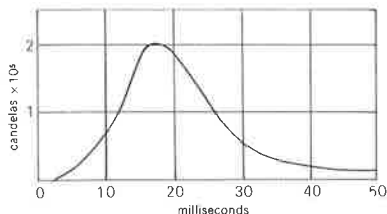
Class	MF
Colour of lamp	Clear
Nominal total light output (candle power seconds)	1800
Nominal peak light output (beam candle power)	140000
Nominal time to peak (milli seconds)	13
Nominal duration above half-peak (milli seconds)	10
Min. volts	1800
Width (mm)	44.5
Height (mm)	140
Units per pack	1
Units per inner carton	12
Units per outer carton	144

Spécification

Classe	MF
Couleur de lampe	Trans-parente
Puissance lumineuse totale nominale (candela-seconde)	1800
Puissance lumineuse de crête nominale (puissance lumineuse de faisceau)	140000
Durée nominale de crête (millisecondes)	13
Durée nominale au-dessus d'une demi-crête (millisecondes)	10
Tension minimum	1800
Largeur (mm)	44.5
Hauteur (mm)	140
Ensembles par paquet	1
Ensembles par carton intérieur	12
Ensembles par carton extérieur	144

Technische Daten

Klasse	MF
Lampenfarbe	Klar
Gesamt-Lichtnennwirkung (cd s)	1800
Spitzen-Lichtnennwirkung (Strahl-Candela)	140000
Nennzeit auf Spitze (ms)	13
Nenndauer über Halbspitze (ms)	10
Minimale Voltleistung	1800
Breite (mm)	44.5
Höhe (mm)	140
Einheiten pro Packung	1
Einheiten pro innerer Karton	12
Einheiten pro äußerer Karton	144



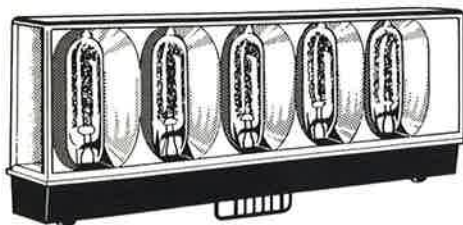
Specificaties

Klasse	MF
Kleur lamp	helder
Nominale, totale lichtsterkte (kaarsen per seconde)	1800
Nominale piek-lichtsterkte (straal-kaars)	140000
Nominaal tijdsverloop tot piekvermogen (millisekonden)	13
Nominale tijdsduur boven half-piekvermogen (millisekonden)	10
Minimaal voltage	1800
Breedte (mm)	44.5
Hoogte (mm)	140
Aantal eenheden per verpakking	1
Aantal eenheden per binnenvpakking	12
Aantal eenheden per buitenverpakking	144

Caratteristiche

Classe	MF
Colore della lampadina	Trans-parente
Erogazione nominale totale luce (secondi intensità luminosa in candela)	1800
Erogazione nominale di cresta luce (potenza candela fascio)	140000
Tempo nominale al valore cresta (millesimi di secondo)	13
Durata nominale oltre il valore metà cresta (millesimi di secondo)	10
Min. volt	1800
Larghezza (mm)	44.5
Altezza (mm)	140
Unità per pacco	1
Unità per cartone interno	12
Unità per cartone esterno	144

Flashbar 10



Specification

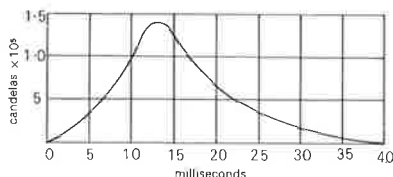
Class	M
Colour of lamp	Clear
Nominal total light output (Zonal lumen seconds)	820
Nominal peak light output (Zonal lumens)	50000
Nominal time to peak (milli seconds)	16
Nominal duration above half-peak (milli seconds)	25
Voltage range	3-22½
Width (mm) nominal	15
Length (mm) nominal	108
Height (mm) nominal	45
Units per pack	1
Units per inner carton	12
Units per outer carton	144

Spécification

Classe	M
Couleur de lampe	Transparente
Puissance lumineuse totale nominale (lumen zonal-seconde)	820
Puissance lumineuse de crête nominale (lumen zonal)	50000
Durée nominale de crête (millisecondes)	16
Durée nominale au-dessus d'une demi-crête (millisecondes)	25
Gamme des tensions	3-22½
Largeur (mm) nominale	15
Longueur (mm) nominale	108
Hauteur (mm) nominale	45
Ensembles par paquet	1
Ensembles par carton intérieur	12
Ensembles par carton extérieur	144

Techische Daten

Klasse	M
Lampenfarbe	Klar
Gesamt-Lichtnennwirkung (Zonen lm s)	820
Spitzen-Lichtnennwirkung (Zonen lm)	50000
Nennzeit auf Spitze (ms)	16
Nenndauer über Halbspitze (ms)	25
Spannungsbereich	3-22½
Nennbreite (mm)	15
Nennlänge (mm)	108
Nennhöhe (mm)	45
Einheiten pro Packung	1
Einheiten pro innerer Karton	12
Einheiten pro äußerer Karton	144



Specificaties

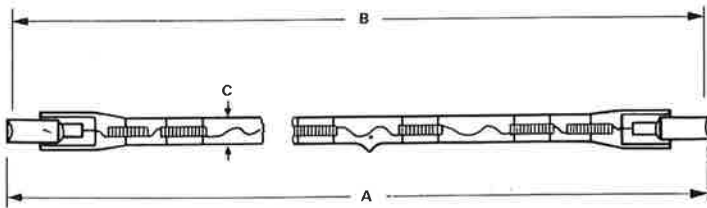
Klasse	M
Kleur lamp	helder
Nominale, totale lichtsterkte (Zonal Lumenseconden)	820
Nominale piek-lichtsterkte (Zonal lumen)	50000
Nominaal tijdsverloop tot piekvermogen (milliseconden)	16
Nominale tijdsduur boven half-piekvermogen (milliseconden)	25
Stroomsterktebereik	3-22½
Nominale breedte (mm)	15
Nominale lengte (mm)	108
Nominale hoogte (mm)	45
Aantal eenheden per verpakking	1
Aantal eenheden per binnenverpakking	12
Aantal eenheden per buitenverpakking	144




Caratteristiche

Classe	M
Colore della lampadina	Transparente
Erogazione nominale totale luce (secondi lumen Zonal)	820
Erogazione nominale di cresta luce (lumen Zonal)	50000
Tempo nominale al valore cresta (millesimi di secondo)	16
Durata nominale oltre al valore metà cresta (millesimi di esesecondo)	25
Gamma di tensione	3-22½
Larghezza (mm) nominale	15
Lunghezza (mm) nominale	108
Altezza (mm) nominale	45
Unità per pacco	1
Unità per cartone interno	12
Unità per cartone esterno	144

3200°K photographic lamps

SEGMENTED FILAMENT TYPES



Lamp Type	Watts	Volts	Caps	A	B	C	 ×1000		
—	650	220/230	R7s	318.0	315 ± 1.6	8.5	14.3	D	HOR
—	650	240/250	R7s	318.0	315 ± 1.6	8.5	14.3	D	HOR
—	1000	220/230	R7s	267.0	264 ± 1.6	8.5	23	D	HOR
—	1000	240/250	R7s	267.0	264 ± 1.6	8.5	23	D	HOR
DC1/8	1000	220/230	R7s	318.0	315 ± 1.6	8.5	23	D	HOR
DC1/8	1000	240/250	R7s	318.0	315 ± 1.6	8.5	23	D	HOR
DC1/9	1500	220/230	R7s	368.0	365 ± 1.6	8.5	32.25	D	HOR
DC1/9	1500	240/250	R7s	368.0	365 ± 1.6	8.5	32.25	D	HOR

Min. life of above lamps 50,000 switchings at 6 seconds on 6 seconds off.

Compact source mercury iodide projector lamp—400W

Description

The 400W compact source iodide lamp gives white light of good colour rendering properties at an efficiency of 80L/W. The source size is approximately 9×5 mm and the brightness is about 8000 candelas per square cm.

The high efficiency is obtained by the use of an arc discharge. The iodide technique has been used to introduce additional elements into the arc and to keep the bulb wall clean throughout life.

Applications

The major advantage of this lamp is its high efficiency, combined with its robustness, simplicity, small size and relatively low power consumption.

In general, considerations of source size, lamp size, lamp rating and efficiency indicate that it can be used in applications which at present use 100V–240V hard glass filament projector lamps of 250W–1000W rating to give a substantial advantage in terms of either increased light output or a reduction in input power and heat.

It is useful in high-powered slide projectors and theatre spotlights (especially follow-spots), in overhead projectors, projection microscopes, enlargers and cine projectors. It is suitable for colour photography using daylight colour-film stock.

Characteristics

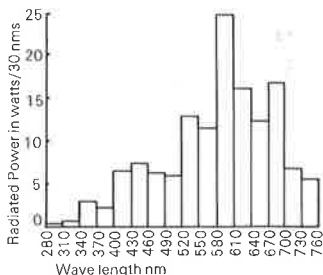
Supply volts a.c.	220, 240
Arc watts nom.	400
Arc volts nom.	100
Arc current (amps) nom.	5
Run up time (secs)	50
Re-starting time (mins)	3–5
Initial lum. eff. (min)	80 lumens/watt
Lumen maintenance	85%
Colour rendering	Good
Chromaticity co-ordinates	$x = 0.432$ $y = 0.382$
Life (nominal objective-hours)	500
Operating position	Universal

A lampholder, no. L 1101, is available for this lamp.

Control gear

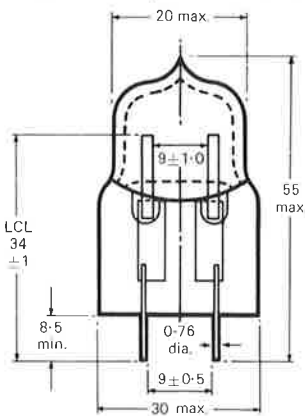
G 53196, T

Typical spectral power histogram



Lamp reference no.

99-0201



Compact source metal halide lamps—1000W and 1000W hot re-strike

Description

1000W CSI A compact source iodide lamp giving white light of good colour rendering at an efficacy of 90 L/W for 200 hours life.

1000W CSI hot re-strike A version of the standard 1000W CSI in which the lamp terminations have been modified to give better insulation so enabling the lamp to be restarted instantly when hot.

Applications

The high efficiency, robustness and small size of these lamps make them particularly suitable for projector purposes (such as follow spots), and cinema and television lighting use. For photographic purposes they are suitable for use with daylight colour film stock.

Lamp reference nos.

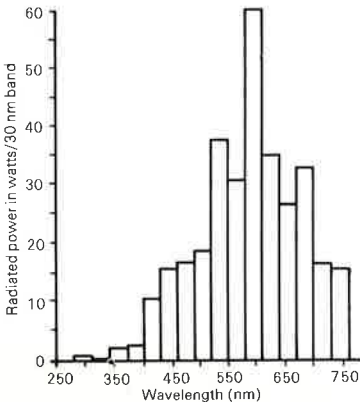
1000W	99-0221
1000W hot re-strike	99-0421

Characteristics

Supply volts	220, 240
Arc watts	1000
Arc volts	70-85
Arc current (amps)	15
Run-up time (secs)	30
Re-start time (mins)	2-5
Re-start time hot re-strike (mins)	Instantaneous
Initial efficiency (lumens/watt)	90
Lumen maintenance	90%
Colour rendering	Good
Chromaticity co-ordinates	x=0.395 y=0.395 CV 3.5%

Cap	Medium bi-post G22
Cap (hot re-strike)	Bi-post G38
Life (nominal objective - hours)	200
Operating position	Universal

Typical spectral power histogram



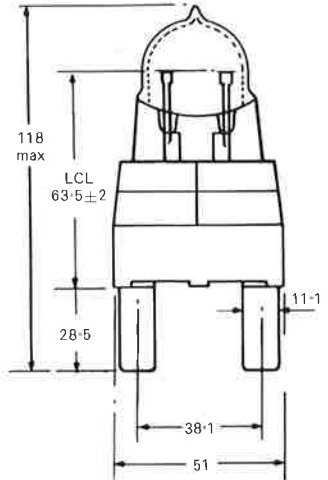
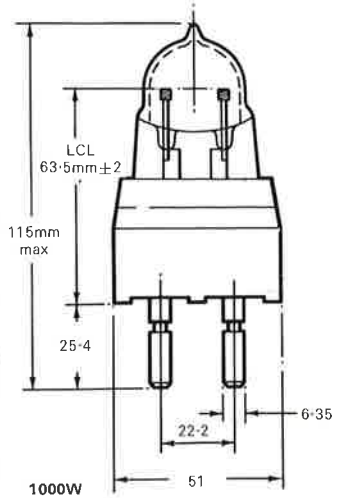
Installation hot-restrike

Standard G38 lampholders should not be used with this lamp and circuit as they will not necessarily carry the high pulse voltages required for hot restart. A lampholder with well insulated sockets is necessary. Suitable lampholder: BENDER & WIRTH type 938/223. Short, well insulated leads between starter and lamp are essential to prevent actual arcing and to minimise pulse losses by 'brushing'. The following minimum clearance and creepage distances between the hot lead and any adjacent metal, whether earthed or not, are recommended: Clearance distance (1) Between smooth surfaces 15mm. (2) Between sharp projections 30mm Creepage distances i.e. bridged by an insulating surface 30mm.

Control gear

1000W CSI G53255, T

1000W CSI hot re-strike Details on application.



All dimensions in mm

1kW 8 in Sealed Beam Compact Source Iodide Lamp— Ref: 99-1222

Description

The 1kW Sealed Beam Compact Source Iodide lamp consists of a high pressure discharge lamp 1kW CSI arc tube (see data sheet 99—0221) enclosed in a 8" sealed beam reflector envelope.

The 1kW CSI Arc Tube comprises a discharge in a quartz envelope operating between tungsten electrodes in an atmosphere of mercury vapour with additional metallic iodides. These additives ensure a high efficiency white light source of good colour rendering, and the accurate positioning of this arc tube within the sealed beam reflector outer gives a beam candle power of some 1½ million candelas with a total spread of 18° (to 1/10 peak).

Applications

Filming and T.V. outside broadcasts, suitable for use with daylight colour film stock. Also as general alternative for carbon arcs.

Characteristics

Supply volts	220, 240V A.C.	
Arc watts	1,000	
Arc volts	70/85	
Arc current amps	15 approximately	
Run-up time	50 secs (to 90%)	
Re-starting time	10 mins (in OM1000 floodlight)	
Diameter	205mm	
Overall length	175mm	
Cap	Bi-post G38	
Initial beam candlepower (peak)	1.5 million cds	
Beam Spread	1/2 1/3 1/6 1/10	6° 8° 12° 18°
Lamp lumens	Initial	76,000
	Design	67,000
Colour rendering	Good	
Chromaticity co-ordinates	x=0.395	
	y=0.395	
	CV 3.5%	
Life (Nominal Objective)	1000 hours	
Operating position	Any	

(Note: Preferred mounting position marked "TOP")

Control Gear

G 53307.T	220/240V 50Hz choke (1 per lamp)	19.0 kg
G 53319	Ignitor unit on open gear tray	1.17 kg
GC 2346	25µF 250V Capacitors (use 7 per lamp)	0.68 kg

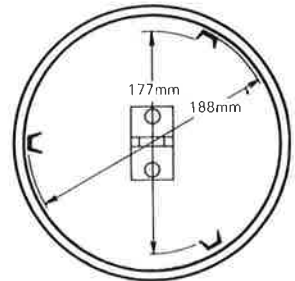
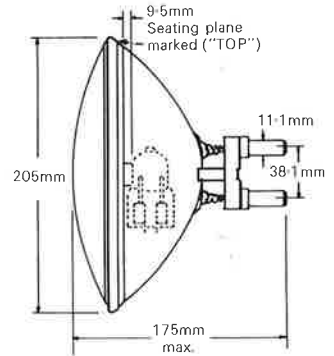
(See also Data sheet G.5)

Notes

- The connection from the ignitor to lamp should not be longer than 6ft and suitable high tension cable should be used. (Ripaults high tension type PV 267 7mm PVC 16/0.012, or similar).
- The ignitor components are mounted on an open tray. The ignitor provides a high voltage pulse and should be totally enclosed and earthed.
- To start the lamp the switch (see circuit diagram) should be depressed for a few seconds until the lamp is burning steadily and then released. The switch should not be operated whilst the lamp is working. (Switch is not supplied.)
- It will be necessary to allow the lamp to cool before restarting.

Warning

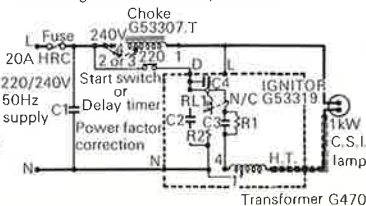
The unit generates high voltage pulses for lamp starting. Suitable safety precautions should be taken during installation and operation of the unit. The control unit and associated lamp house must be earthed. The H.V. cable should be protected from accidental damage. The supply must be disconnected before servicing. For outdoor use the lamp must be protected from rain.



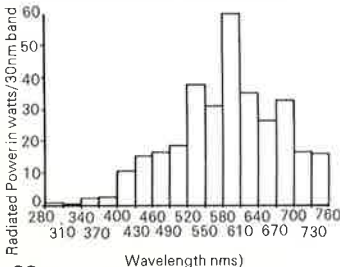
1kW CSI Circuit diagram using choke G53307.T and Ignitor G53319

C1—175 µF 250V A.C.
C2/C3—0.22 µF 1000V
C4—0.005 µF 250V A.C.

R1—4.7k Ω 10W
R2—4.7 Ω 10W
RL1—Magnetic Devices 325/TS14084



SPECTRAL ENERGY HISTOGRAM



1kW 8 in Sealed Beam Compact Source Iodide Lamp (Hot Restrike) Ref: 99-1422

Description

The 1kW Sealed Beam Compact Source Iodide Lamp Ref: 99-1422 is a modified form of standard 1kW CSI Sealed Beam Lamp Ref: 99-1222 (See Data Sheet 99-1222) in which the construction has been modified to enable the lamp to be restarted immediately when hot.

Applications

Film & T.V. Outside Broadcasts, suitable for use with daylight colour film stock. Also as a general replacement for carbon arcs.

Control Gear

Three Chokes G53230T in parallel, PF correction capacitors and 25kV minimum output* starter unit. Recommended Type, Walter Bausch -type 420, or IREM Type A-1530. See circuit diagram. Chokes and capacitors available as gear tray assembly OMG B3C8.

Characteristics

Supply Volts	220, 240v A.C.
Arc Watts	1,000
Arc Volts	70/85
Arc Current (amps)	15 approximately
Run-up Time (secs)	50
Re-starting Time	Instantaneous
Diameter	205mm
Overall length (max)	176mm
Caps	Bi-post G38
Initial beam candlepower (peak)	1.5 million CDS
Beam Spread (peak)	1/2 1/3 1/5 1/10
	+3° +4° +6° +9°
Colour Rendering	Good
Chromaticity Co-ordinates	x = 0.395
	y = 0.395
	CV 3.5%
Life (Nominal Objective)	1000 hours
Operating Position	Any

Installation

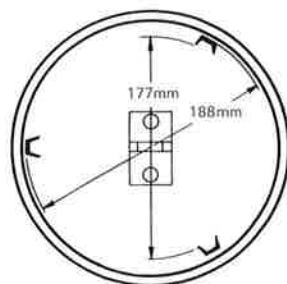
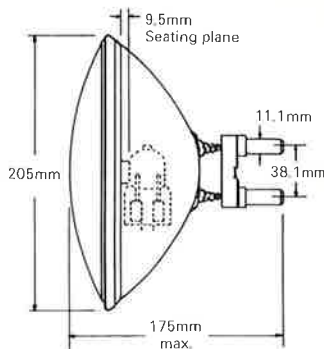
Standard G38 lampholders should not be used with this lamp and circuit as they will not necessarily carry the high pulse voltages required for hot restart. A lamp holder with well insulated sockets is necessary. Suitable lampholders Ref. 938/223 may be obtained from Bender and Wirth Ltd.

Short well insulated leads between starter and lamp are essential to prevent actual arcing and to minimise pulse losses by 'brushing'. The following minimum clearance and creepage distances between the hot lead and any adjacent metal, whether earthed or not, are recommended.

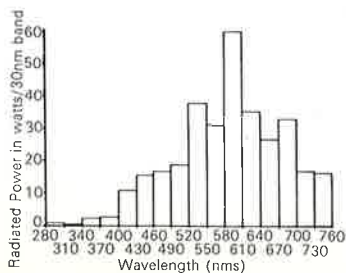
Clearance distance

- (1) Between smooth surfaces 15mm.
 - (2) Between sharp projections 30mm.
- Creepage distances i.e. bridged by an insulating surface 30mm.

*As measured by a sphere gap to BS358. Spikes approximately double this value may be recorded on an oscilloscope.

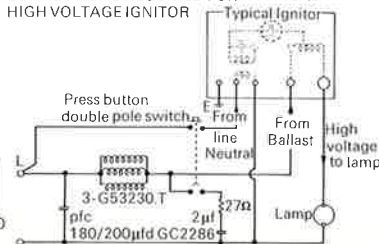


SPECTRAL ENERGY HISTOGRAM



CIRCUIT DIAGRAM

1kW CSI HOT RE-STRIKE CIRCUIT SHOWING CONNECTIONS REQUIRED FOR A TYPICAL HIGH VOLTAGE IGNITOR



Supplier of lampholders, Bender & Wirth Ltd, 5893 Kierspe, Westfalen, W. Germany.

