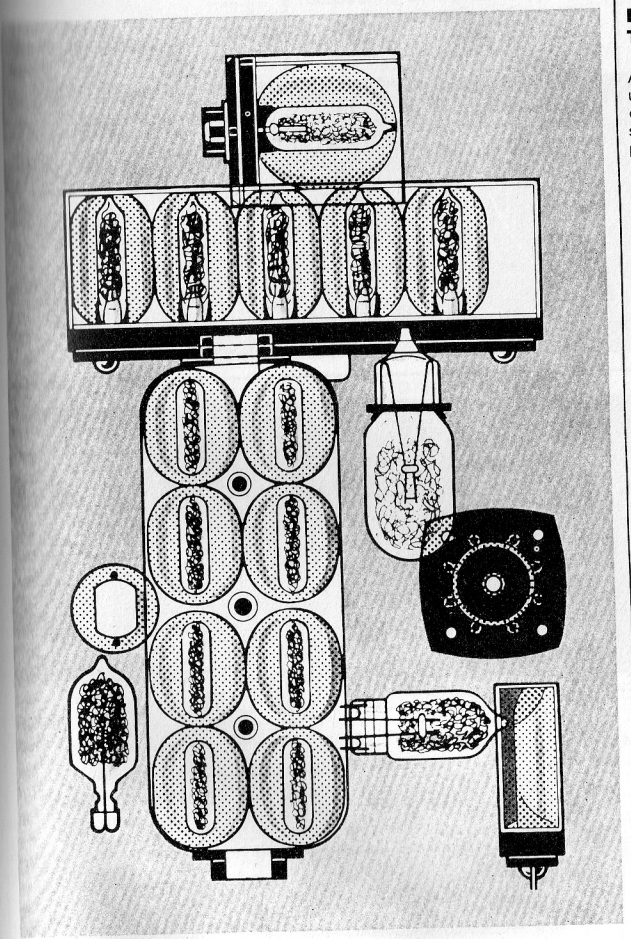
PHOTOGRAPHIC LAMPS

CI/SfB	
UDC	771.44

PHOTOFLUX

Flashbulbs, Cubes, Topflash and Flashbar



A series of flashbulbs, cubes and units matched to balance daylight colour and black-and-white films, to suit the needs of the amateur photographer.

RANGE

PF1B:– Capless battery-fired flashbulb.

AG3B:– Capless battery-fired flashbulb (alternative fitting to PF1B).

PFC4:– Battery flashcube giving four flashes, each in its own reflector.

Magicube:– Battery-less version of PFC4.

PF8P:– 'Topflash' eight flash unit for use with certain cameras with piezo firing systems.

Flashbar:– Ten-flash unit in two rows of five, back-to-back, each with its own reflector.

APPLICATIONS

The provision of artificial daylight for indoor flash photography, with sufficient intensity for the majority of amateur applications.

The range can also be used to highlight shadow areas outdoors ('fill-in' flash).

- Types PF1B and AG3B are for use in simple battery-capacitor flashguns.
- Type PFC4 cube is made for battery-operated Instamatic, pocket and some instant cameras.
- Magicube is made for other camera types not requiring a battery.
- Type PF8P, 'Topflash', for use with pocket and instant cameras with piezo ignition.
- Flashbar is for use with specific instant picture cameras.

Handbook Ref.	9.1.1
To reorder this data sheet quote	2.78 PL 1816
Replaces	New

FEATURES

PF1B, AG3B

- Blue lacquered to match the colour balance of daylight colour and black-and-white films. The lacquer also reduces the risk of shattering bulbs.
- Blue safety spot indicates the condition of the bulb.
- Low cost per flash; higher output than flashcubes.
- Interchangeable by means of a socket adaptor.

PFC4, Magicube

- Four separate flashes per unit, each with its own reflector.
- Simple to use, in a handy small size.
- Transparent outer cover gives added protection from shattering bulbs.
- Non-interchangeable base fittings prevent wrong type of cube being used.

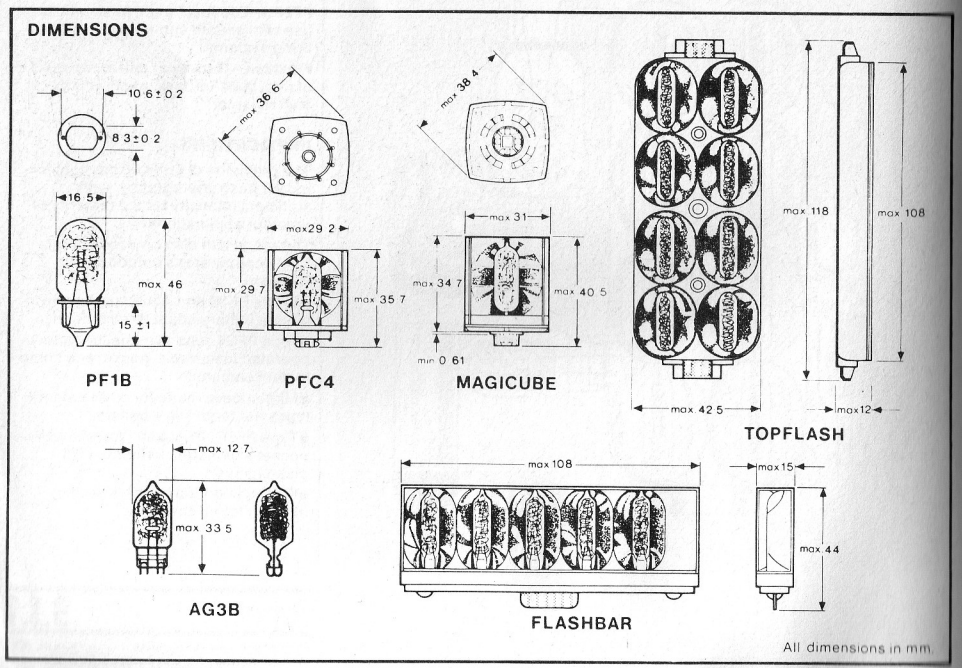
Topflash (PF8P)

- Eight separate flashes per unit, each with its own reflector.
- Simple to use; the ultra-slim profile slips easily into the pocket.
- No battery required. Piezo ignition.
- Bulbs are automatically fired in numbered sequence. The top 4 flashes are used first, then the unit is turned over for the remaining 4.
- By flashing the bulbs furthest from the lens Topflash reduces the red-eye effect.
- Multiple flash feature: it is possible to fire up to three bulbs simultaneously for increased output.
- Transparent outer cover gives added protection from shattering bulbs.

Flashbar

- Ten separate flashes per unit, each with its own reflector.
- Simple to use and carry.
- Bulbs are automatically fired in sequence; when the five bulbs to the front have been fired, the Flashbar is simply reversed in the camera.
- Transparent blue outer cover gives added protection from shattering bulbs.
- Hafnium filled for high output.

DIMENSIONS



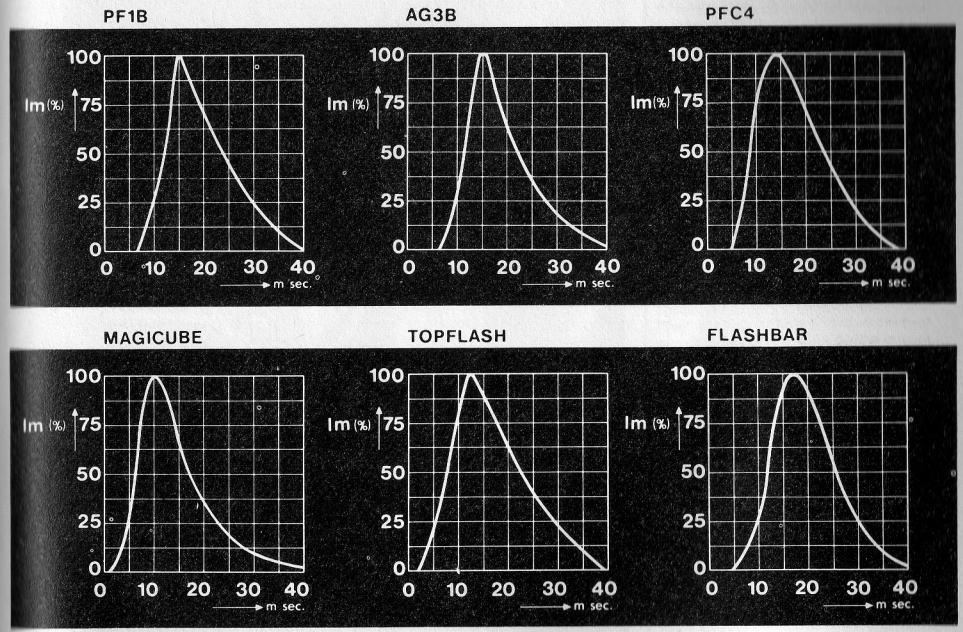
All dimensions in mm.

GUIDE NUMBER TABLE (For distances in feet)

Film Speeds		Shutter Speeds							
ASA	DIN	PF8P Topflash 1/25–1/60 (X)	Magicube 1/25–1/60 (X)	PFC4 1/25–1/30 (X)	PF1B 1/25–1/30 (X)	PF1B 1/50–1/60 (X)	AG3B 1/25–1/30 (X)	AG3B 1/50–1/60 (X)	Flashbar 1/25–1/30 (X)
25–32	15–16	40	40	40	65	45	65	45	80
40–50	17–18	50	50	50	85	60	85	60	100
64–80	19–20	65	65	65	105	75	105	75	125
100–125	21–22	80	80	80	125	90	125	90	155
160–200	23–24	100	100	100	170	120	170	120	200
250–320	25–26	130	130	130	210	150	210	150	250
400–500	27–28	160	160	160	260	180	260	180	310

Camera f-stop (aperture) = Guide Number ÷ Distance in feet. Divide Guide Number by 3 for approximate distance in metres.

LIGHT OUTPUT DATA



PERFORMANCE DATA

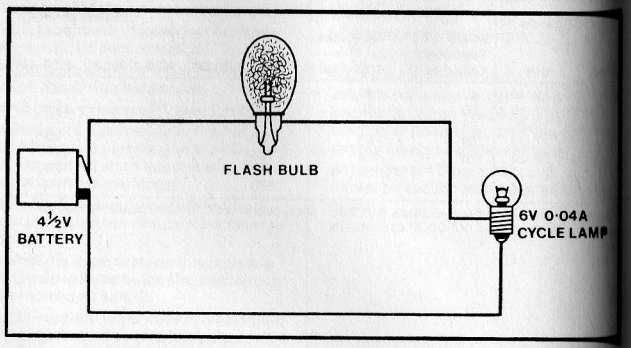
Catalogue number	Total output (Lumen seconds)	Time to peak (milli-seconds)	Duration above half-peak (milli-seconds)	Voltage range
PF1B	7500	15	12	3–30
AG3B	7500	15	11	3–30
PFC4	—	15	13	3–30
Magicube	—	10	11	—
PF8P Topflash	—	12	15	—
Flashbar	—	13	10	3–30

*Guide numbers in accordance with D1 19011 for 21 DIN film in metres, and ISO 1230 for 100 ASA film in feet.

Notes for users

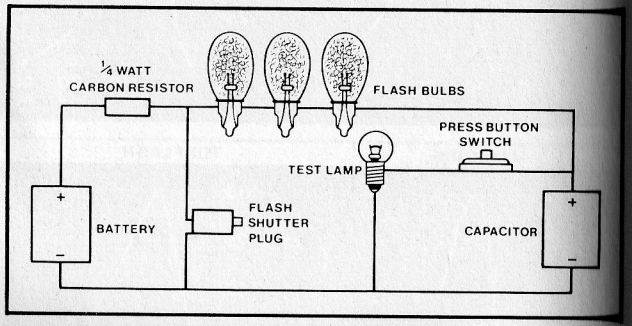
1. All Photoflux flashbulbs are lacquer coated for safety. However, a safety shield should always be used where the flash is in close proximity to the subject, to protect against the possibility of a bulb shattering.
2. Care must be taken to avoid sudden knocks. It is possible for mechanically-operated units (Magicubes) to be inadvertently fired as a result.
3. Flashbulbs and units should not be dismantled for any reason.
4. All flash products should be kept in their original packing until needed, to protect the lacquer and contact points.
5. Blue indicator spots are incorporated in some flashbulbs, cubes and units which change colour to pink if an air leak develops. Should this change in colour occur, or if a bulb, cube or unit appear to be damaged in any way, do not use it.
6. Ensure that batteries are renewed regularly, and that contacts are clean.
7. In the case of the AG3B and PF1B, a straight press fit into the flash-gun socket is all that is required. Do not twist, as this can displace the contacts and render the bulb inoperative.
8. Do not flash in explosive atmospheres or in close proximity to materials of a highly inflammable nature.
9. Allow bulb to cool after use and before removal.
10. Damaged flashbulbs and units, or those that have failed to fire, should be returned to your supplier for disposal, investigation or replacement as necessary.

CONTINUITY TEST CIRCUIT



Rough handling insufficient to cause external damage and to change the safety spot, may result in a broken filament so that the flashbulb cannot be fired. A flashbulb can be tested for continuity of circuit by connecting it in series with a suitable lamp. The circuit consists of a 4·5V battery connected in series with the flashbulb and a 6V 0·04A cycle rear lamp. When the test switch is closed the resistance of the lamp is such that the current through the flashbulb is less than 1/10th of that necessary to fire it. The filament of the test lamp will glow if there is continuity through the flashbulb. Each flashbulb must be tested separately. Applies to PF1B, AG3B and PFC4 only.

MULTIPLE FLASH CIRCUIT WITH TEST LAMP



As the capacitor is charged through the flashbulbs, discharging the capacitor through the test lamp via the press button switch proves continuity in the flash circuit.

The flashbulbs are connected in series so that any sockets not in use must be short-circuited. As the number of flashbulbs increases, so must the value of the components.

ORDERING DATA

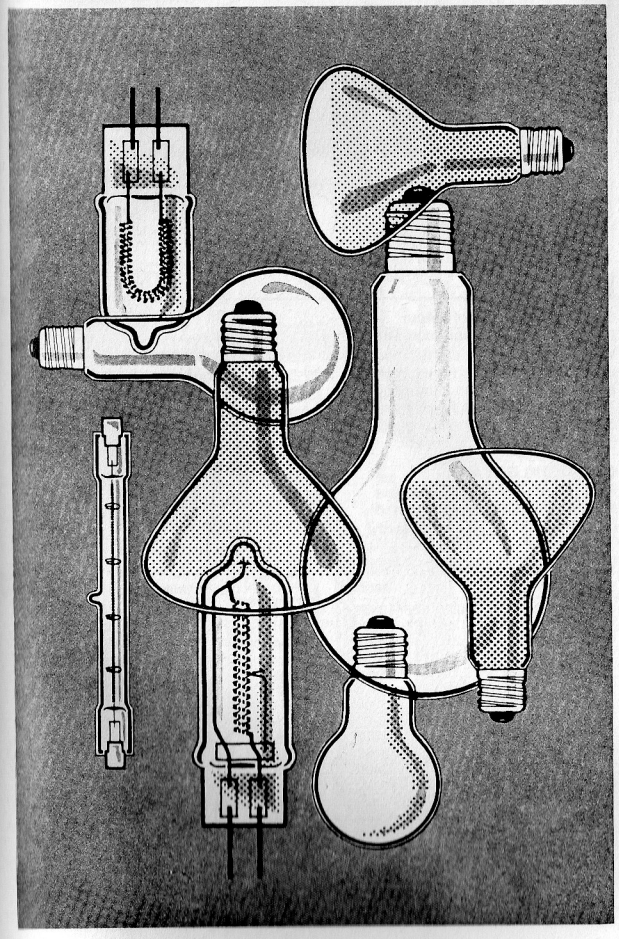
Catalogue No.	Basic packing carton	Ordering quantity Inner box	Outer box
PF1B	10 bulbs	200 bulbs	1600 bulbs
AG3B	10 bulbs	200 bulbs	2000 bulbs
PFC4	3 cubes – 12 flashes	72 cubes	576 cubes
Magicube	3 cubes – 12 flashes	72 cubes	576 cubes
PF8P Topflash	1 unit – 8 flashes	20 units	160 units
Flashbar	1 unit –10 flashes	20 units	200 units

Flashbar: Made in USA
PF8P, Magicube and AG3B: Made in Holland.
PFC4, PF1B: Made in Great Britain.

PHOTOLITA ARGAPHOTO PHOTOCRESCENTA DARKROOM

Classes P1, P2 and P3

A range of photoflood and photopearl lamps, single- and double-ended tungsten halogen photo lamps, darkroom safelight lamps and high-intensity enlarger lamps for both amateur and professional use.



APPLICATIONS

Class P1 Photoflood:– High light output, balanced for 3400K colour film, for both still and cine photography.

Class P1 tungsten halogen:– Single- and double-ended lamps for 3400K balanced colour film.

Class P2 Photopearl:– Lamps for use in professional studios, for fill-in or process cameras, for 3200K colour film.

Class P3 Photocrescenta:– Enlarger lamps for both amateur and professional use.

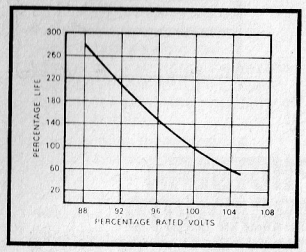
Darkroom:– Safelight lamps made from dark red or yellow/green coloured glass, for use with orthochromatic film and bromide papers respectively.

FEATURES

- Photoflood (Photolita) and Photopearl (Argaphoto) lamps are available in pearl or reflector versions; the latter provide an efficient forward illumination without external reflector housings.
- Tungsten halogen lamps maintain constant light output throughout their life.
- Small size of tungsten halogen lamps permits the design of slim, lightweight housings for movie lights, etc.
- Special opalising process for enlarger lamps ensures even illumination on the baseboard.

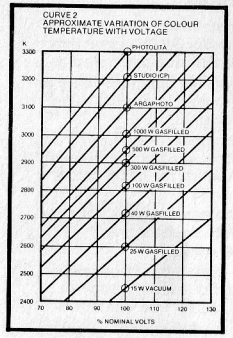
Handbook Ref. 9.1.2
To reorder this data sheet quote
Replaces

PERFORMANCE CHARACTERISTICS

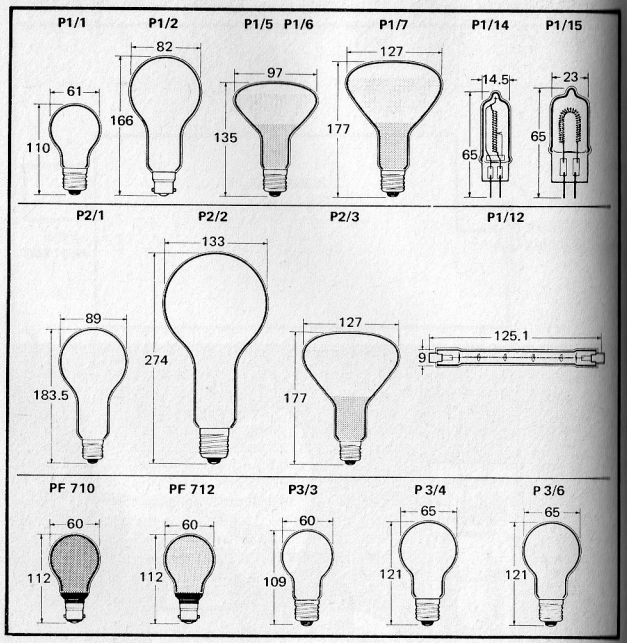


Curve 1 – Variation of life to applied voltage

This is a general lamp curve showing voltage variation from 88–104%; photolamps have high-temperature filaments and must not be over-volted. The curve shows average figures, and indicates that life is considerably dependent on applied voltage. Gross undervolting may not achieve expected results, particularly for halogen lamps, as other factors influence lamp life.



DIMENSIONS



All dimensions in mm

Curve 2 – Variation of colour temperature with applied voltage

Whilst a nominal colour temperature is quoted for various types, it should be noted that there is a tolerance of ±100K for photolamps, and that ordinary lamps are not controlled in this respect.

ORDERING DATA

Please order quoting Catalogue Number and Lamp reference, in multiples of the packing quantity.

NOTES FOR USER

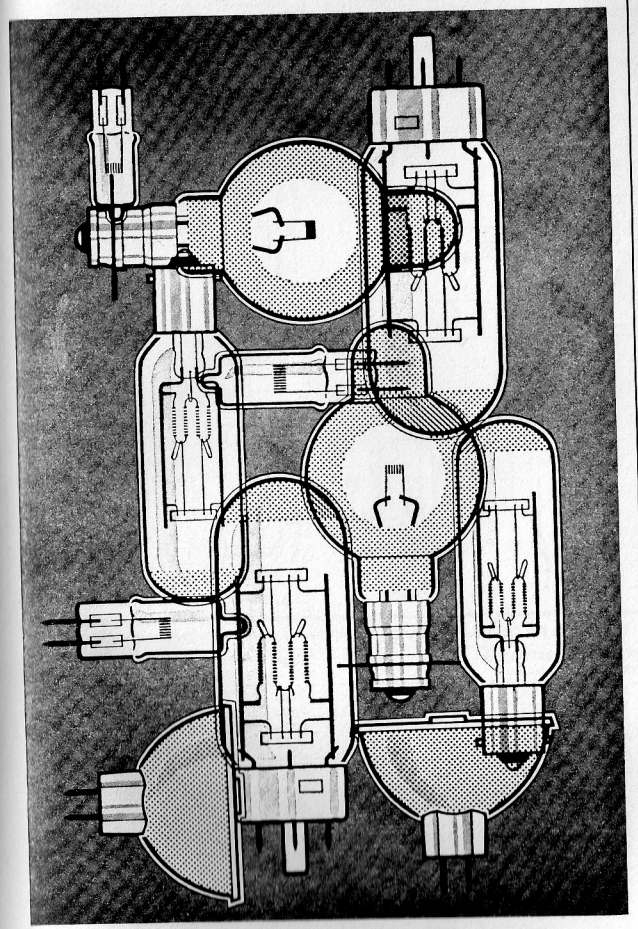
General: Photographic lamp filaments are particularly brittle. Handle gently, and avoid vibration and jolts when alight. Lamps may be operated via dimmers or series/parallel switching while setting-up, to extend useful life.

PRODUCT DATA

Type	Catalogue Number	Lamp reference	Watts	Volts	Cap	Film rating K	Finish	Life hours	Light output	Packing quantity
Photoflood (Photolita)	PF207	P1/1	275	240/250	B22d/E27	3400	Pearl	3	8000 lm	25
,, ,,	PF208	P1/2	500	240/250	B22d/E27	3400	Pearl	6	15000 lm	25
,, ,,	PF216	P1/5	275	240	E27	3400	Reflector	3	3000*	25
,, ,,	PF215	P1/6	375	240	E27	3400	Reflector	4	1300*	25
,, ,,	PF218	P1/7	500	240	E27	3400	Reflector	6	8000*	9
Photopearl (Argaphoto)	PF308	P2/1	500	240	E27	3200	Pearl	100	11000 lm	32
,, ,,	PF210	P2/2	1000	240	E40	3200	Pearl	100	23000 lm	9
,, ,,	PF318	P2/3	500	240	E27	3200	Reflector	100	3000*	9
Tungsten halogen†	PF801R	P1/12	1000	240/250	R7s	3400	Clear	10	34000 lm	10, 100
,, ,,	PF810	P1/14	650	240/250	G6.35	3400	Clear	15	20000 lm	10, 100
,, ,,	PF811	P1/15	1000	240/250	G6.35	3400	Clear	15	33000 lm	10, 100
Darkroom	PF710	Yellow-green	—	240/250	B22d	—	Yellow-green	—	—	50
,,	PF712	Dark red	—	240/250	B22d	—	Dark red	—	—	50
Photocrescenta	PF603	P3/3	75	240/250	B22d/E27	—	Opalized	100	1150 lm	50
,,	PF605	P3/4	150	240/250	B22d/E27	—	Opalized	100	2700 lm	50
,,	PF607	P3/6	275	240/250	B22d/E27	—	Opalized	3	7200 lm	50

*Light output in centre beam candles.
†For Class P2 Tungsten-halogen lamps see 'Studio & Theatre Lamps', PL 1812.

Lamp P1/1, P1/2: Made in UK.
Remainder: Made in Holland.



PROJECTION LAMPS

Class A1

Lamps held in stock for use in slide and film projectors.

RANGE

Halogen and non-halogen types, tabulated separately in LIF Classification sequence.

APPLICATIONS

For use in slide and film projectors, and for other applications such as:
- Overhead projectors
- Microfilm and microfiche readers and copiers
- Medical apparatus
- Fibre optics

FEATURES

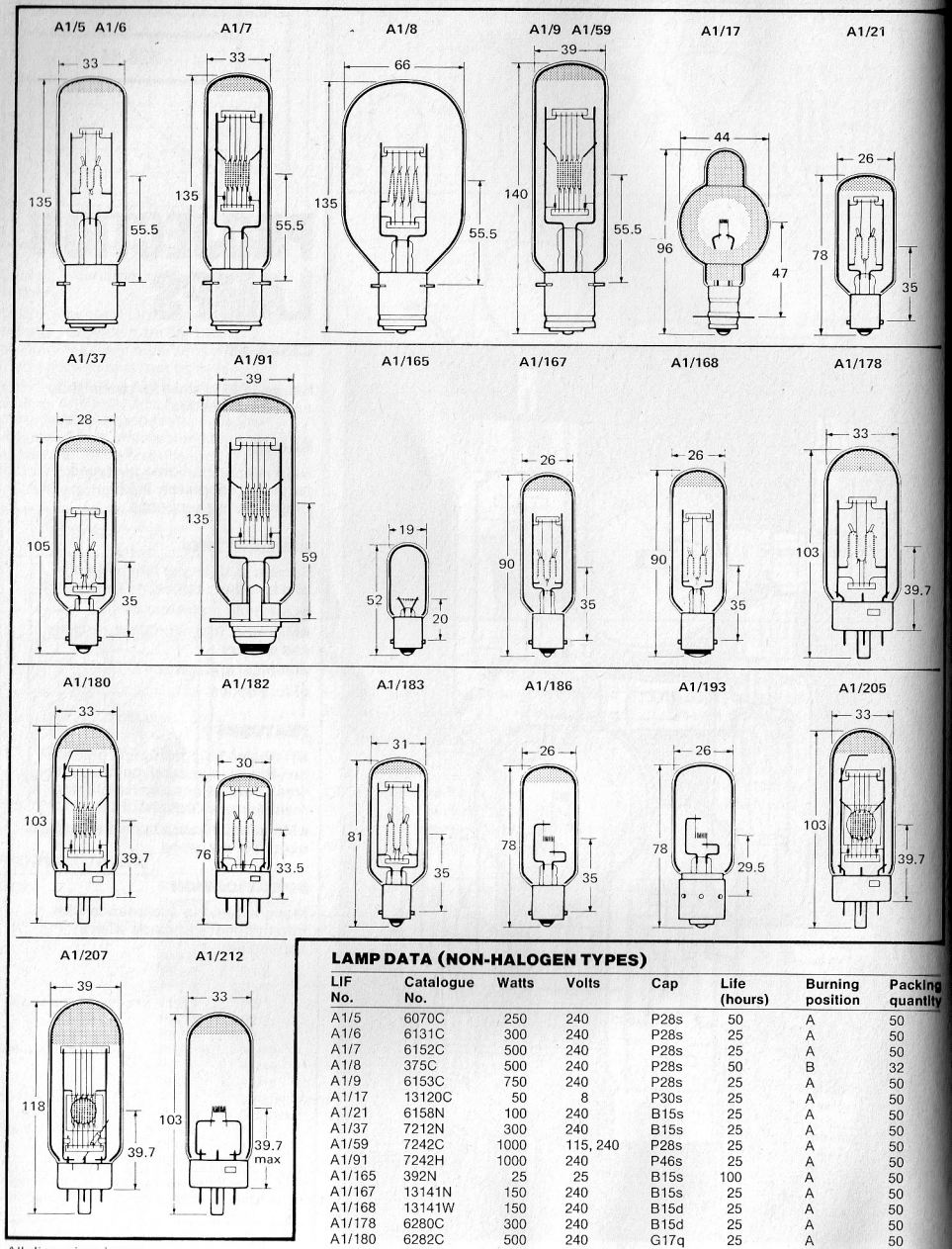
- Tungsten halogen lamps give the benefits of increased output and life, small dimensions and high lumen maintenance throughout life.
- Manufactured to a consistently high degree of accuracy.

SPECIFICATION

Manufactured in accordance with International standards where applicable.

Handbook Ref. 9.1.3
To reorder this data sheet quote
Replaces

Non-Halogen Types



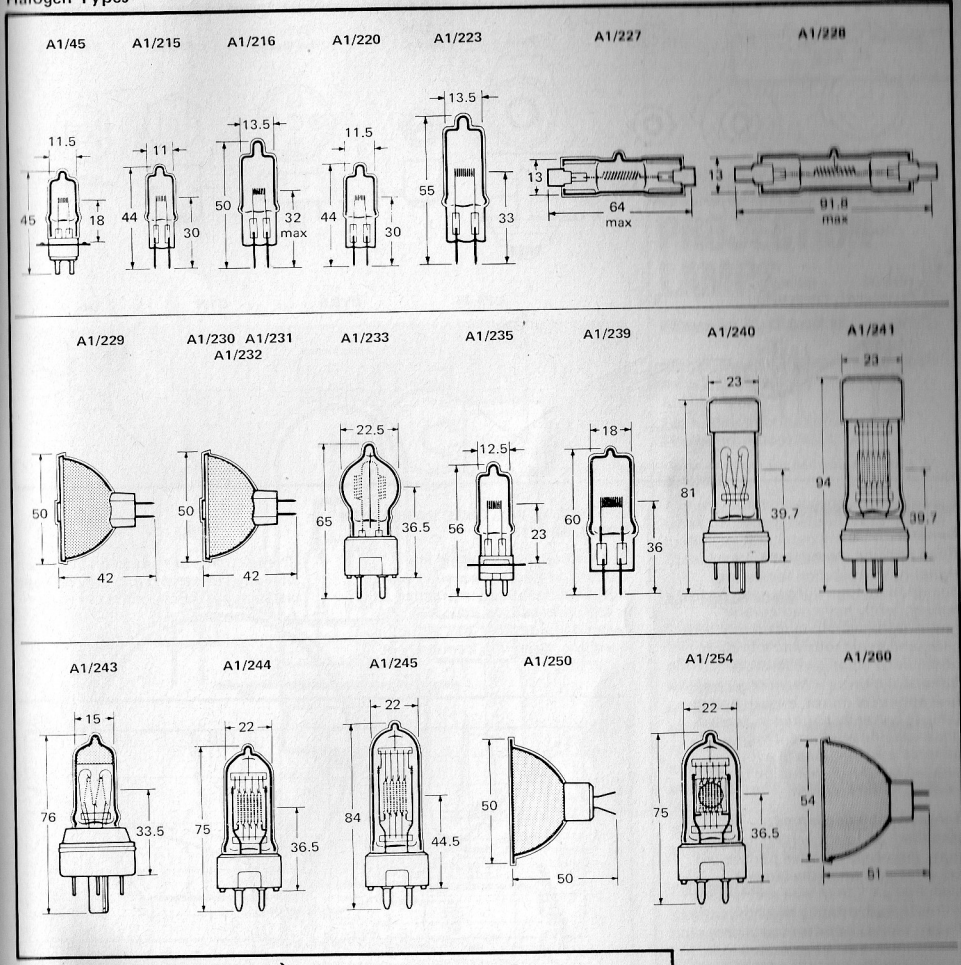
All dimensions in mm

Burning position
A: Vertical cap down ±15°
B: Vertical cap down ±30°

LAMP DATA (NON-HALOGEN TYPES)

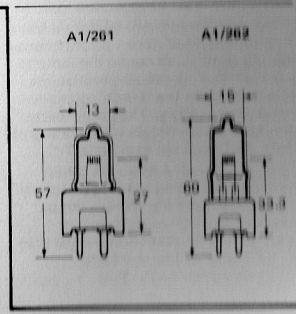
LIF No.	Catalogue No.	Watts	Volts	Cap	Life (hours)	Burning position	Packing quantity
A1/5	6070C	250	240	P28s	50	A	50
A1/6	6131C	300	240	P28s	25	A	50
A1/7	6152C	500	240	P28s	25	A	50
A1/8	375C	500	240	P28s	50	B	32
A1/9	6153C	750	240	P28s	25	A	50
A1/17	13120C	50	8	P30s	25	A	50
A1/21	6158N	100	240	B15s	25	A	50
A1/37	7212N	300	240	B15s	25	A	50
A1/59	7242C	1000	115, 240	P28s	25	A	50
A1/91	7242H	1000	240	P46s	25	A	50
A1/165	392N	25	25	B15s	100	A	50
A1/167	13141N	150	240	B15s	25	A	50
A1/168	13141W	150	240	B15d	25	A	50
A1/178	6280C	300	240	B15d	25	A	50
A1/180	6282C	500	240	G17q	25	A	50
A1/182	6284C	150	240	G17q	25	A	50
A1/183	7066N	300	240	B15s	25	A	50
A1/186	7238N	100	12	B15s	25	A	50
A1/193	7909J	100	12	BA21s	25	A	50
A1/205	6294C	500	240	G17q	25	A	50
A1/207	6296C	1000	240, 250	G17q	25	A	50
A1/212	6289C	150	24	G17q	25	A	50

Halogen Types



LAMP DATA (HALOGEN TYPES)

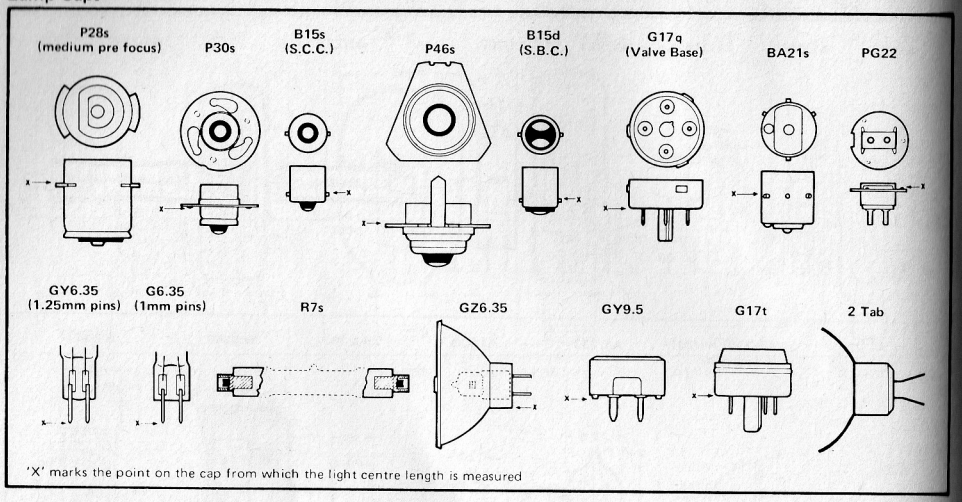
LIF No.	Catalogue No.	Watts	Volts	Cap	Life (hours)	Burning position	Packing quantity
A1/45	6839C	100	12	PG22	50	C	100
A1/215	7023	100	12	GY6.35	50	A	100
A1/216	7158	150	24	G6.35	50	A	100
A1/220	7027	50	12	GY6.35	50	A	100
A1/223	7724	250	24	G6.35	50	A	100
A1/227	12216R	420	120	R7s	75	Any	50
A1/228	12260R	600	120, 240/250	R7s	75	Any	50
A1/229	6847	50	8	GZ6.35	50	B	50
A1/230	6853	75	12	GZ6.35	50	B	50
A1/231	6834	100	12	GZ6.35	50	B	50
A1/232	6423	150	15	GZ6.35	50	B	50
A1/233	—	650	240/250	GY9.5	75	A	50
A1/235	7763C	250	24	PG22	50	A	100
A1/239	7787	400	36	G6.35	50	A	100
A1/240	—	300	240	G17t	50	C	50
A1/241	—	500	240	G17t	50	C	50
A1/243	—	150	240	G17t	50	C	50
A1/244	7389	500	240/250	GY9.5	75	Any	50
A1/245	7764	800	240/250	GY9.5	75	A	50
A1/250	—	50	8	2-tab	50	B	50
A1/254	5968	500	240/250	GY9.5	50	C	50
A1/260	6604	75	12	GZ6.35	50	B	50
A1/261	5973	100	12	GY9.5	50	A	100
A1/262	5974	150	24	GY9.5	50	A	100



All dimensions in mm

Burning position
A: Vertical cap down ±90°
B: Horizontal ±15°
C: Vertical cap down ±15°

Lamp Caps



'X' marks the point on the cap from which the light centre length is measured

NOTES FOR USERS

General

Read packing instructions.

Handling – Projection lamps are designed for high light output, and consequently have particularly brittle filaments. Always handle with care, and avoid jolts and vibration, particularly when switched on.

Spherical mirrors – When used with a rear spherical mirror, ensure that the lamp is correctly aligned in accordance with the equipment manufacturer's instructions to avoid uneven screen illumination or overheating of the filament.

Tungsten halogen lamps

Handling – Avoid touching the quartz bulb; fingermarks leave permanent brown stains when the lamp is switched on. Clean with methylated spirits if inadvertently touched.

Fuse – Lamps rated for supplies above 130V must be operated in series with the prescribed HBC fuse.

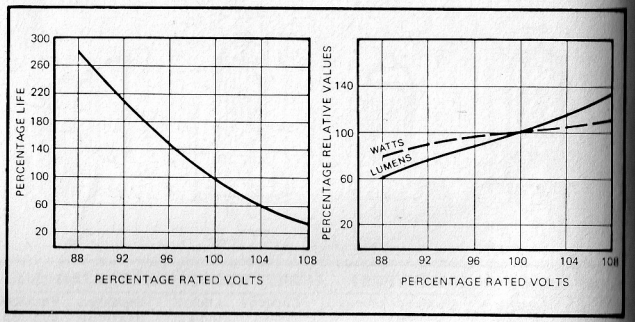
Operating temperature – Avoid overheating as this can cause the lamp to explode. The maximum permissible temperature for the 'pinch' (glass-to-metal seal) is 400°C. The bulb must be kept above a minimum temperature of 250°C and must not exceed 900°C.

Burning position – Attitudes other than the prescribed burning positions will reduce lamp life. Where lamps are used in a horizontal burning position, the filament plane must also be horizontal to prevent coils collapsing on to each other.

EFFECT OF VOLTAGE VARIATION ON LAMP LIFE

The theoretical extended life calculated from the curves below is not always realised in practice as many other causes influence this factor considerably, e.g. vibration, handling, cleaning, frequency of switching.

These curves are based on averages of many lamps, and can only be used as an approximate guide to performance.

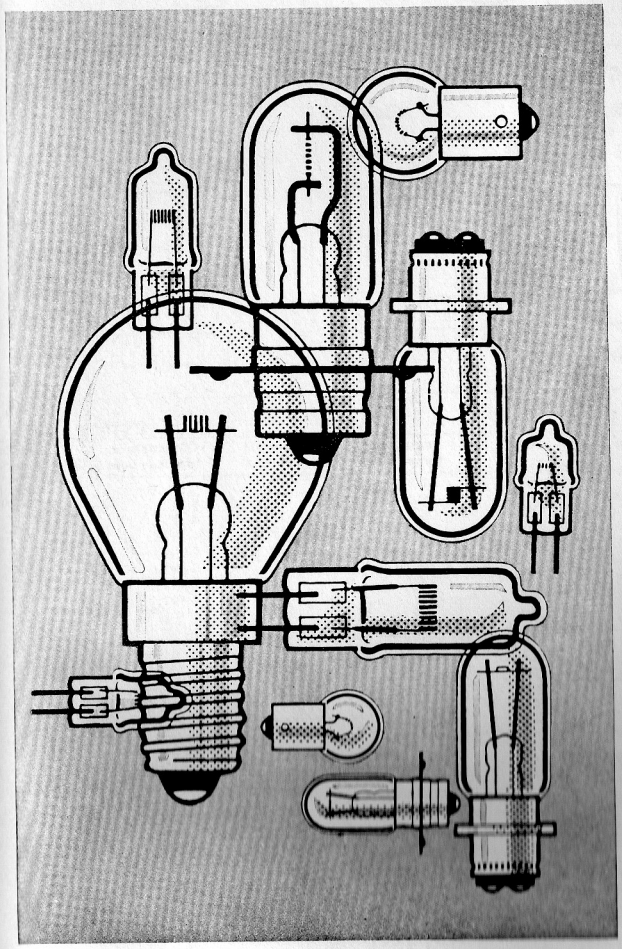


ORDERING DATA

Please order lamps in the form given in the following example, quoting LIF Number, Catalogue Number, Wattage and Voltage, and in multiples of the packing quantity:

50 Philips projector lamps A1/7, Catalogue No. 6152C, 500W, 240V.

All lamps made in Holland except types A1/207, A1/233, A1/240, A1/241, A1/243 and A1/250 made in Great Britain.



628.94

MISCELLANEOUS PROJECTION LAMPS

Classes F, G and M

Single-ended tungsten and tungsten halogen lamps for a variety of applications.

For further information see Photolamps booklet PL 1281.

RANGE

A comprehensive range of popular types, including certain types unique to Philips, tabulated in LIF Classification sequence.

APPLICATIONS

Suitable for use in miscellaneous equipment such as:

- Micro-projectors
- Cine editors
- Microscopes
- Microfiche and microfilm readers and copiers
- Traffic signals
- Display and floodlight narrow spot fittings
- Optical sound projectors
- Disco effects projectors

FEATURES

- Increased light output of tungsten halogen types is maintained throughout longer working life.
- Manufactured to high standards of accuracy.

Handbook Ref.	**9.1.4**
To reorder this data sheet quote	2.78 PL 1811
Replaces	NEW

NOTES FOR USERS OF HALOGEN LAMPS

Handling – Avoid touching the quartz bulb of halogen lamps, since finger-marks appear as indelible brown stains when the lamp is operated. Lamps must be cleaned with a solvent such as methylated spirits if they are inadvertently handled.

Avoid jolting or vibrating the lamps while they are operating.

Seal (pinch) temperature – Precautions must be taken to ensure that the quartz/metal seal temperature does not exceed 350°C, while retaining the temperature of the bulb wall over 250°C and below 900°C

General

Spherical reflectors – Care must be taken to prevent the reflected image of the filament being superimposed on the filament itself, since this will lead to overheating of the filament and premature failure of the lamp.

Types M/16, M/19 and M/20 – These lamps have optically clear glass for operation cap-up, and like Class F lamps are often used for micro-projection and microscope illumination.

Type M/29 and M/30 – These miniature types give a relatively high output at about 3200K in a compact size.

Type M/33 – This lamp is similar to type A1/223 but with a life of 300 hours is useful for discotheque projectors, microfilm readers, etc.

Type M/35 – This lamp may be operated at 13·5V for use in boats or on motor vehicles.

Lamp types M/28 and M/32 are manufactured to meet the conditions stated in BS 505:1971 'Road traffic signals'. See Data Sheet PL 1769.

LAMP DATA

LIF No.	Catalogue No.	Volts	Watts	Cap	Average Life* (hours)	Nominal Lumens	Other details (see key below)	Packing quantity
F/74	6106M	6	30	E14	100	510	f	100
G/5	7210C	6	1·0 Amps	P30s	100	80	a, e	50
G/29	7253C	4	0·75 Amps	P30s	50	30	a, d	50
M/16	13347C	6	15	PX22d	100	225	c, h, k	100
M/19	13702C	6	15	PX22d	100	225	c, h, l	100
M/20	13347W	6	15	B15d	100	225	c, h, k	100
M/28	7724	12	100	GY6.35	2000	2250	a, d, j	10
M/29	7387	6	10	G4	100	200	a, d, j	500
M/30	7388	6	20	G4	100	450	a, d, j	200
M/31	6814	6	10	B15s	200	115	Editor lamp	500
M/32	13512	12	50	GY6.35	2000	900	a, d, j	10
M/33	6958	24	250	G6.35	300	7500	a, g, j	100
M/35	—	12	20	G4	100†	570†	a, d	100
M/42	6605	6	10	G4	1000	140	a, d, j	200
M/43	5972	6	10	G4	300	150	a, d, j	200
M/44	6609	6	35	G4	2000	600	a, d, j	200

*Average life at rated volts in normal use.
†At 13·5V

Code to details
a – tubular
b – spherical

Burning position
c – any except within ±45° vertical cap down
d – any
e – vertical cap down ±45°
f – any except within ±45° vertical cap up
g – vertical cap down ±90°

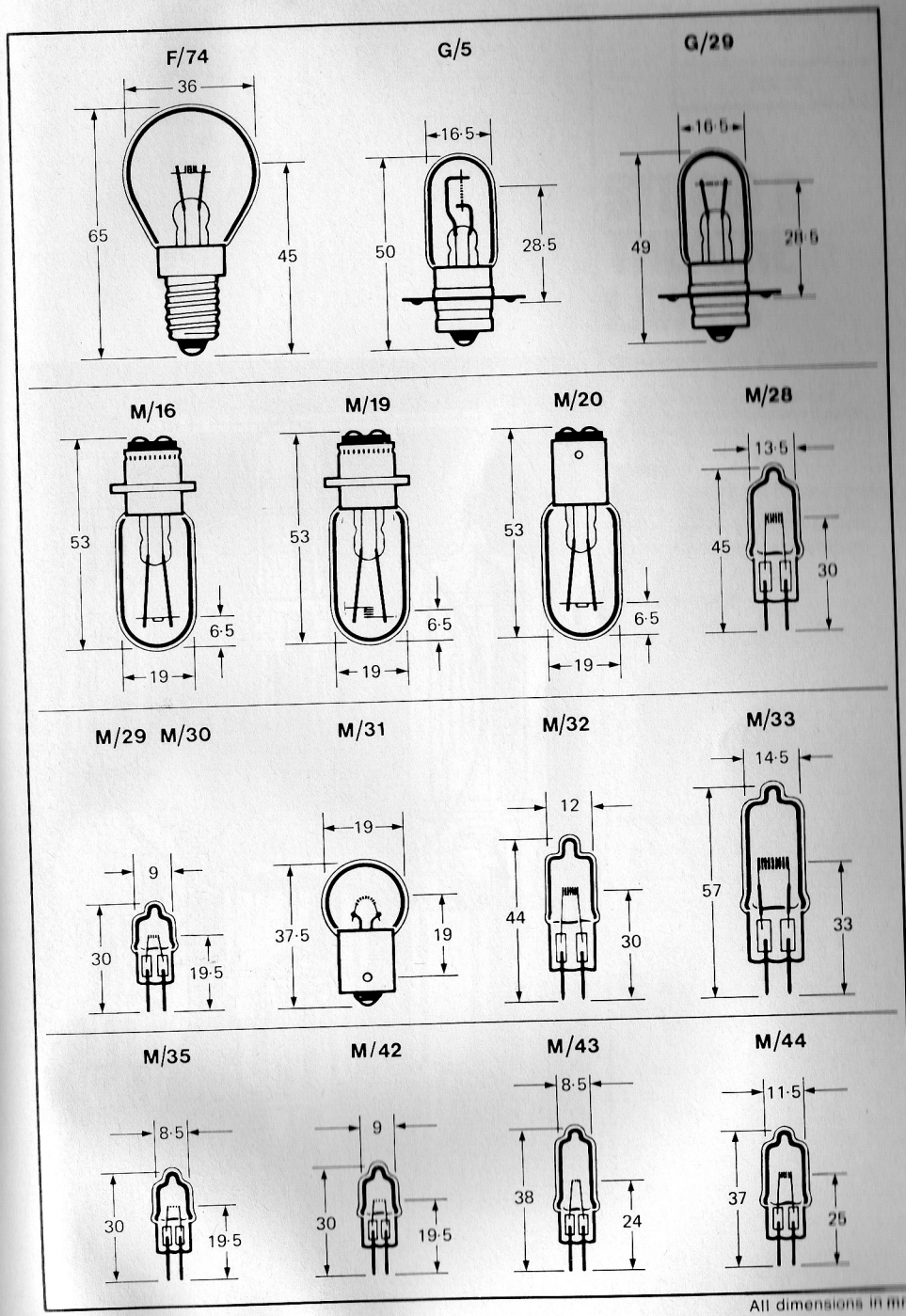
Other details
h – in this case, light centre length is measured from filament to crown of bulb
j – indicates a tungsten halogen lamp with quartz envelope
k – light output taken in axis of lamp
l – light output taken at right angles to lamp axis

ORDERING DATA

Please order in the form given in the following example, quoting LIF No., Catalogue No., voltage and wattage and in multiples of the packing quantity:

100 Philips projector lamps Type M/30, Catalogue No. 7388, 6V 20W.

All lamps made in Holland except M/31 – made in W. Germany.



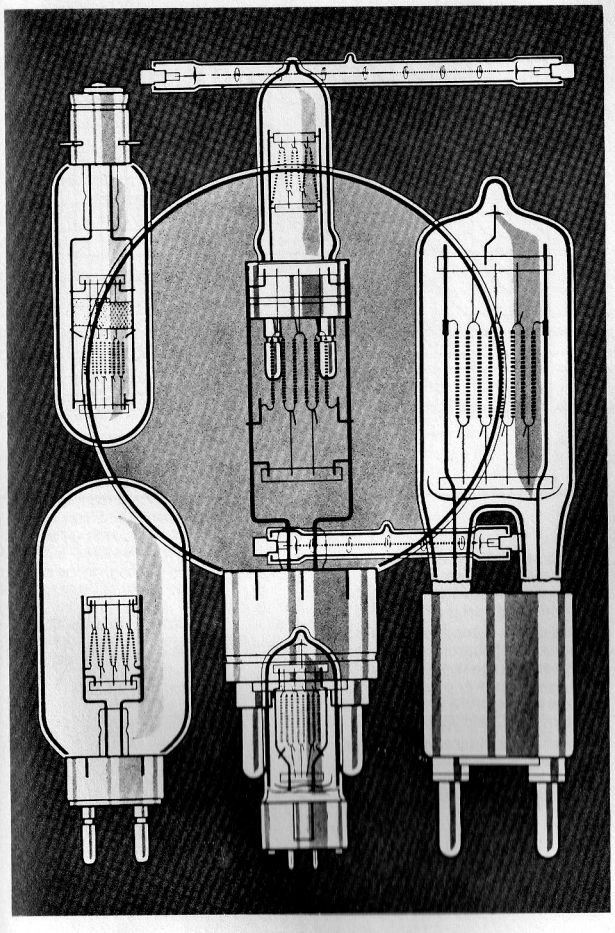
All dimensions in mm

628.94

STUDIO & THEATRE LAMPS

Classes CP. P2 & T

Tungsten and tungsten halogen lamps, for use in studio and theatre lighting equipment.



RANGE

Single filament (Class CP) and double ended (Class P2) lamps balanced at 3200K for studio work; 650W to 5kW.

Six popular theatre spotlight lamps, Class T.

APPLICATIONS

Suitable for use in appropriate luminaires in situations such as:

- Film and TV studios
- Theatres
- Stage lighting
- Ice rinks
- Circus rings
- Concert halls
- Clubs

FEATURES

- Tungsten halogen lamps offer longer life than conventional tungsten alternatives, and maintain virtually constant lumen output and colour temperature.

SPECIFICATION

- Designed to comply with International specifications where applicable.

Handbook Ref.	9.1.5
To reorder this data sheet quote	3.78 PL 1815
Replaces	New

15

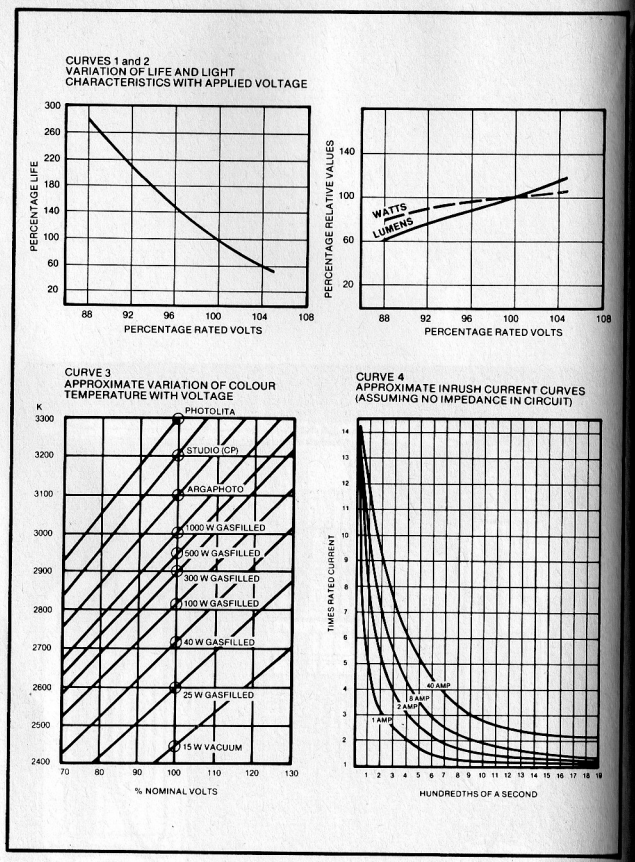
AVERAGE PERFORMANCE CHARACTERISTICS

Curve 1/2 – Data becomes more inaccurate beyond about 80–120%. Over-volting photolamps can result in immediate failure; undervolting increases life expectancy while reducing colour temperature.

Curve 3 – Shows GLS lamp types in comparison with photographic lamps.

Curve 4 – Since the resistance of a cold lamp filament is approximately 1/17th of that when the lamp is hot, the inrush surge current at the instant of switching on can reach a theoretical maximum of 24 x rated current. In practice, supply leads, etc., normally constitute sufficient series impedance to limit surge current to 10 x rated current.

It is inadvisable to operate lamps from non current-controlled supplies having circuit impedances lower than 0·3 Ω.



USERS' CAUTIONARY NOTES

Fusing – It is important to ensure that halogen lamps are protected by the correct HBC fuse to reduce the risk of shattering due to internal arcing at the instant of filament rupture.

Lamp Watts	500/650	800–1250	1·5–2kW	5kW
HBC Fuse (UK)	4A	6A	10A	30A

These fuse ratings are for 240/250V lamps only.

Handling – Avoid touching the quartz bulb of halogen lamps, since finger-marks appear as indelible brown stains when the lamp is operated. Lamps must be cleaned with a solvent such as methylated spirits if they are inadvertently handled.

Avoid jolting or vibrating the lamps while they are operating.

Safety – Halogen lamps are pressure-filled and can shatter in use if over-heated, incorrectly fused, damaged or operated above the rated voltage.

It is advisable to shield these lamps wherever possible for safety reasons.

Burning positions – Life expectancy may be reduced if lamps are operated in attitudes other than the recommended burning positions.

The maximum recommended seal temperature of quartz-halogen studio and theatre lamps is 400°C, (350°C in humid conditions or outdoors), while the bulb temperature is maintained between 250°C and 900°C.

Lamp contacts or pins may deteriorate at temperatures above 300°C, causing arcing and subsequent lampholder contact problems.

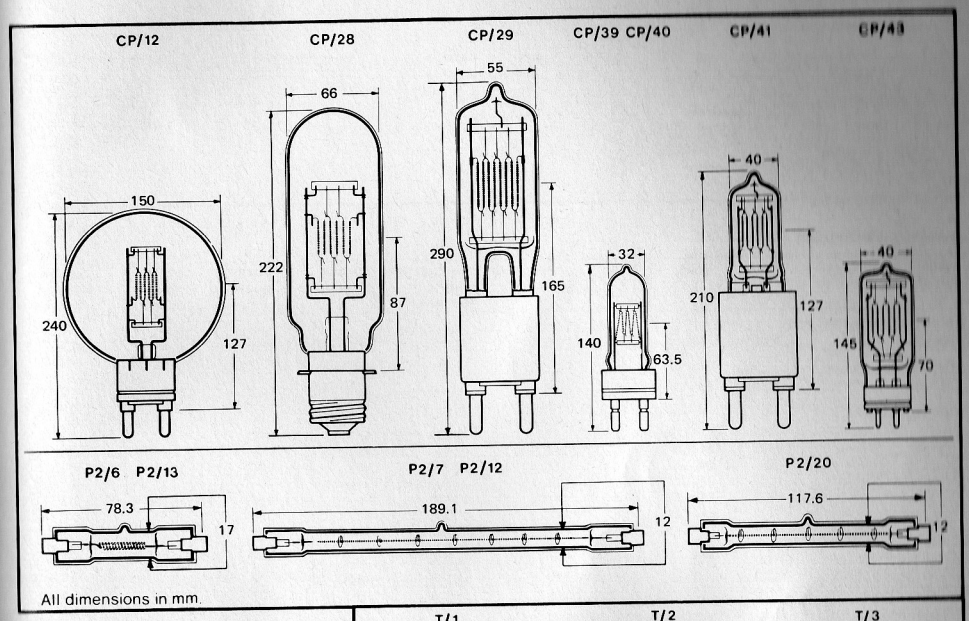
LAMP DATA

Studio Lamps Classes CP and P2

Philips studio lamps are designed for TV and colour photography lighting based on colour sensitised materials balanced for 3200K. There are 3 groups of lamps in the Philips range:

- Orthodox hard glass non-halogen lamps.
- Hard glass halogen.
- Quartz glass halogen lamps for smaller luminaire design and replacements for hard glass halogen and orthodox types.

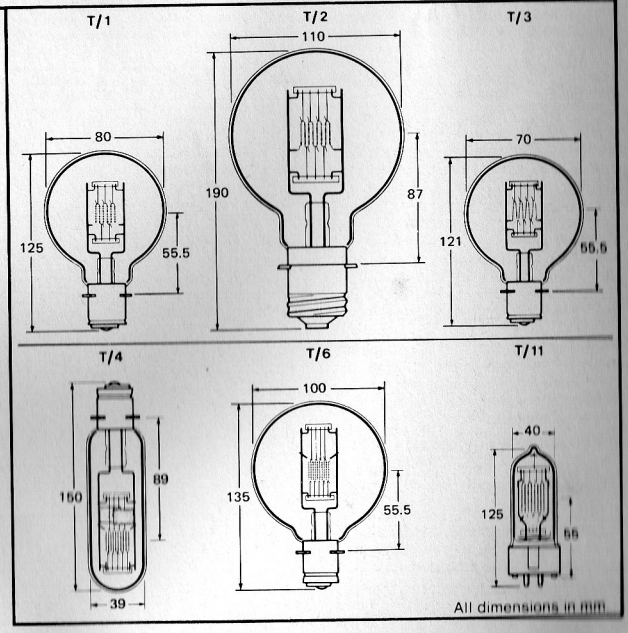
All these lamps are used in a variety of spotlight, softlight and cyclorama fittings as appropriate. The fittings themselves can be free-standing, pole or track mounted or clamped, and on wheel base stands.



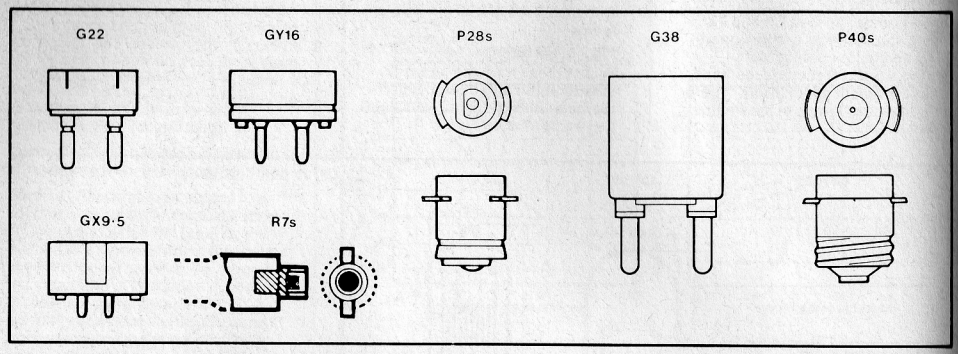
LAMP DATA

Theatre lamps Class T

Theatre lamps have highly concentrated filaments with high brightness. They are used in PROFILE lanterns which incorporate an efficient optical system producing a clear cut edge to the spotlight beam, and in FRESNEL lanterns where a reflector is used in conjunction with a fresnel lens to produce a soft beam.



LAMP CAPS



LAMP & ORDERING DATA

Lamp Ref. No.	Philips Type No.	Watts	Volts	Cap	Average life (hours)	Nominal light Output (lumens)	Burning position	Packing quantity	Delivery period in weeks	Tungsten Halogen alternative
Hard Glass Non-Halogen										
CP/12	13177P	2000	240	G38	100	50000	VBD ±45°	6	—	CP/41
Hard Glass Halogen										
CP/28*	6377C	2000	240	P40s	100	52000	VBD ±45°	12	20	
Quartz Halogen										
P2/6*	6365R	650	125/130	R7s	75	18500	Any	100	16	
P2/7	13989R	1000	240/250	R7s	120	25000	Any	—	—	
P2/11*	13477R	800	240/250	R7s	150	21600	Any	60	16	
P2/12	6358R	1250	240/250	R7s	200	33500	H ±4°	—	—	
P2/13*	6366R	800	240/250	R7s	50	20000	Any	100	16	
P2/20*	7786R	1000	240/250	R7s	200	25000	Any	60	16	
CP/29	6379P	5000	240	G38	400	135000	VBD ±45°	1	—	
CP/39	7801P	650	240	G22	100	16800	VBD ±90°	4	—	
CP/40	7802P	1000	240	G22	200	26000	VBD ±90°	4	—	
CP/41	5970P	2000	240	G38	300	52000	VBD ±90°	4	—	
CP/43	6364P	2000	240	GY16	300	52000	VBD ±90°	4	—	

*These lamps are not normally held in stock but are available in the minimum order quantities and delivery periods (from receipt of order) as shown. Since this data may change occasionally, please check at time of ordering for current situations.

Lamp Ref. No.	Philips Type No.	Watts	Volts	Cap	Average life (hours)	Nominal light output (lumens)	Burning position	Packing quantity
T/1	559C	500	240	P28s	200	9700	VBD ±45°	18
T/2	490C	1000	240	P40s	200	21500	VBD ±45°	9
T/3	558C	250	240	P28s	200	4000	VBD ±45°	50
T/4	6291C	1000	240	P28s	200	22000	VBU ±15°	30
T/6	7401C	1000	240	P28s	200	21500	VBD ±75°	18
T/11	6928P	1000	240/250	GX9.5	750	22000	VBD ±90°	4

Burning position
VBD – Vertical, base down
VBU – Vertical, base up
H – Horizontal
In CP and T types burning angles refer only to orientation in the plane which is at right angles to the filament plane.

Please order lamps in the form given in the following example, quoting Reference No., Catalogue No., voltage and wattage, and in multiples of the packing quantity:

200 Philips lamps Reference P2/6, Catalogue No. 6365R, 125/130V, 650W.

Made in Holland