

**THORN
LIGHTING
LTD.**

**COMPREHENSIVE
LIGHTING
CATALOGUE
1971/72**



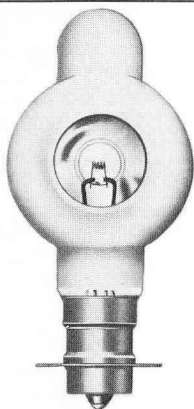
Introduction

Photographic lamps made by Thorn Lighting Ltd. are second to none. Constant research in the Thorn laboratories has resulted in a number of spectacular advances, especially in the tungsten halogen field. This remarkable technique has resulted in incredibly compact lamps which give more light for twice the life of comparable conventional sources, and this without any diminution of light output, or change of colour temperature throughout life. You may be certain that there is a lamp in our range for every photographic purpose.

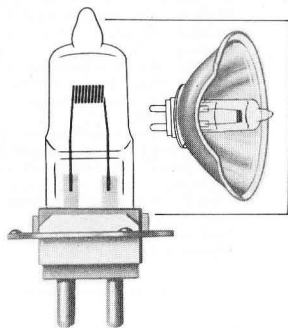
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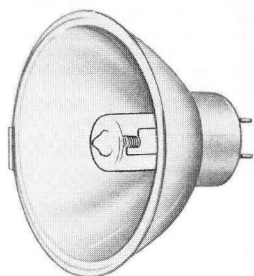
atlas Projector lamps



A1/17 8V 50W Projector Lamp
This 8V 50W lamp has been designed for use with both Super 8 and Standard 8 cine projectors. It is a direct replacement for the 8V 50W A1/185.



A1/45 Tungsten Halogen Lamp
The first halogen lamp to utilise a special pre-focus base. The A1/45 can be burned in either the horizontal or vertical position, used in conjunction with dichroic coated mirrors without condensers or with conventional condenser systems and is suitable for Super 8 cine and slide projectors.



A1/231 12V 100W Tungsten Halogen Projector Lamp
The A1/231 has been designed particularly for Super 8 cine projectors. It is a complete optical system comprising a tungsten halogen lamp integral with an dichroic ellipsoidal mirror reflector.

Equipment utilising this light source is able to dispense with the conventional condenser optical system, and this results in an appreciable gain in the level of screen illumination. The design permits extremely accurate alignment of the lamp within the projector.

CLASS A1 50, 75 & 100 WATT

Lamp Ref.	Volts	Watts	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
A1/17	8	50	33 x 44	96	47 ± 0.5	—	Small Pre-Focus P30s	M	25	A.B.H.I.
A1/202	8	50	31	96	47 ± 0.1	—	Small Pre-Focus P30s	M	25	A.B.F.I.
A1/220	12	50	11.5	44	30 ± 0.25	1400	2 Pin G6.35	M	50	E.J.
A1/225	240, 25C	50	26	67	35 ± 1	675	S.C.C. BA15s	J4	100	A.K.
A1/229	8	50	50	42	—	—	2 Pin G6.35	N	50	E.I.J.L.N.
A1/230	12	75	50	42	—	—	2 Pin G6.35	N	50	E.I.J.M.N.
A1/4	12	100	26	135	55 ± 0.5	2700	Med Pre-Focus P28s	L2	25	A
A1/4	115	100	26	135	55 ± 0.5	1850	Med Pre-Focus P28s	J3	25	A
A1/4	240, 250	100	26	135	55 ± 0.5	1650	Med Pre-Focus P28s	J4	25	A.C.
A1/21	115	100	26	78	35 ± 1	1850	S.C.C. BA15s	J3	25	A
A1/21	240, 250	100	26	78	35 ± 1	1650	S.C.C. BA15s	J4	25	A.C.
A1/45	12	100	11.5	45	18 ± 0.2	3000	2 Pin Pre-Focus PG22	M	50	E.J.
A1/121	115	100	26	78	35 ± 1	1850	S.B.C. BA15d	J3	25	A
A1/121	240, 250	100	26	78	35 ± 1	1650	S.B.C. BA15d	J4	25	A.C.
A1/186	12	100	26	78	35 ± 1	2800	S.C.C. BA15s	M	25	A
A1/193	12	100	26	78	29.5 ± 0.5	2800	BA21s 4 Pin	M	25	—
A1/209	12	100	11	45	24 ⁺⁰ _{-0.5}	3000	2 Pin Ceramic G6.35	M	50	E.J.
A1/215	12	100	11	44	30 ± 0.25	3000	2 Pin G6.35	M	50	E.J.
A1/231	12	100	50	42	—	—	2 Pin G6.35	N	50	E.I.J.M.N.

A Obscured top
B Forced cooling necessary. Maximum bulb wall temperature 500°C
C Voltage range in 10 volt steps
D Offset filament
E Operates on Tungsten Halogen principle
F Internal integral aluminised mirror
G Internal integral dichroic mirror
H Silvered bulb
I Due to integral mirror nominal lumens not shown

J Minimum bulb wall temperature 350°C
K Dual Voltage
L External integral aluminised mirror
M External integral dichroic mirror
N Light centre length not specified, Mirror rim to film gate 32 mm
O Internal proximity reflector
P Due to internal reflector nominal lumens not shown
Q Linear overhead projector lamp

R 3 or 4 amp H.B.C. fuse necessary
S 5 or 6 amp H.B.C. fuse necessary
T 6 or 7 amp H.B.C. fuse necessary

Operating position base down with the following exceptions:
A1/220 – base down to horizontal A1/231 – horizontal
A1/45 – base down to horizontal A1/229 – horizontal
A1/209 – base down to horizontal A1/230 – horizontal
A1/215 – base down to horizontal
A1/17 } Focal Distance 33.5 mm.
A1/202 }

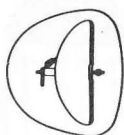
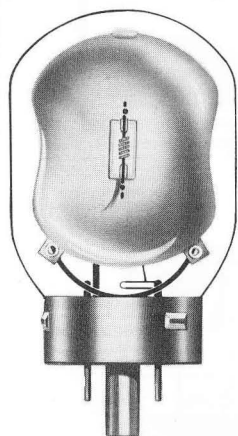
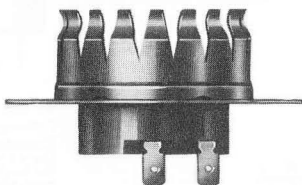


Diagram of A1/24 showing flattened front face of bulb.



L1042 Lampholder
Ordering reference for
Lampholder: For voltages up to
and including 21.5V specify L1042
LV—for voltages above 21.5v specify
L1042 HT.



A1/216 Tungsten Halogen Lamp

The A1/216 which operates on the Tungsten Halogen principle, has been designed primarily as a light source for 35 mm slide projectors. Although of only 150W rating, machines utilizing this lamp may achieve a screen illumination equal to that given by many projectors using a conventional mains voltage 500W Lamp.

A1/24 125V 150W Tru-Flector Lamp

The A1/24 Tru-Flector Lamp is primarily designed for horizontal burning in Super 8 cine projectors. When used in this type of equipment an extremely high level of screen illumination is achieved. This lamp may be used as a direct replacement for the A1/222, the DFN and DFC.

CLASS A1 150 WATT

Lamp Ref.	Volts	Watts	Maximum Diameter	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
				Maximum Overall Length	Light Centre Length	Light Centre Length					
A1/18	21-5	150	39	81	39.7±0.1	—	Tru-Focus G17q	K	25	B.F.I.	
A1/24	125	150	39 × 42.5	81	39.7±0.1	—	Tru-Focus G17q	K	25	B.D.F.I.	
A1/167	240,250	150	26	90	35±1	2700	S.C.C. BA15s	J4	25	A.C.	
A1/175	240,250	150	26	135	55.5±0.5	2700	Med. Pre-Focus P28s	J4	25	A.C.	
A1/182	240, 250	150	30	76	35.5±1	2700	Tru-Focus G17q	J4	25	A.C.	
A1/184	21-5	150	39	91	39.7±0.1	—	Tru-Focus G17q	K	25	A.B.F.I.	
A1/194	21-5	150	48	86	39.7±0.1	—	Tru-Focus G17q	K	25	B.F.I.	
A1/210	21-5	150	39	91	39.7±0.1	—	Tru-Focus G17q	K	25	B.D.F.I.	
A1/211	21-5	150	39	91	39.7±0.1	—	Tru-Focus G17q	K	25	A.B.G.I.	
A1/212	24	150	33	103	39.7 ⁺⁰ _{-1.5}	4100	Tru-Focus G17q	M	25	A.B.D.	
A1/216	24	150	13.5	47	32 ⁺⁰ _{-0.25}	5000	2 Pin G6.35	M	50	E.J.	
A1/232	15	150	50	42	—	—	2 Pin G6.35	N	50	E.I.J.M.N.	
A1/234	15	150	11.5	45	30±0.25	5000	2 Pin G6.35	M	50	E.J.	
A1/243	240, 250	150	18.5 31.5*	81.5	33.5±1.0	2850	Tru-Focus G17t	J4	50	A.C.E.J.R.	

*Max. width at lamp cap.

- A Obscured top
- B Forced cooling necessary. Maximum bulb wall temperature 500°C
- C Voltage range in 10 volt steps
- D Offset filament
- E Operates on Tungsten Halogen principle
- F Internal integral aluminised mirror
- G Internal integral dichroic mirror
- H Silvered bulb
- I Due to integral mirror nominal lumens not shown

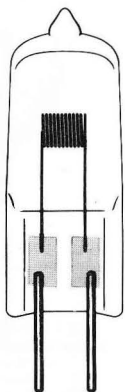
- J Minimum bulb wall temperature 350°C
- K Dual Voltage
- L External integral aluminised mirror
- M External integral dichroic mirror
- N Light centre length not specified.
- O Mirror rim to film gate 32 mm
- P Internal proximity reflector
- Q Due to internal reflector nominal lumens not shown
- Q Linear overhead projector lamp

- R 3 or 4 amp H.B.C. fuse necessary
- S 5 or 6 amp H.B.C. fuse necessary
- T 6 or 7 amp H.B.C. fuse necessary

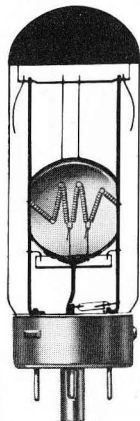
Operating position base down with the following exceptions:
A1/211 — base down to horizontal A1/18 — horizontal
A1/216 — base down to horizontal A1/24 — horizontal
A1/234 — base down to horizontal A1/194 — horizontal
A1/18 } A1/232 — horizontal
A1/184 }
A1/194 } Focal Distance 43.5 mm.
A1/211 }
A1/24 — Focal Distance 57.2 mm.
A1/210 — Focal Distance 56.0 mm.

atlas

Projector lamps



A1/223 Tungsten Halogen Lamp
The A1/223 is intended for use in 35mm slide and projectors. Like all Tungsten Halogen projector lamps it is more robust and compact than the normal tungsten filament equivalent. Screen illumination, when used with a suitable optical system, can be greater than that attained with a conventional 1000W projector lamp.



A1/201 Proximity Reflector Tru-Focus Projector Lamp
This is a modification of the basic Tru-Focus lamp and features a highly efficient reflector situated immediately behind the filament: its purpose being to gather light directly from the filament and redirect it through the optical system of the projector. The advantages are: Gain in screen brightness. The reflector stays bright because it is hermetically sealed against dust and oxidation. Each replacement lamp means a new reflector for the projector AT NO EXTRA COST, as the price is the same for the equivalent Tru-Focus lamp.

CLASS A1 200, 250 & 300 WATTS

Lamp Ref.	Volts	Watts	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
A1/26	115	200	26	90	35±1	4400	S.B.C. BA15s	J3	25	A.B.
A1/26	240, 250	200	26	90	35±1	4000	S.C.C. BA15s	J5	25	A.C.
A1/5	50	250	33	135	55.5±0.5	6000	Med Pre-Focus P28s	A4	50	A
A1/5	115	250	33	135	55.5±0.5	5500	Med Pre-Focus P28s	J3	50	A
A1/5	240, 250	250	33	135	55.5±0.5	5200	Med Pre-Focus P28s	J5	50	A.C.
A1/223	24	250	13.5	55	33±0.25	8250	2 Pin G6.35	M	50	E.J.
A1/235	24	250	13.5	56	23±0.2	8250	2 Pin Pre-Focus PG22	N	50	E.J.
A1/6	115	300	33	135	55.5±0.5	7400	Med Pre-Focus P28s	J3	25	A.B.
A1/6	240, 250	300	33	135	55.5±0.5	6900	Med Pre-Focus P28s	J5	25	A.B.C.
A1/37	115	300	28	105	35±1	7400	S.C.C. BA15s	J3	25	A.B.
A1/37	240, 250	300	28	105	35±1	6900	S.C.C. BA15s	J5	25	A.B.C.
A1/178	240, 250	300	33	103	39.7±1	6900	Tru-Focus G17q	J5	25	A.B.C.
A1/183	240, 250	300	31	81	35±1	6900	S.C.C. BA15s	J5	25	A.B.C.
A1/201	240, 250	300	33	103	39.7±1	—	Tru-Focus G17q	J5	25	A.B.C.O.P.
A1/240	240, 250	300	23.0 31.5*	78	39.7±0.1	7050	Tru-Focus 617t	J5	50	A.C.E.J.R.

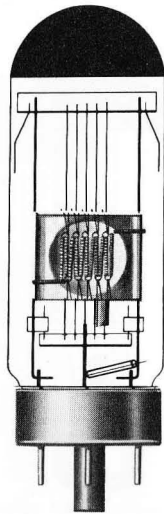
*maximum width at lamp cap.

- A Obscured top
- B Forced cooling necessary. Maximum bulb wall temperature 500°C
- C Voltage range in 10 volt steps
- D Offset filament
- E Operates on Tungsten Halogen principle
- F Internal integral aluminised mirror
- G Internal integral dichroic mirror
- H Silvered bulb
- I Due to integral mirror nominal lumens not shown

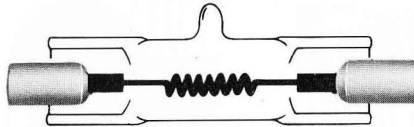
- J Minimum bulb wall temperature 350°C
- K Dual Voltage
- L External integral aluminised mirror
- M External integral dichroic mirror
- N Light centre length not specified
- O Internal proximity reflector
- P Due to internal reflector nominal lumens not shown
- Q Linear overhead projector lamp

- R 3 or 4 amp H.B.C. fuse necessary
- S 5 or 6 amp H.B.C. fuse necessary
- T 6 or 7 amp H.B.C. fuse necessary

Operating position base down with the following exceptions:
A1/233 - Base down to horizontal
A1/235 - Base down to horizontal



A1/205 500W Proximity Reflector Tru-Focus Lamp
This is a further development in the proximity reflector Tru-Focus range in 500W rating.



A1/227 120V 420W Tungsten Halogen Overhead Projector Lamp
This lamp employs the Tungsten Halogen principle. It has an extended life compared with normal tungsten filament lamps and possesses the additional advantages of higher light output and almost 100 per cent lumen maintenance.

CLASS A1 420 & 500 WATTS

Lamp Ref.	Volts	Watts	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
A1/227	120	420	13.5	65.5	—	11000	Double Ended R7s	K	75	E.J.Q.
A1/7	115	500	33	135	55.5 ± 0.5	12500	Med Pre-Focus P28s	E8	25	A.B.
A1/7	240, 250	500	33	135	55.5 ± 0.5	11400	Med Pre-Focus P28s	E11	25	A.B.C.
A1/8	115	500	66	135	55.5 ± 0.5	11500	Med Pre-Focus P28s	A6	50	—
A1/8	240, 250	500	66	135	55.5 ± 0.5	11000	Med Pre-Focus P28s	A8	50	C
A1/47	240, 250	500	33	130	59 ± 0.5	11400	B.H. P38s	E11	25	A.B.C.
A1/180	240, 250	500	33	103	39.7 ± 1	11400	Tru-Focus G17q	E11	25	A.B.C.
A1/205	240, 250	500	33	103	39.7 ± 1	—	Tru-Focus G17q	E11	25	A.B.C.O.P.
A1/237	240	500	13.6	76.0	—	12500	Special 2 Pin	H2	50	B.E.J.R.
A1/241	240, 250	500	30.0 31.5*	94.0	39.7 ± 0.1	—	Tru-Focus G17t	E11	50	A.C.E. J.O.S.

*maximum width at lamp cap.

A Obscured top
B Forced cooling necessary. Maximum bulb wall temperature 500°C
C Voltage range in 10 volt steps
D Offset filament
E Operates on Tungsten Halogen principle
F Internal integral aluminised mirror
G Internal integral dichroic mirror
H Silvered bulb
I Due to integral mirror nominal lumens not shown

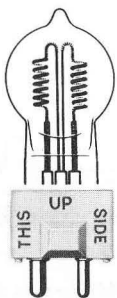
J Minimum bulb wall temperature 350°C
K Dual Voltage
L External integral aluminised mirror
M External integral dichroic mirror
N Light centre length not specified
Mirror rim to film gate 32 mm
O Internal proximity reflector
P Due to internal reflector nominal lumens not shown
Q Linear overhead projector lamp

R 3 or 4 amp H.B.C. fuse necessary
S 5 or 6 amp H.B.C. fuse necessary
T 6 or 7 amp H.B.C. fuse necessary

Operating position base down with the following exceptions:
A1/227 - Horizontal

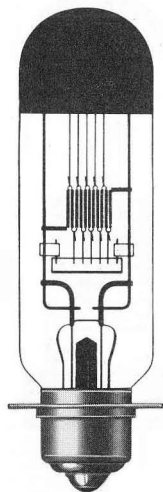
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Projector lamps

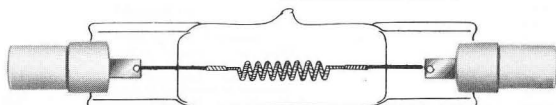


A1/233 240V 650W Tungsten Halogen Overhead Projector Lamp

The A1/233 is the latest development in the field of overhead projector lamps. Operating on the Tungsten Halogen principle it offers all the advantages of a compact source for overhead projectors. The A1/233 is a direct replacement for the D.Y.R.



A1/53



A1/228 240V 600W Tungsten Halogen Overhead Projector Lamp

A maths version of the low voltage lamp which has been a popular light source for overhead projectors.

Operating on the Tungsten Halogen principle it offers all the well-known advantages of this type of lamp. Also available in low voltage 120V rating.

CLASS A1 600, 650 & 750 WATTS

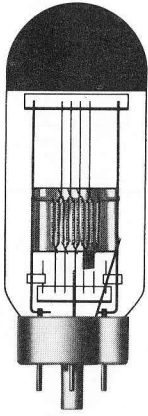
Lamp Ref.	Volts	Watts	Dimensions mm		Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length					
A1/228	120	600	13.5	93.5	16500	Double Ended R7s	K	75	E. J. Q. R.
A1/228	240/250	600	13.5	93.5	15000	Double Ended R7s	K	75	E. J. K. Q. R.
A1/233	240/250	650	22.5	63	16500	Polarised 2 Pin GX9.53	J2	50	E. J. K. Q. R.
A1/9	115	750	39	140	19500	Med Pre-Focus P28s	E8	25	A. B.
A1/9	240, 250	750	39	140	18000	Med Pre-Focus P28s	E10	25	A. B. C.
A1/52	115	750	37	153	19500	3 Pin Ring P39s	E8	25	B. D.
A1/53	115	750	39	135	19500	Large B. H. P46s	E8	25	A. B.
A1/53	240, 250	750	39	135	18000	Large B. H. P46s	E8	25	A. B. C.
A1/206	115	750	39	118	39.7±1	Tru-Focus G17q	E10	25	A. B. O. P.
A1/206	240, 250	750	39	118	39.7±1	Tru-Focus G17q	E10	25	A. B. C. O. P.

A Obscured top
 B Forced cooling necessary. Maximum bulb wall temperature 500°C
 C Voltage range in 10 volt steps
 D Offset filament
 E Operates on Tungsten Halogen principle
 F Internal integral aluminised mirror
 G Internal integral dichroic mirror
 H Silvered bulb
 I Due to internal mirror nominal lumens not shown

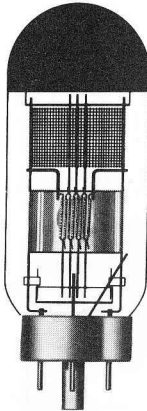
J Minimum bulb wall temperature 350°C
 K Dual Voltage
 L External integral aluminised mirror
 M External integral dichroic mirror
 N Light centre length not specified.
 O Mirror rim to film gate 32 mm
 P Due to internal reflector nominal lumens not shown
 Q Linear overhead projector lamp

R 3 or 4 amp H.B.C. fuse necessary
 S 5 or 6 amp H.B.C. fuse necessary
 T 6 or 7 amp H.B.C. fuse necessary

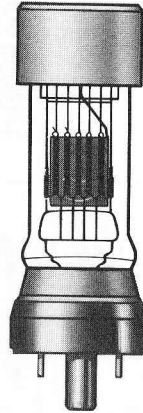
Operating position base down with the following exceptions:
 A1/228 - Horizontal
 A1/52 - Base up
 A1/233 - Base down to horizontal



A1/207 1000w Proximity Reflector Tru-Focus Lamp



A1/208 1200w Proximity Reflector Tru-Focus Lamp



A1/242 1000w T.H. Proximity Reflector Tru-Focus Lamp

CLASS A1 1000 & 1200 WATTS

Lamp Ref.	Volts	Watts	Dimensions mm				Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length						
A1/57	115	1000	66	240	120 ± 5	25000	G.E.S. E40s	A6	100	—	
A1/57	240, 250	1000	66	240	120 ± 5	23000	G.E.S. E40s	A8	100	—	
A1/58	240, 250	1000	66	140	55.5 ± 0.5	25500	Med Pre-Focus P28s	E10	25	A.C.	
A1/59	115	1000	39	140	55.5 ± 0.5	27500	Med Pre-Focus P28s	E8	25	A.B.	
A1/59	240, 250	1000	39	140	55.5 ± 0.5	25500	Med Pre-Focus P28s	E10	25	A.B.C.	
A1/91	115	1000	39	135	59 ± 0.5	27500	Large B.H. P46s	E8	25	A.B.	
A1/91	240, 250	1000	39	135	59 ± 0.5	25500	Large B.H. P46s	E10	25	A.B.C.	
A1/188	240, 250	1000	66	245	87 ± 0.5	23000	Large Pre-Focus P40s	A8	100	C.	
A1/207	115	1000	39	118	39.7 ± 1	—	Tru-Focus G17q	E8	25	A.B.O.P.	
A1/207	240, 250	1000	39	118	39.7 ± 1	—	Tru-Focus G17q	E10	25	A.B.C.O.P.	
A1/208	115	1200	39	118	39.7 ± 1	—	Tru-Focus G17q	E8	10	A.B.O.P.	
A1/242	240, 250	1000	30.0 31.5*	94.0	39.7 ± 0.1	—	Tru-Focus G17t	E10	50	A.C.E.I. J.O.T.	

*maximum width at lamp cap.

- A Obscured top
- B Forced cooling necessary. Maximum bulb wall temperature 500°C
- C Voltage range in 10 volt steps
- D Offset filament
- E Operates on Tungsten Halogen principle
- F Internal integral aluminised mirror
- G Internal integral dichroic mirror
- H Silvered bulb
- I Due to integral mirror nominal lumens not shown

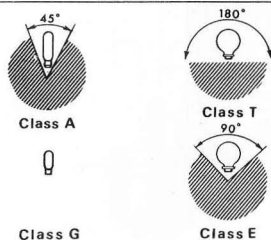
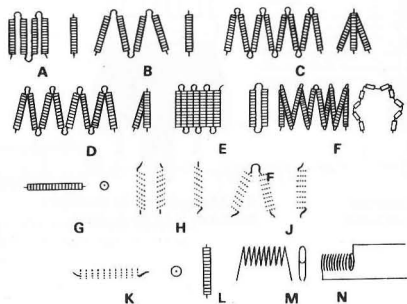
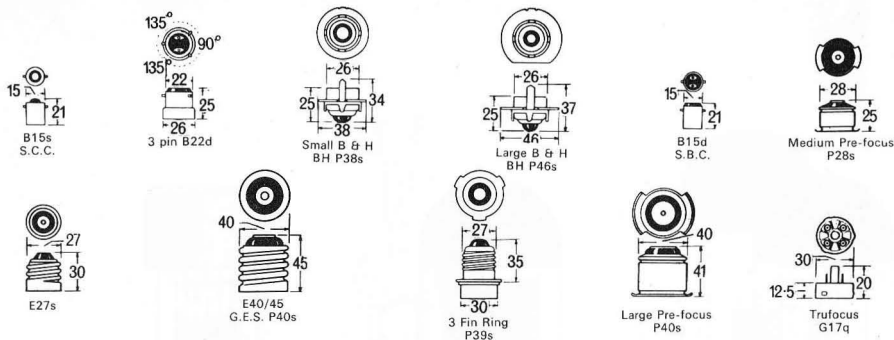
- J Minimum bulb wall temperature 350°C
- K Dual Voltage
- L External integral aluminised mirror
- M External integral dichroic mirror
- N Light centre length not specified.
- O Mirror rim to film gate 32 mm
- P Internal proximity reflector
- Q Due to internal reflector nominal lumens not shown
- Q Linear overhead projector lamp

- R 3 or 4 amp H.B.C. fuse necessary
- S 5 or 6 amp H.B.C. fuse necessary
- T 6 or 7 amp H.B.C. fuse necessary

Operating position base down

atlas

Projector lamps



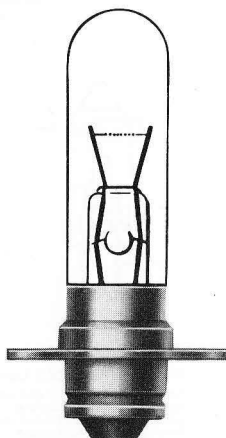
EXCEPTIONS

A1/18, A1/194, A1/24, A1/229, A1/230, A1/231, A1/232, A1/227, A1/228
 Should be operated in a horizontal position A1/48, A1/52
 Should be operated in a base up position A1/209, A1/211, A1/215, A1/216, A1/220, A1/221, A1/223, A1/45, A1/234, A1/235, A1/233
 May be operated in any position from base down to horizontal.

CLASS F MICRO-PROJECTOR LAMPS

Lamp Ref.	Volts	Watts	Dimensions mm			Nominal Lumens	Base	Crown of bulb to Filament	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
F/30	4	8	37	67	—	100	S.E.S. E14s	10 ± 2	100	A
F/8	12	12	37	62	40 ± 3	190	S.B.C. BA15d	—	100	A
F/10	6	24	39	65	—	410	S.E.S. E14s	10 ± 2	100	A
F/10	12	24	39	65	—	440	S.E.S. E14s	10 ± 2	100	A
F/3	12	24	39	65	—	440	S.B.C. BA15d	10 ± 2	100	A
F/23	6	30	39	69	—	450	E.S. E27s	10 ± 2	200	A
F/25	6	30	39	69	—	600	E.S. E27s	10 ± 2	25	A
F/1	6	30	39	65	—	600	S.E.S. E14s	10 ± 2	25	A
F/58	6	48	40	65	—	675	S.E.S. E14s	7 ± 2	200	A.C.
F/59	6	48	40	70	—	675	E.S. E27s	7 ± 2	200	A.C.
F/81	6	48	39	63	41 ± 0.5	675	Small Pre-Focus P30s	—	200	A.C.
F/4	12	48	52	81	40 ± 3	950	S.E.S. E14s	—	100	B
F/38	12	48	40	65	40 ± 3	850	S.B.C. BA15d	—	100	B
F/76	12	50	40	72	33 ± 0.5	950	Bosch BA20s	—	50	B
F/77	12	50	40	70	48 ± 3	950	S.E.S. E14s	—	50	B
F/14	12	100	62	91	55 ± 5	2250	E.S. E27s	—	100	B
F/63	12	100	62	98	37 ± 0.5	2250	Med Pre-Focus P28s	—	100	B

- A** Operating position – horizontal $\pm 30^\circ$
B Operating position – vertical base down $\pm 135^\circ$
C Solid source filament



Class G Exciter Lamps
A range of high efficiency lamps for the sound heads of cinema projectors.

CLASS G EXCITER LAMPS

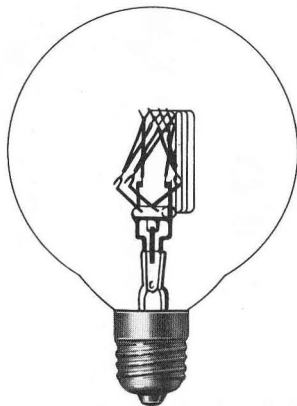
Lamp Ref.	Volts	Amps	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
G/19	4	0.75	16.5	50	31.8±0.8	30	S.C.C. BA15s	G	50	A
G/27	4	0.75	16.5	50	28.5±0.5	30	Small Pre-Focus P30s	L	50	A
G/29	4	0.75	16.5	50	28.5±0.5	30	Small Pre-Focus P30s	G	50	A
G/31	4	0.75	25.5	51	28.5±0.5	30	Small Pre-Focus P30d	G	50	F
G/4	6	1.0	16.5	42	21.5±0.5	80	S.C.C. BA15s	L	100	A
G/5	6	1.0	16.5	50	28.5±0.5	80	Small Pre-Focus P30s	L	100	C
G/40	6	1.0	16.5	57	28.5±0.5	80	Small Pre-Focus P30s	G	100	B
G/8	8	4.0	26	78	44.5±0.5	650	S.C.C. BA15s	G	100	D
G/30	6	5.0	18.5	54	28±1	525	S.C.C. BA15s	G	100	B
G/45	6	5.0	19	54	23±0.5	450	Small Pre-Focus P30s	G	100	B
G/22	4	6.0	26	52	31.5±1	400	S.C.C. BA15s	L	100	E
G/23	5	6.5	26	78	41±0.5	700	Small Pre-Focus P30s	L	50	D

Operating positions

- A Universal
- B Vertical base down ±30°
- C Vertical base down ±45°
- D Vertical base down ±135°
- E Horizontal
- F Horizontal ±120°

atlas

Projector lamps



E/3 Class E Epidiascope Lamps

These have been specially designed for use in epidiascopes. The objective average life in well ventilated lantern housings is 100 hours.



M29 Cine Film Editor Lamp

Tungsten halogen lamps give greater light output than conventional incandescent lamps of similar ratings. They operate at a high colour temperature so the light is whiter. The small dimensions allow the production of equipment of compact design. The quartz bulb gives a high degree of resistance to thermal and mechanical shock.

CLASS E EPIDIASCOPE LAMPS

Lamp Ref.	Volts	Watts	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
E/1	240, 250	500	102	145	60 ± 0.5	10300	Med Pre-Focus P28s	C8	100	C
E/3	240, 250	500	102	145	85 ± 5	10300	E.S. E27s	C8	100	C

CLASS M CINE FILM EDITOR LAMPS

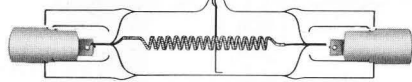
Lamp Ref.	Volts	Watts	Dimensions mm			Nominal Lumens	Base	Filament Formation	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length					
M29	6	10	8.5	30	19.5 ± 0.25	200	Special 2 Pin	G	50	A.C.
M30	6	20	8.5	30	19.5 ± 0.25	400	Special 2 Pin	G	100	A.C.

A Operates on Tungsten Halogen Principle

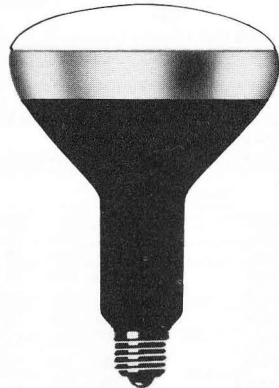
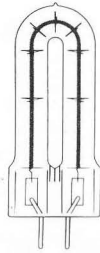
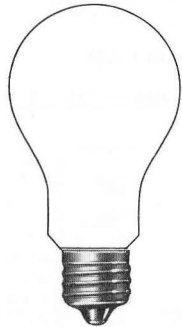
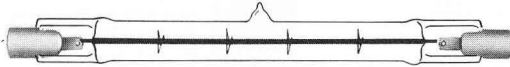
B Operating position universal

C Operating position vertical base down to horizontal

P1/11 240v 800w Tungsten Halogen Photographic Lamp



P1/12 240v 1000w Tungsten Halogen Photographic Lamp



P1/1

Especially suitable for indoor photography. The P1/1 will enable approximately 200 feet of cine film or about 300 still photographs to be taken; representing about three hours' total life. Safety fuses are incorporated in the cap. Suitable for use with monochrome film and colour stock balanced for 3,400°K

P1/15 240v 1000w Single Ended Sun Gun Lamp

A new concept in tungsten halogen lighting, compact and robust, particularly suitable for use with lighting units designed for the "Super 8" format. Operates directly from the mains with an average life of 12 hours.

P1/6 Reflector Photoflood
Incorporates its own reflector, thus giving a much greater beam candle power.

CLASS P1 PHOTOGRAPHIC LAMPS FOR USE WITH MONOCHROME AND COLOUR FILM BALANCED FOR 3400°K

Class P1. Operating Position :- Universal With the following exceptions: P1/13 P1/15 P1/16 P1/17 Base down to horizontal

Lamp Ref.	Volts	Watts	Dimensions mm				Max. Clearance Length	Maximum Overall Length	Nominal Lumens	Base	Average Life (Hours)	Special Features
			Max. Dia.	Max. pip protuberance from bulb axis	Nominal Contact Length	Max. Clearance Length						
P1/8	30	250	12	10-2	74-9 ± 1-6	78-3	80	8000	Double ended R7s	12	A	
P1/1	240/250	275	61	—	—	—	108-5	8300	B.C. B22d	3	B.C.	
P1/1	240/250	275	61	—	—	—	110	8300	E.S. E27s	3	B.C.	
P1/6	240/250	375	97	—	—	—	133-5	13000	B.C. B22d	4	B.E.F.H.	
P1/6	240/250	375	97	—	—	—	135	13000	E.S. E27s	4	B.E.F.H.	
P1/2	240/250	500	82	—	—	—	164-5	15000	B.C. B22d	6	B.C.	
P1/2	240/250	500	82	—	—	—	166	15000	E.S. E27s	6	B.C.	
P1/9	120	650	15	11-4	74-9 ± 1-6	78-3	80	21000	Double ended R7s	12	A	
P1/13	240/250	650	23	—	—	—	65	20000	2 Pin Ceramic G6.35	15	A.B.I.	
P1/11	240/250	800	15	11-4	74-9 ± 1-6	78-3	80	24500	Double ended R7s	12	A.B.K.	
P1/12	240/250	1000	12	10-2	121-7 ± 1-6	125-1	127	33000	Double ended R7s	15	A.B.K.	
P1/15	240/250	1000	23	—	—	—	65	32000	2 Pin Ceramic G6.35	12	A.B.K.	
P1/16	115	850	23	—	—	—	65	28000	2 Pin Ceramic G6.35	15	A	
P1/17	240/250	1250	23	—	—	—	85	40000	GX 9-53	15	A.B.L.	

A Operates on Tungsten Halogen principle

B Dual Voltage

C Voltage range in 10 volt steps

D Pearl bulb

E Satin etched bulb

F Reflector Photoflood

G Reflector Photo Spot

H Light output measured in Centre Beam Candles

I 3 or 4 amp H.B.C. fuse necessary

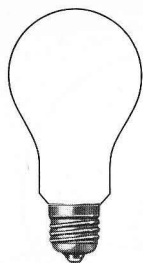
K 5 or 6 amp H.B.C. fuse necessary

L 6 or 7 amp H.B.C. fuse necessary

In the interest of safety Tungsten Halogen lamps above 130v rating should have a separate high breaking capacity fuse in the circuit. See special features column for individual lamp requirements.

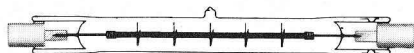
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Photographic lamps



P3/3 High Intensity Enlarging Lamps (Opalised)

These lamps have opalised bulbs and give a brilliant white light evenly diffused.



P4/1 Photographic Lamp

The P4/1 tungsten halogen photographic lamp is produced with the exacting requirements of the professional photographer in mind.

The design allows the lamp to be operated at various applied voltages, so permitting a selection of colour temperatures.

The P4/1 may be used with all types of sensitized materials, monochrome or colour film stock, and is particularly suitable for graphic arts, studio and industrial photographic applications.



P2/4 Reflector Photoflood

Specially designed to meet the exacting requirements of Film and TV Studio Application. The silvered bulb permits the use of the lamp in fittings without separate external reflectors.

CLASS P2 PHOTOGRAPHIC LAMPS FOR USE WITH MONOCHROME AND COLOUR FILM

BALANCED FOR 3200°K

Operating Position Universal, except P2/7, P2/10, P2/12, P2/13, P2/14, P2/15, P2/18: Horizontal $\pm 4^\circ$

Lamp Ref.	Volts	Watt	Dimensions mm					Nominal Lumens	Base	Average Life (Hours)	Special Features
			Max. Dia.	Max. pip protuberance from bulb axis	Nominal Contact Length	Max. Clearance Length	Maximum Overall Length				
P2/1	115	500	89	—	—	—	183.5	12500	E.S. E27s	100	D
P2/1	240, 250	500	89	—	—	—	183.5	11000	E.S. E27s	100	C.D.
P2/4	115	500	127.5	—	—	—	182	7200	E.S. E27s	20	E.F.H.
P2/4	240, 250	500	127.5	—	—	—	182	7200	E.S. E27s	12	C.E.F.H.
P2/5	115	500	127.5	—	—	—	182	12000	E.S. E27s	20	E.G.H.
P2/5	240, 250	500	127.5	—	—	—	182	12000	E.S. E27s	12	C.E.G.H.
P2/10	240, 250	625	12	10.2	185.7 \pm 1.6	189.1	190	15500	Double ended R7s	200	A.C.I.
P2/6	120	650	15	11.4	74.9 \pm 1.6	78.3	80	17000	Double ended R7s	100	A
P2/7	240, 250	1000	12	10.2	185.7 \pm 1.6	189.1	190	26000	Double ended R7s	200	A.C.K.
P2/12	240, 250	1250	12	10.2	185.7 \pm 1.6	189.1	190	33500	Double ended R7s	200	A.C.L.
P2/13	240, 250	800	15	11.4	74.9 \pm 1.6	78.3	80	20000	Double ended R7s	50	A.K.
P2/14	240, 250	800	15	11.4	88.4	91.8	93.5	20000	Double ended R7s	50	A.C.I
P2/15	240, 250	625	12	10.2	114.2	117.6	119	16250	Double ended R7s	75	A.C.K. *
P2/16	240, 250	650	23	—	—	—	65	17500	G6-35	50	A.C.K. *
P2/17	240, 250	1000	23	—	—	—	65	28000	G6-35	50	A.C.K. *
P2/18	240, 250	800	12	10.2	114.2	117.6	119	20600	Double ended R7s	150	A.K.B.

A Operates on Tungsten Halogen principle

B Dual Voltage

C Voltage range in 10 volt steps

D Pearl bulb

E Satin etched bulb

F Reflector Photoflood

G Reflector Photo Spot

H Light output measured in Centre Beam Candles

I 3 or 4 amp H.B.C. fuse necessary

K 5 or 6 amp H.B.C. fuse necessary

L 6 or 7 amp H.B.C. fuse necessary

* And with Satin etched bulbs

In the interest of safety Tungsten Halogen lamps above 130v rating should have a separate high breaking capacity fuse in the circuit. See special features column for individual lamp requirements.

CLASS P3 PHOTOGRAPHIC ENLARGER LAMPS HIGH INTENSITY

Operating Position Universal

Lamp Ref.	Volts	Watts	Dimensions mm			Base	Average Life (Hours)	Special Features
			Maximum Overall Length	Maximum Diameter				
P3/3	240, 250	75	108.5	61	B.C. B22d	100	A.B.	
P3/3	240, 250	75	110	61	E.S. E27s	100	A.B.	
P3/4	240, 250	150	108.5	61	B.C. B22d	100	A.B.	
P3/4	240, 250	150	110	61	E.S. E27s	100	A.B.	

A Internally opalised bulb

B Voltage range in 10 volt steps

CLASS P4 PHOTOGRAPHIC FLOOD LAMP

Operating Position Horizontal $\pm 4^\circ$

P4/1	120 185	500 1000	15.0	11.4	114.2 \pm 1.6	117.0	117.6	8900 33000	R7s	2000 12	A.B.L.N.
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A Operates on Tungsten Halogen principle

B Dual Voltage

C Voltage range in 10 volt steps

D Pearl bulb

E Satin etched bulb

F Reflector Photoflood

G Reflector Photo Spot

H Light output measured in Centre Beam Candles

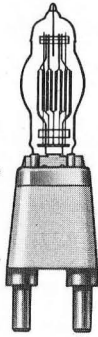
I 3 or 4 amp H.B.C. fuse necessary

K 5 or 6 amp H.B.C. fuse necessary

L 6 or 7 amp H.B.C. fuse necessary

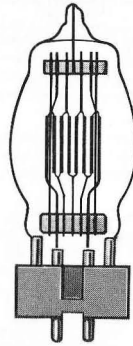
N Normal operation is at 120v to give 2850°K when required lamp may be operated at 185v to give 3400°K.

In the interest of safety Tungsten Halogen lamps above 130v rating should have a separate high breaking capacity fuse in the circuit. See special features column for individual lamp requirements.



CP41 2kW Studio Tungsten-halogen Lamp
For use in conventional Fresnel spot-flood fittings. With monoplane filament.

T10 Tungsten Halogen Theatre Spotlight Lamps
For use in cinemas, theatres and other applications where a suitable housing and reflector can make good use of the compact intense light source.



CLASS CP CONVENTIONAL AND TUNGSTEN HALOGEN LAMPS FOR FRESNEL SPOT/FLOOD FITTINGS

	Volts	Watts	Max. Dia.	Overall length	Light Centre length	Nominal Lumens	Colour Temp.	AV Life	Finish	Cap.	Operating Position
CP1	115	275	61	110	—	7500	for 3200°K Film	8	Pearl	BC or ES	Any
	230, 240	275	61	110	—	7500	for 3200°K Film	5	Pearl	BC or ES	Any
CP2	115	500	82	166	—	14000	for 3200°K Film	20	Pearl	BC or ES	Any
	230, 240	500	82	166	—	13750	Film	15	Pearl	BC or ES	Any
CP3	115	1000	153	309	—	30000	for 3200°K Film	30	Pearl	GES.E40	Any
	230, 240	1000	153	309	—	28000	Film	25	Pearl	GES.E40	Any
CP4	115	500	171.5	344	—	44250	for 3200°K Film	50	Pearl	GES.E40	Any
	230, 240	500	171.5	344	—	42000	Film	25	Pearl	GES.E40	Any
CP8	240	1500	66	140	55.5 ± 0.5	11000	for 3200°K Film	50	Clear	Med P/Focus P28	VBD ±45°
CP9	240	500	78	166	63.5 ± 2	11000	for 3200°K Film	50	Clear	Med Bipost G22	VBD ±45°
CP10	115	750	78	166	63.5 ± 2	19000	for 3200°K Film	50	Clear	Med Bipost G22	VBD ±45°
	240	750	78	166	63.5 ± 2	18000	Film	35	Clear	Med Bipost G22	VBD ±45°
CP11	115	750	66	140	55.5 ± 0.5	19000	for 3200°K Film	50	Clear	Med P/Focus G22	VBD ±45°
	230, 240, 250	750	66	140	55.5 ± 0.5	18000	Film	35	Clear	Med P/Focus G22	VBD ±45°
CP12	115	2000	155	246	127 ± 2	55000	for 3200°K Film	100	Clear	Bi-post G38	VBD ±45°
	230, 240	2000	155	246	127 ± 2	50000	Film	100	Clear	Bi-post G38	VBD ±45°
CP13	115	5000	205	341	165 ± 2	145000	for 3200°K Film	150	Clear	Bi-post G38	VBD ±45°
	230, 240	5000	205	341	165 ± 2	135000	Film	150	Clear	Bi-post G38	VBD ±45°
CP14	115	10000	272	440	254 ± 2	300000	for 3200°K Film	200	Clear	Bi-post G38	VBD ±45°
	230, 240	10000	272	440	254 ± 2	280000	Film	200	Clear	Bi-post G38	VBD ±45°
CP19	240	1000	78	166	63.5 ± 2	23000	for 3200°K Film	100	Clear	Med Bipost G22	VBD ±45°
CP29	115	5000	75	280	165 ± 2	145000	for 3200°K Film	300	Clear	Bi-post G38	VBD ±45°
	220, 240	5000	75	280	165 ± 2	135000	Film	300	Clear	Bi-post G38	VBD ±45°
CP30	220, 240	1250/1250	60	220	143 ± 2	25000*	for 3200°K Film	250	Clear	4pin GX38q	VBD ±45°
CP32	115	2500/2500	70	220	143 ± 2	55000**	for 3200°K Film	250	Clear	4pin GX38q	VBD ±45°
	220, 240	2500/2500	70	220	143 ± 2	55000**	Film	250	Clear	4pin GX38q	VBD ±45°
CP40	220, 240	1000	27/40	140	63.5 ± 0.5	26000	for 3200°K Film	150	Clear	Med Bi-post G22	VBD ±45°
CP41	220, 240	2000	27/40	210	127 ± 2	52000	for 3200°K Film	200	Clear	Bi-post G38	VBD ±45°

*One filament only; with two filaments operating, 53000 **One filament only; with two filaments operating, 117,000

CLASS T THEATRE SPOTLIGHT LAMPS

Lamp Ref.	Volts	Watts	Dimensions mm			Base	Average Life (Hours)	Special Features
			Maximum Diameter	Maximum Overall Length	Light Centre Length			
T/3	240, 250	250	78	124	55.5 ± 0.5	Med Pre-Focus P28s	200	C.E.
T/1	240, 250	500	100	140	55.5 ± 0.5	Med Pre-Focus P28s	200	C.E.
T/2	240, 250	1000	132	200	87 ± 0.5	Large Pre-Focus P40s	200	C.E.
T/4	240, 250	1000	39	155	89 ± 0.5	Med Pre-Focus P28s	200	D.E.
T/6	240, 250	1000	102	140	55.5 ± 0.5	Med Pre-Focus P28s	200	B.E.
T/9	220, 240	1000	26/40	125	55 ± 2	2 pin GX9-5	400	C.E.
T/10	220, 240	650	26/40	125	55 ± 2	2 pin GX9-5	400	C.E.

Operating positions A Vertical base down ±45° B Vertical base down ±75° C Vertical base down ±90° D Vertical base up ±15°
E Voltage range in 10 volt steps

atlas

Photo-Flashbulbs

Full exposure data is printed on every flash carton.

Some features of Atlas Photo-Flashbulbs.

Blue Dot. The famous blue dot is a sensitive chemical on the inside of each Atlas flashbulb to tell you it's in perfect condition. Any defect turns the dot pink.

Zirconium Filling. The use of zirconium foil enables Atlas to pack more light into less space thus giving greater economy, greater efficiency and flexibility.

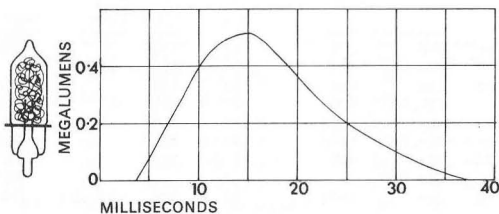
Precision Manufacture. Dependability is of prime importance in flash photography. With Atlas you can be sure of consistent high quality, thanks to precision manufacture and rigorous test standards.

Super AG1B Flashbulbs will work to perfection with a reflector only 2 inches in diameter. A must for the 'miniature' enthusiast. Many cartons can easily be carried in the pocket – so much more convenient.

Atlas Tru-Flash Type 1B

Specification

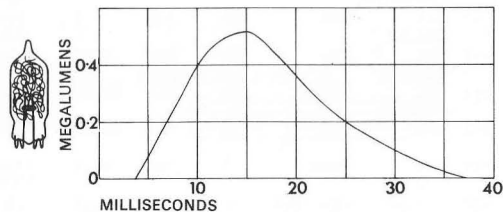
Class	MF
Colour of bulb	Blue
Total light output (lumen secs)	7500
Peak light output (megalumens)	0.45
Time to peak (m. secs)	13
Duration above $\frac{1}{2}$ peak (m. secs)	15
Voltage range	3-45
Max. bulb diameter (mm)	11.9
Max. overall length (mm)	40.5
Bulbs per pack	5
Bulbs per outer container	200
Colour code	Blue



Atlas Mini-Flash Super AG1B

Specification

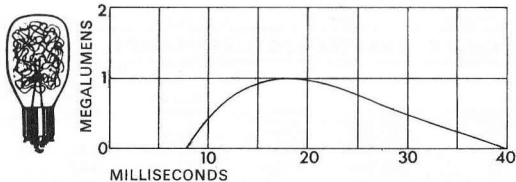
Class	MF
Colour of bulb	Blue
Total light output (lumen secs)	7500
Peak light output (megalumens)	0.45
Time to peak (m. secs)	13
Duration above $\frac{1}{2}$ peak (m. secs)	15
Voltage range	3-45
Max. bulb diameter (mm)	11.9
Max. overall length (mm)	33.3
Bulbs per pack	5
Bulbs per outer container	200
Colour code	Blue



Atlas Photo-Flash M3

Specification

Class	M
Colour of bulb	Clear
Total light output (lumen secs)	16000
Peak light output (megalumens)	1.0
Time to peak (m. secs)	17
Duration above $\frac{1}{2}$ peak (m. secs)	15
Voltage range	3-45
Max. bulb diameter (mm)	22
Max. overall length (mm)	45
Bulbs per pack	6
Bulbs per outer container	180
Colour code	Red

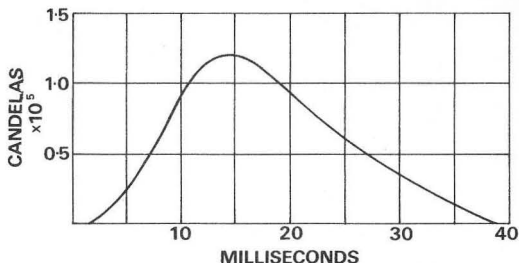


Simple to fit on the camera – simple to remove, either manually or by automatic ejection, and only just warm to the touch after four bulbs have been fired. The plastic cube itself acts as a protective shield for each bulb.

The blue safety dot is visible through the side of the Flashcube and provides a check against the accidental use of a bulb which may be faulty.

The precision-made base ensures correct location on the camera; enabling positive contact and automatic rotation of the Flashcube. Four miniature blue bulbs, smaller in size than an AG1B, are enclosed in a plastic cube complete with a precision reflector for each individual bulb.

Flashcubes may be used with suitably designed cameras and adaptors, with X synchronization at shutter speeds up to 1/60 second and at all shutter speeds with M synchronization.



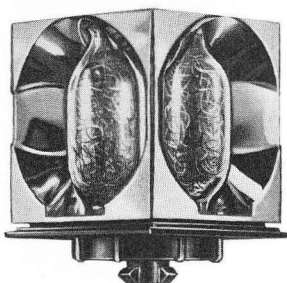
Exposure Data

Film Speed	ASA		100		320	
	to	to	to	to	to	to
	12	32	64	125	200	500
DIN	12	15	17	21	23	26
	13	16	19	22	24	28

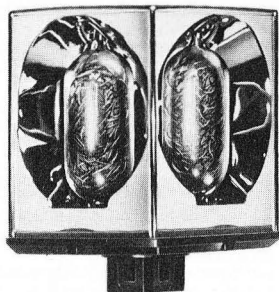
Shutter Sync	Shutter Speed	GUIDE NOS.					
X	1/25–1/30	32	55	75	100	130	200
X or M	1/50–1/60	22	36	50	70	90	130
M	1/100–1/125	18	30	42	60	75	110
M	1/200–1/300	15	24	34	48	60	90

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 (m. secs)	13
Duration above half peak (m. secs)	15
Voltage range	3–45
Width (mm)	28.5
Overall length (mm)	35.5
Cubes per pack	3
Cubes per outer pack	60



atlas Magicube X



Atlas Magicube X is a major advance towards 100% photoflash reliability. It is mechanically activated, thus eliminating the need for batteries, and failures due to poor electrical contact or corrosion. Magicube X can only be used with cameras designed with the special Magicube firing system.

Exposure Data Guide Nos/X Synchronisation

Film ASA	25-32	40-50	64-80	100-125	160-200
Speed DIN	15-16	17-18	19-20	21-22	23-24
Index					
1/30 sec.	45	56	72	90	125
1/60 sec.	40	50	64	80	100

Flash to subject distance for single speed cameras.

Monochrome film stock - 4 ft. - 15ft.

Colour film stock - 4 ft. - 9 ft.

Specifications:—

Colour of bulb	blue
Total light output	460 Zonal lumens
Peak intensity	44,000 Zonal lumens
Time to peak	7 m-seconds
Duration half peak	13 m-seconds
Maximum width	30.5 mm
Max. overall height	41.0 mm
Cubes per pack	2
Cubes per outer	200

