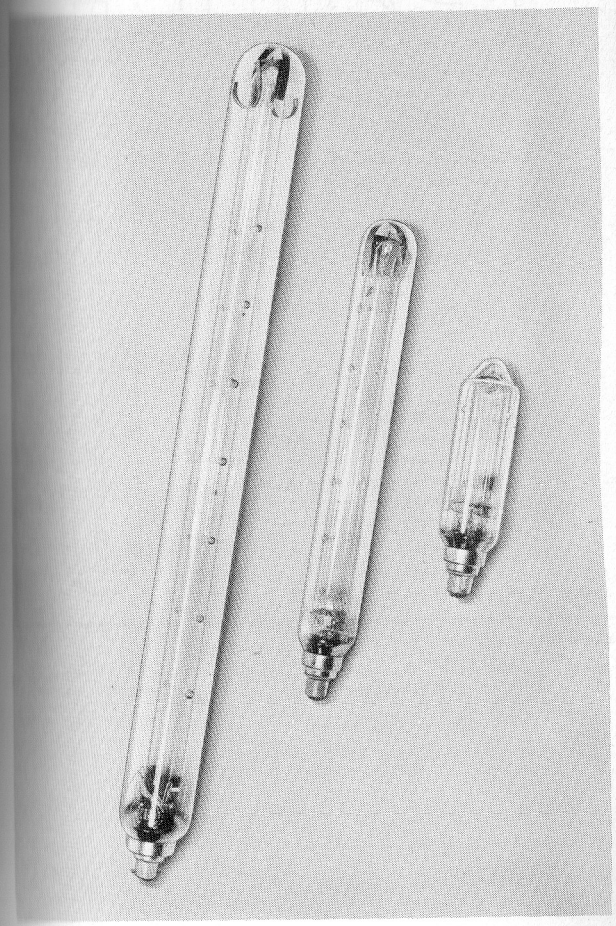
LAMPS DISCHARGE

CI/SfB (63.9)
UDC 696.6:628.94

LOW PRESSURE SODIUM (SOX)

Discharge Lamps



Low pressure sodium lamps provide the most efficient form of lighting known, and the latest generation of Philips SOX lamps achieve efficacies up to as high as 183 Lumens/Watt. They give a characteristic yellow light, and are therefore suitable for use in applications where efficacy and long life are of prime importance, and where colour rendering is not significant.

RANGE

Available in a range of six lamps with ratings of 18W, 35W, 55W, 90W, 135W and 180W.

NOTE: Discharge lamps MUST be operated in conjunction with a suitable current-limiting ballast. For details of the control gear manufactured for use with SOX lamps and relevant circuit diagrams, see Sheet PL1777.

APPLICATIONS

Suitable for any application where efficacy and long life are essential, in situations such as:–

- Road lighting
- Trunk road and motorway lighting
- Car parks
- Floodlighting
- Some factory warehouse applications
- Security lighting

Handbook Ref. 6.3.1
To reorder this data sheet quote 11.77 PL1757/2
Replaces PL1757/1

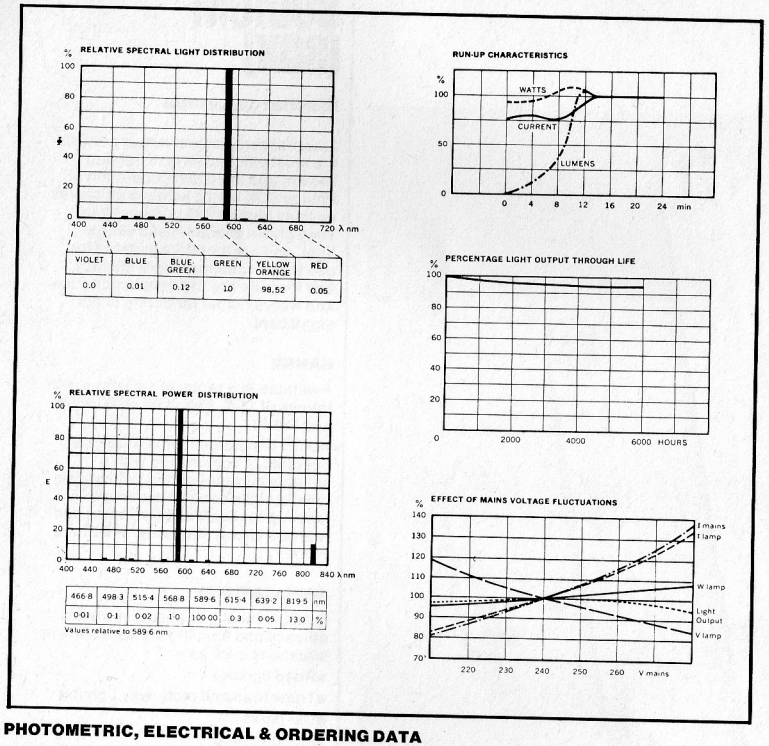
FEATURES

- ■Extremely high efficacy – up to 183 Lumens/Watt – conserves energy in many applications.
- ■Indium oxide layer on internal surface of outer glass envelope reflects infra-red radiation; keeps the discharge tube at the optimum temperature for maximum efficiency.
- ■Dimples formed in discharge tube form cool spots to retain sodium; prevent mirroring and consequent loss of efficiency.
- ■Single BC cap for strength and simplicity.
- ■Triple-coil cathodes and non-staining discharge tube ensure long life and low depreciation during use.
- ■Non-critical burning position. All SOX lamps can be operated up to 20° above or below the horizontal, and the three smaller sizes can be operated in any 'cap up' position.

Made in U.K.
† Made in Holland

Key:

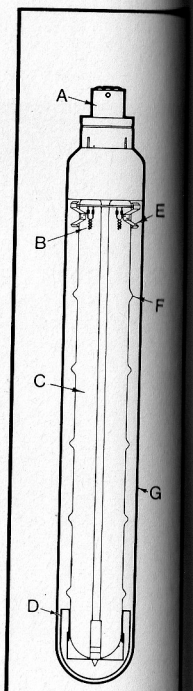
- A Alkyde BC cap
- B Triple coil cathode
- C U bend non-staining glass discharge tube
- D Discharge tube support assembly
- E Discharge tube supports
- F Sodium retaining dimples
- G Outer glass envelope with interference heat reflecting layer



VIOLET	BLUE	BLUE GREEN	GREEN	YELLOW ORANGE	RED
0.0	0.01	0.12	1.0	98.52	0.05

466.8	498.3	515.4	568.8	589.6	615.4	639.2	819.5	nm
0.01	0.1	0.02	1.0	100.00	0.3	0.05	13.0	%

Values relative to 589.6 nm



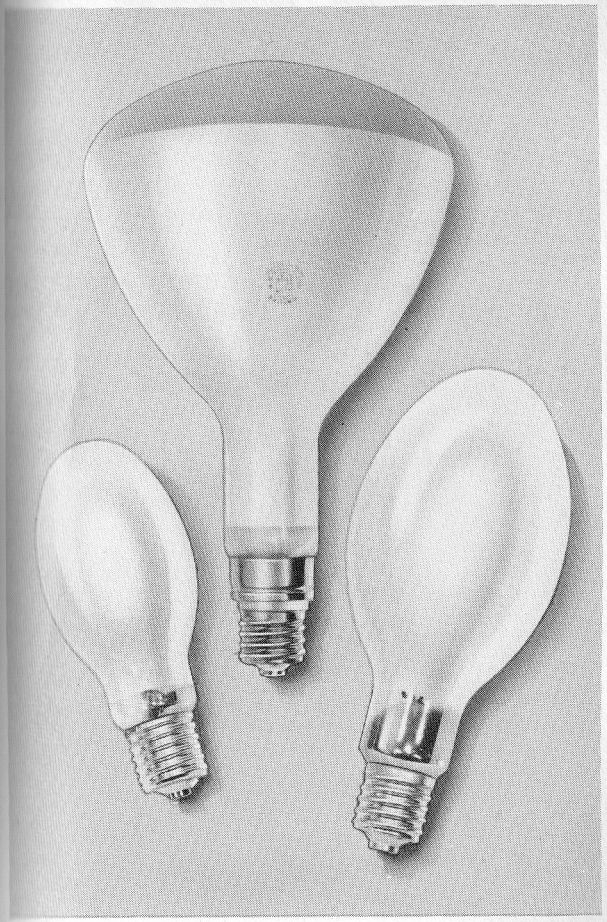
PHOTOMETRIC, ELECTRICAL & ORDERING DATA

Catalogue Number	Rating (Watts)	Lighting Design Lumens	Lamp Volts	Lamp current Amperes	Overall length (mm/in.)	Diameter (mm/in.)	Cap	Ballast	PFC capacitor	Packing quantity (Lamps)
†SOX 18	18	1800*	57	0·35	216/08·5	54/2·13	BC	L6018	L4006/07	16
SOX 35	35	4300	70	0·6	310/12·2	52/2·0	BC	L6355††	L4016/07	9
SOX 55	55	7150	104	0·6	425/16·73	52/2·0	BC	L6355††	L4016/07	9
SOX 90	90	12250	112	0·95	528/20·79	66/2·6	BC	L5090BX	L4025/07	9
SOX 135	135	21200	164	0·95	775/30·51	66/2·6	BC	L4135**	L5020/07	9
†SOX 180	180	31500	245	0·90	1120/44·1	66/2·6	BC	L4135**	L5020/07	9

Notes:–Please order lamps by catalogue numbers, in multiples of the packing quantity.
Lighting Design Lumens refers to the light output after 2000 hours' burning, the value used for design purposes.
*Light output after 100 hours' burning.
**L4135 ballast MUST be operated in conjunction with L5020/07 capacitor.
††Used in conjunction with a SX71 Ignitor

CI/SfB (63.9)
UDC 696.6:628.94

POWERWHITE MBF/U
POWERWHITE DELUXE MBF/U
POWERRAY MBFR/U



Mercury fluorescent lamps

PowerWhite and PowerRay lamps are coated on the inside surface with an Europium-activated yttrium vanadate phosphor, which is activated by the UV component in the mercury discharge to add the red component to the visible light from the mercury arc. The results are lamps of high efficacy and acceptable colour rendering which can be burned in any position – although PowerRay lamps are normally burned vertically cap up. They are suitable for many applications.

PowerWhite lamps are housed in ovoid envelopes; PowerRay lamps are of spotlight form, and have an additional reflecting layer of titanium dioxide between the phosphor and the glass, directing the light downwards and rendering the lamp impervious to degradation due to dust settling on the upper surfaces.

Certain ratings of PowerWhite lamps are available with DeLuxe phosphor coatings, which give greatly improved colour rendering properties at no expense of efficacy.

Note: Mercury fluorescent lamps
UK marking MBF = Philips
International marking HPL—N
Mercury fluorescent reflector lamps
UK marking MBFR = Philips
International marking HPL—R

RANGE

PowerWhite MBF/U mercury fluorescent lamps:

Available in ratings of 50W, 80W, 125W, 250W, 400W, 700W, 1000W and 2000W.

PowerWhite DeLuxe MBF/U mercury fluorescent lamps:

Available in ratings of 50W, 80W, 125W, 250W and 400W.

PowerRay MBFR/U mercury fluorescent reflector lamps:

Available in ratings of 125W, 250W, 400W, 700W and 1000W.

Handbook Ref. 6.3.2
To reorder this data sheet quote 12.77 PL1768/2
Replaces PL1768/1

APPLICATIONS

Suitable for any application where efficacy, long life and reasonable colour rendering are important, in situations such as:

- Lighting factories and warehouses
- Floodlighting
- Road lighting

In addition, the DeLuxe version is suitable for use in hotels, departmental stores and offices.

FEATURES

- Short run-up time – 80% of full light output is achieved after only 3½ minutes.
- Reliable starting, even at temperatures down to – 30°C (– 18°C for 380/440V 1000W lamp).
- Isothermal hard glass outer envelope on sizes from 125W MBF and 250 MBF DeLuxe and MBFR upwards permit use in exposed positions (if weatherproof connections are used).
- Reasonable colour rendering, coupled with high efficacy (around 50 lumens/Watt) permits economical use in many industrial and floodlighting applications.
- Good colour rendering of DeLuxe PowerWhite lamps permits use in offices and other commercial environments, and is also suitable for departmental store lighting.
- Larger versions have GES caps which screw on to preformed outer envelopes, eliminating the danger of the cap becoming loose.
- PowerRay version gives preferential light distribution downwards, and is immune from degradation in use due to dust settling on the upper surfaces. Some upwards light is permitted, to avoid a tunnel effect.

PHOTOMETRIC & ELECTRICAL DATA

Catalogue Number & Rating	Total Circuit Watts	Lighting Design Lumens	Lamp Volts	Lamp current (Amperes)	Overall length (mm nominal)	Diameter (mm nominal)	Cap	Ballast	PFC Capacitor
PowerWhite MBF/U lamps:									
50W MBF/U	62	1,900	95	0·6	129	56	ES	L4053	L4008/07
80W MBF/U	88	3,650	115	0·8	156	71	ES/ 3-pin BC	L5080BX	L4008/07
125W MBF/U	137	5,800	125	1·2	177	76	ES, GES or 3-pin BC	L5125BX	L4008/07
250W MBF/U	268	12,500	135	2·0	227	91	GES	L5250BX	L4016/07
400W MBF/U	424	21,300	140	3·2	290	122	GES	L5400BX	L4020/07
700W MBF/U	730	36,500	140	5·6	329	142	GES	L4700BX	2 × L4016/07
1kW MBF/U	1040	52,200	145	7·3	410	167	GES	L4990	2 × L4025/07
1kW MBF/U*	—	52,200	265	4·0	410	167	GES	Not available	
2kW MBF/U*	2080	110,000	270	8·0	440	186	GES	L4991	3 × L4025/07 (between phases)
PowerWhite DeLuxe MBF/U lamps									
50W MBF/U	62	1,900	95	0·6	129	56	ES	L4053	L4008/07
80W MBF/U	88	3,650	115	0·8	156	71	ES	L5080BX	L4008/07
125W MBF/U	137	6,200	125	1·2	177	76	ES	L5125BX	L4008/07
250W MBF/U	268	13,300	135	2·0	227	91	GES	L5250BX	L4016/07
400W MBF/U	424	22,800	140	3·2	290	122	GES	L5400BX	L4020/07
PowerRay MBFR/U lamps:									
125W MBFR/U	137	4,900	125	1·2	190	126	ES, GES or 3-pin BC	L5125BX	L4008/07
250W MBFR/U	268	10,800	135	2·0	264	166	GES	L5250BX	L4016/07
400W MBFR/U	424	18,000	140	3·2	304	181	GES	L5400BX	L4020/07
700W MBFR/U	730	35,600	140	5·6	328	202	GES	L4700BX	2 × L4016/07
1kW MBFR/U	1040	49,800	145	7·3	380	222	GES	L4990	2 × L4025/07

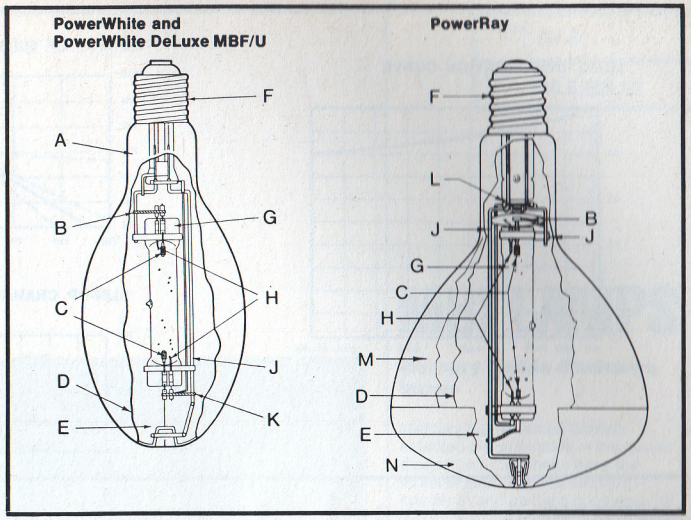
Notes: Lighting Design Lumens refers to the light output after 2000 hours burning, the value used for design purposes.
*For operation on 380/440V supplies only.

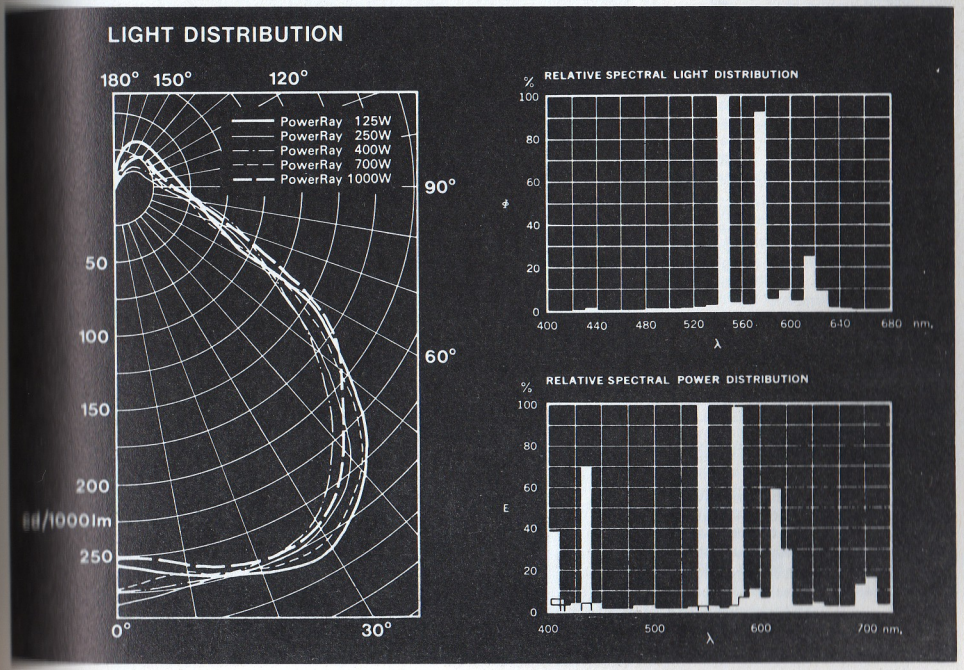
Further details concerning the control gear for use with mercury fluorescent lamps, together with circuit diagrams, are contained in Data Sheet PL 1779.

Night-time energy savings for Weetabix Mills, Burton Latimer. Lorry park employing 250W SON and 90W SOX on roadlighting. Total installation load reduced by 21.9kW.

Energy savings for Smith Food Group new distribution plant at Eastleigh using 250W and 400W Hermes high bay fittings achieving 400 lux in the despatch and 300 lux in the packaging areas.

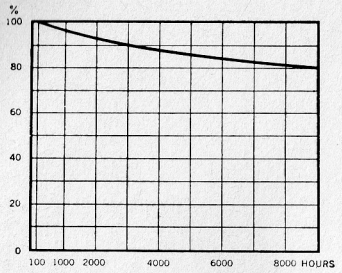
A Isothermal hard glass outer envelope 125w–400w
B Lead-in wire
C Main electrodes
D Internal phosphor coating
E Inert gas filling
F Nickel-plated cap
G Quartz discharge tube
H Twin auxiliary electrodes
J Support
K Lead-in wire
L Twin auxiliary electrode resistors
M Outer reflecting layer
N Hard glass outer envelope satin frosted



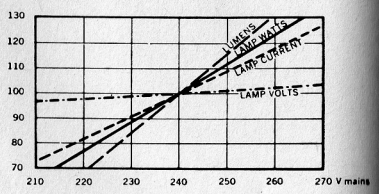


12

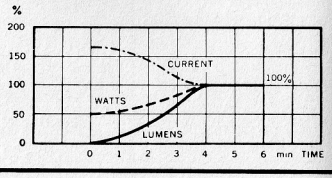
LIGHT DEPRECIATION CURVE



EFFECT OF MAINS VOLTAGE FLUCTUATIONS



RUN-UP CHARACTERISTICS



ORDERING DATA

Catalogue Number	Packing Quantity
PowerWhite MBF/U lamps	
50W MBF/U	50
80W MBF/U	32
125W MBF/U	24
250W MBF/U	9
400W MBF/U	6
700W MBF/U	6
1kW MBF/U	4
1kW MBF/U 380/440V*	6
2kW MBF/U	4
PowerWhite DeLuxe MBF/U lamps (quote DeLuxe on order)	
50W MBF/U	40
80W MBF/U	40
125W MBF/U	24
250W MBF/U	9
400W MBF/U	6
PowerRay MBFR/U lamps	
125W MBFR/U	9
250W MBFR/U	5
400W MBFR/U	5
700W MBFR/U	4
1kW MBFR/U	4

*Specify both wattage and voltage when ordering.

Please order lamps in the form given in the following example, quoting wattage and Catalogue Number, and in multiples of the packing quantity:
24 Philips PowerWhite lamps 1kW MBF/U.

Made in Holland

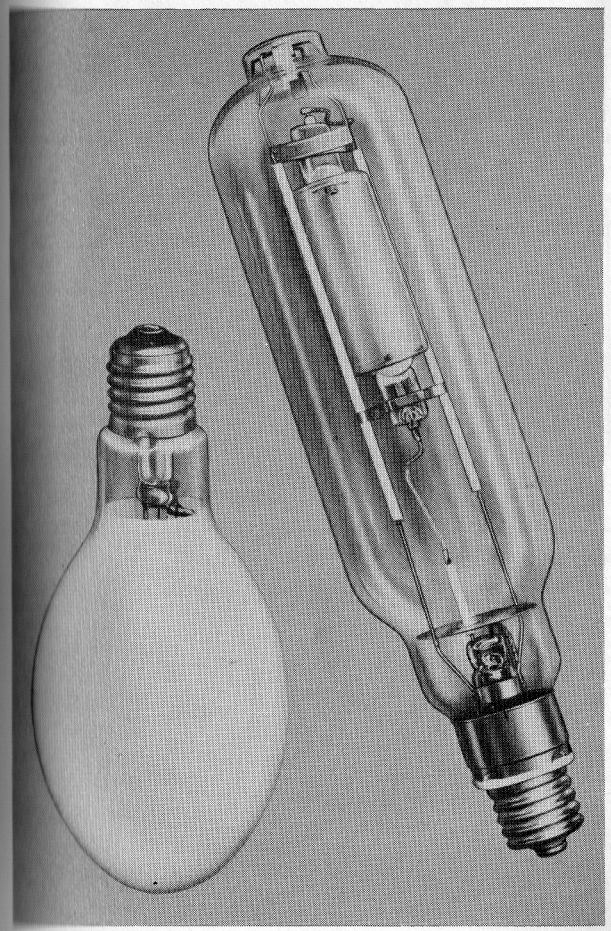
CI/SfB (63.9)
UDC 696.6:628.94

MBI LAMPS

Mercury Halide discharge lamps

Mercury halide lamps contain selected metal halides in the quartz discharge tube. These have the effect of subduing the mercury spectrum and giving a considerable increase in the required colour bands. They also increase efficacy over conventional mercury lamps since the energy levels of the added metals are lower than those of mercury.
The result is a crisp white light with good colour rendering, and an efficacy that can be as high as 90 lumens/Watt.

Note: Mercury halide lamps
UK marking MBI = Philips
International marking HPI



RANGE

MBI/H mercury halide lamps:
Available in 400W and 2kW versions, for burning in the horizontal plane ±20°
MBI/U mercury halide lamps:
Available in 2kW version, for universal burning position.
MBI/V 400W Isothermal lamp for vertical cap-up ±15° burning.

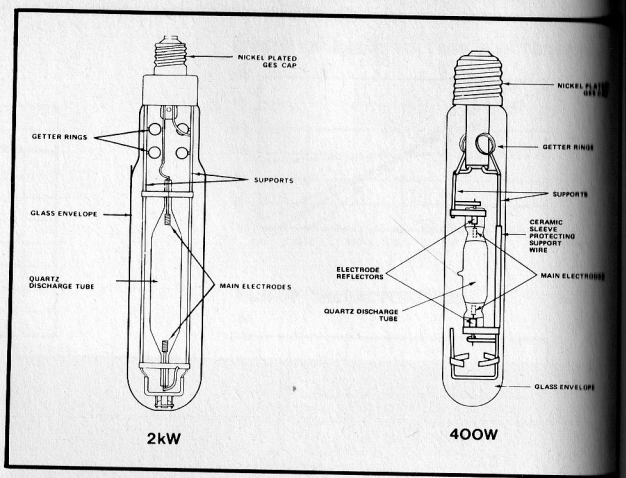
APPLICATIONS

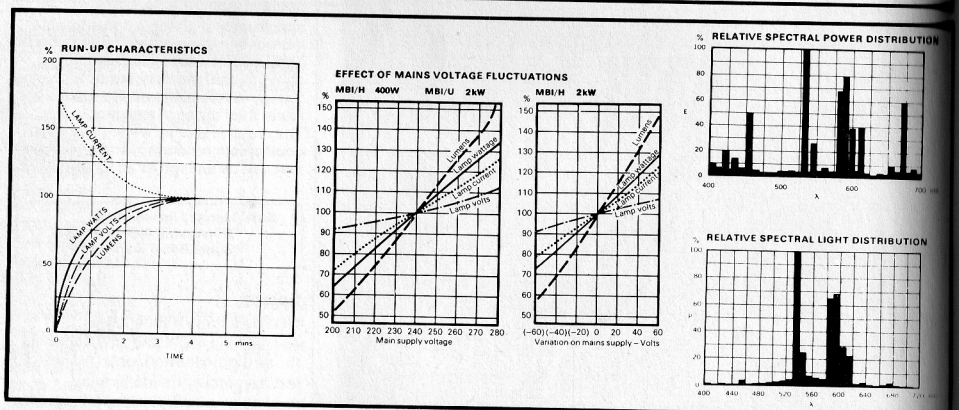
Suitable for any application where high efficacy and long life combined with good colour rendering are important, in situations such as:
- High bay installations in industrial buildings
- Bridge lighting
- Lighting in city centres
- Sports stadia
- High-mast lighting
- Lighting football stadia for colour television transmission
- Area floodlighting
- Lighting training grounds

Handbook Ref. 6.3.3
To reorder this data sheet quote 10.77 PL 1767
Replaces PL 8190/4.9

FEATURES

- Short run-up time—80% of full light output is achieved after 3 to 5 minutes.
- Thyristor ignitor device starts the lamp reliably at temperatures down to −18°C, on mains supplies in excess of 200V.
- Internal heat-reflecting layer at each end of discharge tube maintains electrodes at a high temperature for efficient operation.
- Good colour rendering suitable for colour TV transmission.
- GES cap is screwed on to a preformed thread on the glass bulb, eliminating the danger of loose caps due to cement failure.





PHOTOMETRIC, ELECTRICAL & ORDERING DATA

Catalogue Number	Lighting Design Lumens	Lamp Volts	Lamp Current (Amperes)	Total Circuit Watts	Overall Length (mm/in.)	Diameter (mm/in.)	Supply Voltage V ac	Cap	Ignitor	Ballast	PFC Capacitor µF	Packing Quantity (lamps)
400W MBI/V†	28,300	125	3·4	424	292/11·5	122/4·8	240/250	GES	—	L5400	2 × L4016/07	6
400W MBI/H	29,200	125	3·4	424	283/11·14	46/1·81	240/250	GES	S51	L5400	2 × L4016/07	12
2kW MBI/H	170,200	240*	9·0	2080	465/18·31	100/3·94	380/440	GES	126689	L4991	4 × L4020/07	4
2kW MBI/U	174,800	135	16·5	2080	430/16·93	102/4·02	240/250	GES	S52	2 × L4990/1	4 × L4025/07	4

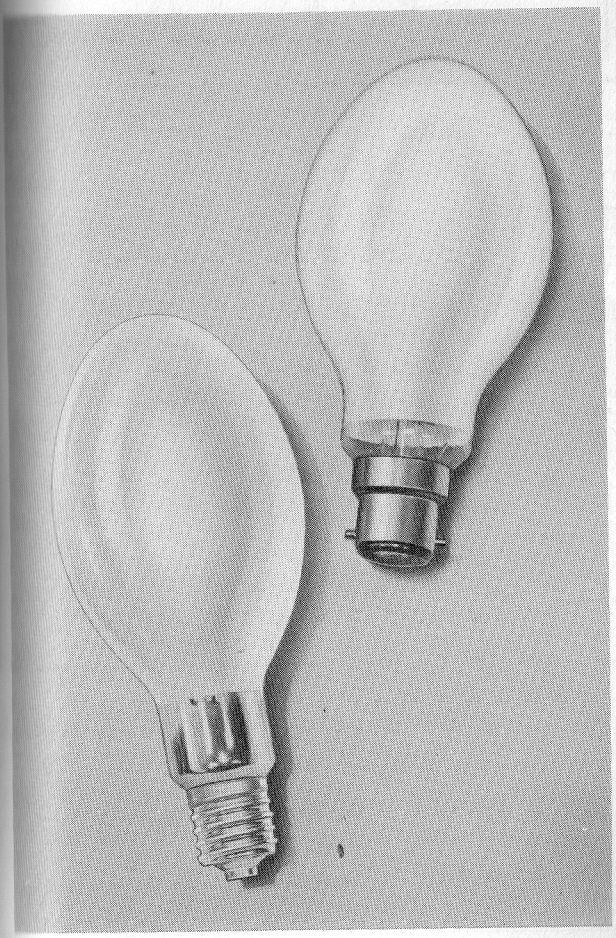
NOTES:–Lighting Design Lumens refers to the light output after 2000 hours' operation, the value used for design purposes.
*Divided between phases.
†Isothermal outer bulb with diffusing coating.

Please order lamps in the form given in the following example, quoting wattage and Catalogue number, and in multiples of the packing quantity:
24 Philips mercury halide lamps 400W MBI/H

Further details concerning the control gear for use with mercury halide lamps is contained in Data Sheet PL 1779

Lamps: Made in Holland
L5400 and capacitors: Made in UK

Note: Mercury halide lamps
UK marking MBI = Philips
International marking HPI.



CI/SfB (63.9)
UDC 696.6:628.94

POWERBLEND MBTL

Discharge lamps

PowerBlend mercury blended lamps are ballasted by means of a tungsten filament within the ovoid outer envelope. They therefore need no control gear, give light output immediately after switch-on, and provide a light source combining the warm colour of tungsten GLS lamps with the high efficacy of mercury lamps. An objective life up to 6000 hours makes the lamps particularly suitable as a direct replacement for GLS lamps in remote or inaccessible lanterns, where maintenance is difficult or costly.

An europium-activated yttrium vanadate phosphor coating on the inner surface of the lamp envelope gives good colour rendering, with up to 17% red content.

100W, 160W and 250W soft glass outer envelopes, 500W hard glass outer envelope.

RANGE

100W and 160W PowerBlend MBTL lamp for burning vertically, cap up or down, ±30°.

250W and 500W PowerBlend MBTL lamps for burning vertically, cap up or down, ±45°.

Where the supply voltage regulation is good, these lamps may be burned in any position.

APPLICATIONS

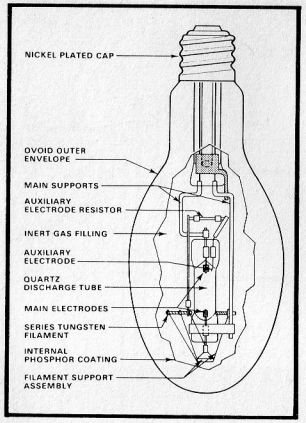
Suitable for use in commercial, industrial and public lighting applications, particularly where initial installation costs must be kept low. The lamps make ideal replacements for tungsten filament GLS lamps. They show greatly reduced maintenance costs, particularly where access to lighting points is difficult.

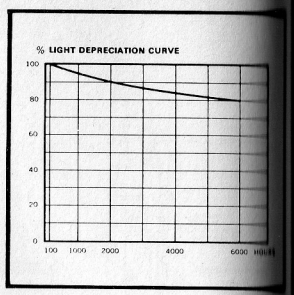
Handbook Ref. 6.3.4
To reorder this data sheet quote 11.77 PL1772
Replaces PL8190/3.11

FEATURES

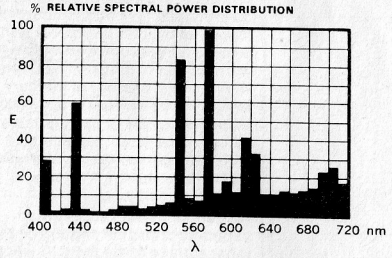
- No control gear required – the lamps simply plug into existing lighting points so that initial installation costs are low.
- Good colour rendering, making the lamps suitable for use as a direct replacement for GLS lamps in most situations.
- Long service life – up to 6000 hours – greatly reduces maintenance costs, particularly where access is difficult.
- Instant light output after switch-on, and re-ignition after only 3–4 minutes.
- Greater efficiency than GLS lamps either increases lighting level or conserves energy.

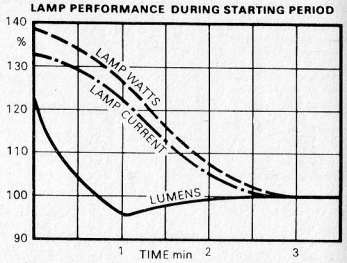
Made in Holland

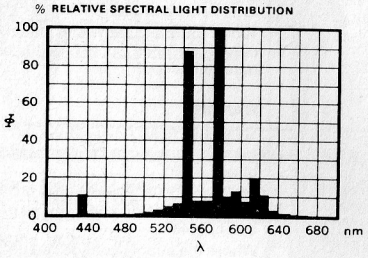


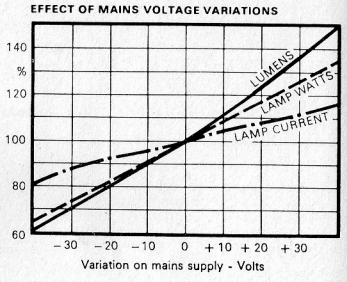


PHOTOMETRIC DATA









LAMP & ORDERING DATA

Catalogue Number	Lighting Design Lumens	Lamp Voltage AC (as mains)	Lamp Current (Amperes)	Overall Length (mm/in.)	Diameter (mm/in.)	Cap	Objective Life (hrs.) up to	Packing Quantity
100W MBTL	1000	240	0·45	155/06·10	72/2·76	BC or ES	6000	32
160W MBTL*	2560	240 or 220	0·69 or 0·75	177/06·97	77/2·95	BC or ES	6000	24
250W MBTL	4840	240	1·10	227/08·94	92/3·54	GES	6000	9
500W MBTL	12300	240	2·20	292/11·42	122/4·72	GES	6000	6

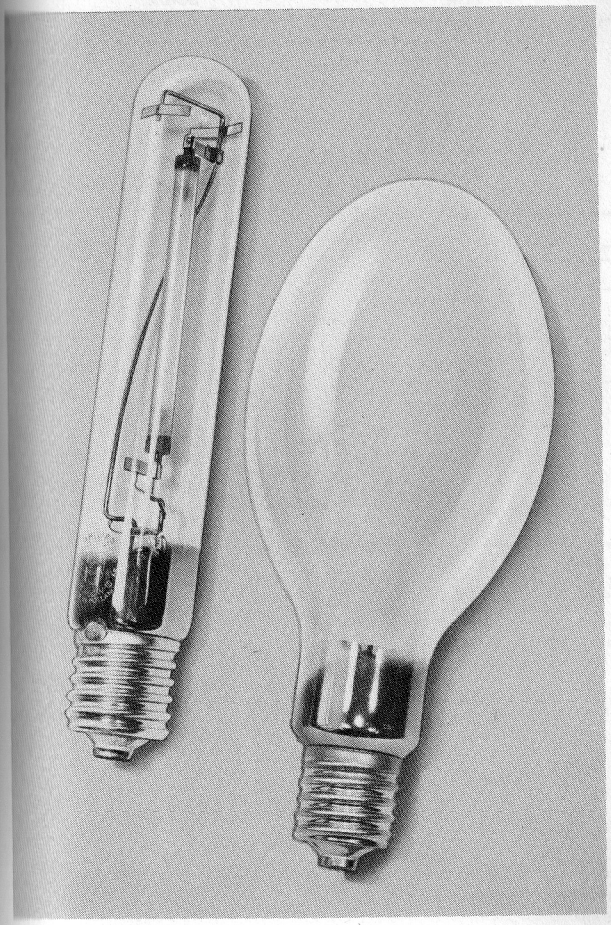
NOTES: Lighting Design Lumens refers to the light output after 2000 hours' operation, the value used for design purposes.
All lamps have a power factor greater than 0.95.
*220V rating is suitable for mains supplies of 220–230V; 240V rating is suitable for mains supplies of 240–250V. Specify voltage when ordering.
No control gear is required for use with these lamps.

Please order lamps in the form given in the following example, in multiples of the packing quantity:-
64 Philips Mercury blended lamps 100W MBTL.

CI/SfB (63.9)
UDC 696.6:628.94

HIGH PRESSURE SODIUM (SON & SON/T)

Discharge Lamps



High-pressure sodium lamps combine extremely high efficacies (up to 112 Lumens/Watt) with good colour rendering, and are therefore suitable for many applications where a warm white light and long lamp life are important factors. The discharge tube is made of sintered aluminium oxide, containing a mixture of mercury and sodium at high pressure. The effect of high pressure is to broaden the sodium spectrum, so that the lamp gives an output throughout the entire visible spectrum.

RANGE

SON (Ovoid outer envelope, with white internal diffusive coating):
Available in ratings of 50W, 70W (also available with clear envelope), 150W 250W, 400W and 1000W.

SON/T (Tubular outer envelope of clear glass):
Available in ratings of 150W, 250W, 400W and 1000W.

APPLICATIONS

Suitable for any application where high efficacy, reliability and long life coupled with good colour rendering is required, in situations such as:

- Security lighting
- Docks and goods yards
- Transport termini
- Churches
- Swimming pools
- Exhibition halls
- Outdoor markets and civic centres.

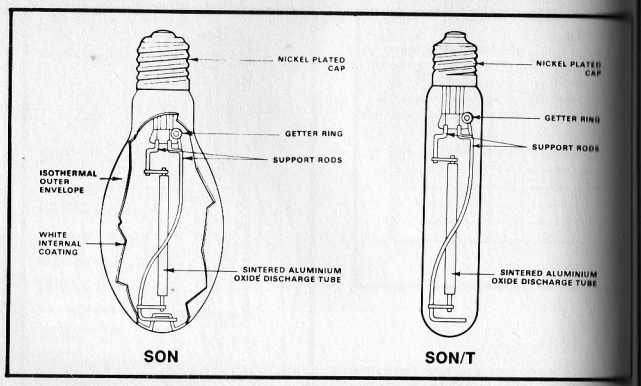
In addition, the clear tubular outer envelope of the SON/T lamp lends itself to these applications where precise optical control is essential, as in luminaires for floodlighting and the lighting of stadia.

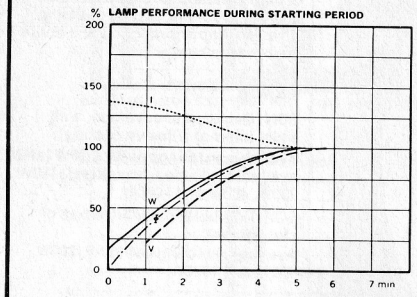
Handbook Ref. 6.3.6
To reorder this data sheet quote 11.77 PL1776/2
Replaces PL1776/1

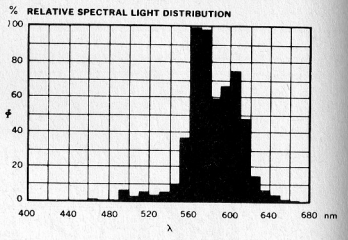
FEATURES

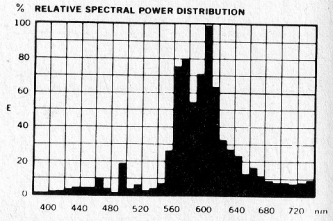
- Short run-up time – 80% of full light output is achieved after only 3½ minutes.
- Solid-state ignitor on lamps of 150W rating and above ensures reliable and quick starting – even when hot – at temperatures down to —40°C.
- Reliability, stable operation and long life permits lamps to be used in situations where 'lamp outage' could create a hazard.
- Excellent lumen maintenance.
- Isothermal hard glass outer envelope guards against breakage due to thermal shock.
- Warm white colour appearance, with colour rendering capable of reproducing blue surfaces clearly, and enhancing red or yellow surfaces. Complexions and skin tones are flattered by the light.
- Universal burning position for all lamps in the range.

Lamps and ignitors: Made in Holland
Ballasts and capacitors: Made in U.K.









PHOTOMETRIC & ELECTRICAL DATA

Catalogue Number	Lumens 100 hrs.	Lumens 2000 hrs.	Lamp Volts	Lamp Current (Amperes)	Total circuit Watts	Overall length (mm/in.)	Diameter (mm/in.)	Cap	Ignitor	Ballast	PF Capacitor	Packing quantity (Lamps)
50 SON	3300	—	85	0·75	61	156/ 6·14	72/2·83	ES	Internal		L4008/07	—
70 SON	5800	—	90	1·0	85	156/ 6·14	72/2·83	ES	Internal	L4074	L4010/07	—
70 SON/C (clear bulb)	6000	—	90	1·0	85	156/ 6·14	72/2·83	ES	Internal	L4074	L4010/07	—
150 SON	14000	13500	100	1·8	174	227/ 8·90	92/3·54	GES	SN50	L4154BX	L4016/07	9
150 SON/T	14500	14000	100	1·8	174	211/ 8·31	47/1·81	GES	SN50	L4154BX	L4016/07	12
250 SON	25000	24000	100	3·0	280	227/ 8·94	92/3·58	GES	SN50	L4254	2 × L4016/07	9
250 SON/T	26000	25000	100	3·0	280	257/10·12	47/1·81	GES	SN50	L4254	2 × L4016/07	12
400 SON	47000	45000	105	4·4	440	292/11·42	122/4·78	GES	SN50	L4404	2 × L4020/07	6
400 SON/T	48000	46500	105	4·4	440	283/11·22	47/1·89	GES	SN50	L4404	2 × L4020/07	12
1000 SON	120000	110000	110	10·3	1100	400/15·75	170/6·56	GES	SN53	L4410	4 × L4025/07	4
1000 SON/T	130000	123000	110	10·3	1100	390/15·75	67/2·60	GES	SN53	L4410	4 × L4025/07	4

Notes: Please order lamps by catalogue numbers, in multiples of the packing quantity.
All lamps are suitable for operation in ambient temperatures down to —40°C.

CI/SfB (63.9)
UDC 696.6:628.94

HIGH PRESSURE SODIUM LAMP

Plug-in SON-H

The SON-H range of high-pressure sodium lamps simply plug into existing 250W and 400W mercury circuits. The lamps use the existing mercury control gear, and the self-starting system featured in the design does not require the addition of an ignitor to the circuit.

RANGE

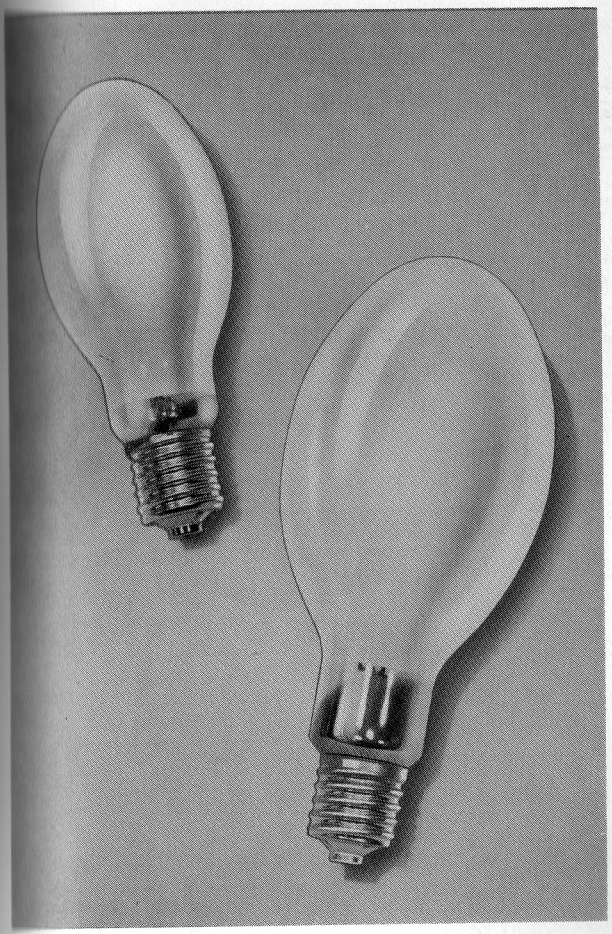
Available in 210W and 350W ratings, for use with 250W and 400W mercury control gear.

APPLICATIONS

Suitable for replacing a 250W or 400W mercury lamp in any situation, including the following:–

Outdoors
- Trunk roads & streets
- Shopping precincts
- Residential areas
- Floodlighting
- Airport lighting
- Illumination of industrial areas.

Indoors
- Factories
- Transport termina
- Swimming pools
- Sports halls
- Public buildings
- Storage areas



Handbook Ref. 6.3.7
To reorder this data sheet quote 11.77 PL 1748/1
Replaces PL 1748

FEATURES

High efficacy: The efficacy of 97 lm/W is 65% higher than a standard mercury lamp. An existing lighting point can therefore be upgraded to give 54% more light with a substantial reduction in power consumption.

Coated lamp: The isothermal outer envelope is internally coated for compatibility with most optical systems.

Ignition: Reliable ignition at 190V, even at low temperatures (–30°C.)

Fast re-ignition: Three minutes.

MATERIALS & FINISH

Hard glass envelope, internally coated; GES cap.

RANGE OF OPERATION

190–250V 50Hz.

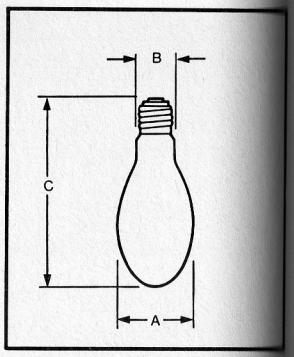
–30°C to 50°C, depending on other circuit limiting factors.

SPECIFICATION

- High pressure sodium lamp rated at 210W or 350W.
- Auxiliary electrode starting device.
- Similar in overall size to 250W and 400W mercury MBF lamps, and capable of operating on standard mercury MBF control gear of comparable wattage.

To specify state:

High-pressure sodium lamp with hard glass envelope internally coated, GES cap, similar in size to 250W (400W) mercury lamp and capable of operation from standard mercury control gear, substantially as Philips 210W SON-H (350W SON-H).



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

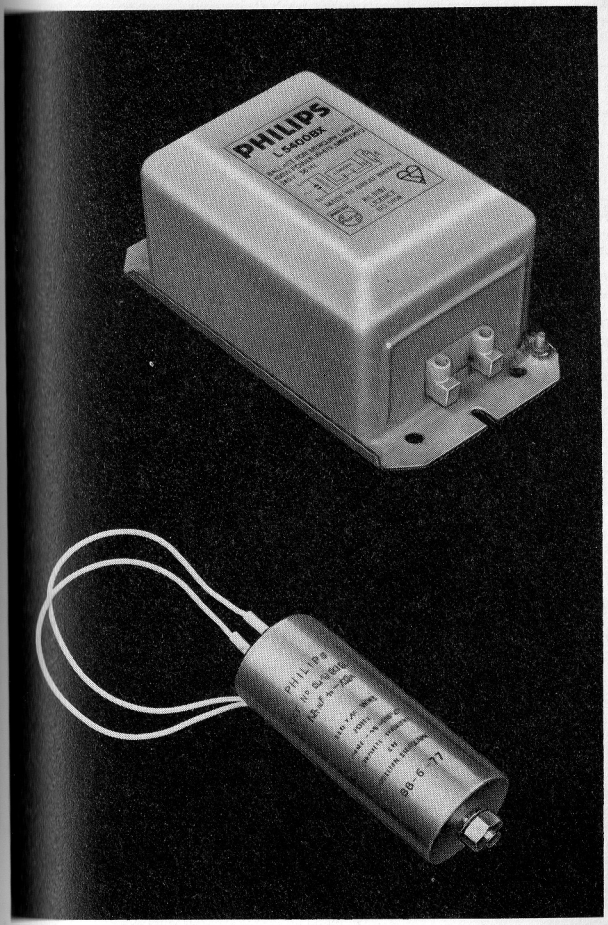
Catalogue No.	Overall dimensions(mm) A	B	C	Lighting design Lumens	Lamp voltage	Lamp current (Amperes)	Cap	Total circuit Watts
210W SON-H	91	53	227	17250	104	2.5	GES	228
350W SON-H	122	58	290	32600	117	3.6	GES	374

ORDERING DATA

Please order in multiples of the packing quantity.

Description	Catalogue No.	Cap	Packing quantity	EWF Code No.
210W high pressure sodium lamp	210W SON-H	GES	9	019173
350W high pressure sodium lamp	350W SON-H	GES	6	019238

Made in Holland.



CI/SfB (63.9)
UDC 696.6:628.94

BALLASTS, IGNITORS & CAPACITORS

for mercury fluorescent lamps MBF and MBFR and mercury halide lamps MBI/H and MBI/U

A range of current-limiting ballasts, self-healing dry film capacitors for power factor correction and electronic ignitors for providing the high-voltage pulses needed to start MBI lamps. Philips hold a license to manufacture ballasts in accordance with BS 4782, and most ballasts listed in this Data Sheet are Kite-marked with this Standard.

Note: Mercury fluorescent lamps
UK marking MBF = Philips
International marking HPL—N
Mercury halide lamps
UK marking MBI = Philips
International marking HPI
Mercury fluorescent reflector lamps
UK marking MBFR = Philips
International marking HPL—R

RANGE

A full range of control gear components is available for use with the following Philips mercury fluorescent and mercury halide lamps:–

PowerWhite mercury fluorescent MBF 50W, 80W, 125W, 250W, 400W, 700W, 1kW* and 2kW.

PowerWhite DeLuxe mercury fluorescent MBF 50W, 80W, 125W, 250W and 400W.

PowerRay mercury fluorescent reflector MBFR 125W, 250W, 400W, 700W and 1kW.

Mercury halide MBI/H 400W and 2kW, and MBI/U 2kW.

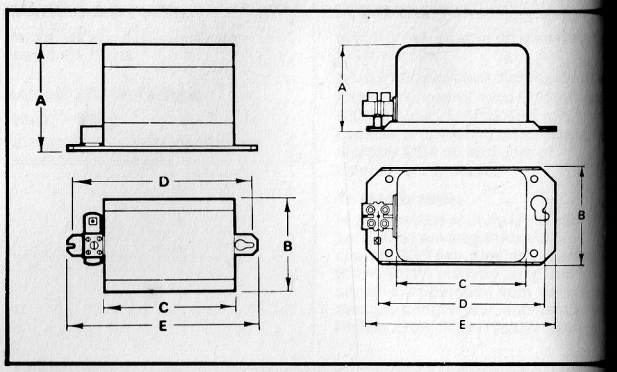
*Note 240V version only.

Handbook Ref. 6.3.8
To reorder this data sheet quote 11.77 PL1779/2
Replaces PL1779/1

DISCHARGE BALLASTS

Features

- Ballasts for mercury fluorescent and mercury halide lamps are generally housed in deep-drawn or fabricated cans and filled with polyester to withstand the arduous conditions of service.
- Non-track terminal blocks, and a separate earth terminal which is easily accessible and mounted so as to ensure good electrical connection between cable and baseplate.
- Screen-printed labels include circuit diagrams which cannot peel off in damp or humid conditions.
- Simply fixed with a keyhole at one end and a slot at the other, necessitating only two pre-mounted screws.
- Polyester filling permits small, quiet ballasts, and secures the gap and coils to ensure correct operation of lamps throughout the long life of the ballasts. Polyester does not soften even under fault conditions.
- Low wattage losses ensure economical operation and conservation of energy.



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

Mercury lamp ballasts for use on 50Hz mains supply to operate PowerWhite and PowerWhite DeLuxe MBF, PowerRay MBFR lamps, and mercury halide MBI/H and MBI/U lamps. Manufactured in accordance with BS 4782.

Catalogue No.	For lamp type	Circuit Diagram No.	Total circuit Watts	Weight kg	Tw	△t	Voltage range	Dimensions A mm	B mm	C mm	D mm	E mm	Can*	Total third harmonic %	PVC capacitor
L4053	50W MBF	1	62	1·4	120	60	230/250	48	64	111	127	143	D	72	L4008/07
L5080BX	80W MBF	1	88	1·8	120	60	230/250	65	74	97	129	145	D	63	L4008/07
L5125BX	125W MBF & MBFR	1	137	2·1	120	60	230/250	65	74	97	129	145	D	52	L4008/07
L5250BX	250W MBF & MBFR	1	268	4·3	120	60	230/250	83	102	140	172	188	D	50	L4016/07
L5400BX	400W MBF & MBFR	1	424	7·2	120	70	230/250	83	102	140	172	188	D	45	L4020/07
L4700BX	700W MBF & MBFR	1	730	9·3	120	60	230/250	108	106	130	177	189	F	44	2 × L4016/
†L4990	1kW MBF & MBFR	1	1040	12·8	120	70	230/250	133	114	170	220	235	F	44	2 × L4025/
†L4991	2kW MBF	2	2080	26·8	—	—	380/440	180	135	240	180	265	Open	48	3 × L4025/
L5400BX	400W MBI/U	3	424	7·2	120	70	230/250	83	102	140	172	188	D	57	2 × L4016/
‡2 × L4990	2kW MBI/U	5	2080	12·8	120	70	230/250	133	114	170	220	235	F	48	4 × L4025/
†L4991	2kW MBI/U	4	2080	26·8	—	—	380/440	180	135	240	180	265	Open	39	4 × L4020/

*Can types: D – Deep drawn. F – Fabricated.

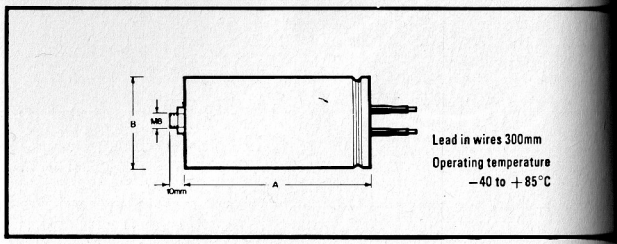
Total Third Harmonic values relate to measurements in the neutral of a balanced four wire, three phase supply. These values are divid by three to obtain values in single phase supplies.

CAPACITORS

for power factor correction

Features

- Wound from metallised polypropylene film which has 'self-healing' characteristics after electrical breakdown.
- 'Dry' construction eliminates the possibility of leakage.
- Internal resistor eliminates the danger of shock from a capacitor charged by the inductive kick-back of the ballast.
- Pin terminations with push-on leads 300mm (12in.) long.
- Extruded aluminium canister of circular cross-section with an M8 earthing and fixing stud.
- Operating temperature range —40°C to +85°C.



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

Catalogue No.	Max. Working Voltage RMS	Capacitance µF	Diameter mm (B)	Length mm (A)	Approx. Weight kg
L4008/07	250	8 ±10%	38	75	0·10
L4016/07	250	16 ±10%	45	70	0·10
L4020/07	250	20 ±10%	45	95	0·12
L4025/07	250	25 ±10%	45	95	0·14

Operating temperature: —40°C to +85°C. Lead in Wire Length 300mm (12in.).

IGNITORS

for mercury halide lamps

Features

- Reliable solid-state circuit provides high-voltage pulses to achieve virtually instantaneous ignition of lamp.
- Low energy content of pulses present an electrical hazard to safety no greater than that of any mains voltage installation.
- Ignitor is switched out of circuit after ignition; has zero Watts loss during lamp operation.
- Re-ignition of a hot lamp after mains interruption usually occurs in less than one minute, even in high ambient temperatures such as occur in multi-lamp luminaires. This is an important feature where lamp outage can present a hazard to safety.
- Circular extruded aluminium canister is screen-printed with circuit diagram. The canister is easily attached by means of a spring-steel clip or the large M8 earth terminal on the base of the canister.
- Operates reliably at temperatures up to 70°C.

Wiring

Certain cables in the ignition circuit should be rated at 600/1000V ac (see circuit diagram), and must be capable of withstanding the ignition pulses in humid conditions. All cables should be capable of withstanding any temperature encountered, and should be protected against mechanical damage.

The following recommendations are for guidance only; the cable manufacturers' published data should be consulted for fuller cable specifications with regard to temperature.

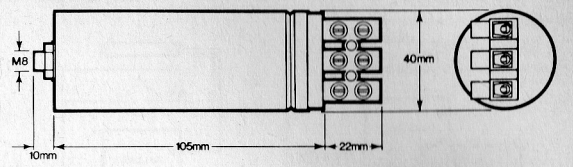
Conductor temperatures up to 70°C: PVC-insulated cable.

Conductor temperatures up to 90°C: HT PVC-insulated cable.

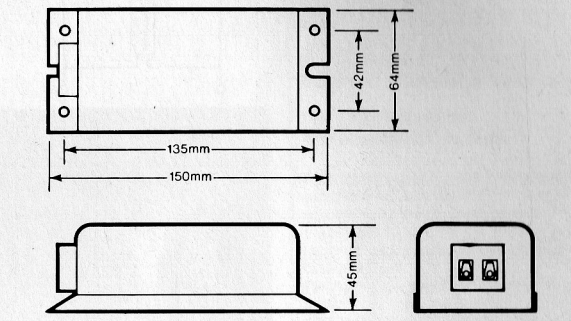
Conductor temperatures up to 200°C: Silicone rubber insulated cable with glass fibre sheath for mechanical protection.

Mineral-insulated cables are not recommended for use in these parts of the ignition circuit.

S51 & S52 IGNITORS



126689 IGNITOR



WEIGHTS & ELECTRICAL DATA

Catalogue No.	For Lamp	Voltage range	Min. Supply Voltage	Circuit Diagram	Weight kg.
†S51	MBI/H 400W	230/250	200	3	0·19
†S52	MBI/U 2000W	230/250	200	5	0·19
†126689	MBI/H 2000W	380/415	360	4	0·4

Cable length limitations

In circuits using ignitors, the maximum cable length between lamp and control gear is limited by the capacitance of the cable. This is obtained by adding together two values obtained in test.

The capacitance of the 'high' conductor (i.e. the conductor connecting the ballast to the lamp centre contact) and all other conductors bonded together.

The capacitance between the 'high' conductor and earth (usually the protective housing of the cable).

The maximum cable capacitances acceptable to these ignitors is as follows:–

S51 ignitor: 25000pF

S52 ignitor: 20,000pF.

126689 ignitor: 100,000pF.

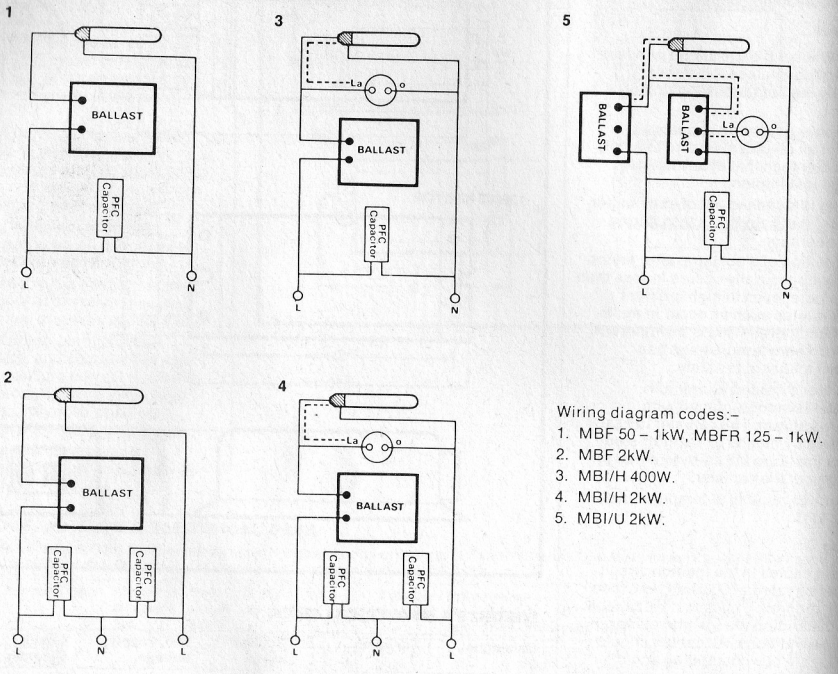
Tables giving maximum permissible cable lengths using typical cables in common applications are contained in Technical Information Sheet No. TIS 15.

IMPORTANT NOTE: With the exception of certain special types, such as the PowerBlend mercury/blended range of lamps with built-in control gear, all mercury and mercury halide discharge lamps MUST be operated with a current-limiting device in the lamp circuit. Power factor correction capacitors should be used in accordance with the circuit diagrams and data in this leaflet to ensure that the power factor presented to the supply is in accordance with the requirements of the Electricity Authority and to reduce currents in the circuit supply cables.

Made in UK

† Made in Holland

Circuit diagrams



Wiring diagram codes:–

1. MBF 50 – 1kW, MBFR 125 – 1kW.
2. MBF 2kW.
3. MBI/H 400W.
4. MBI/H 2kW.
5. MBI/U 2kW.

ORDERING DATA

Catalogue No.	Description	Packing quantity
L4053	Ballast for 50W MBF	6
L5080BX	Ballast for 80W MBF	8
L5125BX	Ballast for 125W MBF and MBFR	8
L5250BX	Ballast for 250W MBF and MBFR	4
L5400BX	Ballast for 400W MBF and MBFR and MBI	4
L4700BX	Ballast for 700W MBF and MBFR	4
L4990	Ballast for 1kW MBF, MBFR and 2kW MBI*	2
L4991	Ballast for 2kW MBF	1
L4008/07	PF Capacitor	50
L4016/07	PF Capacitor	50
L4020/07	PF Capacitor	30
L4025/07	PF Capacitor	30
S51	Ignitor for 400W MBI/H	50
S52	Ignitor for 2kW MBI/U	50
126689	Ignitor for 2kW MBI/H	1

*Two ballasts required for 2kW circuit.

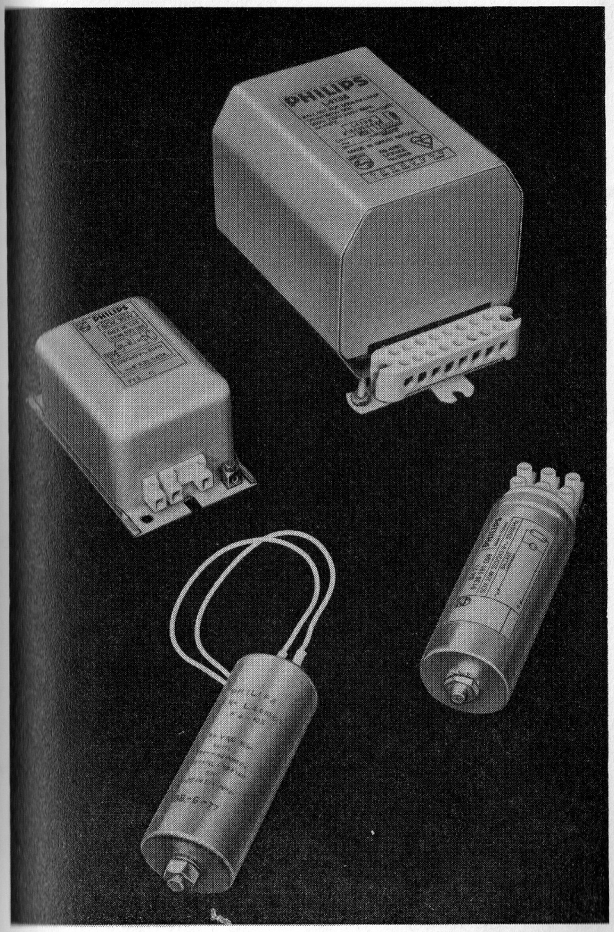
Please order control gear components in the form given in the following example in multiples of the packing quantity. Control gear ordered with luminaires can be supplied in the exact quantity required:–

200 Philips ballasts L4991
200 Philips ignitors 126689
810 Philips Capacitors L4020/07

CI/SfB (63.9)
UDC 696.6:628.94

BALLASTS, IGNITORS & CAPACITORS

for low-pressure sodium (SOX) lamps



A range of current-limiting ballasts, self-healing dry film capacitors for power factor correction and an electronic ignitor for providing the high-voltage pulse needed to start the 35W/55W SOX lamps.
Philips hold a license to manufacture ballasts in accordance with BS 4782, and ballasts manufactured for use with SOX lamps are Kitemarked with this Standard.

IMPORTANT NOTE: All low-pressure sodium (SOX) lamps MUST be operated with a current-limiting device in the lamp circuit. Power factor correction capacitors should be used in accordance with the circuit diagrams and data in this leaflet to ensure that the power factor presented to the supply is in accordance with the requirements of the Electricity Authority and to reduce currents in the circuit supply cables.

RANGE

A full range of control gear components is available for use with the following Philips low-pressure sodium lamps:–

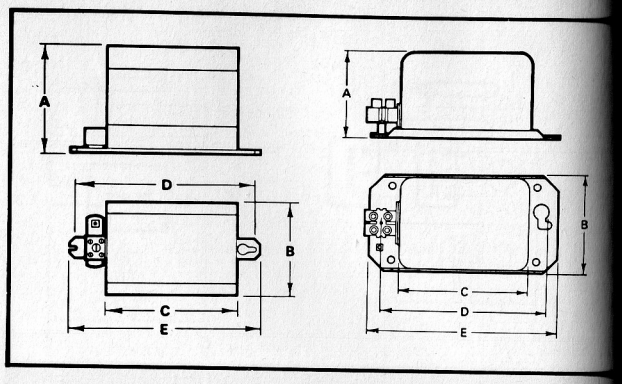
18W SOX
35W SOX
55W SOX
90W SOX
135W SOX
180W SOX

Handbook Ref. 63.9
To reorder this data sheet quote 12.77 PL 1777/1
Replaces PL 1777

DISCHARGE BALLASTS

Features

- Ballasts for low-pressure sodium lamps are housed in deep-drawn or fabricated cans, filled with polyester to withstand the arduous conditions of service.
- Non-track terminal blocks, and a separate earth terminal which is easily accessible and mounted so as to ensure good electrical connection between cable and base-plate.
- Screen-printed labels include circuit diagrams which cannot peel off in damp or humid conditions.
- Simply fixed with a keyhole at one end and a slot at the other, necessitating only two pre-mounted screws.
- Polyester filling permits small, quiet ballasts, and secures the gap and coils to ensure correct operation of lamps throughout the long life of the ballasts. Polyester does not soften even under fault conditions.
- Low wattage losses ensure economical operation and conservation of energy.



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

Low-pressure sodium lamp ballasts for use on 50Hz mains supplies, to operate SOX lamps. Manufactured in accordance with BS 4782.

Catalogue No.	For lamp type	Circuit Diagram No.	Total circuit Watts	Weight kg	Tw	△t	Voltage range	Dimensions A mm	B mm	C mm	D mm	E mm	Can*	Total third harmonic %	PFC capacitor
†L6018	18W SOX	1	25	0·68	—	—	230/250	36·5	45·5	—	140	155	Open	—	L4006/07
L6355	35W & 55W SOX	4	48/68	1·8	—	—	230/250	63	68	88	102	118	D	14	L4008/07
L4038	35W & 55W SOX	2	62/79	3·7	120	70	230/250	58	76	194	210	224	D	76/75	L4016/07
L4045BX	35W & 55W SOX	2	60/80	4·5	120	70	230/250	92	90	125	172	184	F	—	L4016/07
L5035BX	35W & 55W SOX	2	55/75	4·6	120	70	230/250	76	102	140	172	188	D	76/75	L4016/07
L5090BX	90W SOX	2	118	5·4	120	70	230/250	76	102	140	172	188	D	71	L4025/07
L4135	135W & 180W SOX	3	175/220	6·8	120	75	190/250	108	106	130	177	189	F	41/79	L5020/07

*Can types: D – Deep drawn.
F – Fabricated.

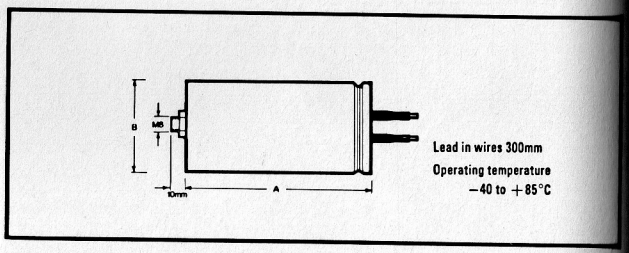
Total Third Harmonic values relate to measurements in the neutral of a balanced four wire, three phase supply. These values are divided by three to obtain values in single phase supplies.

CAPACITORS

for power factor correction

Features

- Wound from metallised polypropylene film which has 'self-healing' characteristics after electrical breakdown.
- 'Dry' construction eliminates the possibility of leakage.
- Internal resistor eliminates the danger of shock from a capacitor charged by the inductive kick-back of the ballast.
- Pin terminations with push-on leads 300mm (12in.) long.
- Extruded aluminium canister of circular cross-section with an M8 earthing and fixing stud.
- Operating temperature range —40°C to +85°C.



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

Catalogue No.	Max. Working Voltage RMS	Capacitance µF	Diameter mm (B)	Length mm (A)	Approx. Weight kg.
L4006/07	250	6 ±10%	38	75	0·03
L4008/07	250	8 ±10%	38	75	0·10
L4016/07	250	16 ±10%	45	70	0·10
L4025/07	250	25 ±10%	45	95	0·14
*L5020/07	300	20 ±10%	45	95	0·12

*For use only with L4135 Ballast.

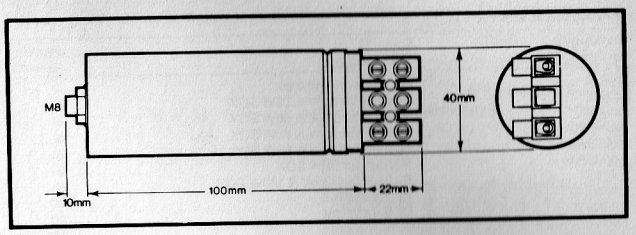
Operating Temperature: —40°C to +85°C. Lead in Wire Length 300mm (12in.)

IGNITOR

for 35W SOX lamp

Features

- Reliable solid-state circuit provides high-voltage pulses to achieve virtually instantaneous ignition of lamp.
- Low energy content of pulses present an electrical hazard to safety no greater than that of any mains voltage installation.
- Ignitor is switched out of circuit after ignition; has zero watts loss during lamp operation.
- Re-ignition of a hot lamp after mains interruption usually occurs in less than one minute.
- Ignitor detects a lamp fault condition and automatically switches off, thus eliminating radio interference problems.
- Circular extruded aluminium canister is screen-printed with circuit diagram. The canister is easily attached by means of a spring-steel clip or the large M8 earth terminal on the base of the canister.
- Operates reliably at temperatures up to 70°C.



Dimensions & Weights

Catalogue No. SX71 †
Canister dimensions:
100mm x 40mm diameter
Weight: 120g.

Wiring

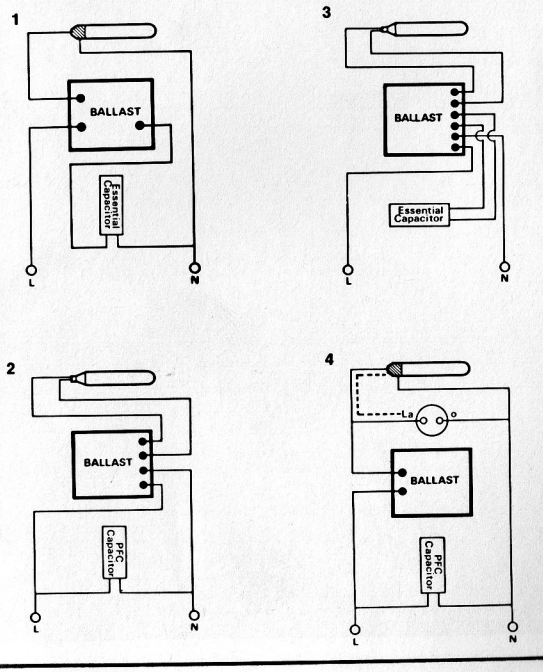
Certain cables in the ignition circuit should be rated at 600/1000V ac (see circuit diagram), and must be capable of withstanding any temperature encountered and should be protected against mechanical damage.

The following recommendations are for guidance only; the cable manufacturers' published data should be consulted for fuller cable specifications with regard to temperature.

- Conductor temperatures up to 70°C: PVC-insulated cable.
- Conductor temperatures up to 90°C: HT PVC-insulated cable.
- Conductor temperatures up to 200°C: Silicone rubber insulated cable with glass fibre sheath for mechanical protection.

Made in U.K.
† Made in Holland

Circuit diagrams



Wiring diagram codes:
1. 18W SOX
2. 35W, 55W & 90W SOX (no ignitor)
3. 135W and 180W SOX
4. 35W & 55W SOX with ignitor

ORDERING DATA

Catalogue Number	Description	Packing Quantity
L4018	Ballast for 18W SOX	–
L6355	Ballast for 35W & 55W SOX	8
L4038	Ballast for 35W & 55W SOX	4
L4045BX	Ballast for 35W & 55W SOX	4
L5035BX	Ballast for 35W & 55W SOX	6
L5090BX	Ballast for 90W SOX	6
L4135	Ballast for 135W & 180W SOX	6
L4006/07	PF Capacitor	50
L4008/07	PF Capacitor	50
L4016/07	PF Capacitor	50
L4025/07	PF Capacitor	30
L5020/07	PF Capacitor	30
SX71	Ignitor for 35W SOX	–

Please order control gear components in the form given in the following example, in multiples of the packing quantity. Control gear ordered with luminaires can be supplied in the exact quantity required:–

48 Philips ballasts L4045 BX
50 Philips PFC capacitors L4016/07

CI/SfB (63.9)
UDC 696.6:628.94

BALLASTS, IGNITORS & CAPACITORS

for high-pressure sodium SON lamps

A range of current-limiting ballasts, self-healing dry film capacitors for power factor correction and electronic ignitors for providing the high-voltage pulses needed to start SON lamps.

IMPORTANT NOTE: All high-pressure sodium SON and SON/T lamps MUST be operated with a current-limiting device in the lamp circuit. Power factor correction capacitors should be used in accordance with the circuit diagrams and data in this leaflet to ensure that the power factor presented to the supply is in accordance with the requirements of the Electricity Authority, and to reduce currents in the circuit supply cables.

RANGE

A full range of control gear components is available for use with the following Philips high-pressure sodium lamps:–

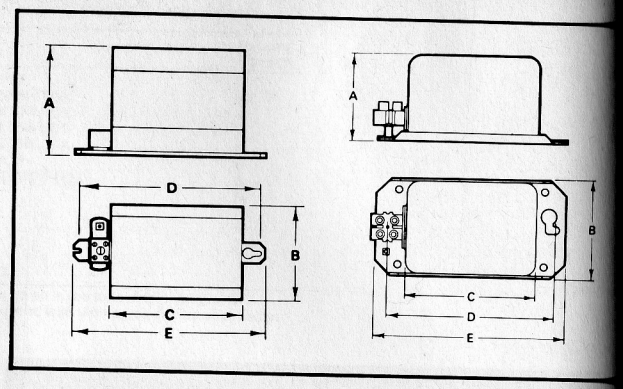
50W SON
70W SON
150W SON & SON/T
250W SON & SON/T
400W SON & SON/T
1kW SON & SON/T

Handbook Ref. 6.3.10
To reorder this data sheet quote 12.77 PL1778/2
Replaces PL1778/1

DISCHARGE BALLASTS

Features

- Ballasts for high-pressure sodium SON & SON/T lamps are housed in deep-drawn or fabricated cans, filled with polyester to withstand the arduous conditions of service.
- Non-track terminal blocks, and a separate earth terminal which is easily accessible and mounted so as to ensure good electrical connection between cable and baseplate.
- Screen-printed labels include circuit diagrams which cannot peel off in damp or humid conditions.
- Simply fixed with a keyhole at one end and a slot at the other, necessitating only two pre-mounted screws.
- Polyester filling permits small, quiet ballasts, and secures the gap and coils to ensure correct operation of lamps throughout the long life of the ballasts. Polyester does not soften even under fault conditions.
- Low wattage losses ensure economical operation and conservation of energy.



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

High-pressure sodium lamp ballasts for use on 50Hz mains supplies, to operate SON and SON/T lamps.

Catalogue No.	For lamp type	Circuit Diagram No.	Total circuit Watts	Weight kg	Tw	△t	Voltage range	Dimensions A mm	B mm	C mm	D mm	E mm	Can*	Total third harmonic %**	PFC capacitor
L4054	50W SON	1	60	—	—	—	240	—	—	—	—	—	—	—	—
L4074	70W SON	1	85	1·8	—	—	240	63	68	88	102	118	D	30	L4010/07
L4154BX	150W SON	2	174	4·0	—	—	240	92	90	125	172	184	F	27	L4016/07
L4254	250W SON	2	280	6·2	—	—	200/250	108	106	130	177	189	F	73	2 × L4016/07
L4404	400W SON	2	440	6·35	—	—	200/250	108	106	130	177	189	F	59	2 × L4020/07
†L4410	1kW SON	2	1100	2·0	—	—	230/250	169	140	215	240	255	F	69	4 × L4025/07

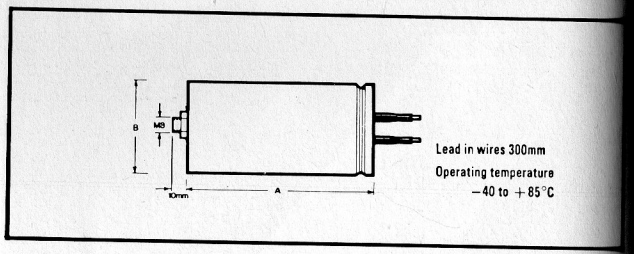
*Can types: D – Deep drawn.
F – Fabricated.

**Total third harmonic values relate to measurements in the neutral of a four wire balanced three phase circuit. Divide values above by three for value in single phase circuit.

CAPACITORS
for power factor correction

Features

- Wound from metallised polypropylene film which has 'self-healing' characteristics after electrical breakdown.
- 'Dry' construction eliminates the possibility of leakage.
- Internal resistor eliminates the danger of shock from a capacitor charged by the inductive kick-back of the ballast.
- Pin terminations with push-on leads 300mm (12in.) long.
- Extruded aluminium canister of circular cross-section with an M8 earthing and fixing stud.
- Operating temperature range —40°C to +85°C.



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

Catalogue No.	Max. Working Voltage RMS	Capacitance µF	Diameter mm (B)	Length mm (A)	Approx. Weight kg.
L4010/07	250	10 ±10%	38	96	0·08
L4016/07	250	16 ±10%	45	70	0·10
L4020/07	250	20 ±10%	45	95	0·12
L4025/07	250	25 ±10%	45	95	0·14

Operating temperature: —40°C to +85°C. Lead in Wire Length 300mm (12in.).

IGNITORS
for SON and SON/T high-pressure sodium lamps

Features

- Reliable solid-state circuit provides high-voltage pulses to achieve virtually instantaneous ignition of lamp.
- Low energy content of pulses present an electrical hazard to safety no greater than that of any mains voltage installation.
- Ignitor is switched out of circuit after ignition; has zero watts loss during lamp operation.
- Re-ignition of a hot lamp after mains interruption usually occurs in less than one minute, even in high ambient temperatures such as occur in multi-lamp luminaires. This is an important feature where lamp outage can present a hazard to safety.
- S53 Circular extruded aluminium canister is screen-printed with circuit diagram. The canister is easily attached by means of a spring-steel clip or the large M8 earth terminal on the base of the canister.
- SN50 Corrosion proof polyamide casing with two slots the length of each side, two flexible lugs and two screw-holes offering a choice of methods of attachment.
- Operates reliably at temperatures up to 75°C.

Wiring

Certain cables in the ignition circuit should be rated at 600/1000V ac (see circuit diagram), and must be capable of withstanding the ignition pulses in humid conditions. All cables should be capable of withstanding any temperature encountered, and should be protected against mechanical damage.

The following recommendations are for guidance only; the cable manufacturers' published data should be consulted for fuller cable specifications with regard to temperature.

Conductor temperatures up to 70°C: PVC-insulated cable.

Conductor temperatures up to 90°C: HT PVC-insulated cable.

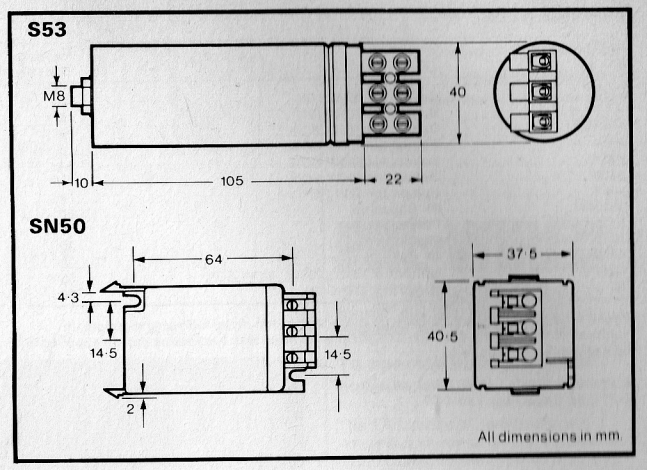
Conductor temperatures up to 200°C: Silicone rubber insulated cable with glass fibre sheath for mechanical protection.

Mineral-insulated cables are not recommended for use in these parts of the ignition circuit.

Cable length limitations

In circuits using ignitors, the maximum cable length between lamp and control gear is limited by the capacitance of the cable. This is obtained by adding together two values obtained in test:

The capacitance of the 'high' conductor (i.e. the conductor connecting the ballast to the lamp centre contact) and all other conductors bonded together.



WEIGHTS & ELECTRICAL DATA

Catalogue No.	For Lamp	Voltage range	Min. Supply Voltage	Circuit Diagram	Weight kg.
†SN50	SON & SON/T 150W, 250W, 400W	200/250	200	2	0·07
†S53	SON 1kW SON/T 1kW	230/250	230	2	0·15

The capacitance between the 'high' conductor and earth (usually the protective housing of the cable).

The maximum capacitances acceptable to the ignitors in this Data Sheet are as follows:–

SN50: 6,000pF

S53: 3,500pF

Tables giving maximum permissible cable lengths using typical cables in common applications are contained in Technical Information Sheet TIS 15.

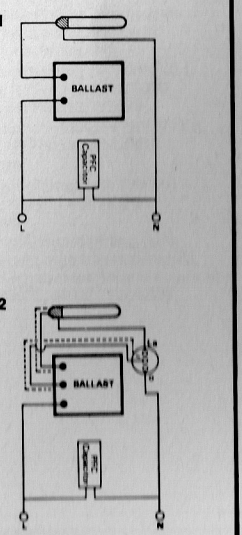
An alternative to ignitors SN50 and S53, for applications where the cable capacitance limitations cannot be met are the MZN series of ignitors. These ignitors are intended to be located adjacent to the lamp.

For further information on these ignitors please contact Lighting Division.

Made in U.K.

† Made in Holland.

Circuit Diagrams



1. 50W and 70W SON

2. 150W to 1kW SON and SON/T

ORDERING DATA

Catalogue No.	Description	Packing Quantity
L4054	Ballast for 50W SON	—
L4074	Ballast for 70W SON	8
L4154BX	Ballast for 150W SON	4
L4254	Ballast for 150W SON	4
L4254	Ballast for 250W SON	4
L4404	Ballast for 400W SON	4
L4410	Ballast for 1kW SON	4
L4010/07	PF Capacitor	50
L4016/07	PF Capacitor	50
L4020/07	PF Capacitor	30
L4025/07	PF Capacitor	30
SN50	Ignitor for 150W, 250W, 400W SON	50
S53	Ignitor for 1kW SON	50

Please order control gear components in the form given in the following example, in multiples of the packing quantity. Control gear ordered with luminaires can be supplied in the exact quantity required:–

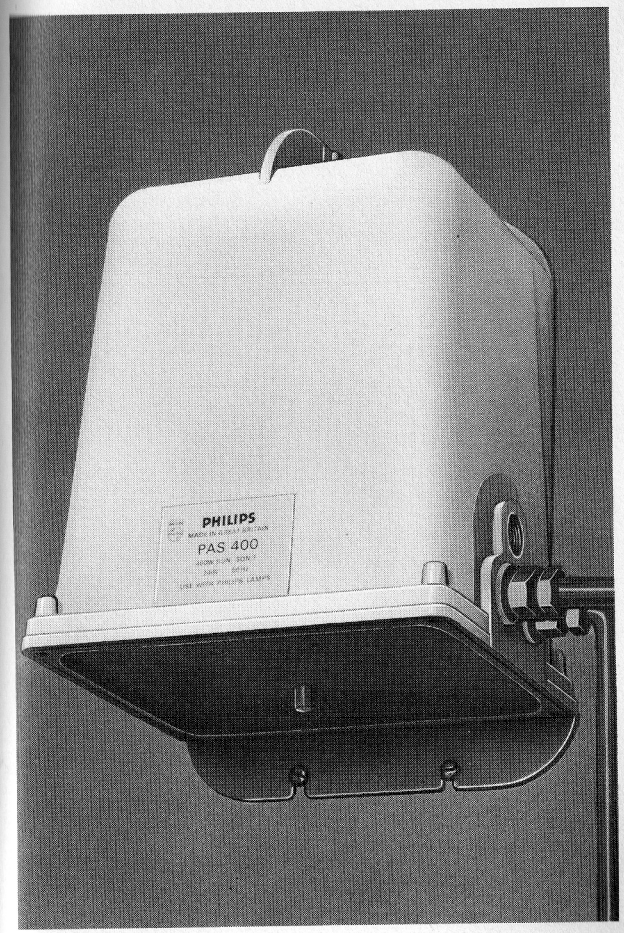
48 Philips ballasts L4074
50 Philips Capacitors L4010/07

CI/SfB (63.9)
UDC 696.6:628.94

PRE-WIRED GEAR BOX

To operate high-pressure sodium lamps

The PAS series of gear boxes are housed in sturdy polyester-reinforced nylon cases, splashproof to IP54, and contain the appropriate ballasts, ignitors and PF correction capacitors to operate the Philips range of high-pressure sodium lamps in ratings of 150W, 250W and 400W.



RANGE

PAS 150, for Philips 150W SON and 150W SON/T lamps
PAS 250, for Philips 250W SON and 250W SON/T lamps
PAS 400, for Philips 400W SON and 400W SON/T lamps

APPLICATIONS

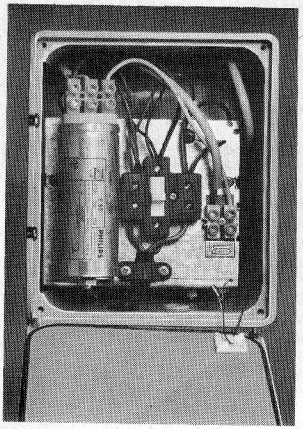
For use with Philips remote-gear luminaires in a wide range of applications, including:

- Area floodlighting (with HNF001, HNF003, NLF011 and NNF010 luminaires) W5010, W5020
- Stadia floodlighting (with HNF001, HNF003, HNF006 and NNF010 luminaires
- Security lighting (with HNF001, HNF003, NLF011 and NNF010 luminaires
- Indoor industrial lighting (with Mini-Hermes high bay luminaires, where maximum ambient temperature is below 30°C, or 25°C for 400W version).

Handbook Ref. 6.3.11
To reorder this Data Sheet quote 11.77 PL1744/2
Replaces PL1744/1

FEATURES

- All control gear is housed and pre-wired within the box, greatly reducing the amount of wiring necessary on site.
- The box is supplied with two cable entry holes, tapped for 20mm cable glands, for wiring to the supply and the lamp. (As supplied, one hole is fitted with a blanking plug). A third hole is provided to permit looped wiring; this hole is also tapped 20mm and is sealed with a knockout to maintain Degree of Protection if the hole is not used.
- Keyhole slots are provided for ease of mounting.
- Degree of Protection (IP54 – splashproof) ensures satisfactory use outdoors.
- The polyamide body is heat-, impact- and stress-resistant, It is light-weight and a very good insulator.
- The inspection cover is fixed by four captive stainless-steel screws, providing quick installation and ease of maintenance.
- The inspection cover is held captive to the box by means of a cord to prevent loss when removed.
- Terminal block includes fuse carrier with 25mm HRC cartridge fuse (see electrical data). Terminal block is sufficient for one 5mm² conductor or up to three 2.5mm² conductors.



SPECIFICATION

Type compliance with BS4782 (Low Pressure Sodium and High Pressure Mercury Ballasts) and BS4533 (Luminaires).

Case gives the degree of enclosure IP54.

To specify state:

Pre-wired gear box for use with 150W (250W, 400W) high-pressure sodium lamps, with case giving the degree of protection IP54, substantially as Philips Type PAS150 (PAS250, PAS400).

MATERIALS & FINISH

Gear box housing: Polyamide (polyester-reinforced nylon), neutr colour.

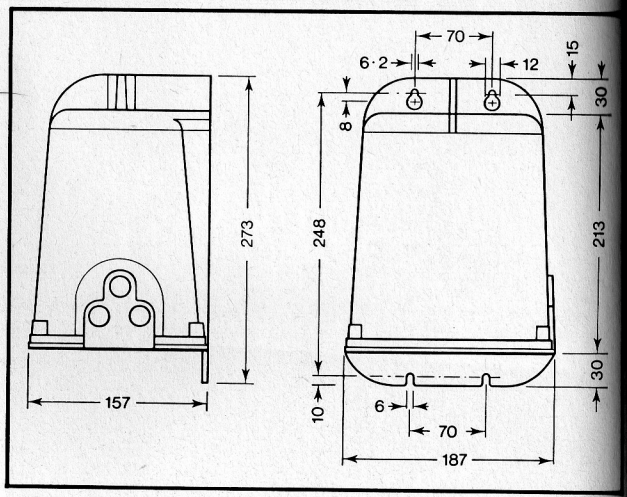
RANGE OF OPERATION

Normal indoor and outdoor conditi to 30°C (25°C for 400W version). 240V 50HZ nominal.

Made in Great Britain

ORDERING DATA

Catalogue No.	For lamp	Description	SLN/EWF Code No
PAS 150	150W SON and SON/T	Pre-wired SON gear box	010457
PAS 250	250W SON and SON/T	Pre-wired SON gear box	010509
PAS 400	400W SON and SON/T	Pre-wired SON gear box	010554



DIMENSIONS, WEIGHTS & ELECTRICAL DATA

Catalogue No.	Overall dimensions (mm) Depth	Height	Width	Weight (kg/lb)	Total circuit Watts	Nominal Voltage V	Total third harmonic % for single lamp	Fuse rating A	Fuse type
PAS150	157	273	187	7.10/15.6	174	240	8.7	10	HRC
PAS250	157	273	187	8.70/19.2	280	240	24.0	10	HRC
PAS400	157	273	187	9.45/20.8	440	240	20.0	13	HRC